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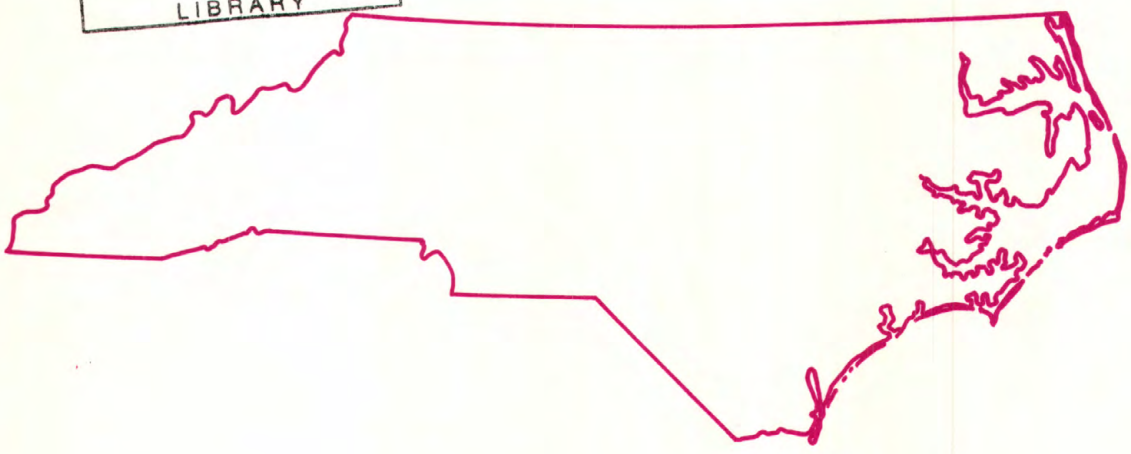
Water Resources Data North Carolina Water Year 1999

Volume 2. Ground-Water Records

Water-Data Report NC-99-2



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

Prepared in cooperation with the North Carolina Department of Environment and Natural Resources, and with other State, municipal, and Federal agencies.

CALENDAR FOR WATER YEAR 1999

1998

OCTOBER

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1999

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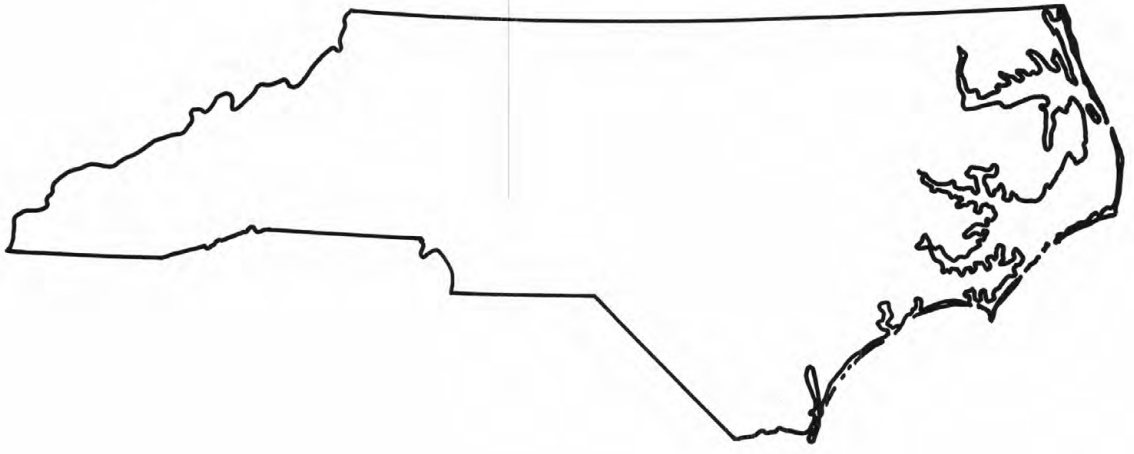
U.S. Department of the Interior
U.S. Geological Survey

Water Resources Data North Carolina Water Year 1999

Volume 2. Ground-Water Records

By S.S. Howe, P.L. Breton

Water-Data Report NC-99-2



Prepared in cooperation with the North Carolina Department of Environment and Natural Resources, and with other State, municipal, and Federal agencies

U. S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

GEOLOGICAL SURVEY

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For information on the water program in North Carolina write to:

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2000

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

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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Pamilee L. Breton edited much of the text, tables and graphs, of this report. Pamilee L. Breton and Stephen S. Howe assembled the report.

This report was prepared in cooperation with the State of North Carolina, other agencies, and under the general supervision of Gerald L. Ryan, District Chief; and Wanda C. Meeks, Regional Hydrologist, Southeastern Region.

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13. ABSTRACT *(Maximum 200 words)*

Water-resources data for the 1999 water year for North Carolina consist of records of ground-water levels and water quality of ground water; records of stage, discharge, and water quality of streams; and stage and contents of lakes and reservoirs. This report contains ground-water level data from 87 observation wells and ground-water-quality data from 138 wells. Due to their close association to the ground-water-quality data in the report, water-quality data for 12 surface-water sites are also contained in this report. Additional water-level measurement data were collected at 26 sites. The collection of water-resources data in North Carolina is a part of the National Water-Data System operated by the U.S. Geological Survey in cooperation with State, municipal, and Federal agencies.

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INTRODUCTION

Water-resources data for the 1999 water year for North Carolina consist of records of ground-water levels and water quality of ground water; records of stage, discharge and water quality of streams; and stage and contents of lakes and reservoirs. This report contains ground-water-level data from 87 observation wells and ground-water-quality data from 138 wells. Due to their close association to ground-water-quality data contained in this report, water-quality data for 12 surface-water sites are also contained in this report. Additional water-level measurement data were collected at 26 sites. The collection of water-resources data in North Carolina is a part of the National Water-Data System operated by the U.S. Geological Survey in cooperation with State, municipal, and other Federal agencies.

Records of ground-water levels were published from 1935 to 1974 in a series of Water-Supply Papers entitled "Ground-Water Levels in the United States." Water-supply papers can be found in the libraries of principal cities and universities throughout the United States or can be purchased from the U.S. Geological Survey, Earth Science Information Center, Open-File Reports Section, Denver Federal Center, Box 25286, Mail Stop 517, Denver, Colorado 80225.

Ground-water-level data beginning with the 1975 water year are published only in reports on a State-by-State basis. Beginning with the 1975 water year these Survey reports carry 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 report is identified as "U.S. Geological Survey Water-Data Report NC-99-2. Water-data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

COOPERATION

Cooperative agreements between the U.S. Geological Survey and organizations of the State of North Carolina for the systematic collection of water-resources data began in 1895 and continued through 1909. Following a lapse of 8 years, the State of North Carolina resumed cooperation in October 1918. Organizations that have cooperative agreements with the U.S. Geological Survey and assisted in collecting the water-resources data contained in this report are:

North Carolina Department of Environment and Natural Resources
- Division of Water Resources
- Divison of Water Quality Groundwater Section

Brunswick County
Mecklenburg County
Orange County

The following Federal agencies assisted in the data-collection program by furnishing funds or services:

U.S. Marine Corps, Camp Lejeune
U.S. Environmental Protection Agency

OBJECTIVE CONCEPT FOR GROUND-WATER-LEVEL DATA

The ground-water-level data collected during the 1998 water year from observation wells in the statewide program and special project wells are published in this report. The statewide program is a cooperative program between the U.S. Geological Survey (USGS) and the North Carolina Department of Environment and Natural Resources (DENR). Observation wells for this program are located so that the most significant data are obtained from the fewest number of wells in the major aquifers of the State. Monitoring wells for this program are categorized in one of two networks based on specific objectives (table 1). The first network, the natural-effects network, has the objective of measuring the effects of natural stresses on ground-water storage. This network contains climatic-effects wells, which monitor the effects of climate, such as rainfall and the duration of the growing season, on ground-water storage in unconfined aquifers. This network also contains terrane-effects wells which are used to define the effects of different depths to the water table and topography and geology on ground-water storage in response to climatic stresses. The second network, the induced-effects network, defines the effect of human-induced stress on the ground-water system; the major induced stress being ground-water withdrawal by pumping. Within the induced-effects network are local-effects wells located near large-capacity pumping wells or well fields. These local-effects wells are used to measure daily or weekly water-level fluctuations. Areal-effects wells, also in the induced-effects network, are used to determine the status of ground-water storage in an aquifer over a large area and to aid in determining the areal extent of major aquifers.

The particular effect each well in the statewide program monitors is explained in the information header for each well. The headers for the special project wells contain a reference to those projects.

MAJOR AQUIFERS

The major aquifers in North Carolina can be divided into two zones related to the physiographic provinces of the State. The Piedmont and Blue Ridge Provinces (fig. 1) extend across the western 60 percent of the State and are, for the most part, underlain by fractured, igneous and metamorphic rocks (fig. 2). The fractured igneous and metamorphic rocks have low permeability but are, nevertheless, the major aquifers in the Piedmont and Blue Ridge Provinces. These rocks are covered almost everywhere by regolith, which is either a clayey or sandy saprolite consisting of weathered parent material, or sand and clayey-sand alluvium. The regolith, although not a major aquifer, contains most of the ground water in storage and is a source of water to the underlying igneous and metamorphic rock aquifers. All observation wells in the Piedmont and Blue Ridge Provinces that were measured in the 1998 water year tapped the regolith.

The Coastal Plain Province covers the eastern 40 percent of North Carolina, where aquifers are within a wedge of sedimentary rock layers that dip and thicken to the southeast (fig. 2). The Coastal Plain sediments have been divided by Winner and Coble (1996) into 10 aquifers separated by confining units.

Ground water in the regolith of the Piedmont and Blue Ridge Provinces and in the surficial aquifer of the Coastal Plain Province generally is unconfined. Ground water in the other Coastal Plain aquifers generally is under confined conditions.

Table 1.--*Type, objective, and use of data from the North Carolina observation-well program*

[Adapted from Winner, 1981]

Type	Objective	Use of data
	Natural effects	
Climatic effects	To define effects of climate on ground-water storage.	Hydrographs showing natural changes in storage.
Terrane effects	To define effects of climate on ground-water storage as modified by topography and geology.	Hydrographs showing natural changes in storage as modified by topography and geology.
	Induced effects	
Local effects	To define effects of ground-water withdrawals on storage near points of withdrawal.	Maps showing potentiometric-surface depressions.
	To define the hydraulic characteristics of aquifers.	Hydrographs showing changes in water levels with time.
	To define effectiveness of confining beds in separating aquifers.	Graphs showing water levels during pumping conditions as a function of pumping rates.
Areal effects	To determine status of storage over the entire areal extent of the aquifer.	Regional water-level maps.
	To define regional continuity of aquifers.	Maps showing net change in storage over a specific time period.
		Define recharge and discharge areas for areal extensive aquifers.

SUMMARY OF WATER-RESOURCES CONDITIONS

Precipitation

Precipitation amounts for the first quarter, October through December, of the 1999 water year varied from 3.11 (Asheville) and 3.13 (Charlotte) inches below average in the western part of the State to 0.95 (Elizabeth City) inch above average in the eastern part of the State. Average precipitation amounts are based on data from 1961 through 1990, the 30-year base period used by the National Weather Service. Rainfall data collected at six key National Weather Service stations (figs. 1 and 2) indicate that rainfall was at or above average in the northern Coastal Plain and below average in the southern Coastal Plain, Piedmont, and Blue Ridge Provinces of North Carolina.

The second quarter of the 1999 water year, January through March, brought drier conditions to the northern Coastal Plain, and below-average conditions continued throughout the State except in the central Piedmont Province (Raleigh) and the southern Blue Ridge Province (Asheville). Rainfall in Raleigh was 0.48 inch above average and in Asheville was 0.70 inch above average. Below-average rainfall amounts were observed at the other index stations; the greatest rainfall deficiency was reported in Charlotte at 4.48 inches below average.

The third quarter, April through June, brought below-average amounts of rainfall across the State except in the southern Coastal Plain Province (Wilmington), where a greater-than-average rainfall of 3.81 inches above normal was reported. Below-normal rainfall was observed in the northern Coastal Plain Province (Elizabeth City), where a deficit of 2.86 inches was recorded. The Piedmont and Blue Ridge Provinces continued to struggle with dry conditions; rainfall deficits were reported at Raleigh (4.92 inches), Greensboro (1.04 inches), Charlotte (0.25 inch), and Asheville (2.66 inches) for the third quarter.

The State continued to observe below- to near-average rainfall amounts during the first 2 months of the fourth quarter, July and August. Parts of eastern North Carolina experienced extremely heavy and, in some cases, unprecedented rainfall amounts during September as a result of Hurricanes Dennis and Floyd. Asheville recorded a deficit rainfall of 1.67 inches, and Charlotte observed a rainfall amount of 0.76 inch above average for the month of September. However, conditions in the Piedmont and Coastal Plain Provinces proved otherwise. Hurricane Dennis approached the North Carolina coast, turned and meandered offshore for several days, making landfall in North Carolina on September 4 and moving in a west-northwesterly direction over the Neuse and Tar River Basins. Rainfall amounts generally were greatest near the coast but as much as 7 inches were reported in the central Neuse and Tar River Basins. Hurricane Floyd made landfall between Wilmington and Jacksonville on September 15 and moved in a north-northeasterly direction over the lower Cape Fear, Neuse, Tar, lower Roanoke, and Chowan River Basins. The storm delivered 12 to 18 inches of rain to much of the Neuse and Tar River Basins, and triggered wide spread regional flooding throughout the eastern part of the State during the remainder of September and most of October. Index sites in the Piedmont and Coastal Plain Provinces recorded rainfall amounts for September well above average at Greensboro (8.02 inches), Raleigh (21.79 inches), Wilmington (23.45 inches), and Elizabeth City (12.23 inches). Rainfalls at Raleigh and Wilmington were in excess of 18 inches above average and were the highest monthly rainfall amounts on record for the month of September.

In summary, below-average precipitation was reported for most areas in the Blue Ridge, Piedmont, and Coastal Plain Provinces from October 1998 through August 1999. As a result, some restrictions on water use were implemented at numerous locations across the State. The month of September brought unprecedented and, in some cases, record rainfall amounts to the Piedmont and Coastal Plain Provinces of North Carolina. The National Weather Service reported the following rainfall amounts for selected stations for the period of October through August, prior to the arrival of Hurricanes Dennis and Floyd in September: Asheville, 36.66 inches (7.06 inches below average); Charlotte, 28.89 inches (10.70 inches below average); Greensboro, 35.01 inches (4.09 inches below average);

Raleigh, 31.49 inches (6.75 inches below average); Elizabeth City, 41.20 inches (2.78 inches below average); and Wilmington, 46.14 inches (3.09 inches below average). The National Weather Service reported the following annual (including the month of September) rainfall amounts for the entire 1999 water year at these selected stations: Asheville, 38.86 inches (8.73 inches below average); Charlotte, 33.15 inches (9.94 inches below average); Greensboro, 43.63 inches (1.01 inches above average); Raleigh, 53.28 inches (11.85 inches above average); Elizabeth City, 53.43 inches (4.95 inches above average); and Wilmington, 69.59 inches (15.32 inches above average).

Ground Water

Ground-water levels in the surficial aquifer of the Coastal Plain Province and in the regolith of the Piedmont and Blue Ridge Provinces respond to climatic influences, as the continual discharge of ground water to streams is offset by periodic recharge by precipitation. Water levels in the unconfined aquifers in these areas generally decline throughout the growing season and are typically highest during the winter months when evapotranspiration losses are lowest. In addition to seasonal changes, water levels in deeper, confined aquifers in the Coastal Plain also can respond to induced effects, such as pumping.

Index Wells

Water levels in index observation wells in the Blue Ridge, Piedmont, and Coastal Plain Provinces provide a general indication of ground-water fluctuations in the shallow aquifers of these provinces. Hydrographs of month-end water levels in these index observation wells are shown in figure 4, including mean month-end water levels for the period of record and record high and low month-end water levels for each index well during the 1999 water year.

Water levels in the Blue Ridge index well (fig. 4) began the 1999 water year near average and ended the water year below average. The water level in the Blue Ridge index well fell below-average levels in the fall and rose slightly above average in the spring before returning to below-average levels at the end of the water year, indicating below-average ground-water storage. The water level in the Piedmont index well (fig. 4) was in the average to below-average range for most of the 1999 water year and ended the water year approximately 2 feet lower than it began. This 10-year low water level in the Piedmont index well indicated loss in ground-water storage. In the Coastal Plain index well (fig. 4), water levels began the water year about 1 foot above average. Water levels in the Coastal Plain index well were above average through the first 4 months of the 1999 water year. Water levels in this well fell to below-average levels the next quarter and then rose to above-average water levels by mid summer.The Coastal Plain index well began September 1999 with below-average water levels but ended the month with 23-year record-high water levels that resulted from the rain and flooding associated with Hurricane Floyd. The water level in the Coastal Plain well ended the water year nearly 2.5 feet higher than it began, indicating an increase in aquifer storage.

Natural-Effects Wells

Ground-water levels in North Carolina were influenced by wide ranges of rainfall across the State during the 1999 water year. Water levels in climatic- and terrane-effects wells in the Blue Ridge and the Piedmont ended the year lower, indicating losses in aquifer storage. Ten-year record low water levels were recorded in Blue Ridge well NC-191 and 15-year record low water levels were recorded in Piedmont well NC-146. Ten-year low water levels were recorded in Blue Ridge wells NC-40, NC-144, and NC-147. Water levels in climatic- and terrane-effects wells in the Coastal Plain were near average most of the year. Hurricane Floyd caused water-levels to rise throughout the Coastal Plain in September 1999 including wells NC-158, NC-173 and NC-195. Water levels in NC-173 reached a 12-year record high, indicating an increase in storage.

Induced-Effects Wells

Ground-water withdrawals in the Coastal Plain have resulted in declining water levels in confined aquifers in some areas of the Coastal Plain for a number of years. This declining trend is shown by the long-term record from several induced-effects observation wells that tap five of the major aquifers in eastern North Carolina — the Castle Hayne and Black Creek aquifers (fig. 5), and the Peedee, upper Cape Fear, and lower Cape Fear aquifers (fig. 6).

The record of observation well NC-13 (fig. 5) shows the fluctuations of water levels in the Castle Hayne aquifer resulting from changes in pumping at a large mining and manufacturing operation in the eastern part of Beaufort County. Water-level fluctuations shown in the records from well NC-13 reflect changes in the location of major pumping activities. The record of well NC-145, also in Beaufort County, shows a similar pattern. The areal cone of depression resulting from this pumpage has covered more than 3,000 square miles (Coble and others, 1989). The limits of this regional cone of depression in the Castle Hayne aquifer are shown by the stabilized or rising water levels and natural water-level fluctuations in wells NC-137 in Beaufort County and NC-156 Washington County.

The record of observation well NC-139 in Carteret County shows the effects of seasonal pumping from the Castle Hayne aquifer in order to meet the increased demand for water in the coastal area during the summer months (fig. 5). The slight decline in the long-term record indicates that annual recharge to the aquifer is less than the amount of water withdrawn. Observation well NC-20, completed in the Castle Hayne aquifer in New Hanover County, shows a similar long-term, water-level decline with more recent drawdown caused by expanding well fields in the area.

Water levels in the Castle Hayne aquifer are not declining everywhere throughout the eastern Coastal Plain. This is especially true in the subcrop areas of the aquifer that are not covered by extensive confining units (Strickland and others, 1992). An example is the natural water-level fluctuation previously noted in well NC-137 in Beaufort County. Water levels in Castle Hayne wells NC-52 in Onslow County and NC-181 in Brunswick County exhibit climatic-effect fluctuations. Although well NC-52 is near water-supply wells at U.S. Marine Corps Camp Geiger, no effect of withdrawals from those wells is observed in the long-term record. Short-term and minor pumping effects can be observed at well NC-181; however, long-term data show no downward trend since 1988.

Ground-water withdrawals, estimated at 134 million gallons per day over 15 counties, have resulted in water-level declines in the State's central Coastal Plain (Walters, 1997). The aquifers most affected in this 9,250-square-mile area, which extends from Bertie County on the north to Pender County on the south, are the Peedee, Black Creek, upper Cape Fear, and lower Cape Fear aquifers. Examples of the long-term effects of these withdrawals can be seen in data from several wells shown in figures 5 and 6. Well NC-170 is in Craven County, where water has been withdrawn from the Black Creek and upper Cape Fear aquifers (fig. 5). Well NC-183 shows the effect of pumping from the upper Cape Fear aquifer in northern Pitt County (fig. 6). Water-level declines up to 3 feet per year have been recorded in NC-183, and declines measure about 19 feet over the last 14 years. Major withdrawals for public supply in Onslow County in the southern part of the central Coastal Plain are from the Peedee and Black Creek aquifers. Hydrographs for well NC-187 in Jones County (Peedee aquifer - fig. 6), north of major pumping areas, and for well NC-189 in Onslow County (Black Creek aquifer - fig. 5), several miles to the south, show water-level declines resulting from these withdrawals. Prior to water year 1996, declines in the Peedee aquifer at NC-187 had been nearly 2 feet per year but have been less than 1 foot per year from water year 1996 through water year 1999. Declines in the Black Creek aquifer at NC-189 were more than 6 feet per year in the early 1990's, but water-level declines leveled off in 1997. The rate of decline in 1999 was about 1 foot per year.

Withdrawals for public and industrial use from the upper Cape Fear aquifer in Bladen County have caused water levels to decline in well NC-177 (fig. 6), which is in eastern Robeson County. Prior to 1992, the rate of water-level

decline in well NC-177 was about 1.7 feet per year. In mid-October 1992, major withdrawals for industrial use (from the same aquifer) began in northwestern Bladen County; as a result, the rate of decline in well NC-177 increased to about 7 feet per year between late 1992 and 1996. Between late 1996 and 1999, the rate of decline in well NC-177 decreased to about 3 feet per year (Strickland, 1995, 1999).

Water-level declines in well NC-155, which is completed in the lower Cape Fear aquifer in Hertford County (fig. 6), result primarily from major withdrawals in Virginia that began in the 1940's. These withdrawals have caused a regional cone of depression in that aquifer, which extends about 30 miles into North Carolina (Coble and others, 1989). Water-level records from well NC-155 indicate that the maximum (drawdown) rate of decline of 3.5 feet per year occurred in the late 1980's and early 1990's. From 1993 to 1998, the rate of decline decreased to less than 2 feet per year. Since late 1998, water levels have risen slightly more than 2 feet.

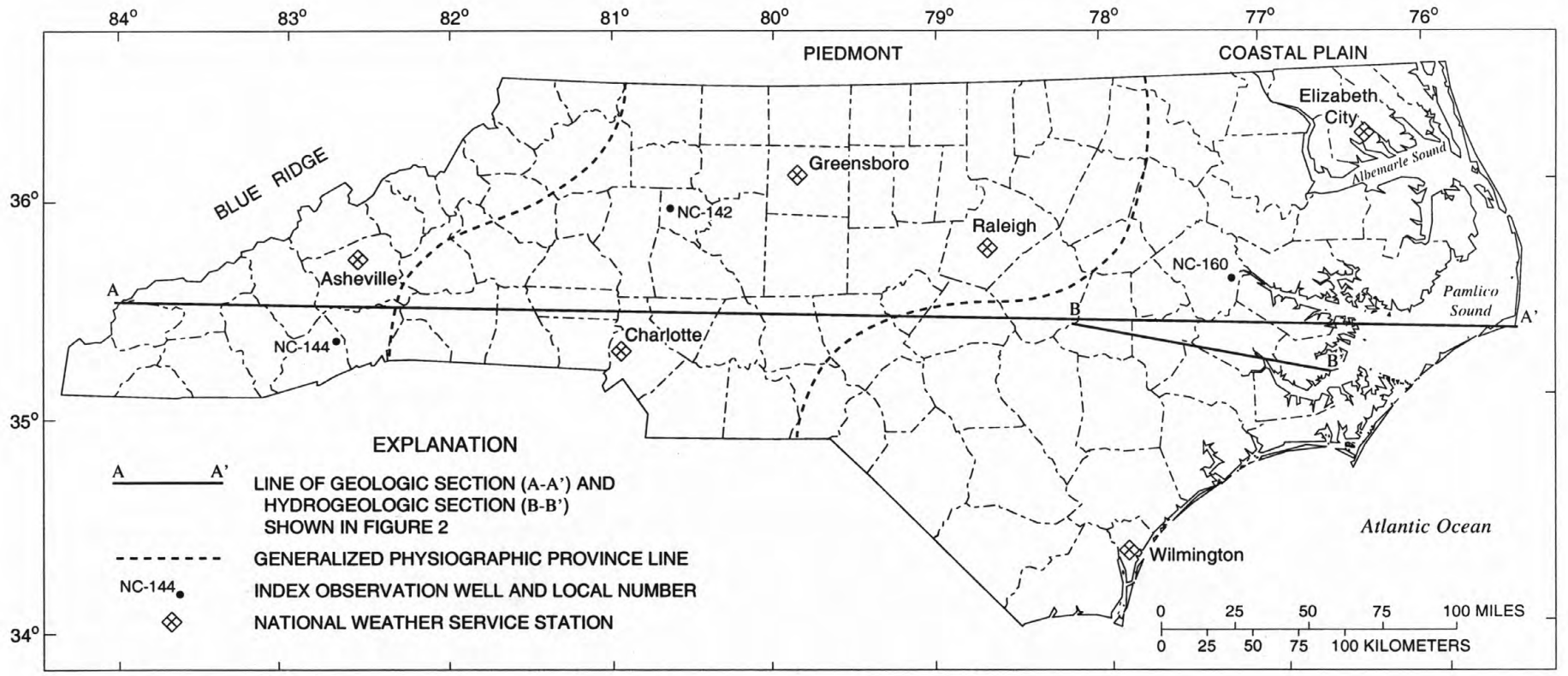

Figure 1.--Locations of weather stations and index wells in North Carolina.

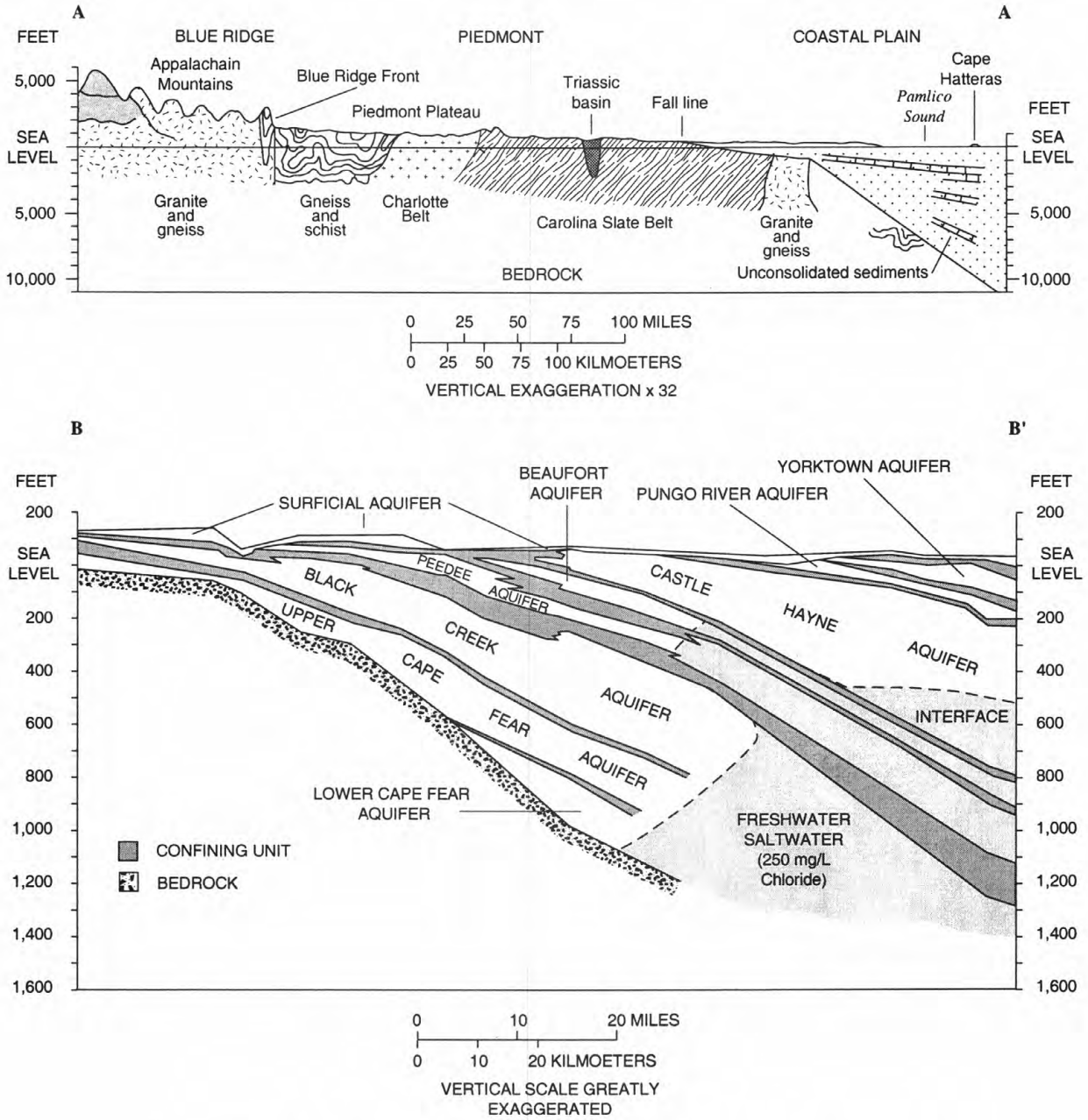

Figure 2.--Geologic section A -A' across North Carolina and hydrogeologic section B - B' in the Coastal Plain of North Carolina (as shown in figure1).

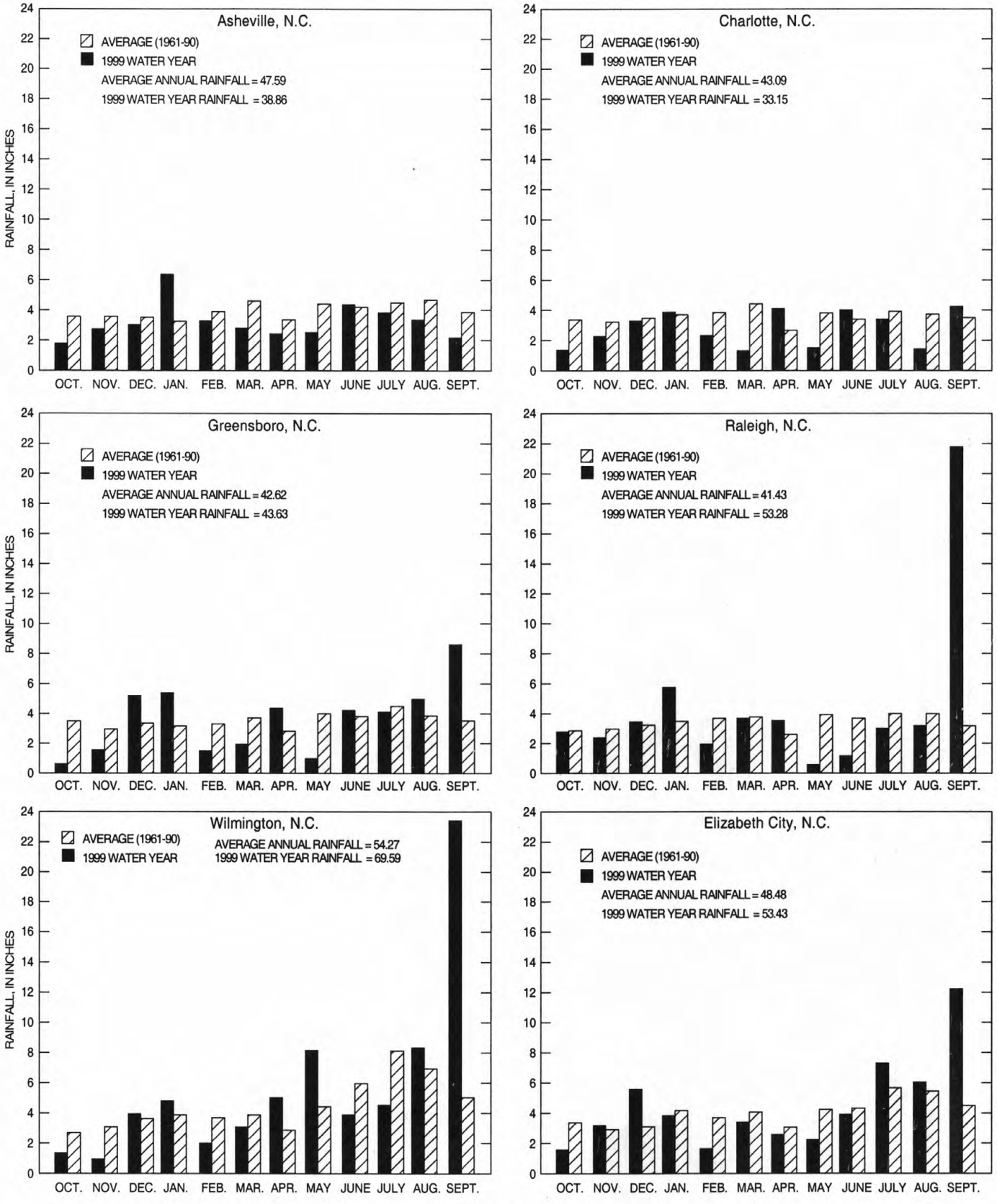

Figure 3.--Monthly rainfall at index stations for 1999 water year and average monthly rainfall for the period 1961-90 (data from National Oceanic and Atmospheric Administration reports).

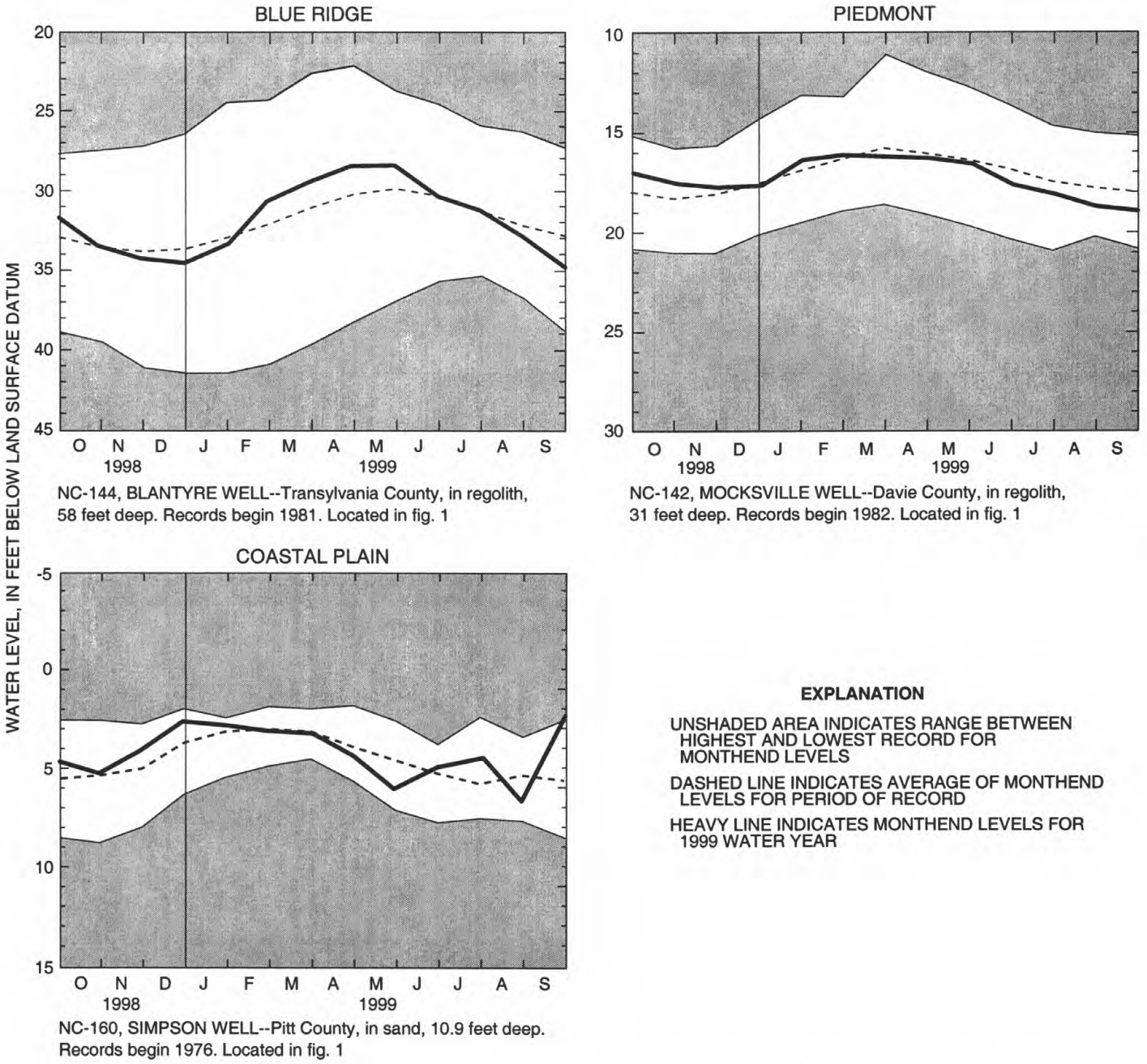

Figure 4.--Water levels in index observation wells in the Blue Ridge, Piedmont, and Coastal Plain Provinces.

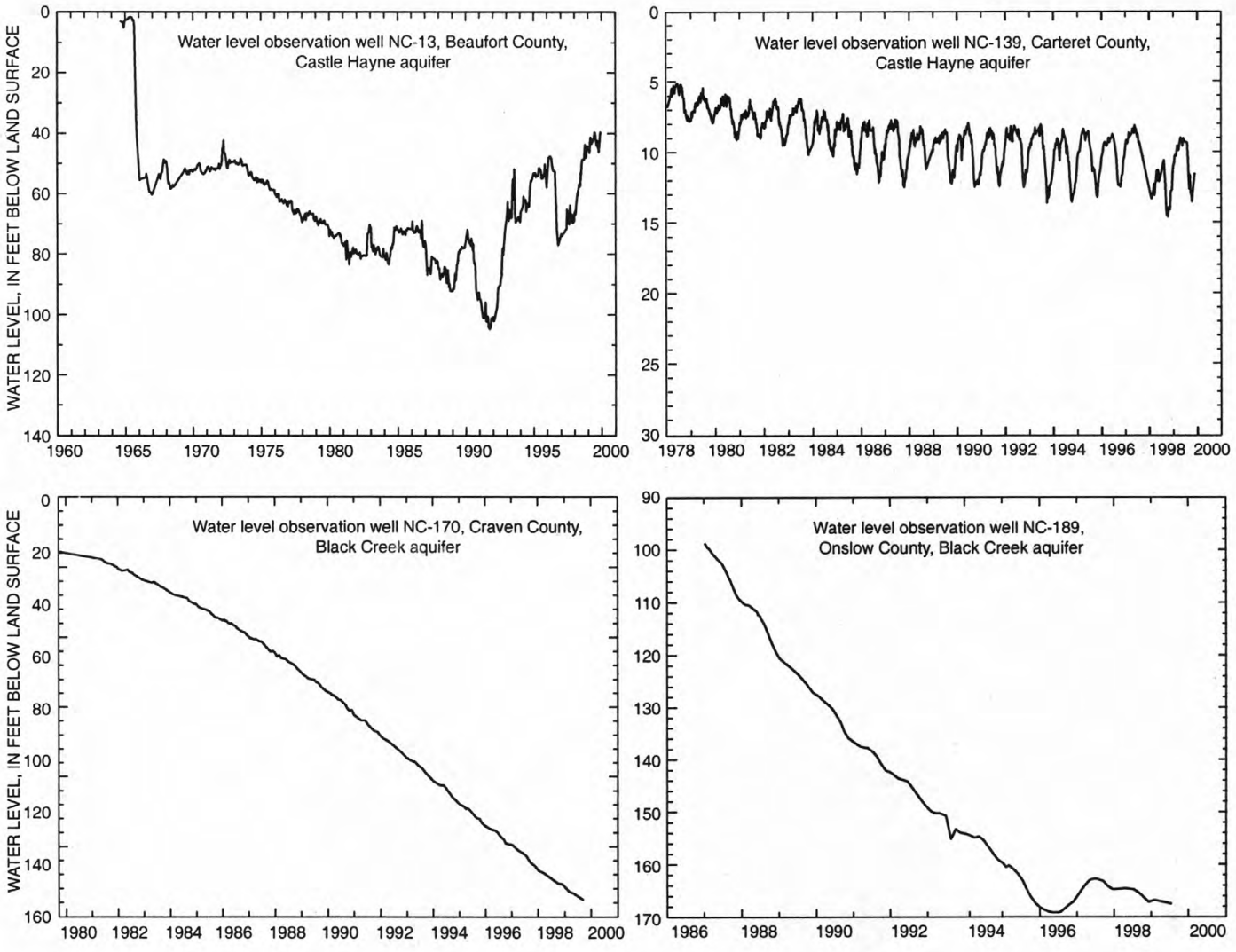

Figure 5.--Hydrographs of selected observation wells in the Castle Hayne, and Black Creek aquifers of the Coastal Plain Province. (Well NC-189 located in fig.8 and Wells NC-13, NC-139, and NC-170 located in fig. 13.)

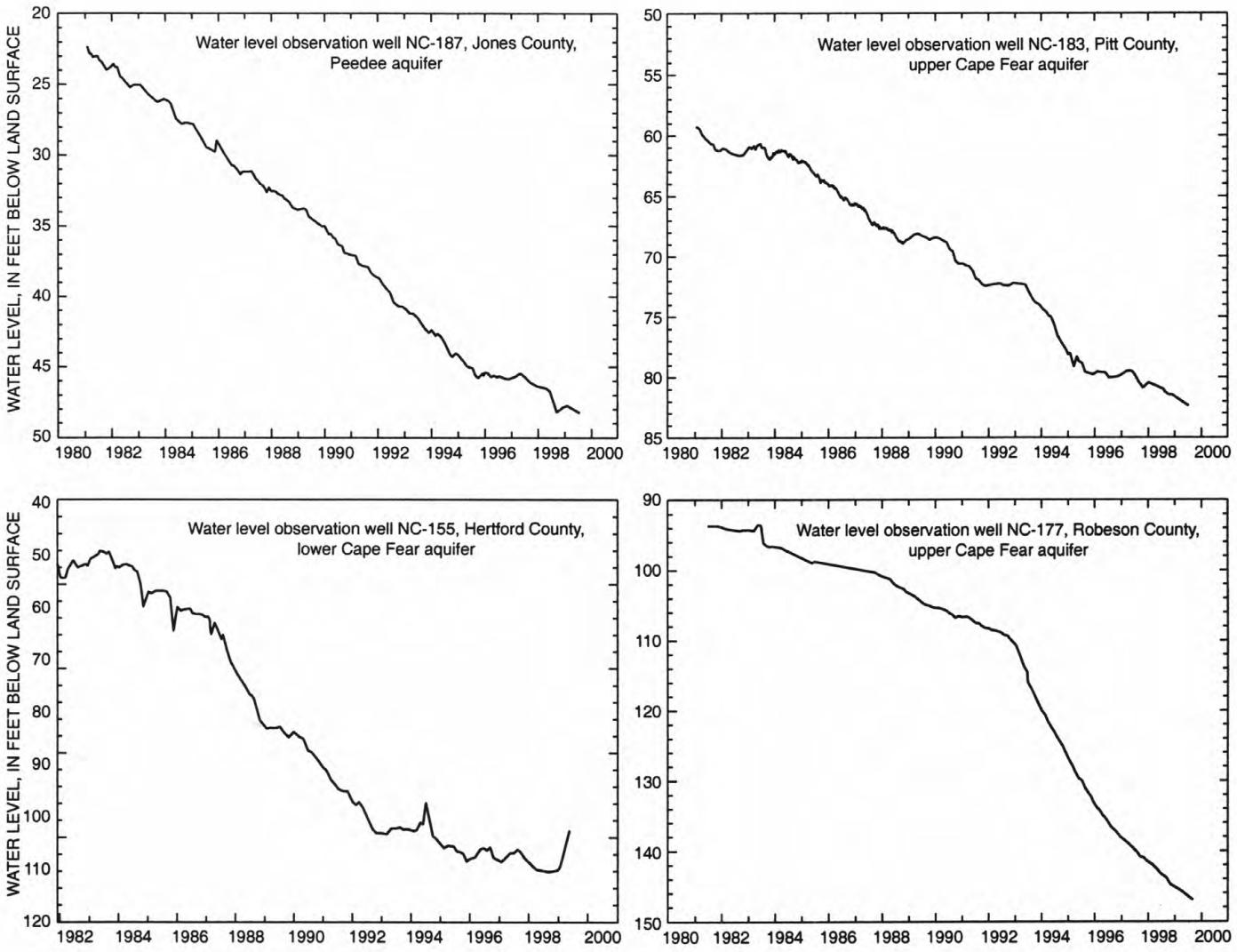

Figure 6.--Hydrographs of selected observation wells in the Peedee, upper Cape Fear, and lower Cape Fear aquifers of the Coastal Plain Province. (Well NC-183 located in fig.11 and Wells NC-155, NC-177, and NC-187 located in fig. 13.)

EXPLANATION OF RECORDS

Ground-Water-Level Data

The ground-water data published in this report are for the 1999 water year that began October 1, 1998, and ended September 30, 1999. A calendar of the water year is provided on the inside of the front cover. These data include water-level and water-quality data for ground water. The locations of the wells where the data were collected are shown in figures 7 and 8. The following sections provide a detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Site Identification Numbers

Each well in this report is assigned a unique identification number. This number usually is assigned when a well is first established and is retained for that well indefinitely; all data for that well in USGS data bases are under that site identification number.

The site identification numbers for wells are assigned according to the latitude and longitude location of the well. 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 within a 1-second grid. This site identification number, once assigned, has no locational significance. In the rare instance where the initial determination of latitude and longitude is found to be in error, the well will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the well description.

Local well numbers in this report generally fall within two numbering systems. Wells that belong in the statewide North Carolina observation-well program are indicated by the prefix NC- followed by a sequential number, for example NC-160. Other wells such as those used in special projects, are indicated by a two-letter county prefix followed by a sequential number, such as Me-251 or Rb-185 for wells in Mecklenburg and Robeson Counties, respectively.

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 consistently accurate and reliable.

Water-level data are obtained from direct measurements with a steel tape, an electric tape, or a water-level recorder. Water-level measurements in this report are given in feet with reference to either sea level or land-surface datum. Sea level is the plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude (referenced to sea level) 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. Reported water levels in wells equipped with water-level recorders represent the mean water level for every day.

Water levels are reported to as many significant figures as can be justified by the local conditions. Accordingly, all measurements are reported to a hundredth of a foot.

Data Presentation

Water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit site identification number that appears in the upper left corner of the table. The secondary

identification number is the local well number. Well locations are shown in figures 7-13; each well is identified on these maps by its local well number.

Each well record consists of three parts--the well description, data table of water levels observed during the water year, and for most wells, a hydrograph following the data table. Well descriptions are presented in the headings preceding the tabular data. The following comments clarify information presented in these various headings.

Description

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds), the hydrologic-unit number, a geographic point of reference, and the owner's name. Latitudes and longitudes used in this report are reported as National American Datum of 1927 unless otherwise specified.

AQUIFER.--This entry designates by name and geologic age the aquifer that the well taps. Names of aquifers in the Coastal Plain Province are those mentioned in the "Major Aquifers" section of this report. Aquifers in the Piedmont and Blue Ridge Provinces are identified by the type of the crystalline igneous or metamorphic rock that the well taps, or by the regolith derived from the underlying rock

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, casing diameter and depth and (or) screened interval, method of construction, use, 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 continuous, monthly, or some other frequency of measurement.

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

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

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year at 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 respect to land-surface datum or sea level, and the dates of occurrence.

Water-Level Tables

A table of water levels follows the well description for each well. Water-level measurements in this report are given in feet with reference to either sea level or land-surface datum (lsd). Missing records are indicated by dashes in place of the water-level value.

For wells not equipped with recorders, water-level measurements were obtained periodically by steel or electric

tape. Tables of periodic water-level measurements in these wells show the date of measurement and the measured water-level value.

Hydrographs

The hydrographs are a graphic display of water-level fluctuations over a period of time. In this report, current water year, 10-water-year, and for some wells, period of record hydrographs are shown. Those hydrographs which display periodic water-level measurements are indicated by points which are connected with a dashed line from one measurement to the next. Hydrographs which display recorder data are indicated by a solid line representing the mean water level recorded for each day. Missing data are indicated by a blank space or break in a hydrograph. Missing data may occur as a result of recorder malfunctions, battery failures, or mechanical problems related to the response of the recorder's float mechanism to water-level fluctuations in a well.

Ground-Water-Quality Data

Records of ground-water quality data 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.

Data Collection and Computation

The ground-water quality data in this report were obtained as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but not for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality statewide.

Most methods for collecting and analyzing water samples are described in "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in Techniques of Water-Resources Investigations (TWRI), Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chaps. A1, A3, and A4. These references are listed on pages 21-24 of this report. Also, detailed information on collecting, treating, and shipping samples can be obtained from the U.S. Geological Survey North Carolina District office in Raleigh.

Chemical-quality data published in this report are considered to be the most representative values available for the wells listed. The values reported represent as much as possible water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis.

Laboratory Measurements

Analysis for sulfide and measurement of alkalinity, pH, water temperature, specific conductance and dissolved oxygen are performed on site. All other sample analyses are performed at the U.S. Geological Survey laboratory in Lakewood, Colorado, unless otherwise noted. Methods used by the U.S. Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; and Book 5, Chap. A1, A3, and A4.

The U.S. Geological Survey National Water Quality Laboratory collects quality-control data on a continuing basis to evaluate selected analytical methods to determine long-term method detection levels (LT-MDL's) and laboratory reporting levels (LRL's). These values are re-evaluated each year on the basis of the most recent quality-control data and, consequently, may change from year to year.

This reporting procedure limits the occurrence of false positive error. The chance of falsely reporting a concentration greater than the LT-MDL for a sample in which the analyte is not present is 1 percent or less. Application of the LRL limits the occurrence of false negative error. The chance of falsely reporting a non-detection

for a sample in which the analyte is present at a concentration equal to or greater than the LRL is 1 percent or less.

Accordingly, concentrations are reported as <LRL for samples in which the analyte was either not detected or did not pass identification. Analytes that are detected at concentrations between the LT-MDL and LRL and that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of "E". These data should be used with the understanding that their uncertainty is greater than that of data reported without the "E" remark code.

In March 1990 the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and 1990.

MBAS determinations made from January 1, 1970 through August 29, 1993, at the National Water Quality Laboratory in Denver (Analyzing Agency Code 80020) are positively biased. These data can be corrected on the basis of the following equation, if concentrations of dissolved nitrate plus nitrate, as nitrogen, and dissolved chloride, determined concurrently with the MBAS data, are applied:

Remarks Codes

The following remarks codes may appear with the water-quality data in this report:

PRINTED 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
K	Results based on colony count outside the acceptance range (nonideal 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

Dissolved Trace-Element Concentrations

NOTE: Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter. Present data above the microgram per liter level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes. However, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols in water year 1994.

Water Quality-Control Data

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC samples collected by this district are described in the following section. Procedures have been established

for the storage of water-quality-control data within the USGS. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples.

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated by the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. There are many types of blank samples possible, each designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this district are:

Field blank - a blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank - a blank solution that is put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank - a blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

Sampler blank - a blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank - a blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank - a blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank - a blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory whose composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. There are many types of replicate samples possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this district are:

Sequential samples - a type of replicate sample in which the samples are collected one after the other, typically over a short time.

Split sample - a type of replicate sample in which a sample is split into subsamples contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.

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 District Offices (See address on the back of the title page.)

SPECIAL NETWORKS AND PROGRAMS

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 53 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 is available through the world wide web at:

http://wwwrvares.er.usgs.gov/nawqa/nawqa_home.html

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DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English 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 the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it 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.

Algae are mostly aquatic single-celled, colonial, or multicelled plants containing chlorophyll and lacking roots, stems, and leaves.

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.

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 in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters

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.

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.

Aroclor is the registered trademark for a group of polychlorinated 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 weight percent of the hydrogen substituted chlorine.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while 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.

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 warm-blooded 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 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often 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.

Fecal streptococcal bacteria are bacteria found in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. 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.

DEFINITION OF TERMS--Continued

Enterococcus bacteria are commonly found in the feces of humans and other warm-blooded 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 and subsequent transfer to EIA medium. Enterococci include *Streptococcus feacalis, Streptococcus feacium, Streptococcus avium,* and their variants.

Escherichia coli (E. coli) are bacteria present in the intestine and feces of warm-blooded 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. Their concentrations are expressed as number of colonies per 100 mL of sample.

Base flow is flow in a channel sustained by ground-water discharge in the absence of direct runoff.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Benthic organisms (invertebrates) are the group of animals 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.

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).

Dry mass refers to the mass of residue present after drying in an oven at 105 °C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash, and sediment in the sample. Dry mass is expressed in the same units as ash mass.

Organic mass or volatile mass of the 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.

Wet mass is the mass of living matter plus contained water.

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

Bottom material: See "Bed material."

Cells/volume refers to the number of plankton cells or natural units counted using a microscope and grid or counting cell. Results are generally reported as cells or units per milliliter.

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 on 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:

sphere $4/3\ \pi r^3$ cone $1/3\ \pi r^2 h$ cylinder $\pi r^2 h$.

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

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.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

DEFINITION OF TERMS--Continued

Colloid is any substance with particles in such a fine state of subdivision dispersed in a medium (for example, water) that they do not settle out; but not in so fine a state of subdivision that they can be said to be truly dissolved.

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 boundaries. 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 that meets either of the following conditions:

1. Stage or streamflow are recorded at some interval on a continuous basis. The recording interval is usually 15 minutes, but may be less or more frequent.
2. Water-quality, sediment, or other hydrologic measure-ments are recorded at least daily.

Control designates a feature in the channel downstream from a gaging station that physically influences the water-surface elevation and thereby determines the stage-discharge relation at the station. 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, 448.8 gallons per minute, or 0.02832 cubic meters per second.

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, 1.9835 acre-feet, 646,317 gallons, or 2,447 cubic meters.

Daily record is a summary of streamflow, sediment, or water-quality values computed from data collected with sufficient frequency to obtain reliable estimates of daily mean values.

Daily record station is a site for which daily records of streamflow, sediment, or water-quality values are computed.

Datum, as used in this report, is an elevation above mean sea level to which all gage height readings are referenced.

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

Discharge, or flow, is the volume of water (or more broadly, volume of fluid including solid- and dissolved-phase material), that passes a given point in a given period of time.

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days in a year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). 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.)

Instantaneous discharge is the discharge at a particular instant of time.

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

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 agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved oxygen (DO) content of water in equilibrium with air 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, with small temperature changes having the more significant offset. Photosynthesis and respiration may cause diurnal variations in dissolved-oxygen concentration in water from some streams.

DEFINITION OF TERMS--Continued

Dissolved-solids concentration of water 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 that analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to reflect the change. Alternatively, alkalinity concentration (as mg/L $CaCO_3$) can be converted to carbonate concentration by multiplying by 0.60.

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

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

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity 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 site on a stream is that area, measured in a horizontal plane, that has a common outlet at the site for its surface runoff. Figures of drainage area 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 is occupied by a drainage system with a common outlet for its surface runoff (see "Drainage area").

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.

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 the elevation of the zero point of the reference gage from which gage height is determined as compared to sea level (see "Datum"). This elevation is established by a system of levels from known benchmarks, by approximation from topographic maps, or by geographical positioning system.

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

Gaging station is a site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

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.

Ground-water level is the elevation of the water table or another potentiometric surface at a particular location.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally 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*

Hydrologic benchmark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a benchmark station may be used to separate effects of natural from human-induced changes in other basins that have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped benchmark basin.

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 U.S. Geological Survey. Each hydrologic unit is identified by an 8-digit number.

DEFINITION OF TERMS--Continued

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

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.

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 are usually 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.

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.

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.

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 mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

Miscellaneous site, or miscellaneous station, is a site where streamflow, sediment, and/or water-quality data are collected once, or more often on a random or discontinuous basis.

DEFINITION OF TERMS--Continued

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 geodetic datum derived from a general adjustment of the first order level nets of the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, 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*

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.

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 sediments. May be reported as dissolved organic carbon (DOC), suspended organic carbon (SOC), or total organic carbon (TOC).

Organism is any living entity.

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.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

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 U.S. Geological Survey 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).

DEFINITION OF TERMS--Continued

Particle-size classification 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

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. 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.

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, or volume.

Periodic station is a site where stage, discharge, sediment, chemical, 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. While 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 are termed "acidic," and solutions with a pH greater than 7 are termed "basic." Solutions with a pH of 7 are neutral. The presence and concentration of many dissolved chemical constituents found in water are, in part, influenced by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms are also influenced, in part, by the hydrogen-ion activity of water.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 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).

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 are commonly known as algae.

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.

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.

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.

Fire algae (*Pyrrhophyta*) are a group of algae that are free-swimming unicells characterized by a red pigment spot.

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.

DEFINITION OF TERMS--Continued

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often 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.

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

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic 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. 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 in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

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. 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.

Radioisotopes are isotopic forms of an element 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.

Recoverable from 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.

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 non-exceedance 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 non-exceedances of the $7Q_{10}$ occur less than 10 years after the previous non-exceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous non-exceedance. 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.

River mile is the distance of a point on a river measured in miles from the river's mouth along the low-water channel.

DEFINITION OF TERMS--Continued

River mileage is the linear distance along the meandering path of a stream channel determined in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council.

Runoff in inches (IN., in.) is the depth, in inches, to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sea level refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929. *See*: ***http://www.co-ops.nos.noaa.gov/ glossary/gloss_n.html#NGVD***

Sediment is solid material that is transported by, suspended in, or deposited from water. It originates mostly from disintegrated rocks; it also 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 influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along or very close to the bed. In this report, bed load is considered to consist of particles in transit from the bed to an elevation equal to the top of the bed-load sampler nozzle (usually within 0.25 ft of the streambed).

Bed-load discharge (tons per day) is the quantity of sediment moving as bed load, reported as dry weight, that passes a cross section in a given time.

Suspended sediment is the sediment that is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

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 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The entire sample is used for the analysis.

Mean concentration of suspended sediment is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the quantity of sediment moving in suspension, reported as dry weight, 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.

Suspended-sediment load is a term that refers to material in suspension. 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.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, reported as dry weight, that passes a cross section in a given time.

Total sediment load or total load is a term that refers to the total sediment (bed load plus suspended-sediment load) that is in transport. 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 total sediment discharge.

Seven-day 10-year low flow (7Q10, $7Q_{10}$) is the minimum flow averaged over 7 consecutive days that is expected to occur on average, once in any 10-year period. The 7Q10 has a 10-percent chance of occurring in any given year.

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. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific conductance is related to the type and concentration of ions in solution 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.

DEFINITION OF TERMS--Continued

Stable isotope ratio (per MILL/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 waters, to evaluate mixing of different waters, 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.

Artificial substrate is a device which 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 taken. 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.

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

Surface area of a lake or impoundment is that area encompassed by the boundary of the lake or impoundment as shown on USGS topographic maps, or on other available maps or photographs. The computed surface areas reflect the water levels of the lakes or impoundments at the times when the information for the maps or photographs was obtained.

Surficial bed material is the top 0.1 to 0.2 ft 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 associated with 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-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 analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative suspended-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 analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Synoptic Studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic 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.

DEFINITION OF TERMS--Continued

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*

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 that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot is the dry mass of dissolved solids in 1 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 the rate representing a mass of 1 ton of a constituent in streamflow passing a cross section in 1 day. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

Total is the total amount of a given constituent in a representative suspended-sediment 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 suspended-sediment mixture and that the analytical method determined all of the constituent in the sample.)

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 total 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 recoverable is the amount of a given constituent that is in solution after a representative suspended-sediment 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, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Turbidity is a measurement of the collective optical properties of a water sample that cause light to be scattered and absorbed rather than transmitted in straight lines; the higher the intensity of scattered light, the higher the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU) or Formazin turbidity units (FTU) depending on the method and equipment used.

DEFINITION OF TERMS--Continued

Volatile organic compounds (VOC's) 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 VOC's are manmade 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 (U.S. Environmental Protection Agency, 1996).

Water level is the water-surface elevation or stage of the free surface of a body of water above or below any datum (see "Gage height"), or the surface of water standing in a well, usually indicative of the position of the water table or other potentiometric surface.

Water table is the surface of a ground-water body at which the water is at atmospheric pressure.

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

Water year in U.S. Geological Survey 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, 1999, is called the "1999 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.

Well is an excavation (pit, hole, tunnel), generally cylindrical in form and often walled in, drilled, dug, driven, bored, or jetted into the ground to such a depth as to penetrate water-yielding geologic material and allow the water to flow or to be pumped to the surface.

Wet weight refers to the weight of animal tissue or other substance including its contained water.

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material 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. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Branch of Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

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, Chapter D1. 1975. 65 pages.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

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, Chapter D1. 1974. 116 pages.

2-D2. *Application of seismic-refraction techniques to hydrologic studies,* by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.

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, Chapter E1. 1971. 126 pages.

2-E2. *Borehole geophysics applied to ground-water investigations,* by W. S. Keys: USGS--TWRI Book 2, Chapter E2. 1990. 150 pages.

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, Chapter F1. 1989. 97 pages.

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, Chapter A1. 1967. 30 pages.

3-A2. *Measurement of peak discharge by the slope-area method,* by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.

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3-A5. *Measurement of peak discharge at dams by indirect methods,* by Harry Hulsing: USGS--TWRI Book 3. Chapter A5. 1967. 29 pages.

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3-A8. *Discharge measurements at gaging stations,* by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.

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

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3-B1. *Aquifer-test design, observation, and data analysis,* by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

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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, Chapter A5. 1977. 95 pages.

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, Chapter A6. 1982. 181 pages.

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

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, Chapter A2. 1991. 68 pages.

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, Chapter A3. 1993. 136 pages

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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, Chapter A5, 1993. 243 pages.

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. 1995. 125 pages.

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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, Chapter A4. 1999. 156 p.

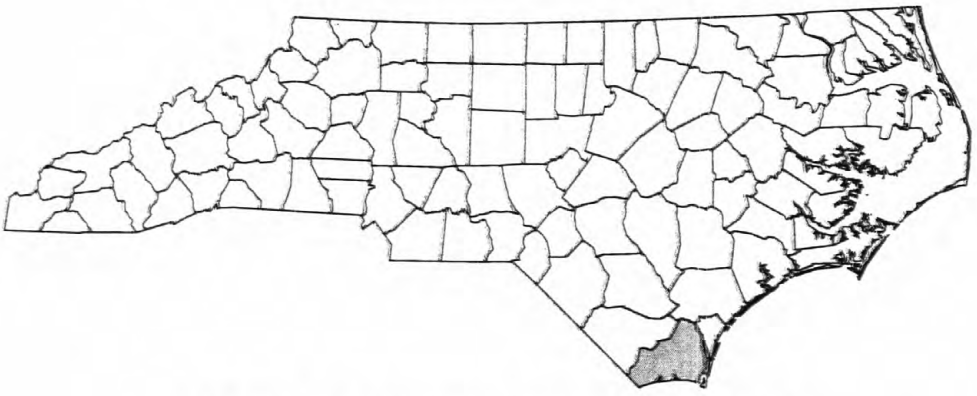
9-A5. *National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples,* edited by F. D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS--TWRI Book 9, Chapter A5. 1999. 149 p.

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, Chapter A6. 1998. Variously paginated.

9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators,* by D. N. Myers and F. D. Wilde: USGS--TWRI Book 9, Chapter 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, Capter A8. 1998. 48 pages.

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, Chapter A9, 1998. 60 pages.



LOCATION OF BRUNSWICK COUNTY IN NORTH CAROLINA

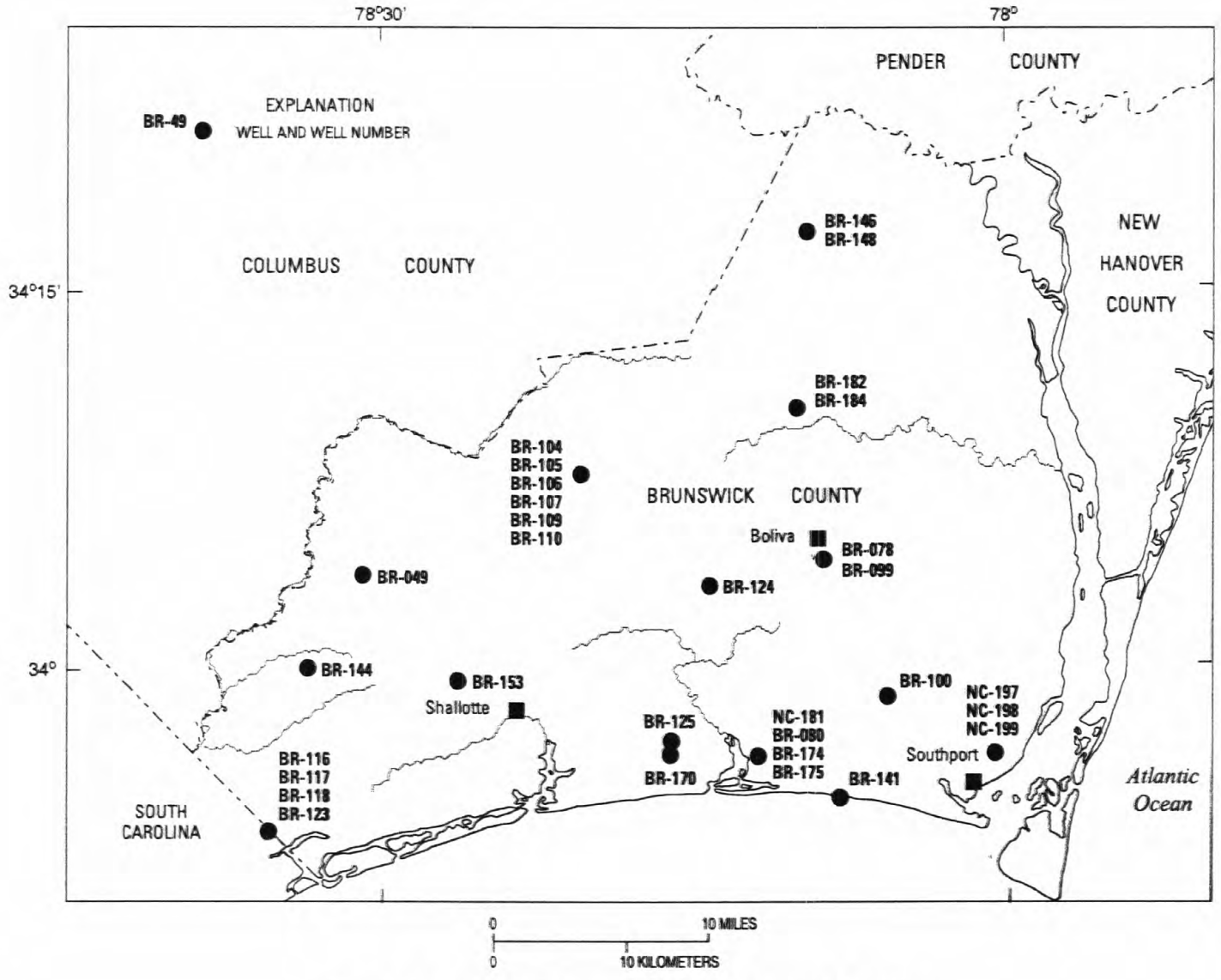


Figure 7.--Location of observation wells in Brunswick County.

LOCATION OF ONSLOW COUNTY IN NORTH CAROLINA

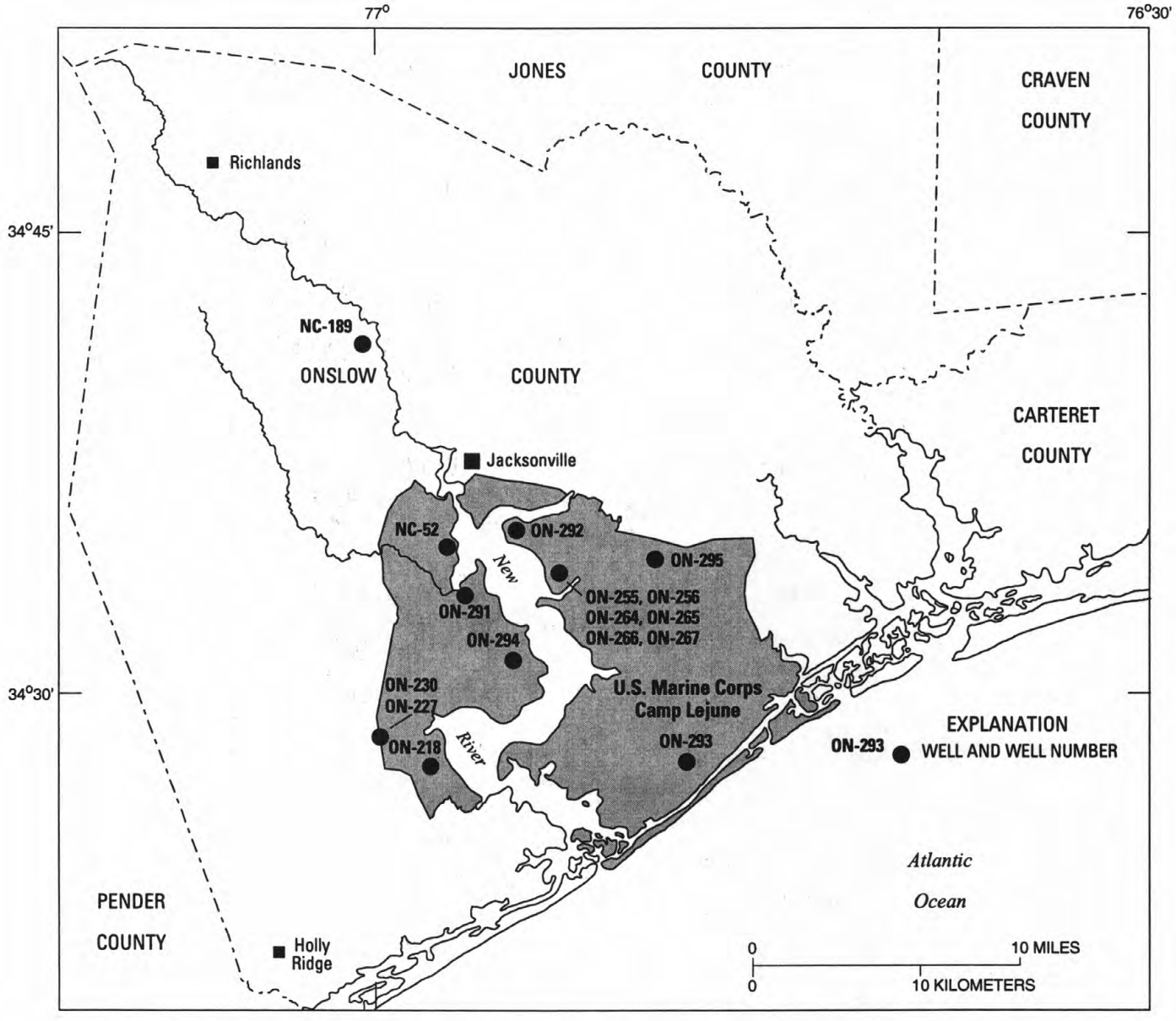
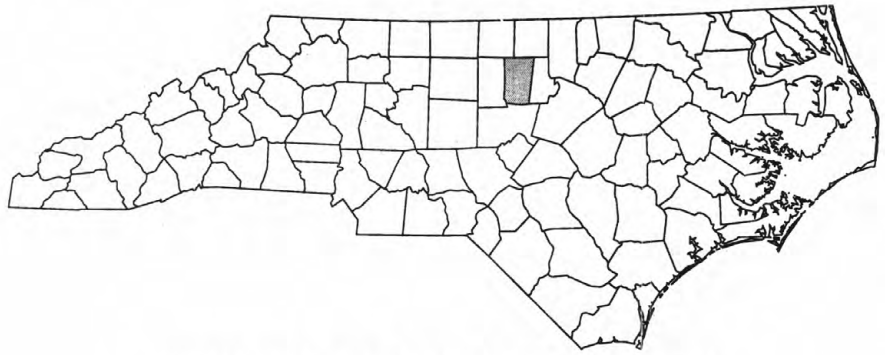


Figure 8.--Location of observation wells in Onslow County.



LOCATION OF ORANGE COUNTY IN NORTH CAROLINA

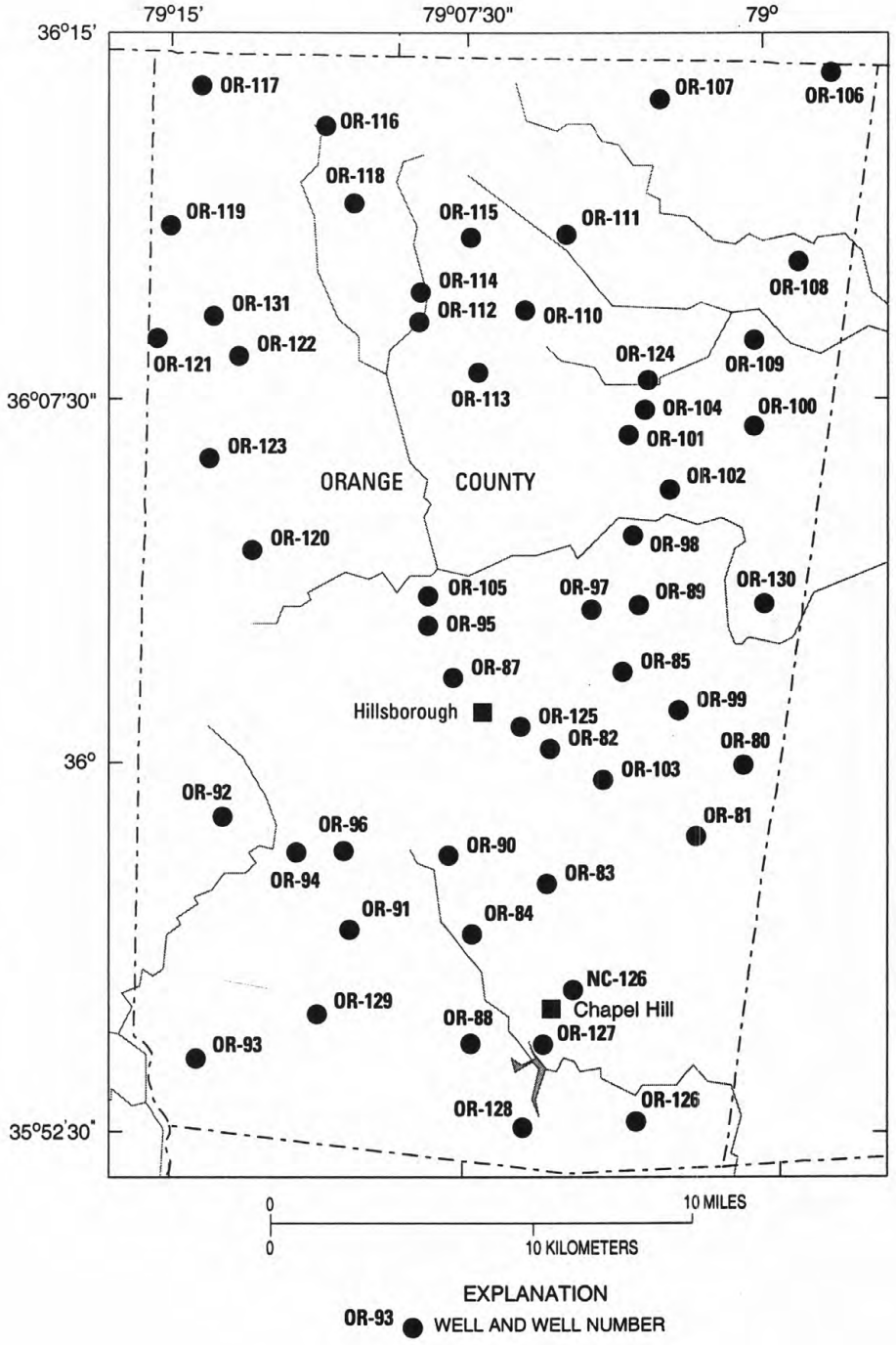


Figure 9.--Location of observation wells in Orange County.

LOCATION OF GREENE COUNTY IN NORTH CAROLINA

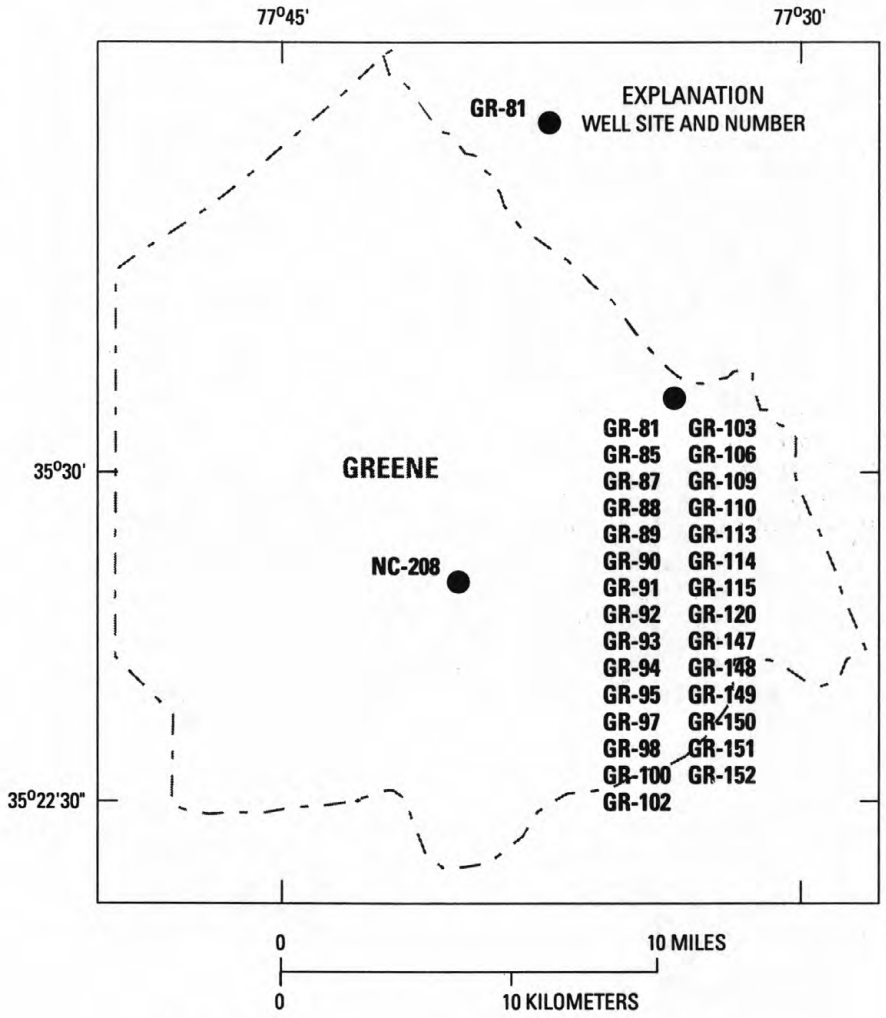
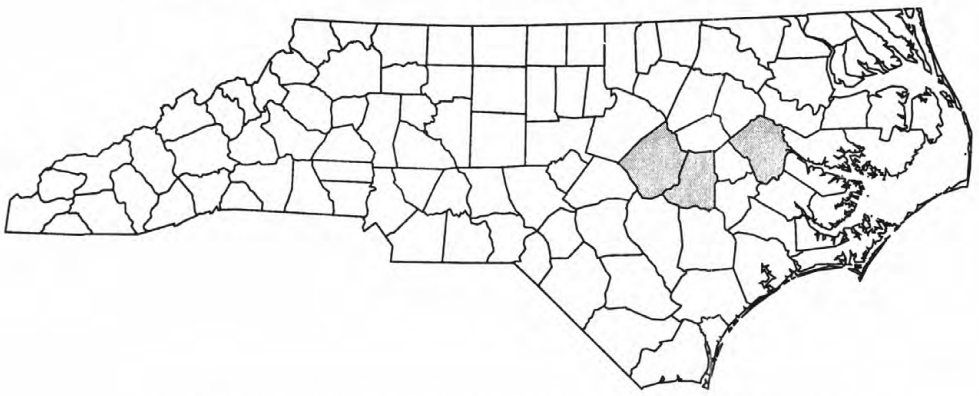


Figure 10.--Location of observation wells in Greene County.



LOCATION OF JOHNSTON, WAYNE, AND PITT COUNTIES IN NORTH CAROLINA

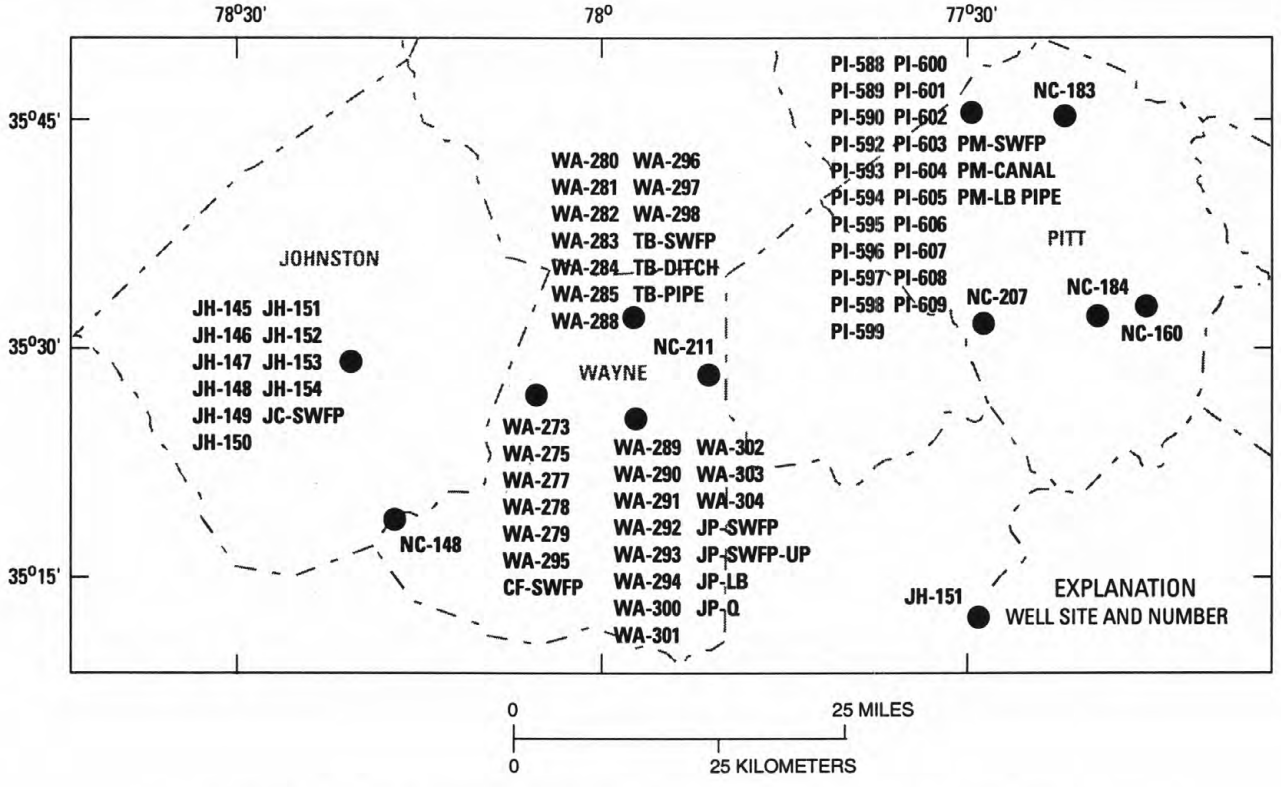


Figure 11.--Location of observation wells in Johnston, Wayne, and Pitt Counties.

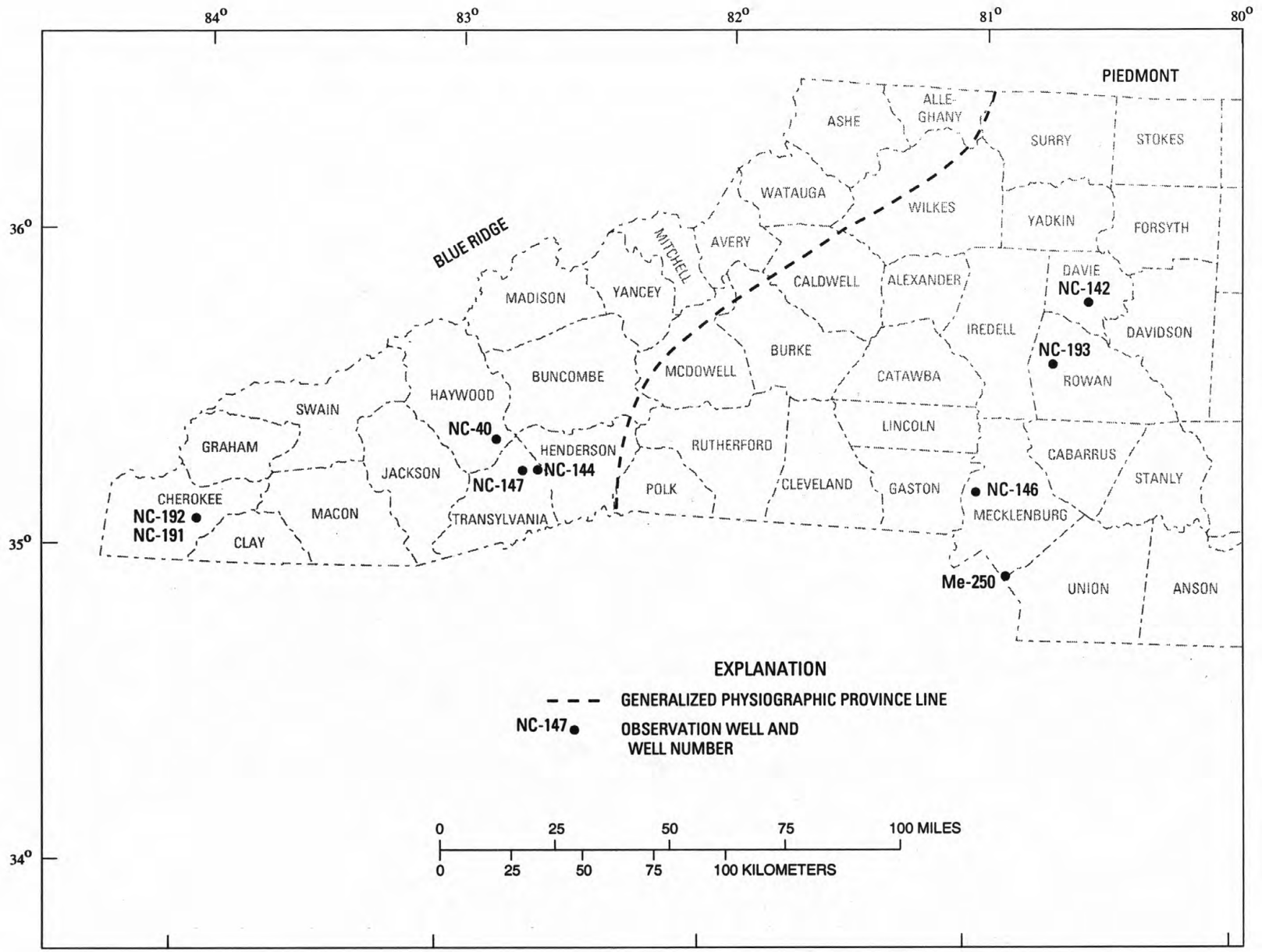


Figure 12.--Locations of observation wells in western North Carolina.

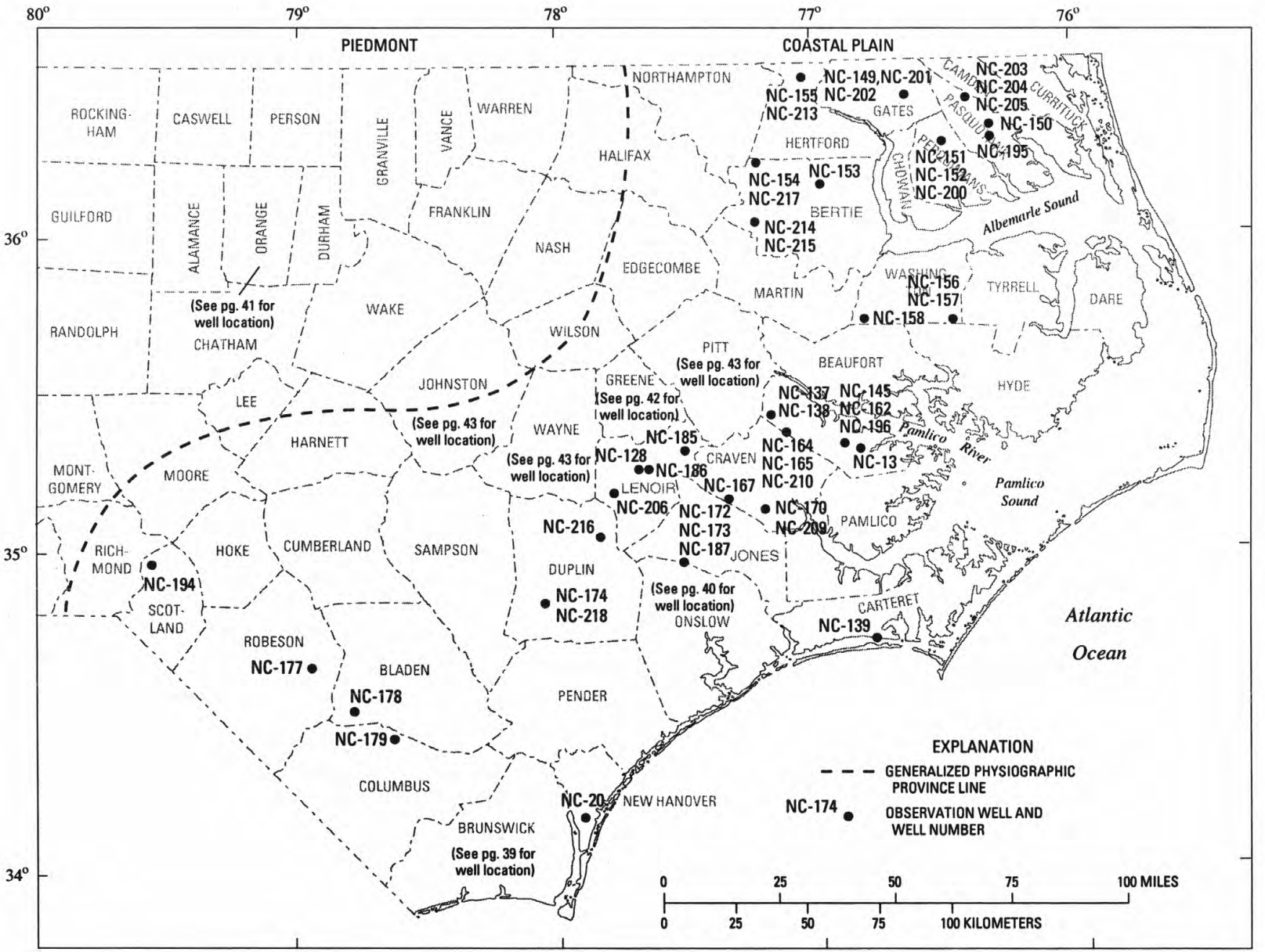


Figure 13.--Locations of observation wells in eastern North Carolina.

BEAUFORT COUNTY

351932076480001. Local number, NC-13.

LOCATION.--Lat 35°19'32", long 76°48'00", Hydrologic Unit 03020104, 1.5 mi north of Aurora, east of intersection of State Highway 306 and Secondary Road 1942. Owner: PCS Phosphate, Aurora Division.

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 168 ft, diameter 4 in., cased to 156 ft, open hole to 168 ft; measured depth 165.5 ft, September 1981.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 10 ft above sea level (from topographic map). Measuring point: Bottom of angle iron bar, 2.33 ft above land-surface datum; revised from 0.36 ft below land-surface datum, Aug. 25, 1993.

REMARKS.--Since 1965 water levels affected by nearby pumping associated with mining operations. Well is part of local-effects network.

PERIOD OF RECORD.--June 1964 to current year.

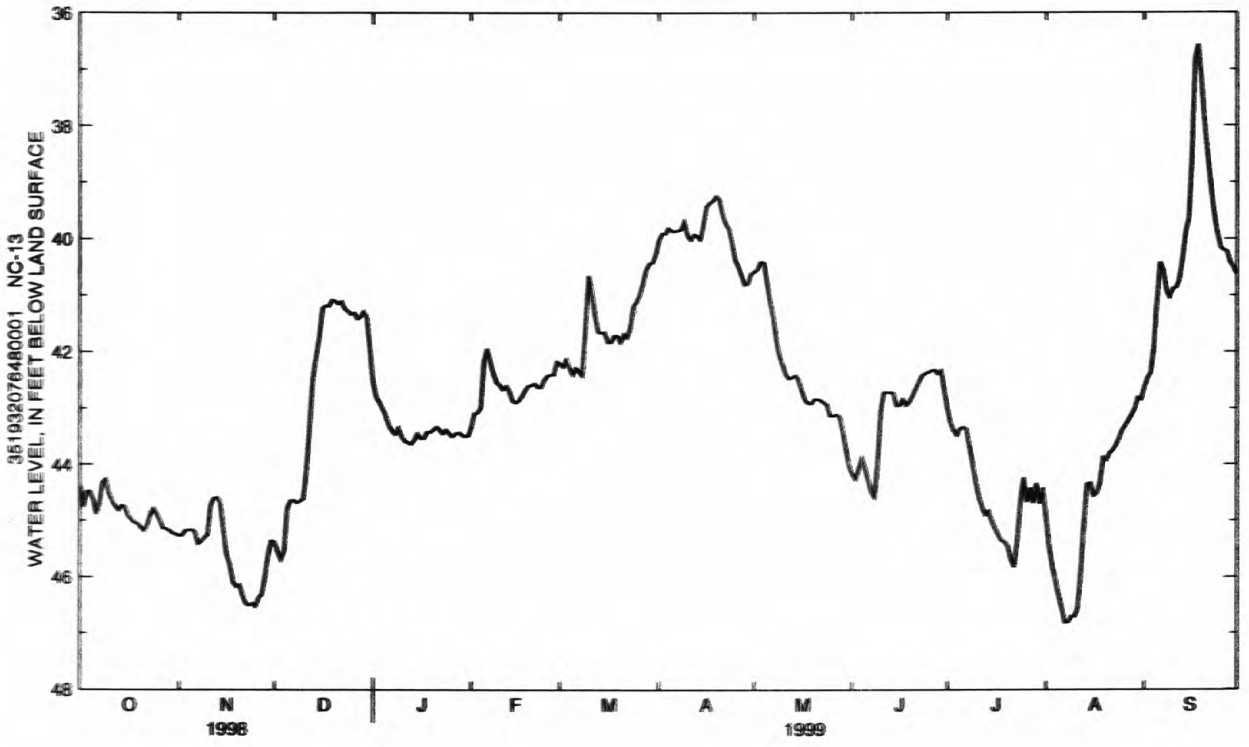
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.38 ft below land-surface datum, Apr. 9, 1965; lowest water level recorded, 107.25 ft below land-surface datum, July 11, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44.39	45.27	45.38	42.51	43.35	42.21	40.02	40.58	44.16	43.01	44.90	42.63
2	44.76	45.26	45.56	42.80	43.09	42.26	39.90	40.54	44.26	43.26	45.44	42.47
3	44.48	45.17	45.70	42.89	43.08	42.13	39.91	40.41	44.09	43.40	45.81	42.37
4	44.48	45.17	45.52	43.01	42.98	42.28	39.81	40.42	43.89	43.48	46.06	41.94
5	44.63	45.16	44.77	43.12	42.16	42.40	39.86	40.72	44.06	43.36	46.32	41.10
6	44.89	45.19	44.64	43.30	41.94	42.28	39.86	41.09	44.26	43.34	46.56	40.42
7	44.68	45.41	44.64	43.40	42.17	42.35	39.85	41.37	44.48	43.37	46.82	40.56
8	44.31	45.37	44.68	43.46	42.39	42.42	39.83	41.79	44.58	43.67	46.81	40.91
9	44.26	45.30	44.65	43.35	42.54	41.54	39.69	42.06	44.02	43.98	46.70	41.03
10	44.51	45.25	44.61	43.50	42.59	40.65	39.94	42.23	43.05	44.30	46.71	40.88
11	44.65	44.71	44.10	43.58	42.67	40.94	40.02	42.40	42.72	44.58	46.56	40.86
12	44.75	44.60	43.28	43.61	42.60	41.35	39.92	42.47	42.72	44.76	45.92	40.74
13	44.82	44.59	42.47	43.64	42.69	41.65	39.95	42.45	42.72	44.90	45.04	40.36
14	44.73	44.67	42.08	43.56	42.87	41.66	40.01	42.41	42.73	44.83	44.35	39.89
15	44.75	45.16	41.75	43.45	42.90	41.65	39.75	42.49	42.96	45.01	44.33	39.64
16	44.91	45.61	41.23	43.54	42.86	41.83	39.43	42.69	42.95	45.13	44.56	38.54
17	44.98	45.79	41.18	43.54	42.79	41.83	39.36	42.85	42.84	45.25	44.51	36.81
18	45.03	46.10	41.19	43.42	42.68	41.71	39.33	42.91	42.95	45.35	44.33	36.57
19	45.05	46.18	41.08	43.43	42.60	41.72	39.24	42.92	42.89	45.38	43.88	37.21
20	45.12	46.14	41.10	43.38	42.59	41.83	39.30	42.84	42.78	45.45	43.93	37.97
21	45.18	46.33	41.15	43.33	42.56	41.68	39.56	42.84	42.66	45.69	43.80	38.56
22	45.08	46.48	41.11	43.38	42.63	41.75	39.73	42.86	42.53	45.83	43.75	39.10
23	44.89	46.51	41.24	43.45	42.63	41.57	39.82	42.90	42.42	45.35	43.66	39.60
24	44.78	46.47	41.28	43.38	42.49	41.19	40.07	42.94	42.38	44.69	43.55	39.91
25	44.88	46.53	41.34	43.45	42.42	41.11	40.37	43.13	42.36	44.24	43.39	40.16
26	44.99	46.37	41.31	43.50	42.40	40.99	40.50	43.14	42.33	44.67	43.31	40.20
27	45.14	46.31	41.42	43.45	42.40	40.77	40.65	43.11	42.32	44.42	43.22	40.23
28	45.14	45.98	41.38	43.43	42.17	40.54	40.81	43.15	42.39	44.69	43.12	40.42
29	45.18	45.59	41.29	43.47	---	40.43	40.79	43.39	42.33	44.34	43.00	40.50
30	45.22	45.36	41.38	43.50	---	40.42	40.62	43.74	42.70	44.70	42.81	40.62
31	45.24	---	41.93	43.49	---	40.26	---	44.02	---	44.42	42.85	---

WTR YR 1999 MEAN 42.96 HIGH 36.57 LOW 46.82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WATER LEVEL, IN FEET BELOW LAND SURFACE
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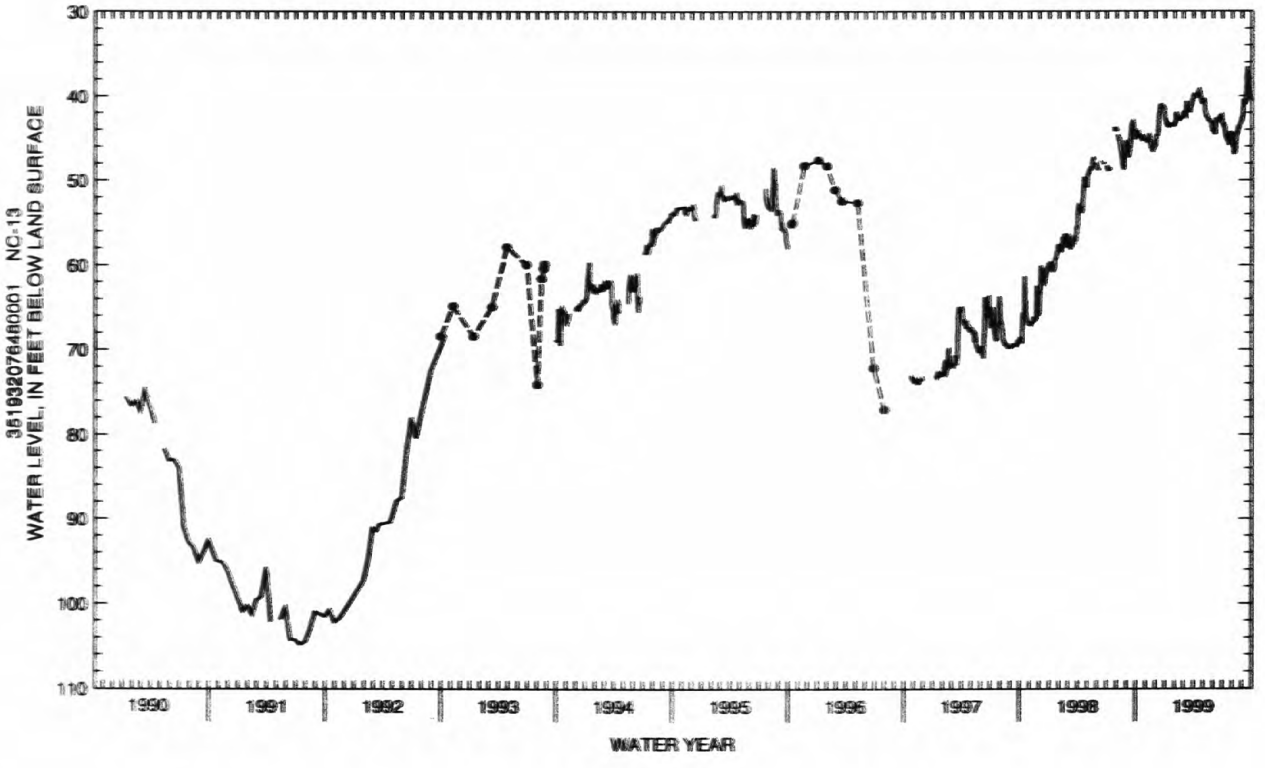
351932076480001 NC-13
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

BEAUFORT COUNTY--Continued

352615077083401. Local number, NC-137; DENR Creeping Swamp Research Station well O21q1.

LOCATION.--Lat 35°26'15", long 77°08'38", Hydrologic Unit 03020202, 1 mi west of U.S. Highway 17 on State Highway 102, and 3 mi north of Wilmar. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 143 ft, diameter 4 in., cased to 72 ft, open hole to 143 ft; measured depth 141.6 ft, September 1981.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 56.84 ft above sea level (levels by DENR). Measuring point: Top of collar on casing, 0.80 ft above land-surface datum.

REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--January 1972 to current year.

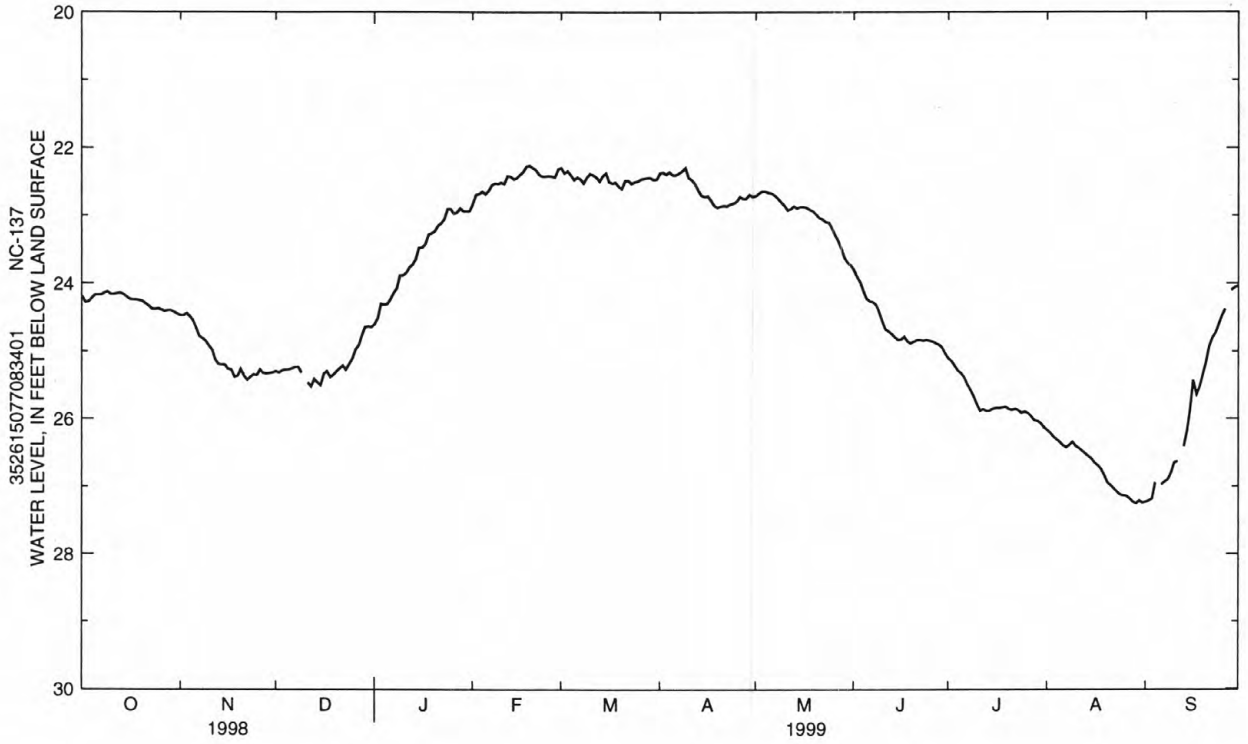
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 19.90 ft below land-surface datum, Feb. 3, 1972; lowest water level recorded, 27.47 ft below land-surface datum, Sept. 24, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.19	24.47	25.29	24.60	22.83	22.29	22.37	22.71	23.80	25.10	26.16	27.23
2	24.28	24.47	25.31	24.51	22.69	22.37	22.36	22.67	23.90	25.14	26.20	27.21
3	24.27	24.44	25.28	24.30	22.68	22.34	22.39	22.64	23.98	25.21	26.26	27.18
4	24.22	24.49	25.27	24.31	22.64	22.40	22.35	22.64	24.11	25.28	26.30	26.94
5	24.17	24.55	25.27	24.30	22.68	22.47	22.40	22.66	24.22	25.32	26.34	---
6	24.17	24.66	25.25	24.23	22.63	22.43	22.40	22.67	24.26	25.38	26.39	26.97
7	24.17	24.78	25.23	24.14	22.55	22.46	22.37	22.70	24.27	25.49	26.42	26.93
8	24.14	24.81	25.23	24.07	22.52	22.52	22.34	22.75	24.31	25.57	26.39	26.90
9	24.12	24.85	25.31	23.88	22.53	22.43	22.29	22.80	24.42	25.67	26.34	26.80
10	24.16	24.91	---	23.88	22.51	22.38	22.44	22.85	24.56	25.78	26.40	26.65
11	24.16	24.98	25.46	23.84	22.53	22.40	22.47	22.92	24.67	25.88	26.43	26.63
12	24.15	25.12	25.52	23.76	22.41	22.43	22.53	22.90	24.70	25.86	26.47	---
13	24.14	25.19	25.41	23.72	22.42	22.49	22.63	22.86	24.74	25.88	26.51	26.41
14	24.16	25.20	25.46	23.64	22.46	22.41	22.70	22.89	24.79	25.88	26.55	26.18
15	24.20	25.20	25.50	23.47	22.44	22.37	22.72	22.87	24.83	25.85	26.59	25.85
16	24.23	25.26	25.33	23.47	22.39	22.50	22.71	22.87	24.82	25.84	26.65	25.43
17	24.24	25.27	25.29	23.42	22.35	22.52	22.78	22.88	24.78	25.84	26.69	25.64
18	24.24	25.38	25.38	23.28	22.27	22.51	22.85	22.91	24.85	25.83	26.74	25.53
19	24.25	25.36	25.35	23.26	22.26	22.57	22.88	22.93	24.88	25.82	26.84	25.35
20	24.26	25.26	25.29	23.23	22.29	22.60	22.86	22.98	24.85	25.85	26.94	25.16
21	24.30	25.37	25.25	23.15	22.32	22.48	22.85	23.03	24.83	25.87	26.98	24.92
22	24.33	25.42	25.21	23.11	22.39	22.48	22.86	23.05	24.83	25.85	27.03	24.80
23	24.38	25.38	25.27	23.05	22.42	22.53	22.83	23.09	24.84	25.87	27.08	24.72
24	24.38	25.34	25.19	22.90	22.42	22.50	22.82	23.10	24.83	25.91	27.12	24.59
25	24.37	25.35	25.11	22.90	22.41	22.49	22.79	23.18	24.84	25.89	27.13	24.47
26	24.39	25.27	24.97	22.97	22.42	22.46	22.72	23.29	24.85	25.91	27.14	24.38
27	24.41	25.32	24.91	22.95	22.43	22.45	22.75	23.37	24.88	25.96	27.18	---
28	24.40	25.33	24.76	22.89	22.31	22.44	22.75	23.49	24.90	26.02	27.23	24.10
29	24.40	25.32	24.64	22.93	---	22.44	22.69	23.62	24.94	26.03	27.25	24.06
30	24.42	25.31	24.63	22.93	---	22.47	22.72	23.69	25.03	26.06	27.21	24.04
31	24.45	---	24.64	22.93	---	22.46	---	23.73	---	26.12	27.24	---

WTR YR 1999 MEAN 24.28 HIGH 22.26 LOW 27.25


NC-137
352615077083401
WATER LEVEL, IN FEET BELOW LAND SURFACE
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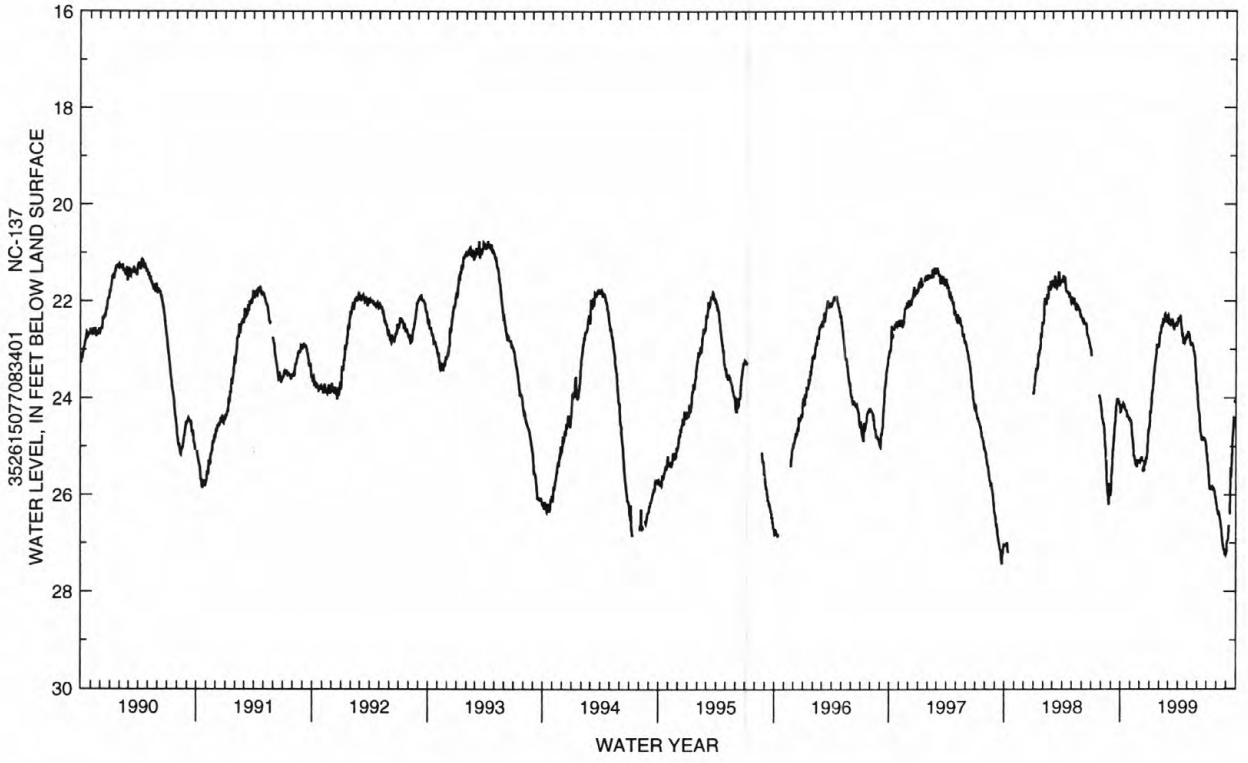
NC-137
352615077083401
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

BEAUFORT COUNTY--Continued

352615077083402. Local number, NC-138; DENR Creeping Swamp Research Station well O21q2.

LOCATION.--Lat 35°26'15", long 77°08'38", Hydrologic Unit 03020202, 1 mi west of U.S. Highway 17 on State Highway 102, and 3 mi north of Wilmar. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Surficial aquifer of post-Miocene age..

WELL CHARACTERISTICS.--Drilled observation well, depth 12 ft, diameter 4 in., cased to 7 ft, screened interval from 7 to 12 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 56.14 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 2.61 ft above land-surface datum.

REMARKS.--Well is part of climatic-effects network.

PERIOD OF RECORD.--August 1971 to current year. August 1971 to May 1987, continuous record, mean sea level. October 1997 to current year, continuous record, below land surface datum.

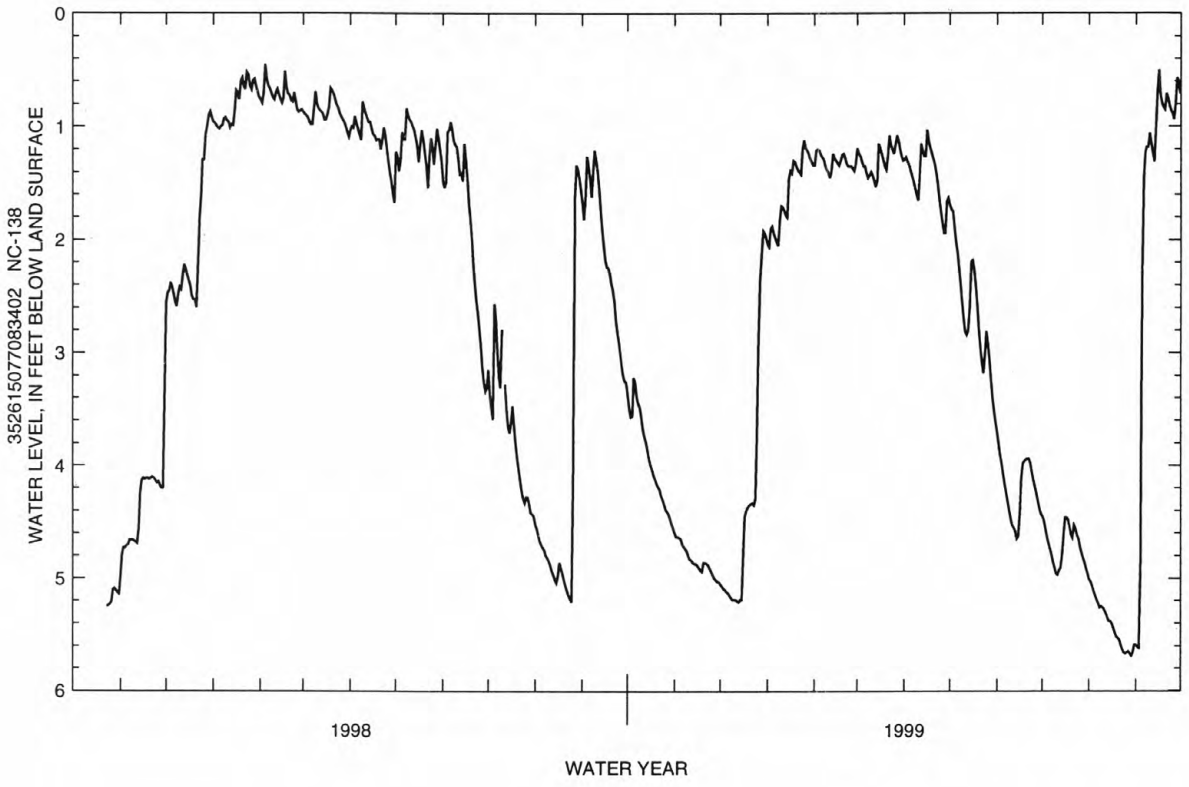
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.05 ft above land-surface datum, Apr. 26, 27, 1979; lowest water level recorded, 6.40 ft below land-surface datum, Nov. 24-27, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.37	4.60	5.05	2.04	1.34	1.19	1.29	1.69	3.71	4.45	5.01	5.59
2	3.49	4.63	5.07	2.06	1.21	1.24	1.27	1.73	3.81	4.49	5.03	5.61
3	3.57	4.63	5.09	1.90	1.20	1.26	1.31	1.75	3.90	4.56	5.07	5.62
4	3.56	4.64	5.10	1.88	1.21	1.31	1.34	1.90	3.98	4.63	5.11	4.87
5	3.22	4.65	5.12	1.94	1.25	1.35	1.39	2.03	4.07	4.69	5.15	2.25
6	3.26	4.70	5.13	1.98	1.27	1.35	1.44	2.12	4.16	4.74	5.19	1.45
7	3.39	4.72	5.15	2.02	1.29	1.41	1.49	2.25	4.24	4.79	5.22	1.22
8	3.45	4.74	5.17	2.05	1.35	1.45	1.55	2.39	4.32	4.85	5.26	1.18
9	3.48	4.76	5.19	1.83	1.38	1.43	1.61	2.55	4.40	4.90	5.25	1.18
10	3.57	4.80	5.19	1.70	1.41	1.40	1.65	2.69	4.47	4.96	5.26	1.06
11	3.68	4.83	5.19	1.71	1.45	1.43	1.42	2.81	4.53	4.97	5.28	1.15
12	3.74	4.84	5.20	1.74	1.38	1.48	1.15	2.84	4.55	4.93	5.31	1.24
13	3.79	4.86	5.21	1.78	1.24	1.53	1.21	2.80	4.58	4.91	5.34	1.31
14	3.85	4.87	5.19	1.80	1.28	1.47	1.26	2.59	4.65	4.79	5.38	.99
15	3.93	4.87	5.19	1.46	1.30	1.15	1.26	2.19	4.63	4.61	5.38	.69
16	3.99	4.89	4.82	1.39	1.32	1.19	1.03	2.18	4.43	4.46	5.40	.50
17	4.03	4.91	4.45	1.41	1.34	1.24	1.13	2.27	4.12	4.46	5.44	.71
18	4.08	4.93	4.40	1.30	1.30	1.29	1.19	2.41	3.98	4.48	5.48	.79
19	4.12	4.94	4.37	1.31	1.25	1.35	1.23	2.58	3.96	4.54	5.52	.83
20	4.16	4.86	4.35	1.35	1.24	1.38	1.28	2.79	3.95	4.61	5.53	.85
21	4.19	4.86	4.34	1.38	1.28	1.25	1.33	2.95	3.94	4.64	5.55	.71
22	4.21	4.87	4.33	1.40	1.33	1.08	1.41	3.08	3.94	4.53	5.59	.75
23	4.26	4.88	4.35	1.42	1.35	1.16	1.51	3.18	3.98	4.56	5.63	.82
24	4.30	4.91	4.29	1.20	1.35	1.20	1.64	3.01	4.06	4.62	5.66	.86
25	4.34	4.94	3.76	1.12	1.35	1.24	1.75	2.81	4.13	4.65	5.67	.89
26	4.39	4.97	2.90	1.19	1.37	1.16	1.85	2.91	4.19	4.72	5.66	.94
27	4.41	5.00	2.35	1.21	1.39	1.08	1.94	3.05	4.25	4.77	5.65	.79
28	4.43	5.01	2.12	1.24	1.32	1.12	1.94	3.24	4.32	4.82	5.67	.57
29	4.48	5.03	1.92	1.28	---	1.20	1.66	3.40	4.38	4.86	5.69	.61
30	4.52	5.03	1.94	1.31	---	1.26	1.63	3.52	4.43	4.91	5.66	.71
31	4.56	---	1.99	1.34	---	1.30	---	3.62	---	4.96	5.59	---

WTR YR 1999 MEAN 3.12 HIGH .50 LOW 5.69


352615077083402 NC-138
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

BEAUFORT COUNTY--Continued

352037076514101. Local number, NC-145; DENR Bonnerton Research Station well P18v5.

LOCATION.--Lat 35°20'37", long 76°51'41", Hydrologic Unit 03020104, 1 mi south of Bonnerton on Secondary Road 1936. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 280 ft, diameter 4 in., cased to 169 ft, open hole to 280 ft; measured depth 278 ft, September 1981.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 36.41 ft above sea level (levels by DENR); revised from 36.64 ft above sea level, October 1987. Measuring point: Top of instrument shelf, 3.11 ft above land-surface datum; revised from 2.70 ft above land-surface datum, April 30, 1998.

REMARKS.--Well is part of local-effects network. Water level is affected by nearby pumping associated with mining operations.

PERIOD OF RECORD.--June 1980 to current year. Continuous record July 1984 to September 1992 and October 1995 to current year. Records from June 1980 to June 1984 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 60.77 ft below land-surface datum, Mar. 29, 1997; lowest water level recorded, 100.32 ft below land-surface datum, Oct. 9 and 10, 1989.

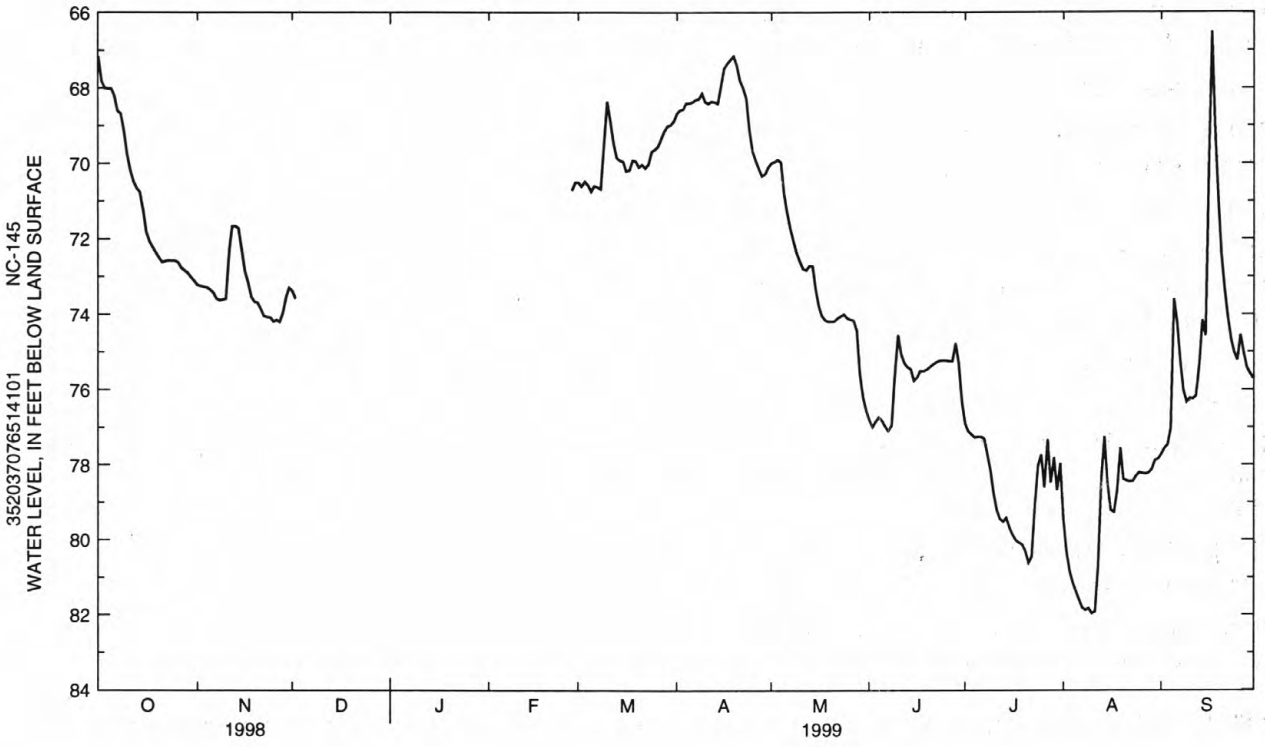
REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-85-1, NC-86-1, and NC-87-1, should be adjusted by -0.23 ft.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67.17	73.22	73.38	---	---	70.50	68.67	69.99	76.80	76.91	79.45	77.72
2	67.83	73.25	73.58	---	---	70.61	68.58	69.96	76.99	77.11	80.31	77.56
3	68.00	73.26	---	---	---	70.48	68.56	69.90	76.85	77.19	80.85	77.47
4	68.01	73.28	---	---	---	70.57	68.40	69.97	76.73	77.27	81.15	77.03
5	68.02	73.34	---	---	---	70.74	68.40	70.80	76.82	77.25	81.39	73.60
6	68.20	73.42	---	---	---	70.60	68.37	71.32	76.98	77.26	81.61	74.20
7	68.60	73.58	---	---	---	70.63	68.31	71.73	77.10	77.30	81.82	75.25
8	68.68	73.62	---	---	---	70.68	68.29	72.08	76.95	77.70	81.88	76.01
9	69.14	73.61	---	---	---	69.46	68.14	72.37	75.66	78.16	81.83	76.33
10	69.76	73.59	---	---	---	68.35	68.36	72.60	74.55	78.76	81.97	76.23
11	70.19	72.30	---	---	---	68.88	68.41	72.79	75.06	79.21	81.92	76.25
12	70.49	71.66	---	---	---	69.45	68.35	72.83	75.30	79.45	80.73	76.16
13	70.67	71.66	---	---	---	69.85	68.37	72.71	75.40	79.52	78.37	75.34
14	70.75	71.72	---	---	---	69.92	68.41	72.72	75.46	79.42	77.25	74.16
15	71.26	72.28	---	---	---	69.95	67.94	73.33	75.76	79.69	78.53	74.57
16	71.81	72.85	---	---	---	70.20	67.48	73.79	75.67	79.87	79.21	70.21
17	72.07	73.16	---	---	---	70.18	67.34	74.04	75.50	80.02	79.27	66.51
18	72.22	73.54	---	---	---	69.92	67.25	74.15	75.51	80.08	78.70	69.08
19	72.36	73.67	---	---	---	69.94	67.15	74.19	75.47	80.13	77.55	70.98
20	72.50	73.69	---	---	---	70.10	67.40	74.19	75.39	80.30	78.39	72.44
21	72.62	73.87	---	---	---	70.03	67.80	74.18	75.33	80.62	78.43	73.35
22	72.59	74.05	---	---	---	70.12	67.99	74.10	75.27	80.46	78.45	74.06
23	72.57	74.07	---	---	---	70.02	68.27	74.05	75.23	79.06	78.44	74.66
24	72.58	74.08	---	---	---	69.69	69.09	74.00	75.22	78.03	78.30	75.01
25	72.58	74.19	---	---	---	69.63	69.67	74.10	75.22	77.73	78.21	75.22
26	72.62	74.15	---	---	---	69.55	69.92	74.14	75.24	78.61	78.23	74.55
27	72.77	74.20	---	---	70.71	69.35	70.14	74.16	75.24	77.33	78.24	75.03
28	72.84	73.95	---	---	70.50	69.14	70.33	74.43	74.77	78.48	78.22	75.42
29	72.90	73.53	---	---	---	69.01	70.28	75.57	75.30	77.81	78.12	75.57
30	73.02	73.30	---	---	---	68.98	70.10	76.21	76.34	78.68	77.88	75.71
31	73.11	---	---	---	---	68.87	---	76.55	---	77.97	77.85	---

WTR YR 1999 MEAN 73.77 HIGH 66.51 LOW 81.97


352037076514101 NC-145
WATER LEVEL, IN FEET BELOW LAND SURFACE
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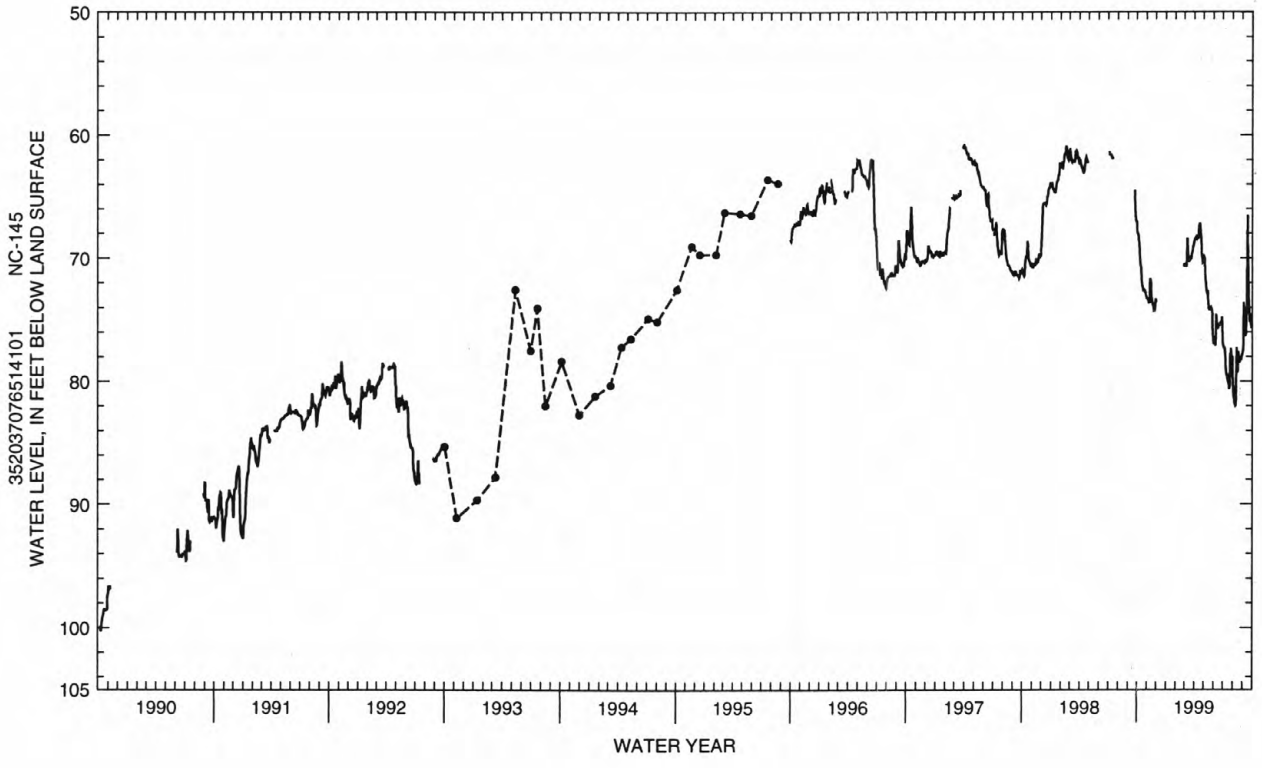
352037076514101 NC-145
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

BEAUFORT COUNTY--Continued

352037076514106. Local number, NC-162; DENR Bonnerton Research Station well P18v6.

LOCATION.--Lat 35°20'37", long 76°51'41", Hydrologic Unit 03020104, 1 mi south of Bonnerton on Secondary Road 1936. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Yorktown aquifer of Pliocene and Miocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 86 ft, diameter 2.5 in., screened interval from 76 to 86 ft; measured depth 83.4 ft, October 1986.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 37.09 ft above sea level (levels by DENR). Measuring point: Top of collar on 2.5-inch casing, 2.35 ft above land-surface datum (since August 1993).

REMARKS.--Water level is affected by nearby pumping associated with mining operations. Well is part of local-effects network.

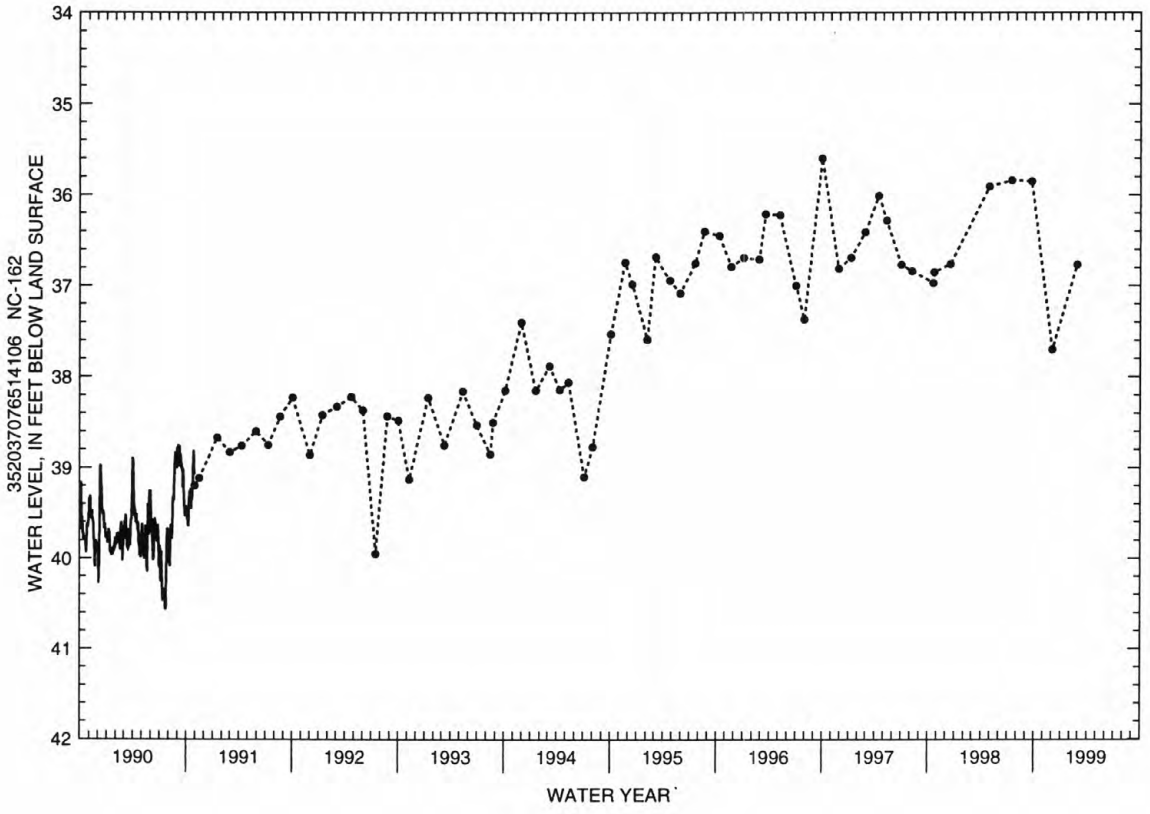
PERIOD OF RECORD.--June 1980 to current year. Continuous record from December 1986 to November 1990. Records from June 1980 to July 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.60 ft below land-surface datum, Oct. 10, 1996; lowest water level measured, 40.58 ft below land-surface datum, July 21, 1990.

REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-87-1, should be adjusted by -0.35 ft.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 3	37.70	FEB 26	36.77


352037076514106 NC-162
WATER LEVEL, IN FEET BELOW LAND SURFACE
34
35
36
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39
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41
42
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

BEAUFORT COUNTY--Continued

352252077050707. Local number, NC-164; DENR Wilmar Research Station well P21k7.

LOCATION.--Lat 35°22'53", long 77°05'17", Hydrologic Unit 03020202, 0.5 mi east of intersection of Secondary Roads 1129 and 1130 on logging road, and 3.5 mi southeast of Wilmar. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Peedee aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 320 ft, diameter 6 in., cased to 290 ft, screened interval from 290 to 310 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 40.56 ft above sea level (levels by DENR). Measuring point: Top of casing, 2.22 ft above land-surface datum; revised from 2.94 ft above land-surface datum, April 21, 1993.

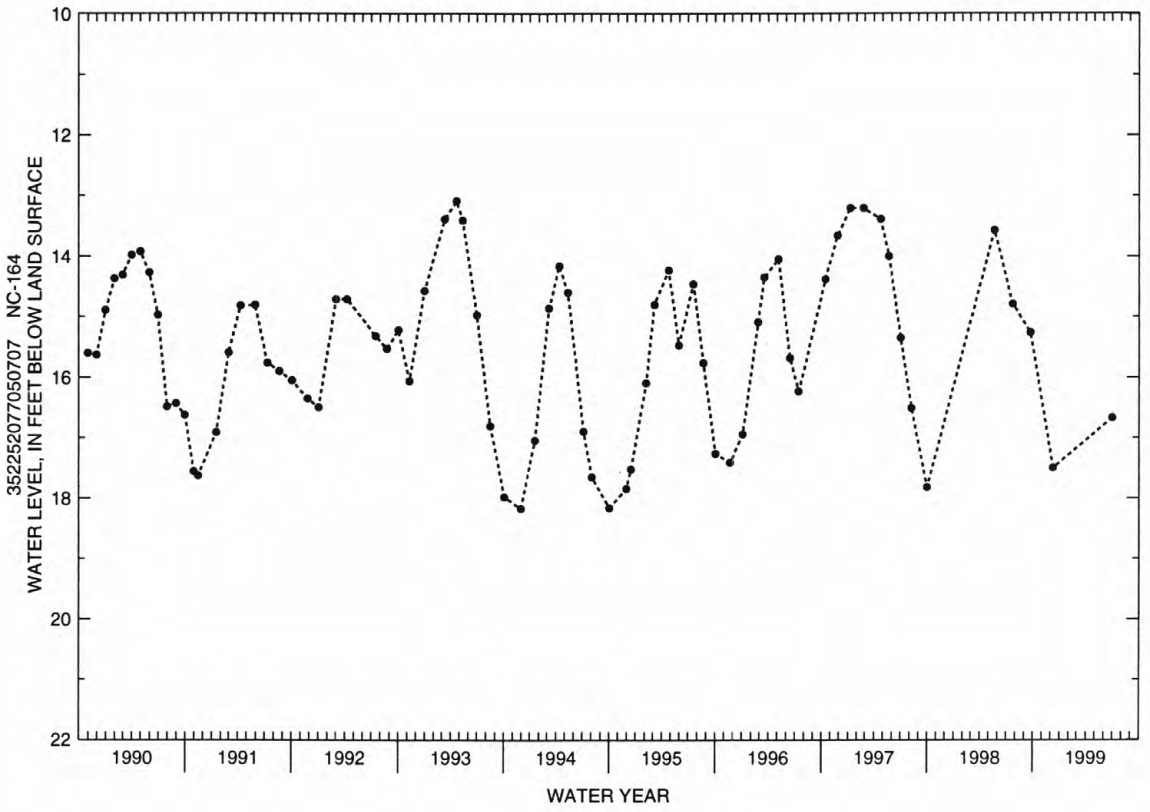
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--March 1969 to current year. Continuous record December 1986 to November 1990. Records from March 1969 to July 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 12.03 ft below land-surface datum, Apr. 27, 1973; lowest water level recorded, 19.40 ft below land-surface datum, Jan. 11 and 14, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 10	17.50	JUL 01	16.67


352252077050707 NC-164
WATER LEVEL, IN FEET BELOW LAND SURFACE
10
12
14
16
18
20
22
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

BEAUFORT COUNTY--Continued

352252077050709. Local number, NC-165; DENR Wilmar Research Station well P21k9.

LOCATION.--Lat 35°22'53", long 77°05'17", Hydrologic Unit 03020202, 0.5 mi east of intersection of Secondary Roads 1129 and 1130 on logging road, and 3.5 mi southeast of Wilmar. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 712 ft, diameter 4 in., cased to 695 ft, screened interval from 695 to 705 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 41.63 ft above sea level (levels by DENR). Measuring point: Top of casing, 1.98 ft above land-surface datum; revised from 2.74 ft above land-surface datum, April 21, 1993.

REMARKS.--Well is part of areal-effects network.

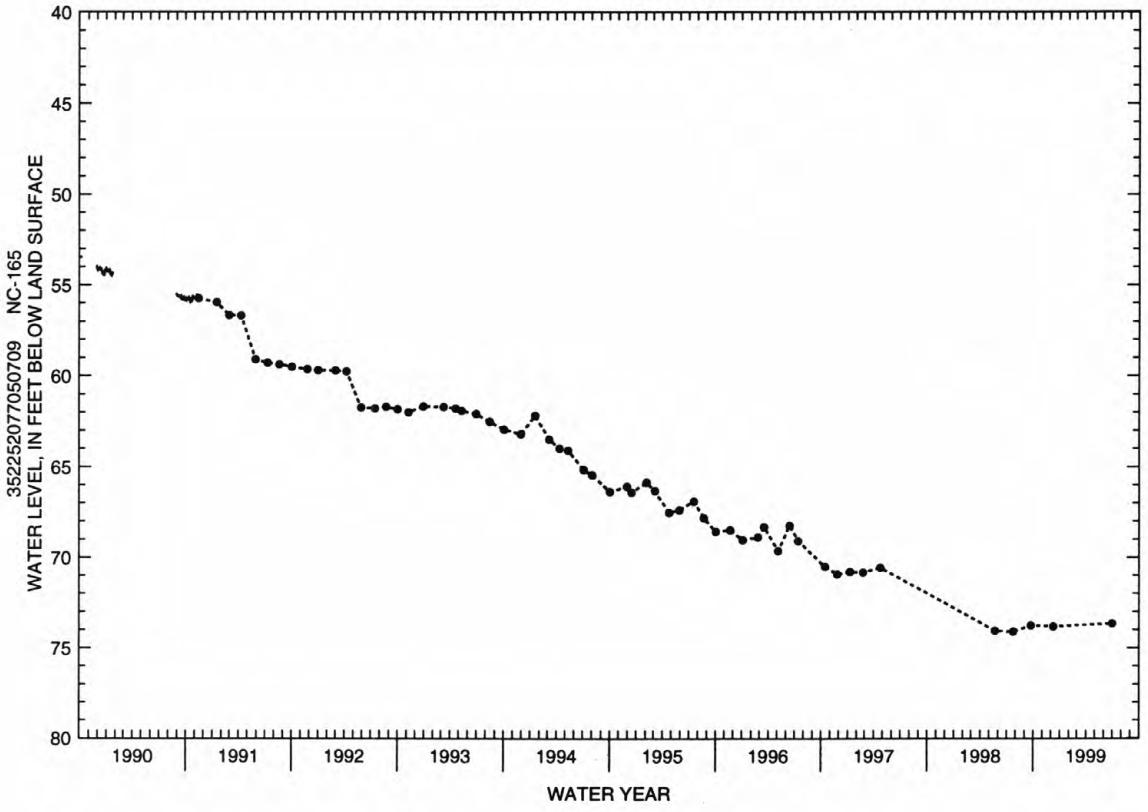
PERIOD OF RECORD.--March 1969 to current year. Continuous record December 1986 to November 1990. Records from March 1969 to July 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 12.94 ft below land-surface datum, Mar. 11, 1969; lowest water level measured, 74.11 ft below land-surface datum, July 24, 1998.

REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-87-1, should be adjusted by +0.17 ft.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 10	73.82	JUL 01	73.66


352520077050709 NC-165
WATER LEVEL, IN FEET BELOW LAND SURFACE
40
45
50
55
60
65
70
75
80
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

BEAUFORT COUNTY--Continued

352036076513903. Local number, NC-196; DENR Bonnerton Research Station well P18v3.

LOCATION.--Lat 35°20'36", long 76°51'39", Hydrologic Unit 03020104, 1 mi south of Bonnerton on Secondary Road 1936. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Surficial aquifer of post-Miocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 30 ft, diameter 4 in., cased to 20 ft, screened interval from 20 to 30 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 37.64 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 1.90 ft above land-surface datum.

REMARKS.--Well is part of local-effects network. Water level is affected by nearby pumping associated with mining operations.

PERIOD OF RECORD.--October 1997 to September 1999 (discontinued).

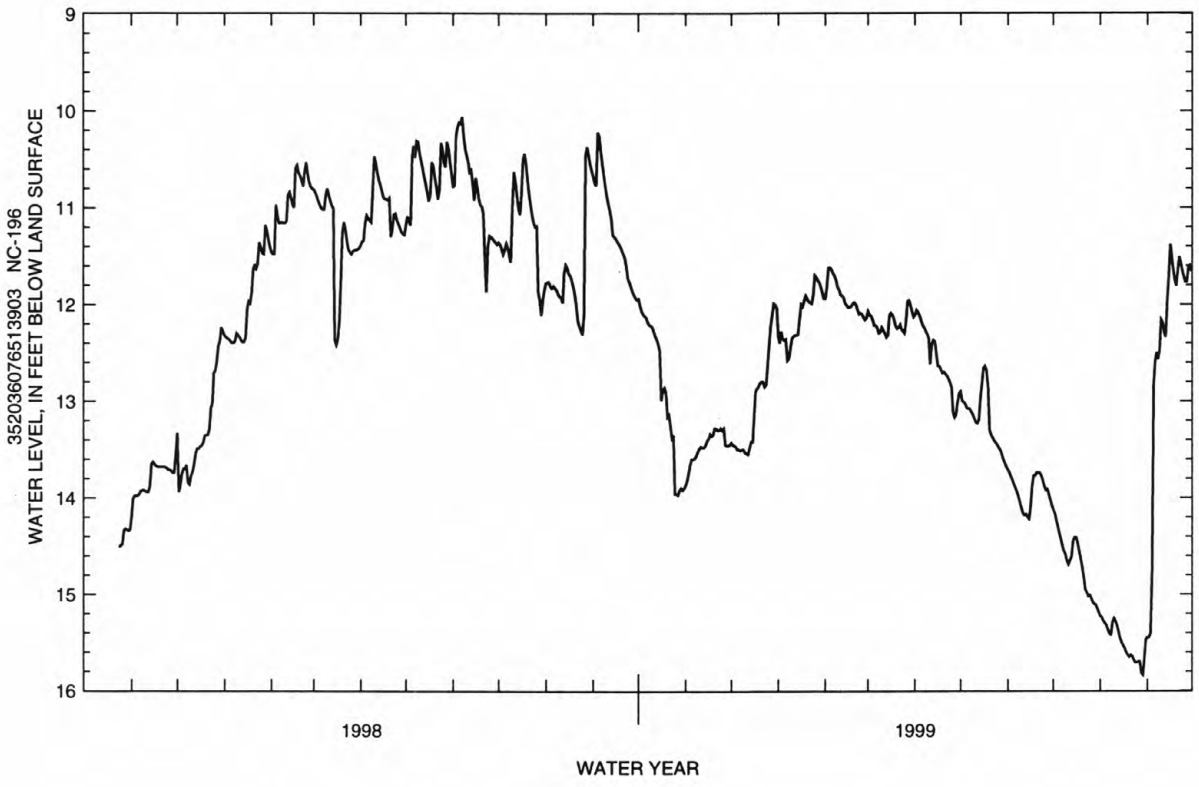
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 10.01 ft below land-surface datum, June 7, 1998; lowest water level recorded 15.87 ft below land-surface datum, Aug. 28, 29, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.94	13.87	13.43	12.33	11.94	12.07	12.11	12.90	13.71	14.12	15.23	15.45
2	12.01	13.82	13.45	12.40	11.81	12.11	12.06	13.00	13.74	14.16	15.24	15.45
3	12.07	13.74	13.46	12.28	11.62	12.12	12.08	13.01	13.78	14.23	15.28	15.41
4	12.10	13.65	13.47	12.36	11.62	12.16	12.12	13.03	13.81	14.30	15.30	14.79
5	12.12	13.60	13.50	12.37	11.64	12.22	12.17	13.07	13.86	14.37	15.32	12.84
6	12.13	13.60	13.50	12.36	11.68	12.22	12.22	13.08	13.90	14.43	15.37	12.59
7	12.18	13.59	13.51	12.58	11.70	12.24	12.24	13.08	13.94	14.50	15.41	12.50
8	12.21	13.56	13.50	12.56	11.75	12.30	12.28	13.11	13.99	14.55	15.42	12.57
9	12.22	13.52	13.50	12.45	11.82	12.29	12.31	13.14	14.05	14.58	15.29	12.48
10	12.23	13.49	13.53	12.35	11.85	12.24	12.35	13.18	14.11	14.65	15.25	12.16
11	12.28	13.47	13.54	12.33	11.90	12.27	12.62	13.22	14.16	14.69	15.28	12.19
12	12.33	13.48	13.55	12.32	11.91	12.30	12.41	13.23	14.18	14.65	15.33	12.30
13	12.36	13.48	13.48	12.32	11.93	12.34	12.37	13.19	14.17	14.61	15.39	12.34
14	12.41	13.46	13.42	12.31	11.99	12.32	12.38	12.96	14.20	14.45	15.45	11.95
15	12.48	13.41	13.42	12.15	12.01	12.12	12.51	12.82	14.22	14.41	15.50	11.72
16	12.99	13.39	13.18	12.00	12.03	12.09	12.64	12.66	14.09	14.41	15.53	11.38
17	12.88	13.34	12.90	12.02	12.03	12.11	12.64	12.64	13.88	14.46	15.56	11.50
18	12.86	13.36	12.87	11.96	12.02	12.15	12.68	12.68	13.77	14.54	15.60	11.64
19	12.91	13.35	12.85	11.91	11.99	12.22	12.71	12.85	13.77	14.62	15.63	11.75
20	13.16	13.28	12.81	11.94	11.98	12.25	12.70	13.30	13.74	14.71	15.65	11.81
21	13.14	13.28	12.80	11.97	12.00	12.24	12.72	13.35	13.74	14.81	15.63	11.64
22	13.27	13.30	12.80	11.98	12.05	12.21	12.74	13.38	13.74	14.95	15.64	11.51
23	13.38	13.30	12.85	11.99	12.10	12.26	12.77	13.41	13.77	14.98	15.68	11.58
24	13.35	13.28	12.83	11.90	12.09	12.28	12.81	13.43	13.82	15.02	15.71	11.66
25	13.96	13.30	12.65	11.70	12.10	12.30	12.86	13.45	13.88	15.01	15.71	11.72
26	13.96	13.28	12.43	11.72	12.13	12.18	13.12	13.48	13.92	15.04	15.70	11.77
27	13.97	13.45	12.23	11.75	12.16	11.97	13.17	13.50	13.91	15.08	15.70	11.77
28	13.92	13.46	12.11	11.78	12.14	11.96	13.14	13.55	13.97	15.10	15.82	11.62
29	13.90	13.46	11.99	11.82	---	12.01	13.02	13.60	14.02	15.11	15.84	11.60
30	13.92	13.45	12.00	11.88	---	12.08	12.92	13.64	14.08	15.15	15.68	11.66
31	13.90	---	12.04	11.94	---	12.13	---	13.68	---	15.19	15.47	---

WTR YR 1999 MEAN 13.16 HIGH 11.38 LOW 15.84


352036076513903 NC-196
WATER LEVEL, IN FEET BELOW LAND SURFACE
9
10
11
12
13
14
15
16
1998
1999
WATER YEAR

BEAUFORT COUNTY--Continued

352252077050705. Local number, NC-210; DENR Wilmar Research Station well P21k5.

LOCATION.--Lat 35°22'53", long 77°05'17", Hydrologic Unit 03020202, 0.5 mi east of intersection of Secondary Roads 1129 and 1130 on logging road, and 3.5 mi southeast of Wilmar. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 918 ft, diameter 4 in., cased to 855 ft, screened interval from 855 to 865 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 40.81 ft above sea level (levels by DENR). Measuring point: Top of casing, 0.66 ft above land-surface datum; revised from 1.00 ft above land-surface datum, July 1, 1999. Locking cap installed.

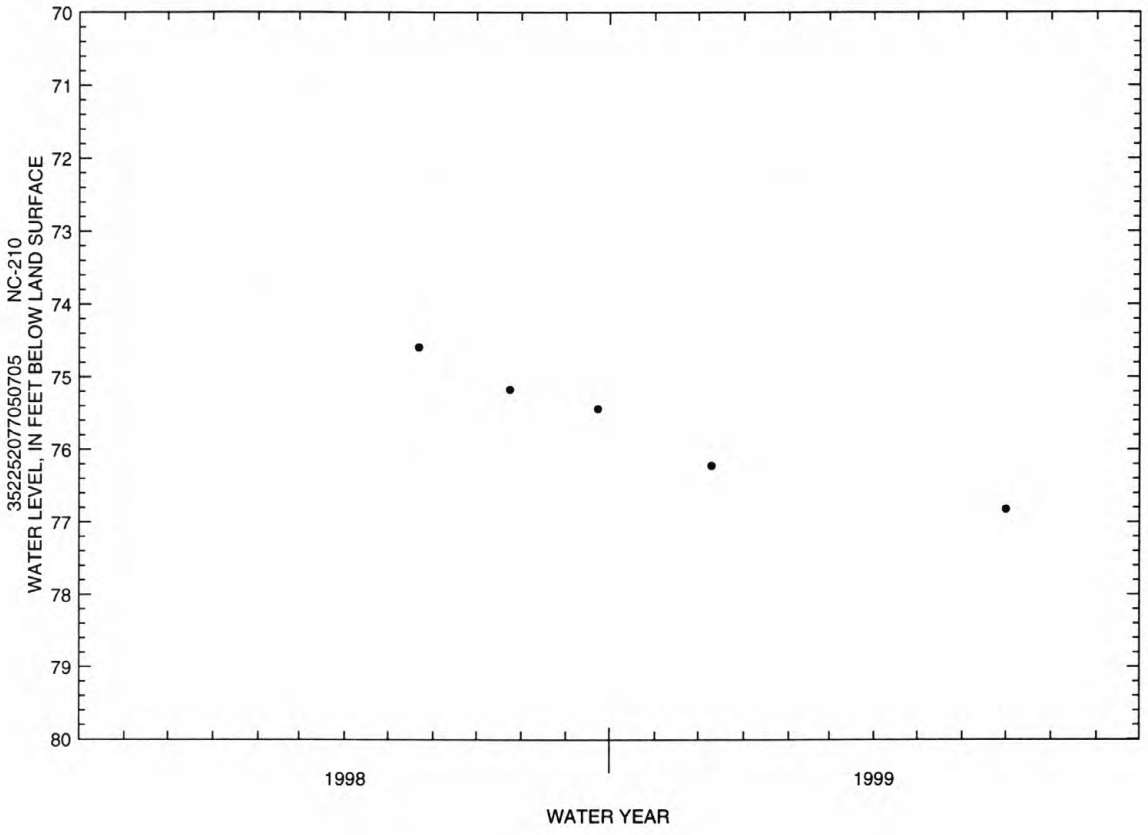
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--October 1968 to current year. Continuous record October 1983 to January 1988.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.10 ft below land-surface datum, Oct. 4, 1968; lowest water level recorded, 76.82 ft below land-surface datum, July 1, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 10	76.22	JUL 01	76.82


NC-210
352252077050705
WATER LEVEL, IN FEET BELOW LAND SURFACE
70
71
72
73
74
75
76
77
78
79
80
1998
1999
WATER YEAR

BERTIE COUNTY

361002076562106. Local number, NC-153; DENR Cremo Research Station well G19b6.

LOCATION.--Lat 36°10'02", long 76°56'21", Hydrologic Unit 03010203, 0.75 mi south of Cremo, south of Secondary Road 1313 on logging road. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 431 ft, diameter 6 in. to 340 ft, diameter 4 in. from 315 to 431 ft, screened interval from 400 to 410 ft; measured depth 412 ft, October 1986.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 64.49 ft above sea level (levels by DENR). Measuring point: Top of collar on 6-inch casing, 1.25 ft above land-surface datum (since July 1994).

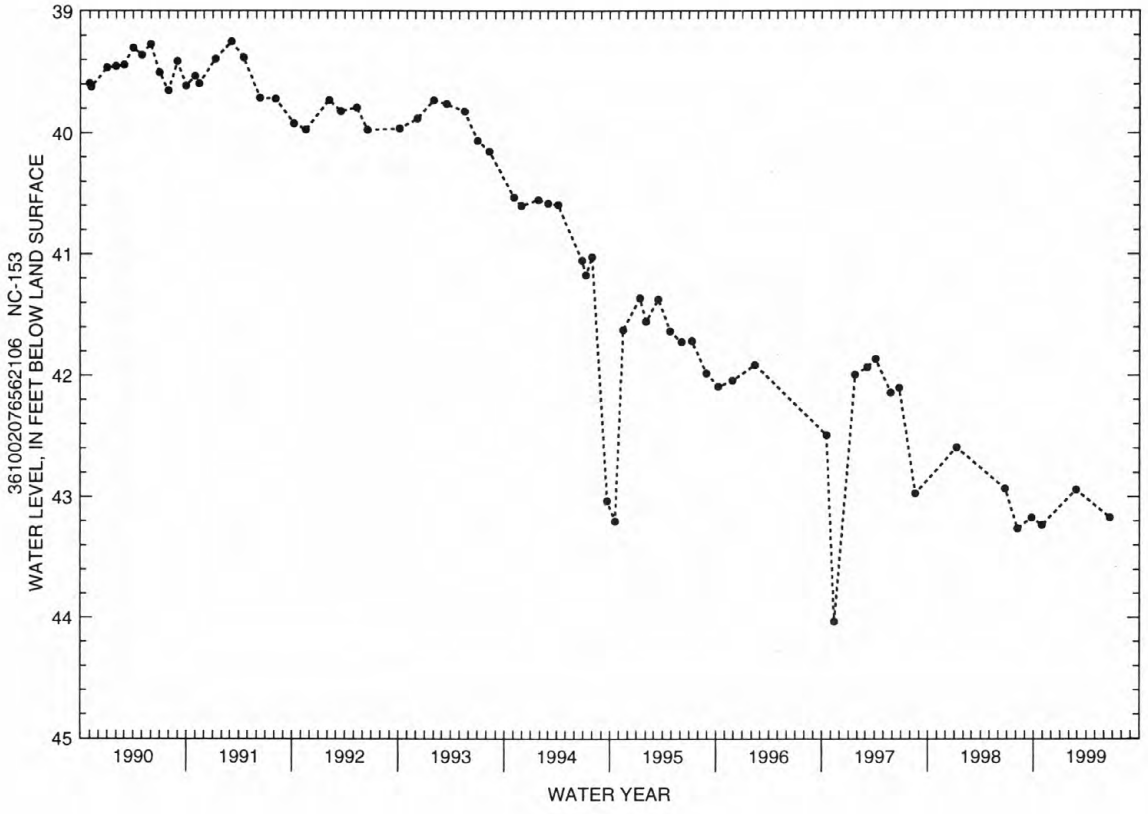
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--August 1974 to current year. Continuous record from November 1986 to November 1990. Records from August 1974 to August 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.51 ft below land-surface datum, July 30, 1975; lowest water level measured, 44.03 ft below land-surface datum, Nov. 13, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	43.23	FEB 25	42.94	JUN 22	43.17


361002076562106 NC-153
WATER LEVEL, IN FEET BELOW LAND SURFACE
39
40
41
42
43
44
45
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

BERTIE COUNTY--Continued

361420077111407. Local number, NC-154; DENR Roxobel Research Station well F22b7.

LOCATION.--Lat 36°14'20", long 77°11'14", Hydrologic Unit 03010203, 3.8 mi northeast of Roxobel on Secondary Road 1249. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Surficial aquifer of post-Miocene age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 12 ft, diameter 4 in., cased to 7 ft, screened interval from 7 to 12 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 74 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 3.05 ft above land-surface datum.

REMARKS.--Well is part of climatic-effects network.

PERIOD OF RECORD.--November 1986 to current year.

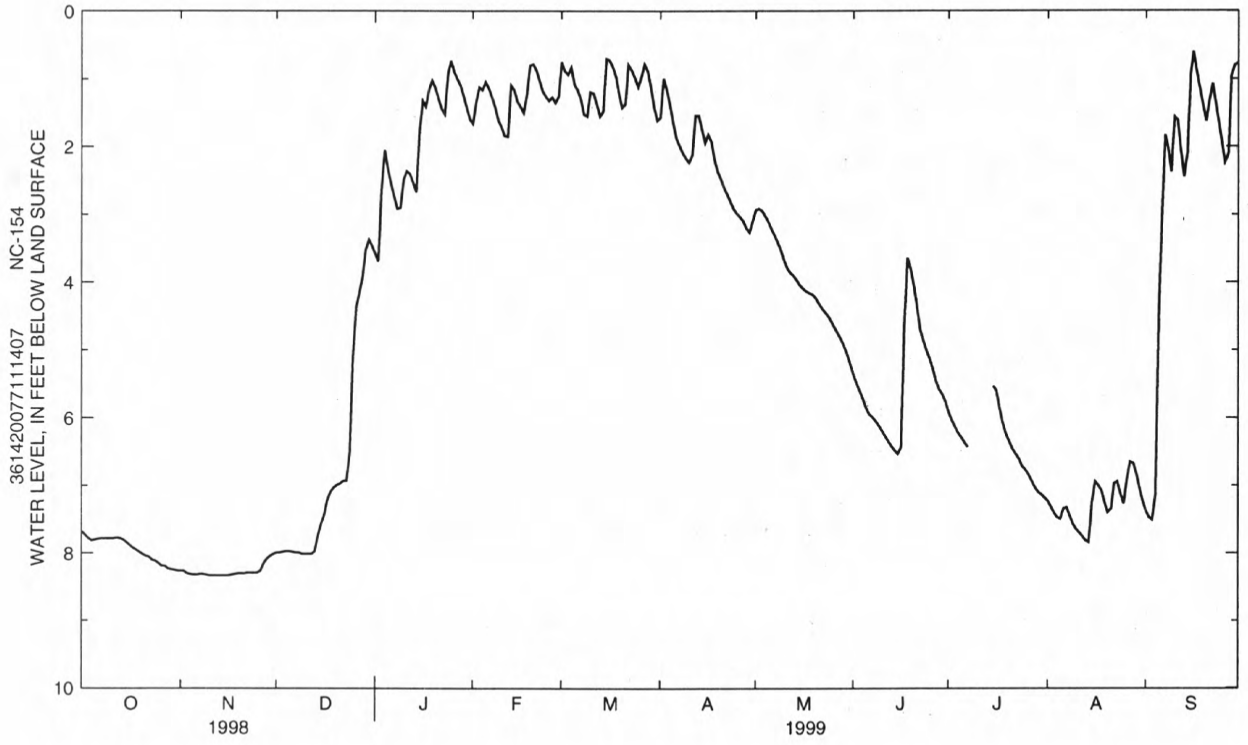
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.31 ft below land-surface datum, Feb. 15, 1997; lowest water level recorded, 9.31 ft below land-surface datum, Sept. 5, 1987.

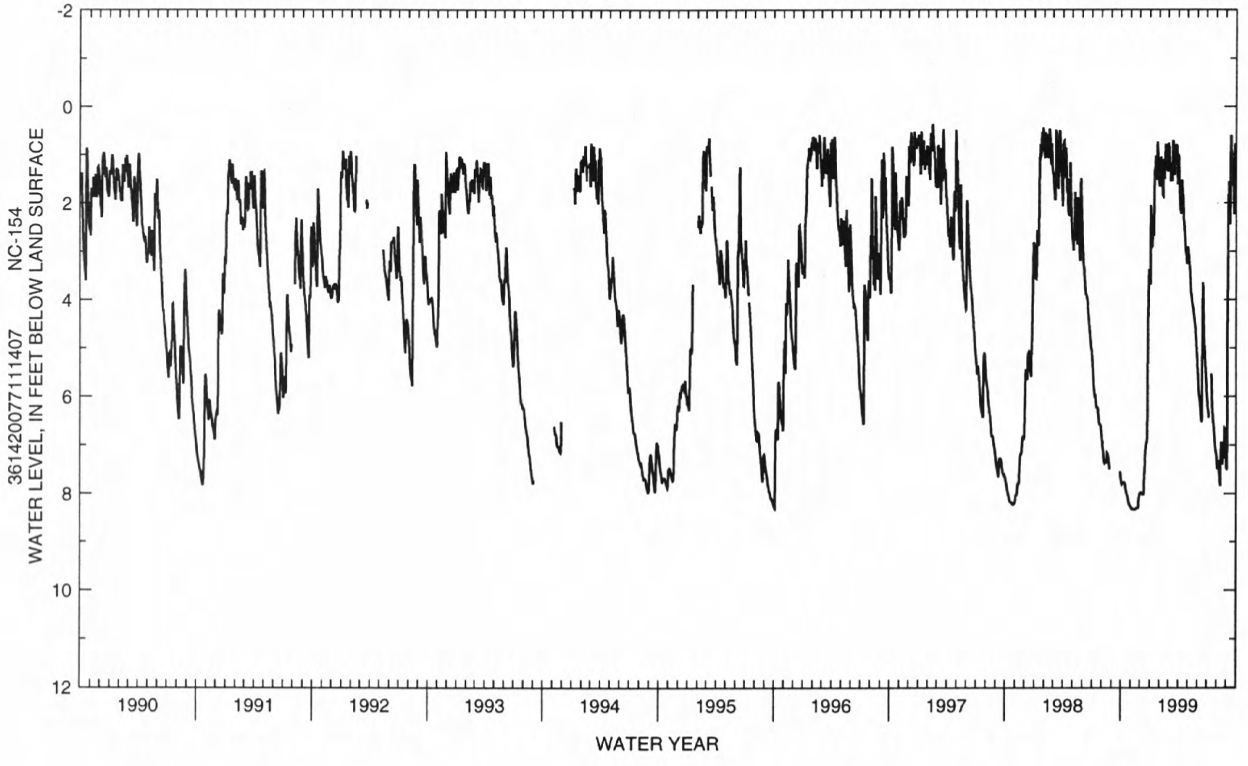
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.68	8.26	7.99	3.57	1.66	.75	1.57	2.93	5.36	5.91	7.23	7.37
2	7.73	8.26	7.99	3.69	1.33	.88	.99	2.91	5.49	6.03	7.31	7.47
3	7.78	8.30	7.98	2.65	1.12	.93	1.16	2.94	5.60	6.13	7.40	7.51
4	7.81	8.31	7.97	2.05	1.16	.83	1.38	3.02	5.72	6.22	7.47	7.15
5	7.80	8.32	7.97	2.32	1.04	1.08	1.65	3.10	5.85	6.29	7.49	4.47
6	7.79	8.32	7.98	2.55	1.14	1.16	1.87	3.21	5.95	6.36	7.34	3.12
7	7.78	8.31	7.99	2.73	1.27	1.30	1.99	3.30	5.99	6.43	7.32	1.83
8	7.78	8.31	7.99	2.91	1.42	1.52	2.09	3.41	6.05	---	7.45	2.02
9	7.78	8.32	8.01	2.90	1.61	1.55	2.17	3.52	6.11	---	7.57	2.37
10	7.78	8.33	8.01	2.48	1.71	1.19	2.23	3.67	6.19	---	7.64	1.56
11	7.78	8.33	8.01	2.36	1.84	1.21	2.12	3.79	6.27	---	7.70	1.61
12	7.77	8.33	8.01	2.40	1.85	1.37	1.54	3.86	6.35	---	7.75	2.06
13	7.78	8.33	7.97	2.53	1.09	1.55	1.54	3.90	6.42	---	7.81	2.44
14	7.80	8.33	7.74	2.67	1.16	1.48	1.74	3.97	6.48	---	7.84	2.10
15	7.84	8.33	7.57	1.79	1.33	.70	1.94	4.04	6.53	5.53	7.24	.94
16	7.88	8.33	7.43	1.32	1.41	.72	1.82	4.09	6.43	5.60	6.94	.60
17	7.92	8.32	7.21	1.41	1.50	.82	1.93	4.13	4.66	5.86	7.00	.91
18	7.95	8.31	7.09	1.15	1.22	.96	2.19	4.16	3.64	6.08	7.08	1.14
19	7.98	8.30	7.03	1.02	.80	1.22	2.37	4.18	3.80	6.24	7.26	1.39
20	8.01	8.30	6.99	1.13	.78	1.42	2.47	4.23	4.06	6.35	7.40	1.62
21	8.04	8.30	6.97	1.29	.87	1.37	2.61	4.31	4.35	6.46	7.34	1.31
22	8.05	8.29	6.93	1.44	1.03	.79	2.70	4.38	4.69	6.53	6.97	1.07
23	8.10	8.29	6.93	1.52	1.18	.87	2.81	4.44	4.85	6.61	6.94	1.37
24	8.11	8.29	6.51	.92	1.26	.98	2.91	4.50	5.00	6.71	7.12	1.66
25	8.15	8.29	5.10	.73	1.32	1.11	2.98	4.58	5.12	6.77	7.27	1.95
26	8.19	8.26	4.37	.90	1.27	.97	3.03	4.67	5.27	6.83	6.91	2.23
27	8.19	8.15	4.16	1.00	1.35	.78	3.09	4.75	5.45	6.93	6.65	2.11
28	8.23	8.08	3.92	1.10	1.25	.88	3.20	4.84	5.58	7.02	6.67	.95
29	8.24	8.04	3.52	1.26	---	1.12	3.26	4.94	5.65	7.09	6.83	.80
30	8.25	8.01	3.37	1.44	---	1.41	3.10	5.07	5.76	7.13	7.02	.77
31	8.26	---	3.46	1.60	---	1.61	---	5.21	---	7.18	7.22	---

WTR YR 1999 MEAN 4.59 HIGH .60 LOW 8.33


0
2
4
6
8
10
WATER LEVEL, IN FEET BELOW LAND SURFACE
361420077111407 NC-154
O
N
D
J
F
M
A
M
J
J
A
S
1998
1999


-2
0
2
4
6
8
10
12
WATER LEVEL, IN FEET BELOW LAND SURFACE
361420077111407 NC-154
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

BERTIE COUNTY--Continued

360305077114504. Local number, NC-214; DENR Lewiston Research Station well H22i4.

LOCATION.--Lat 36°03'05", long 77°11'41", Hydrologic Unit 03010107, 3.2 mi south of Lewiston Woodville on State Highways 42 and 11. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Lower Cape Fear.

WELL CHARACTERISTICS.--Drilled observation well, depth 600 ft, diameter 4 in., cased to 585 ft, screened 585 to 595 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 28.08 ft above sea level. Measuring point: Top of casing, 1.92 ft above land-surface datum; revised from 2.33 ft above land-surface datum, June 22, 1999. Locking cap installed.

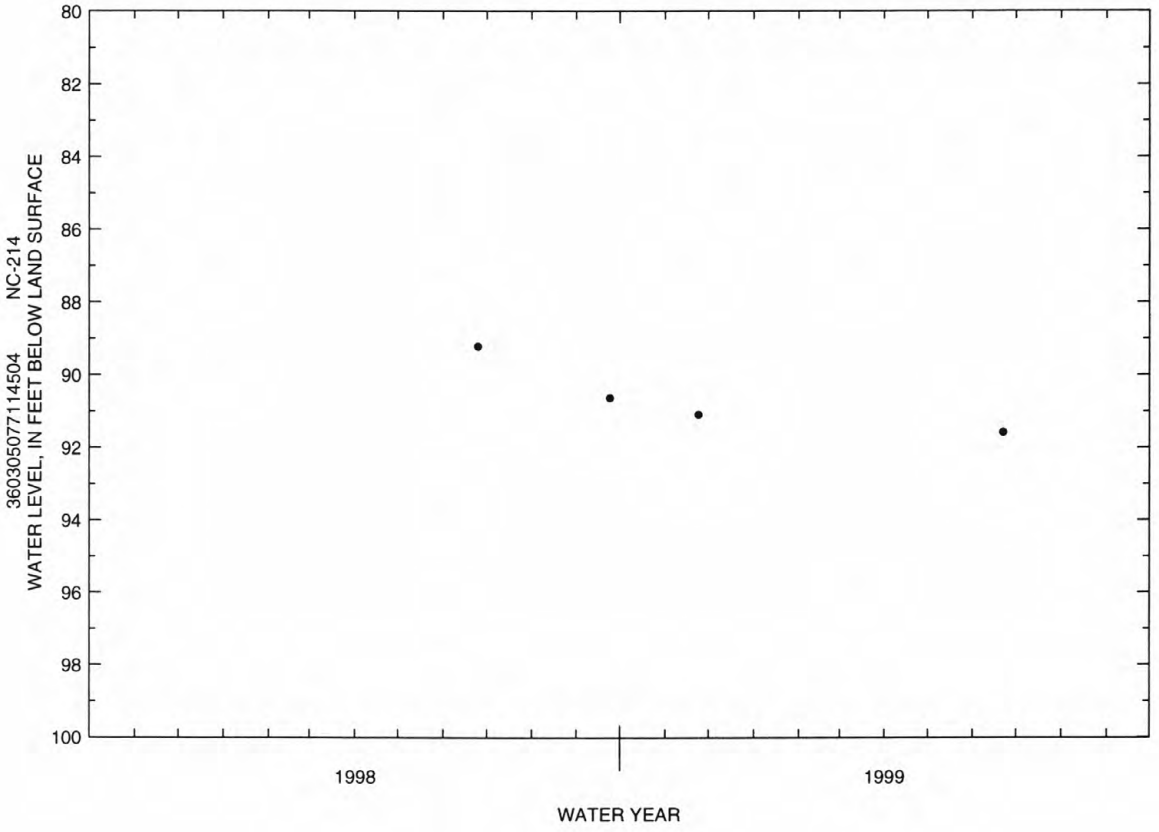
REMARKS.-- Well is part of areal-effects network.

PERIOD OF RECORD.--June 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 44.21 ft below land-surface datum, June 21, 1983; lowest water level measured, 91.58 ft below land-surface datum, June 22, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 24	91.09	JUN 22	91.58


360305077114504 NC-214
WATER LEVEL, IN FEET BELOW LAND SURFACE
80
82
84
86
88
90
92
94
96
98
100
1998
1999
WATER YEAR

BERTIE COUNTY--Continued

360305077114505. Local number, NC-215; DENR Lewiston Research Station well H22i5.

LOCATION.--Lat 36°03'05", long 77°11'41", Hydrologic Unit 03010107, 3.2 mi south of Lewiston Woodville on State Highways 42 and 11. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 380 ft, diameter 4 in., cased to 370 ft, screened 370 to 380 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 29.00 ft above sea level. Measuring point: Top of casing, 1.79 ft above land-surface datum.

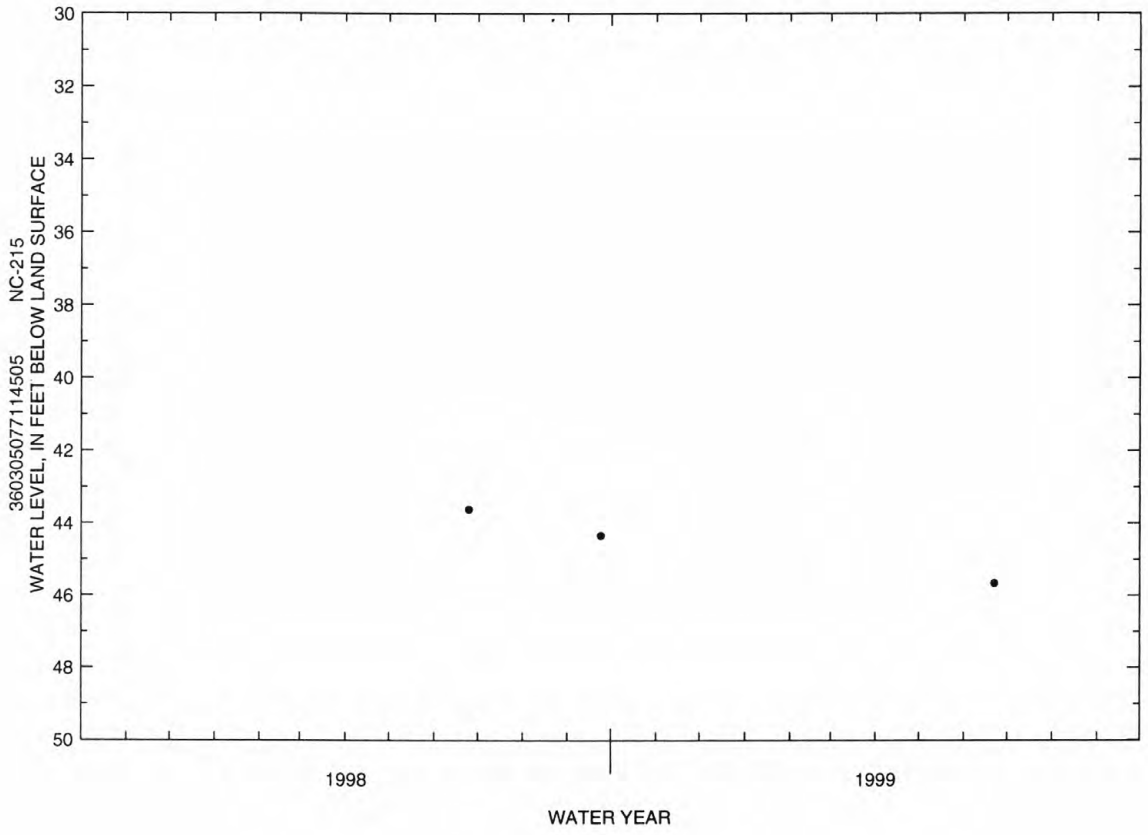
REMARKS.-- Well is part of areal-effects network.

PERIOD OF RECORD.--March 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.98 ft below land-surface datum, Mar. 10, 1983; lowest water level measured, 45.66 ft below land-surface datum, June 22, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL
JUN 22	45.66


360305077114505 NC-215
WATER LEVEL, IN FEET BELOW LAND SURFACE
30
32
34
36
38
40
42
44
46
48
50
1998
1999
WATER YEAR

BERTIE COUNTY--Continued

361420077111405. Local number, NC-217; DENR Roxobel Research Station well F22b5.

LOCATION.--Lat 36°14'20", long 77°11'14", Hydrologic Unit 03010203, 3.8 mi northeast of Roxobel on Secondary Road 1249. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Lower Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 602 ft, diameter 4 in. to 240 ft, diameter 2.5 in. from 240 to 602 ft, screened interval from 592 to 602 ft.

INSTRUMENTATION.--Measured periodically.

DATUM.--Land-surface datum is 74 ft above sea level (from topographic map). Measuring point: Top of collar on 4-inch casing, 2.50 ft above land-surface datum.

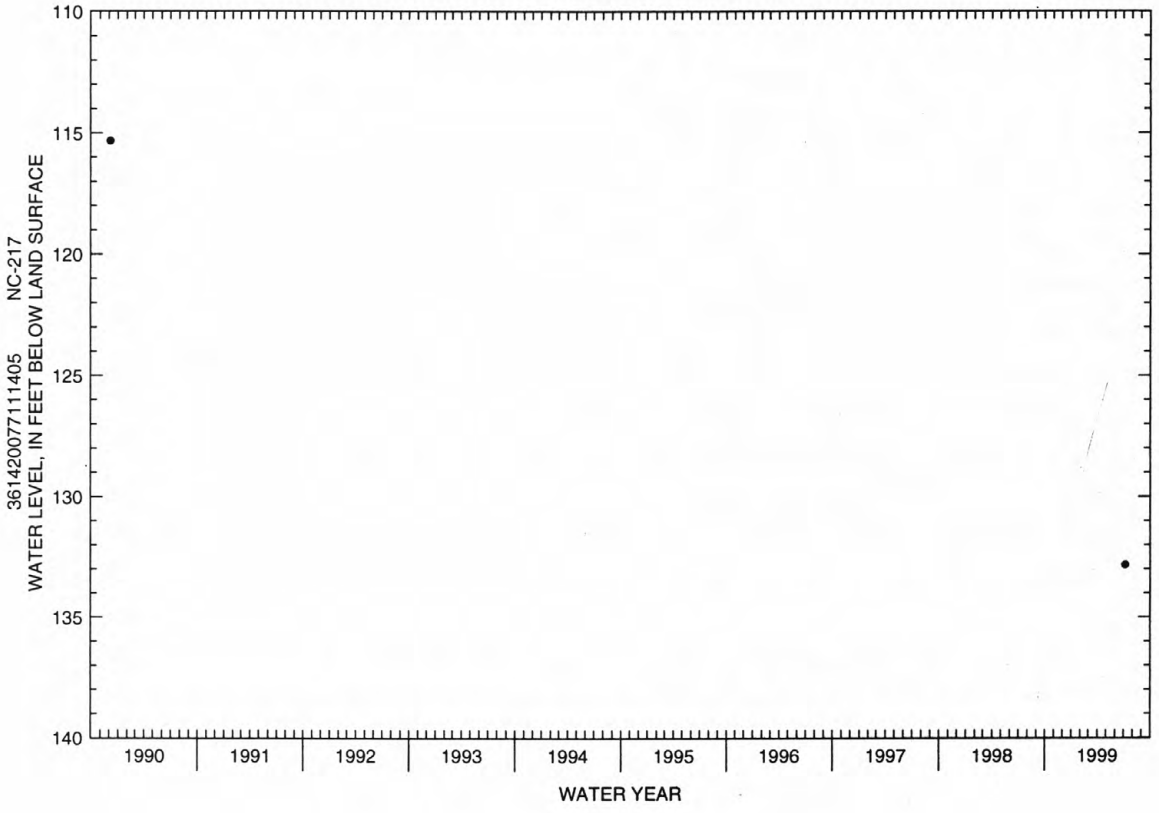
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--August 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 107.09 ft below land-surface datum, Aug. 27, 1986; lowest water level measured, 132.82 ft below land-surface datum, July 8, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL
JUL 8	132.82


361420077111405 NC-217
WATER LEVEL, IN FEET BELOW LAND SURFACE
110
115
120
125
130
135
140
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

BLADEN COUNTY

343027078451903. Local number, NC-178; DENR Bladenboro Research Station well Z41u3.

LOCATION.--Lat 34°30'24", long 78°45'17", Hydrologic Unit 03040206, 3 mi southeast of Bladenboro, south of State Highway 211 on Secondary Road 1172. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Peedee aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 110 ft, diameter 6 in. to 82 ft, diameter 4 in. from 58 to 110 ft, screened interval from 100 to 110 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 106 ft above sea level (from topographic map). Measuring point: Top of collar on 6-inch casing, 2.69 ft above land-surface datum; revised from 2.78, May 19, 1999.

REMARKS.--Well is part of areal-effects network. Records prior to January 1987 are from Bladenboro Research Station well Z41u4 which was adjacent to and of similar construction to well Z41u3.

PERIOD OF RECORD.--March 1976 to current year. Continuous record began January 1987. Records for well Z41u4 from March 1976 to December 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.73 ft below land-surface datum, Apr. 19, 1978; lowest water level recorded, 9.25 ft below land-surface datum, Aug. 18, 1997.

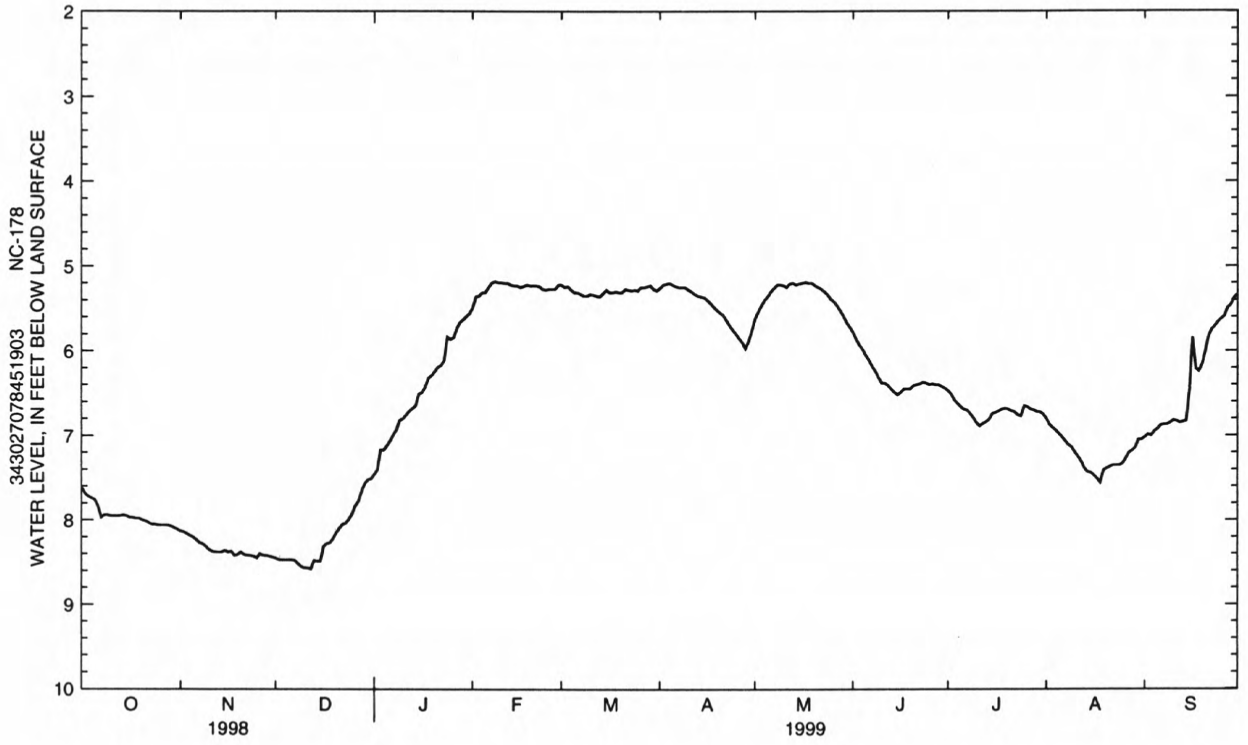
REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-87-1, should be adjusted by +0.11 ft.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.62	8.13	8.45	7.46	5.49	5.22	5.26	5.62	5.78	6.47	6.80	7.02
2	7.69	8.14	8.47	7.40	5.36	5.25	5.22	5.54	5.86	6.51	6.87	6.99
3	7.72	8.16	8.47	7.17	5.35	5.24	5.21	5.47	5.93	6.58	6.91	7.00
4	7.74	8.18	8.47	7.17	5.31	5.28	5.20	5.40	5.98	6.62	6.94	6.95
5	7.76	8.20	8.47	7.12	5.31	5.31	5.22	5.36	6.05	6.66	6.98	6.92
6	7.83	8.23	8.47	7.06	5.25	5.31	5.24	5.30	6.11	6.69	7.02	6.88
7	7.97	8.27	8.48	6.99	5.20	5.33	5.25	5.26	6.18	6.70	7.07	6.87
8	7.94	8.28	8.52	6.93	5.18	5.35	5.25	5.22	6.24	6.74	7.11	6.87
9	7.94	8.31	8.55	6.82	5.19	5.35	5.25	5.22	6.31	6.79	7.14	6.85
10	7.95	8.35	8.57	6.80	5.19	5.33	5.28	5.23	6.38	6.85	7.20	6.82
11	7.95	8.37	8.57	6.76	5.20	5.34	5.30	5.25	6.38	6.89	7.25	6.83
12	7.95	8.38	8.58	6.71	5.20	5.35	5.33	5.21	6.41	6.86	7.31	6.85
13	7.95	8.38	8.48	6.68	5.22	5.36	5.35	5.20	6.45	6.84	7.39	6.84
14	7.94	8.38	8.49	6.65	5.23	5.32	5.36	5.22	6.49	6.81	7.43	6.83
15	7.95	8.36	8.49	6.51	5.23	5.28	5.37	5.21	6.52	6.74	7.44	6.47
16	7.97	8.38	8.31	6.49	5.25	5.31	5.40	5.20	6.49	6.73	7.47	5.84
17	7.97	8.37	8.28	6.43	5.24	5.31	5.44	5.19	6.45	6.71	7.51	6.21
18	7.98	8.42	8.27	6.32	5.22	5.30	5.48	5.20	6.45	6.69	7.56	6.24
19	7.98	8.41	8.22	6.29	5.23	5.31	5.52	5.20	6.45	6.68	7.41	6.16
20	8.00	8.38	8.15	6.24	5.23	5.31	5.55	5.23	6.41	6.69	7.39	6.01
21	8.01	8.41	8.10	6.19	5.23	5.27	5.58	5.25	6.40	6.71	7.37	5.83
22	8.03	8.42	8.05	6.17	5.24	5.28	5.64	5.27	6.39	6.72	7.35	5.75
23	8.05	8.42	8.04	6.11	5.27	5.29	5.70	5.30	6.37	6.76	7.35	5.71
24	8.05	8.43	7.99	5.83	5.28	5.28	5.75	5.34	6.38	6.77	7.35	5.66
25	8.06	8.45	7.93	5.86	5.27	5.29	5.80	5.39	6.40	6.65	7.33	5.62
26	8.06	8.40	7.83	5.84	5.27	5.25	5.85	5.42	6.39	6.66	7.27	5.59
27	8.06	8.42	7.78	5.73	5.27	5.25	5.90	5.47	6.40	6.69	7.20	5.49
28	8.06	8.42	7.66	5.66	5.22	5.24	5.97	5.53	6.40	6.70	7.18	5.46
29	8.07	8.43	7.57	5.63	---	5.23	5.88	5.59	6.42	6.72	7.14	5.38
30	8.09	8.44	7.52	5.59	---	5.27	5.76	5.67	6.44	6.72	7.05	5.34
31	8.11	---	7.51	5.56	---	5.29	---	5.72	---	6.75	7.05	---

WTR YR 1999 MEAN 6.58 HIGH 5.18 LOW 8.58


NC-178
343027078451903
WATER LEVEL, IN FEET BELOW LAND SURFACE
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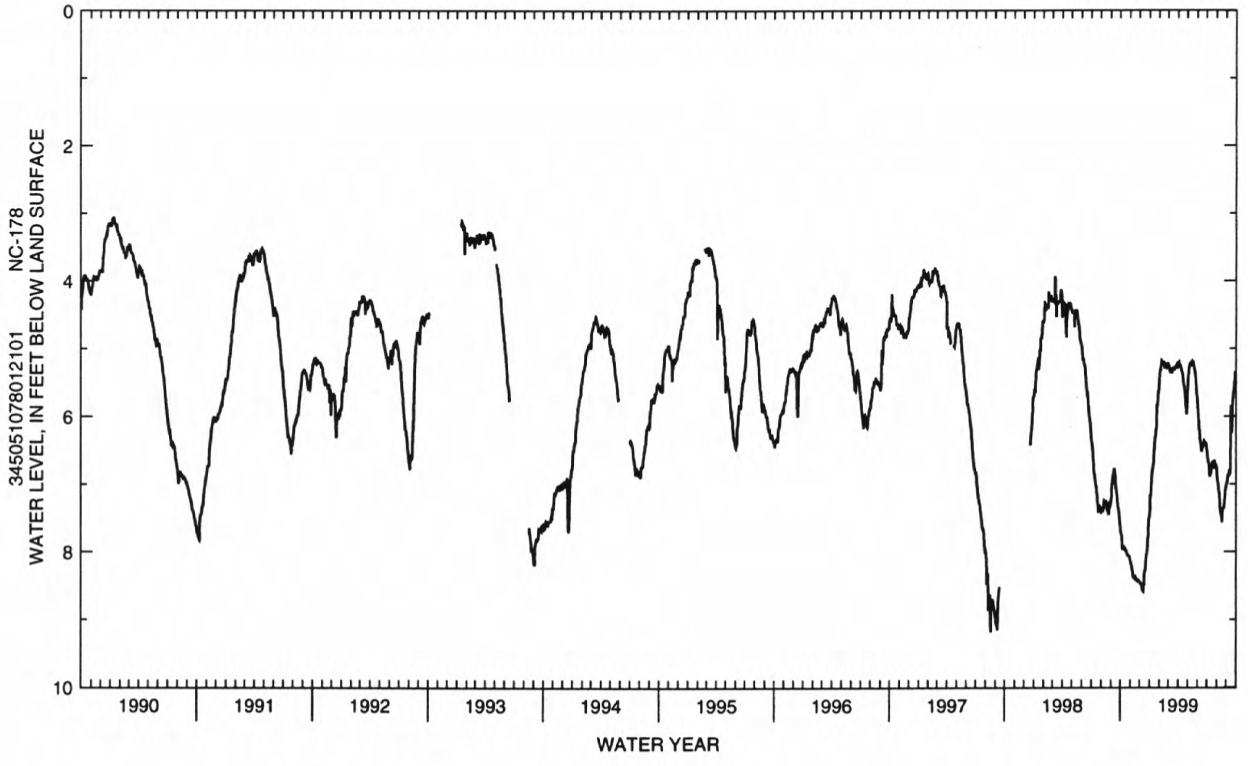
1998
1999


NC-178
345051078012101
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1990
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1998
1999
WATER YEAR

BRUNSWICK COUNTY

335849078054301. Local number, BR-100.

LOCATION.--Lat 33°58'48", long 78°05'42", Hydrologic Unit 03030005, west of Southport on State Highway 211, 1.82 mi northwest of intersection with State Highway 133. Owner: Brunswick County.

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 158.3 ft, diameter 6 in.; casing and open hole depth unknown.

INSTRUMENTATION.--Water-level recorder collecting data at 15-minute intervals.

DATUM.--Land-surface datum is 56 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 2.42 ft above land-surface datum.

REMARKS.-- Water-levels are affected by nearby pumping of Brunswick County Water Supply Well 15.

PERIOD OF RECORD.--February 1999 to September 1999.

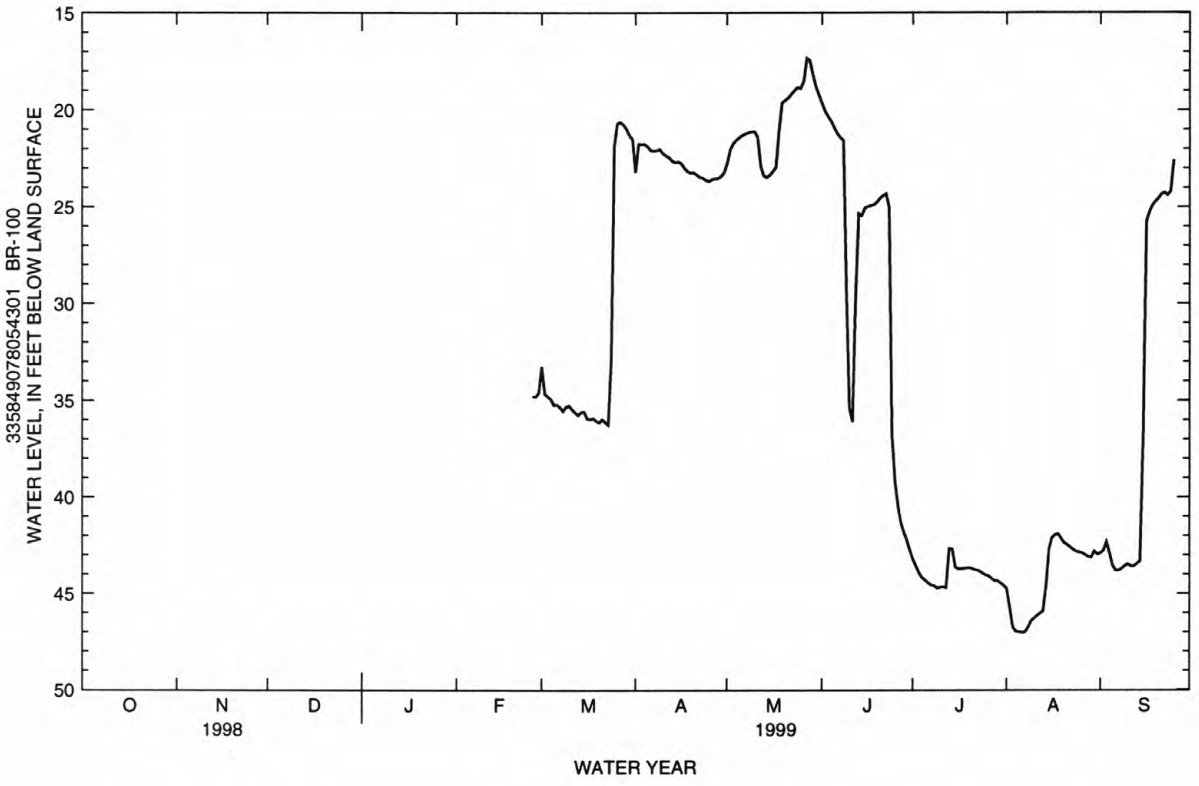
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 17.21 ft below land-surface datum, May 27, 1999; lowest water level recorded, 47.04 ft below land-surface datum, Aug. 6, 7, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	33.24	23.19	22.74	19.66	43.21	44.73	42.90
2	---	---	---	---	---	34.66	21.74	22.03	20.05	43.56	45.71	42.77
3	---	---	---	---	---	34.79	21.75	21.72	20.33	43.92	46.74	42.32
4	---	---	---	---	---	34.93	21.74	21.54	20.57	44.17	46.96	42.88
5	---	---	---	---	---	35.23	21.87	21.41	20.91	44.30	46.99	43.54
6	---	---	---	---	---	35.20	22.07	21.29	21.21	44.44	47.02	43.80
7	---	---	---	---	---	35.34	22.10	21.21	21.41	44.56	47.01	43.80
8	---	---	---	---	---	35.54	22.07	21.15	21.55	44.59	46.78	43.71
9	---	---	---	---	---	35.32	22.01	21.12	29.36	44.72	46.43	43.57
10	---	---	---	---	---	35.25	22.22	21.10	35.37	44.67	46.29	43.47
11	---	---	---	---	---	35.46	22.34	21.38	36.09	44.65	46.15	43.58
12	---	---	---	---	---	35.61	22.43	22.89	29.81	44.69	46.03	43.58
13	---	---	---	---	---	35.75	22.61	23.37	25.33	42.66	45.91	43.46
14	---	---	---	---	---	35.59	22.69	23.47	25.44	42.68	44.56	43.31
15	---	---	---	---	---	35.57	22.66	23.35	25.06	43.62	42.71	36.89
16	---	---	---	---	---	35.94	22.74	23.16	24.97	43.71	42.10	25.74
17	---	---	---	---	---	35.96	22.98	22.93	24.93	43.71	41.96	25.25
18	---	---	---	---	---	35.92	23.15	21.09	24.89	43.70	41.90	24.93
19	---	---	---	---	---	36.06	23.23	19.62	24.75	43.67	42.14	24.72
20	---	---	---	---	---	36.13	23.21	19.50	24.55	43.67	42.37	24.55
21	---	---	---	---	---	35.96	23.32	19.36	24.41	43.74	42.46	24.33
22	---	---	---	---	---	36.11	23.45	19.17	24.31	43.78	42.59	24.26
23	---	---	---	---	---	36.25	23.49	18.99	25.00	43.83	42.72	24.39
24	---	---	---	---	---	32.70	23.59	18.82	36.74	43.94	42.82	24.19
25	---	---	---	---	---	21.85	23.67	18.87	39.18	44.03	42.85	22.57
26	---	---	---	---	34.79	20.69	23.57	18.51	40.46	44.08	42.90	---
27	---	---	---	---	34.80	20.61	23.52	17.32	41.29	44.21	43.00	---
28	---	---	---	---	34.59	20.74	23.51	17.43	41.80	44.33	43.10	---
29	---	---	---	---	---	20.96	23.41	18.14	42.24	44.34	43.11	---
30	---	---	---	---	---	21.29	23.22	18.79	42.76	44.45	42.80	---
31	---	---	---	---	---	21.49	---	19.24	---	44.57	42.96	---

WTR YR 1999 MEAN 32.56 HIGH 17.32 LOW 47.02


335849078054301 BR-100
WATER LEVEL, IN FEET BELOW LAND SURFACE
15
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A
S
1998
1999
WATER YEAR

BRUNSWICK COUNTY--Continued

335629078115406. Local number, NC-181; DENR Sunset Harbor Research Station well GG34s6.

LOCATION.--Lat 33°56'29", long 78°11'54", Hydrologic Unit 03040207, 1 mi north of Sunset Harbor, and 4.3 mi south of State Highway 211 on Secondary Road 1112. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 102 ft, diameter 6 in., cased to 84 ft, open hole from 84 to 102 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 28.06 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 2.02 ft above land-surface datum.

REMARKS.--Well is part of Brunswick County Ground-Water study.

PERIOD OF RECORD.--September 1974 to current year. Records from September 1974 to March 1986 are unpublished and available in the files of the Groundwater Section, DENR. U.S. Geological Survey periodic water-level measurements began December 1986 and continuous record began March 1987.

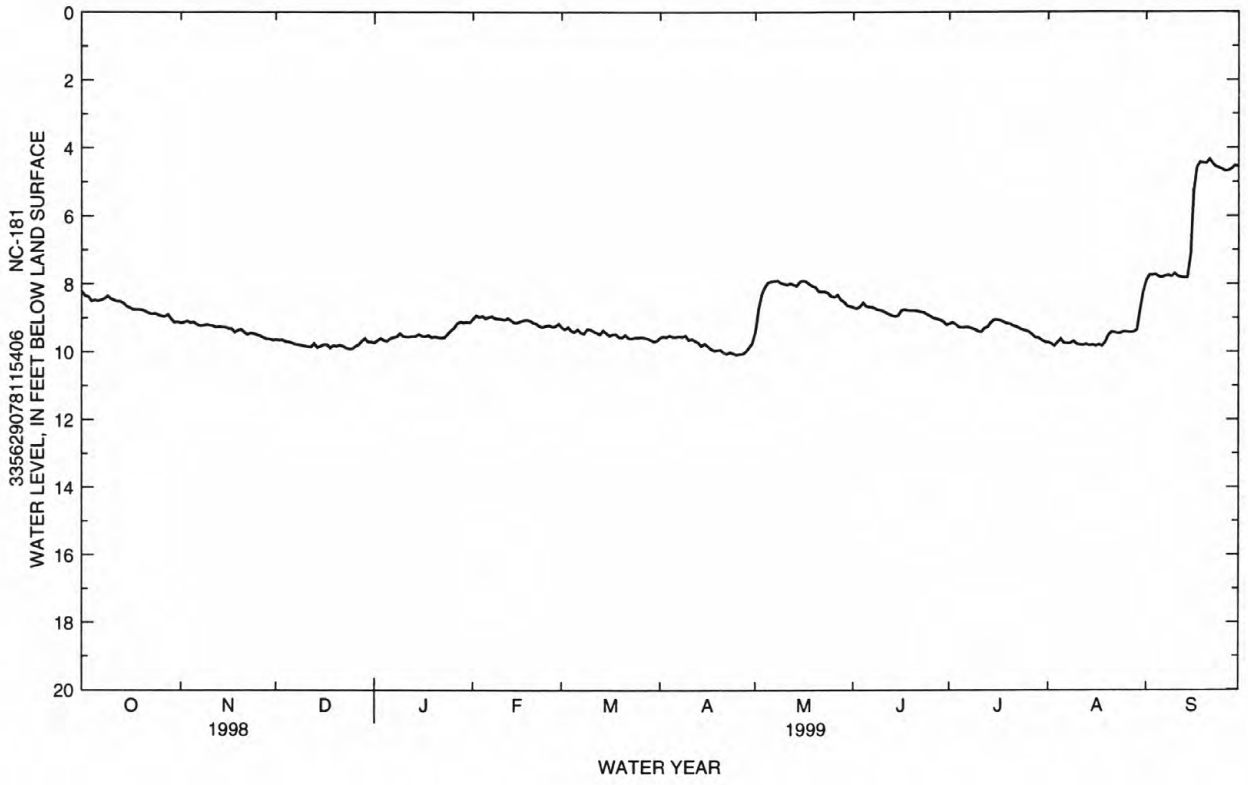
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.19 ft below land-surface datum, Sept. 21, 1999; lowest water level recorded, 13.53 ft below land-surface datum, Aug. 1, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.23	9.14	9.63	9.73	9.03	9.27	9.57	9.39	8.68	9.17	9.72	7.90
2	8.35	9.12	9.65	9.66	8.92	9.33	9.54	8.73	8.72	9.13	9.76	7.73
3	8.37	9.08	9.64	9.60	8.97	9.26	9.56	8.30	8.66	9.18	9.82	7.74
4	8.50	9.13	9.69	9.66	8.94	9.38	9.51	8.08	8.55	9.27	9.72	7.72
5	8.47	9.11	9.70	9.68	9.01	9.41	9.55	7.95	8.65	9.28	9.62	7.79
6	8.49	9.18	9.73	9.60	8.96	9.33	9.55	7.92	8.67	9.27	9.74	7.80
7	8.47	9.22	9.77	9.57	8.95	9.43	9.53	7.91	8.68	9.27	9.75	7.76
8	8.43	9.21	9.78	9.55	9.01	9.46	9.55	7.90	8.73	9.30	9.74	7.74
9	8.35	9.19	9.80	9.46	9.02	9.32	9.51	7.96	8.76	9.33	9.68	7.78
10	8.43	9.21	9.82	9.54	9.03	9.33	9.64	7.99	8.78	9.39	9.77	7.69
11	8.47	9.22	9.84	9.55	9.05	9.39	9.61	8.02	8.83	9.42	9.79	7.77
12	8.51	9.27	9.85	9.55	9.00	9.43	9.67	7.98	8.88	9.30	9.80	7.80
13	8.51	9.25	9.75	9.54	9.07	9.48	9.72	8.01	8.92	9.26	9.77	7.81
14	8.56	9.26	9.87	9.53	9.14	9.36	9.82	8.05	8.95	9.14	9.81	7.81
15	8.65	9.26	9.83	9.48	9.13	9.44	9.75	7.93	8.93	9.05	9.79	7.15
16	8.69	9.31	9.78	9.54	9.09	9.52	9.82	7.90	8.78	9.05	9.82	5.29
17	8.74	9.31	9.78	9.54	9.06	9.48	9.91	7.92	8.75	9.07	9.78	4.57
18	8.74	9.42	9.88	9.51	9.05	9.47	9.96	8.00	8.78	9.11	9.83	4.42
19	8.74	9.36	9.81	9.57	9.07	9.56	9.95	8.05	8.78	9.16	9.71	4.44
20	8.76	9.33	9.83	9.55	9.14	9.57	9.93	8.09	8.78	9.17	9.51	4.45
21	8.80	9.42	9.80	9.57	9.16	9.49	10.01	8.21	8.79	9.23	9.41	4.33
22	8.85	9.48	9.82	9.59	9.24	9.59	10.05	8.22	8.82	9.25	9.43	4.46
23	8.87	9.44	9.88	9.57	9.26	9.60	10.00	8.22	8.83	9.31	9.45	4.56
24	8.86	9.45	9.91	9.47	9.22	9.57	10.04	8.26	8.89	9.35	9.44	4.58
25	8.91	9.49	9.91	9.37	9.21	9.58	10.08	8.36	8.94	9.38	9.40	4.63
26	8.94	9.52	9.83	9.29	9.25	9.56	10.06	8.38	9.00	9.41	9.42	4.68
27	8.95	9.57	9.78	9.16	9.24	9.58	10.05	8.32	9.02	9.49	9.42	4.66
28	8.89	9.61	9.67	9.11	9.16	9.60	9.98	8.46	9.06	9.58	9.42	4.61
29	9.03	9.62	9.60	9.13	---	9.64	9.86	8.52	9.09	9.59	9.35	4.52
30	9.12	9.65	9.71	9.12	---	9.69	9.74	8.63	9.20	9.66	8.76	4.54
31	9.11	---	9.70	9.13	---	9.66	---	8.65	---	9.71	8.25	---

WTR YR 1999 MEAN 8.98 HIGH 4.33 LOW 10.08


NC-181
335629078115406
WATER LEVEL, IN FEET BELOW LAND SURFACE
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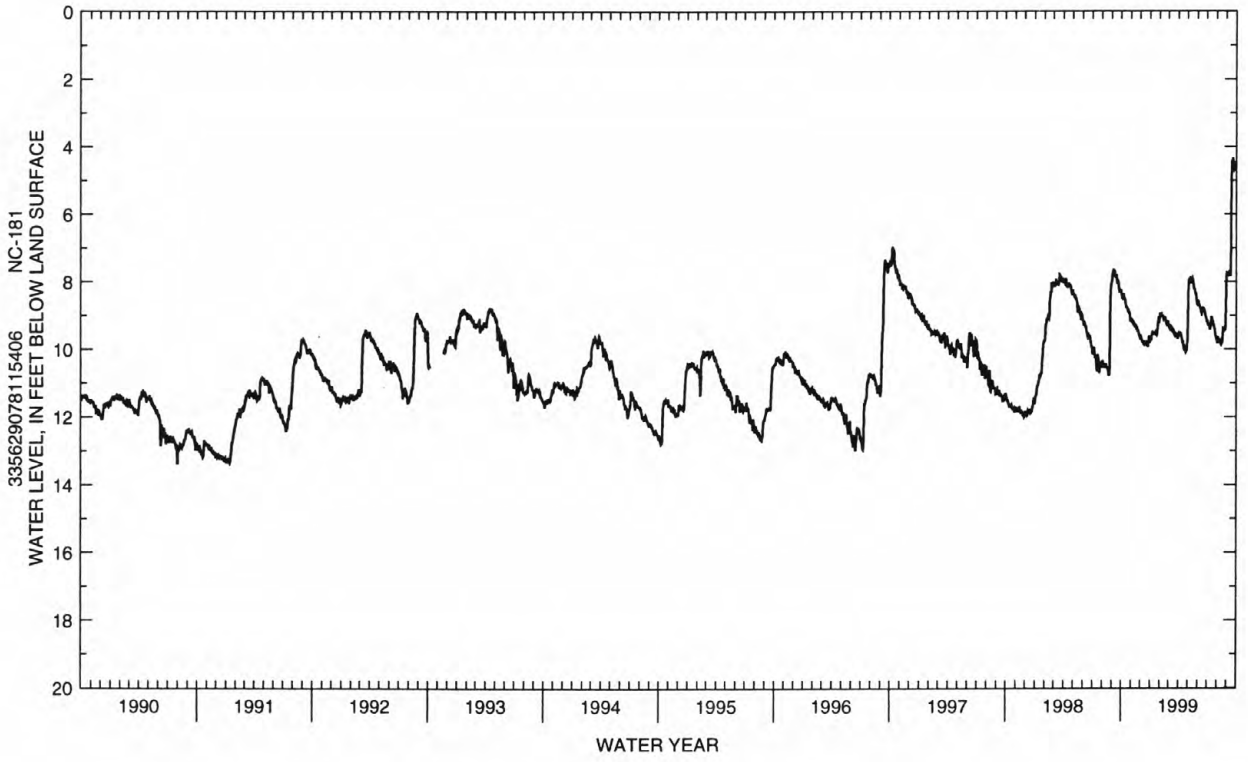
1998
1999
WATER YEAR


NC-181
335629078115406
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1999
WATER YEAR

BRUNSWICK COUNTY--Continued

335631078003604. Local number, NC-197; DENR Southport Research Station well GG32t4.

LOCATION.--Lat 33°56'31", long 78°00'36", Hydrologic Unit 03030005, north of Southport 0.45 mi northeast of Secondary Road 1526 on Secondary Road 1527. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 200 ft, diameter 6 in., cased to 93.5 ft, open hole from 93.5 to 200 ft; measured depth 199 ft, September 1997.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 28.08 ft above sea level. Measuring point: Top of casing, 0.00 ft above land-surface datum.

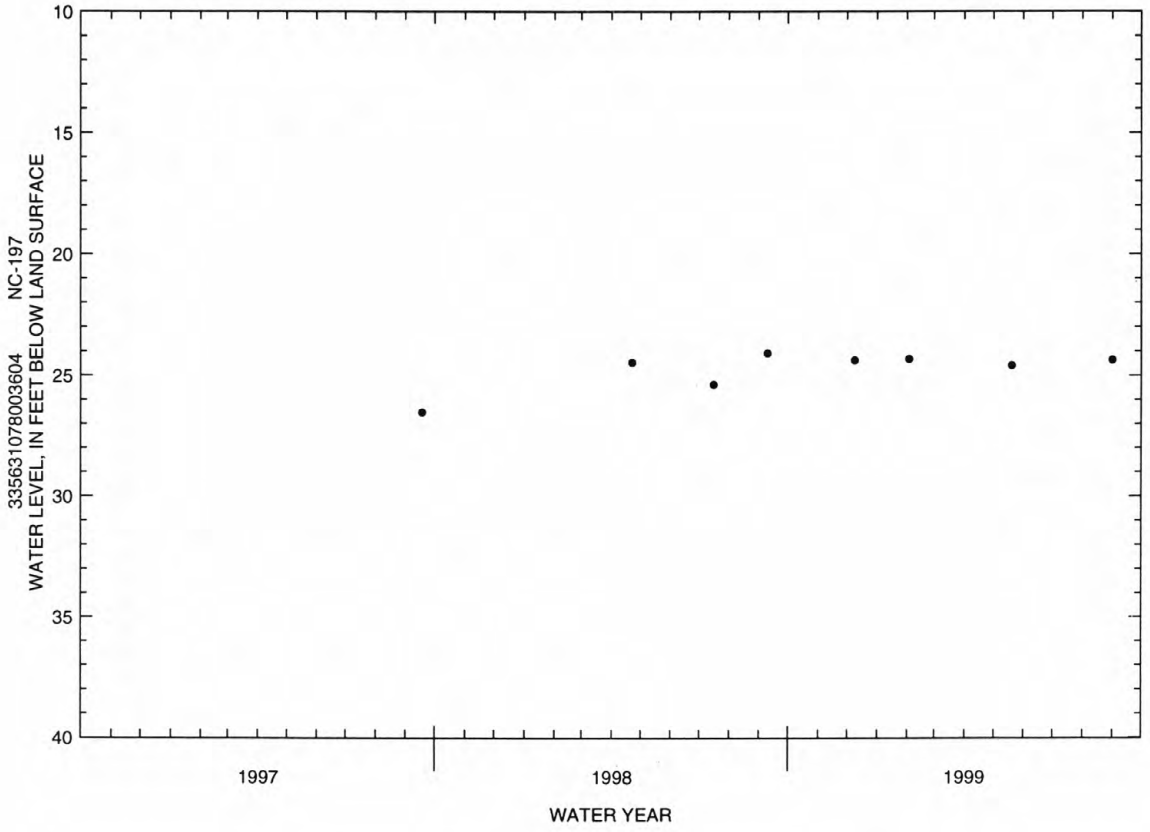
REMARKS.-- Well is part of areal-effects network.

PERIOD OF RECORD.--September 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.08 ft below land-surface datum, Sept. 10, 1998; lowest water level measured, 26.51 ft below land-surface datum, Sept. 18, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 09	24.37	FEB 03	24.32	MAY 20	24.58	SEP 01	24.36


NC-197
335631078003604
WATER LEVEL, IN FEET BELOW LAND SURFACE
10
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1997
1998
1999
WATER YEAR

BRUNSWICK COUNTY--Continued

335631078003605. Local number, NC-198; DENR Southport Research Station well GG32t5.

LOCATION.--Lat 33°56'31", long 78°00'36", Hydrologic Unit 03030005, north of Southport 0.45 miles northeast of Secondary Road 1526 on Secondary Road 1527. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 74 ft, diameter 4 in., cased to 64 ft, screened from 64 to 74 ft; measured depth 72.0 ft, September 1997.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 28.26 ft above sea level. Measuring point: Top of casing, 0.00 ft above land-surface datum.

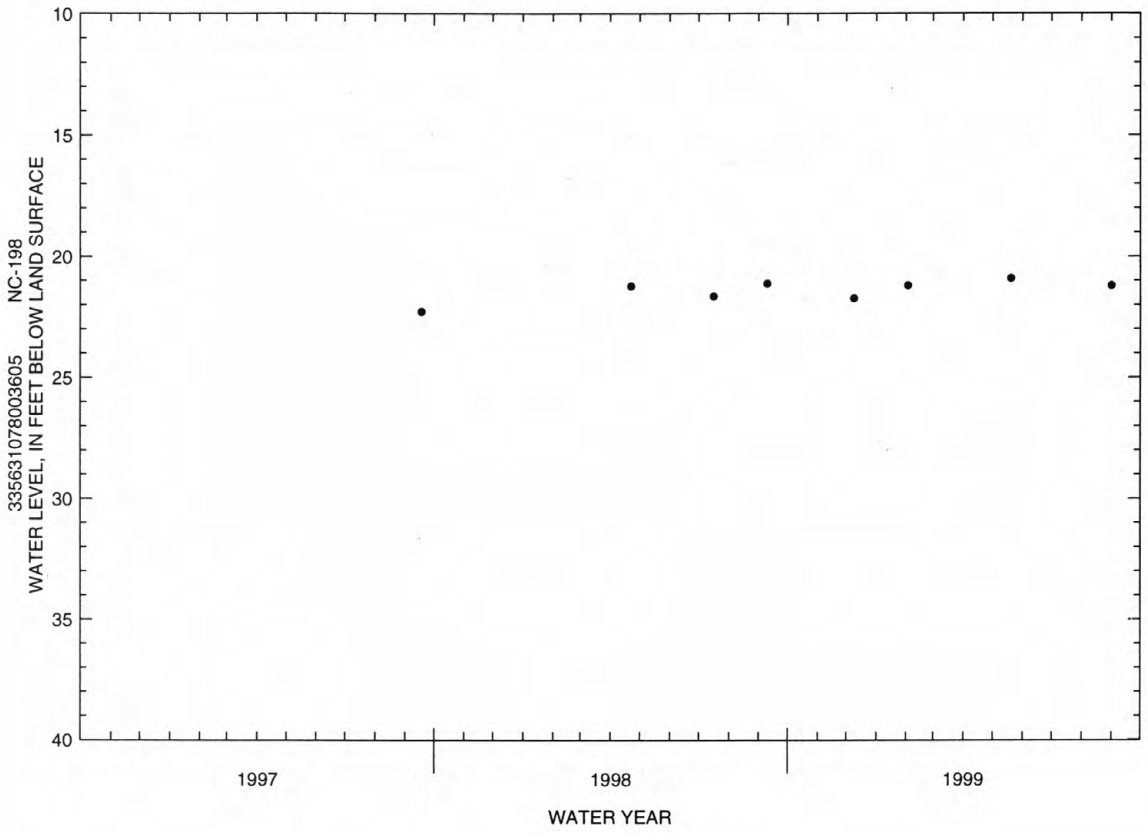
REMARKS.-- Well is part of induced-effects network.

PERIOD OF RECORD.--September 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.90 ft below land-surface datum, May 20, 1999; lowest water level measured, 22.28 ft below land-surface datum, Sept. 18, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 09	21.73	FEB 03	21.20	MAY 20	20.90	SEP 01	21.21


NC-198
335631078003605
WATER LEVEL, IN FEET BELOW LAND SURFACE
10
15
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1997
1998
1999
WATER YEAR

BRUNSWICK COUNTY--Continued

335631078003606. Local number, NC-199; DENR Southport Research Station well GG32t6.

LOCATION.--Lat 33°56'31", long 78°00'36", Hydrologic Unit 03030005, north of Southport, 0.45 mi northeast of Secondary Road 1526 on Secondary Road 1527. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 23 ft, diameter 4 in., cased to 11 ft, screened from 11 to 21 ft; measured depth 20.8 ft, September 1997.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 28.00 ft above sea level. Measuring point: Top of instrument shelf, 1.27 ft above land-surface datum; revised from 0.00 ft above land-surface datum, Oct. 16, 1997.

REMARKS.-- Well is part of local-effects network.

PERIOD OF RECORD.--January 1970 to October 1997. Continuous record from October 1997 to present.

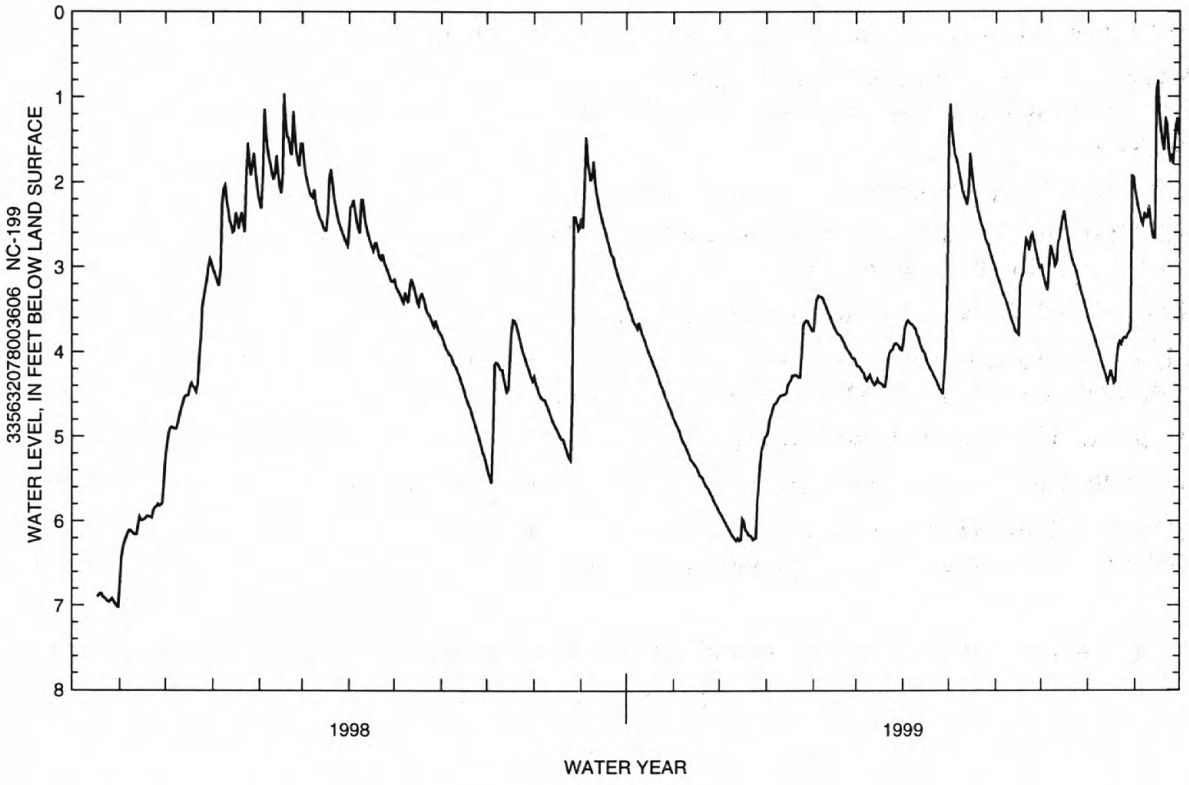
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.13 ft below land-surface datum, Sept. 16, 1999; lowest water level recorded, 7.03 ft below land-surface datum, Oct. 30, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.39	4.79	5.89	4.99	3.75	4.14	3.89	1.49	3.05	2.99	3.60	2.09
2	3.47	4.83	5.92	4.95	3.50	4.17	3.72	1.08	3.12	3.08	3.66	2.20
3	3.51	4.87	5.95	4.81	3.38	4.17	3.66	1.37	3.16	3.16	3.72	2.30
4	3.56	4.91	5.99	4.75	3.34	4.20	3.63	1.55	3.21	3.22	3.76	2.37
5	3.62	4.95	6.02	4.68	3.35	4.23	3.65	1.68	3.28	3.28	3.82	2.46
6	3.66	5.02	6.06	4.62	3.35	4.25	3.67	1.73	3.33	2.99	3.88	2.50
7	3.68	5.06	6.09	4.61	3.37	4.31	3.68	1.80	3.37	2.75	3.94	2.36
8	3.72	5.09	6.12	4.58	3.42	4.34	3.71	1.91	3.42	2.80	3.99	2.42
9	3.65	5.13	6.16	4.54	3.46	4.30	3.73	2.00	3.48	2.89	4.06	2.42
10	3.72	5.17	6.18	4.52	3.51	4.27	3.80	2.10	3.54	2.99	4.13	2.28
11	3.78	5.21	6.21	4.51	3.56	4.33	3.83	2.16	3.60	2.95	4.18	2.43
12	3.83	5.27	6.23	4.51	3.59	4.36	3.90	2.21	3.65	2.72	4.24	2.58
13	3.87	5.29	6.20	4.50	3.65	4.39	3.95	2.27	3.70	2.66	4.30	2.66
14	3.93	5.32	6.23	4.49	3.69	4.37	3.99	2.12	3.76	2.54	4.36	2.66
15	3.98	5.34	6.22	4.39	3.73	4.32	4.01	1.66	3.78	2.42	4.29	.93
16	4.03	5.37	5.97	4.36	3.76	4.36	4.08	1.84	3.80	2.34	4.22	.81
17	4.07	5.41	6.00	4.33	3.79	4.37	4.13	2.00	3.21	2.45	4.29	1.20
18	4.12	5.46	6.10	4.28	3.80	4.38	4.17	2.13	3.12	2.58	4.37	1.39
19	4.17	5.47	6.12	4.28	3.82	4.41	4.20	2.22	3.07	2.70	4.34	1.54
20	4.21	5.49	6.16	4.27	3.86	4.41	4.23	2.33	2.82	2.80	4.05	1.63
21	4.26	5.54	6.17	4.28	3.89	4.26	4.28	2.40	2.68	2.89	3.92	1.24
22	4.31	5.58	6.18	4.30	3.94	4.08	4.31	2.47	2.72	2.95	3.88	1.33
23	4.37	5.60	6.22	4.30	3.97	4.01	4.35	2.53	2.81	3.00	3.91	1.61
24	4.41	5.63	6.21	4.05	4.00	3.98	4.39	2.58	2.65	3.05	3.85	1.74
25	4.45	5.67	6.20	3.69	4.02	3.97	4.44	2.66	2.61	3.12	3.83	1.70
26	4.51	5.70	5.78	3.65	4.06	3.91	4.46	2.71	2.69	3.19	3.84	1.79
27	4.56	5.75	5.53	3.63	4.08	3.90	4.50	2.74	2.79	3.27	3.80	1.56
28	4.60	5.78	5.31	3.64	4.08	3.91	4.26	2.82	2.87	3.33	3.77	1.33
29	4.65	5.82	5.14	3.68	---	3.93	3.98	2.88	2.95	3.39	3.74	1.25
30	4.69	5.85	5.09	3.71	---	3.97	3.28	2.94	3.01	3.46	1.93	1.45
31	4.74	---	5.01	3.75	---	3.98	---	2.99	---	3.53	1.94	---

WTR YR 1999 MEAN 3.80 HIGH .81 LOW 6.23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WATER LEVEL, IN FEET BELOW LAND SURFACE
335632078003606 NC-199
1998
1999
WATER YEAR

CARTERET COUNTY

344323076451301. Local number, NC-139; DENR Camp Glenn Research Station well X17j5.

LOCATION.--Lat 34°43'23", long 76°45'13", Hydrologic Unit 03020106, on west edge of Morehead City, and south of U.S. Highway 70 at DENR Marine Fisheries Facility on north shore of Bogue Sound. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 238 ft, diameter 4 in., cased to 180 ft, open hole to 191 ft, hole collapsed from 191 to 238 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 30-minute intervals.

DATUM.--Land-surface datum is 8.72 ft above sea level (levels by DENR). Measuring point: Top of collar on casing, 1.73 ft above land-surface datum.

REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--January 1976 to current year.

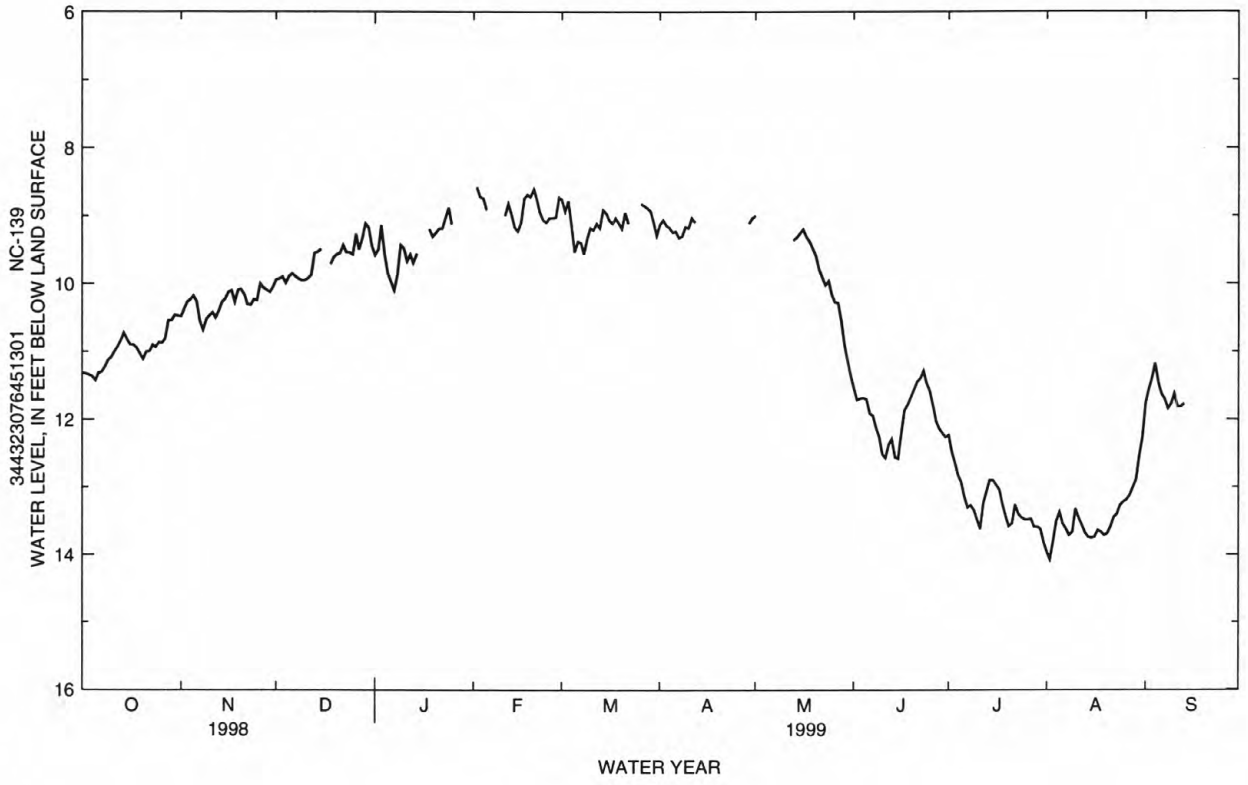
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.23 ft below land-surface datum, Dec. 7, 1976; lowest water level recorded, 14.90 ft below land-surface datum, Aug. 2, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.31	10.48	9.94	9.58	---	8.76	9.13	9.00	11.53	12.23	13.96	11.76
2	11.32	10.37	9.93	9.50	8.58	8.93	9.06	---	11.71	12.47	14.07	11.56
3	11.34	10.27	9.90	9.14	8.72	8.78	9.14	---	11.69	12.64	13.80	11.39
4	11.36	10.23	9.99	9.59	8.74	9.14	9.17	---	11.68	12.82	13.51	11.17
5	11.42	10.18	9.89	9.84	8.91	9.53	9.24	---	11.70	12.93	13.37	11.46
6	11.31	10.26	9.85	9.97	---	9.38	9.23	---	11.91	13.14	13.54	11.63
7	11.30	10.55	9.89	10.10	---	9.40	9.32	---	11.94	13.30	13.62	11.70
8	11.22	10.68	9.93	9.87	---	9.56	9.30	---	12.12	13.27	13.71	11.84
9	11.12	10.52	9.95	9.43	---	9.32	9.16	---	12.25	13.34	13.67	11.77
10	11.08	10.47	9.95	9.48	---	9.18	9.18	---	12.51	13.48	13.32	11.62
11	10.99	10.42	9.92	9.67	8.99	9.21	9.03	9.64	12.57	13.62	13.46	11.81
12	10.92	10.50	9.87	9.57	8.82	9.11	9.09	---	12.37	13.24	13.56	11.81
13	10.83	10.40	9.55	9.69	8.98	9.18	---	9.36	12.29	13.06	13.68	11.77
14	10.72	10.27	9.53	9.56	9.17	8.91	---	9.32	12.56	12.90	13.74	---
15	10.83	10.22	9.49	---	9.23	8.96	---	9.26	12.58	12.90	13.75	---
16	10.89	10.12	---	---	9.09	9.07	---	9.20	12.19	12.97	13.74	---
17	10.90	10.10	---	---	8.74	9.11	---	9.31	11.86	13.04	13.64	---
18	10.94	10.27	9.71	9.20	8.69	9.03	---	9.38	11.78	13.25	13.66	---
19	11.03	10.09	9.61	9.31	8.72	9.11	9.60	9.48	11.67	13.43	13.71	---
20	11.11	10.08	9.57	9.25	8.61	9.19	---	9.59	11.55	13.58	13.69	---
21	11.00	10.16	9.55	9.19	8.75	8.95	---	9.79	11.44	13.54	13.59	---
22	10.99	10.30	9.43	9.19	8.95	9.11	---	9.91	11.39	13.26	13.45	---
23	10.90	10.31	9.54	9.04	9.06	---	---	10.02	11.28	13.40	13.40	---
24	10.93	10.23	9.54	8.88	9.10	---	---	9.96	11.47	13.45	13.27	---
25	10.86	10.24	9.57	9.12	9.03	---	---	10.16	11.58	13.48	13.22	---
26	10.87	10.00	9.27	---	9.03	8.82	---	10.27	11.80	13.48	13.19	---
27	10.81	10.06	9.50	---	9.02	8.85	9.55	10.28	12.03	13.47	13.12	---
28	10.54	10.09	9.32	9.07	8.73	8.88	---	10.55	12.14	13.59	13.01	---
29	10.54	10.12	9.11	---	---	8.93	9.11	10.89	12.20	13.59	12.89	---
30	10.46	10.05	9.17	---	---	9.09	9.03	11.14	12.26	13.62	12.54	---
31	10.47	---	9.44	---	---	9.29	---	11.35	---	13.82	12.28	---

WTR YR 1999 MEAN 10.78 HIGH 8.58 LOW 14.07


NC-139
344230764513O1
WATER LEVEL, IN FEET BELOW LAND SURFACE
6
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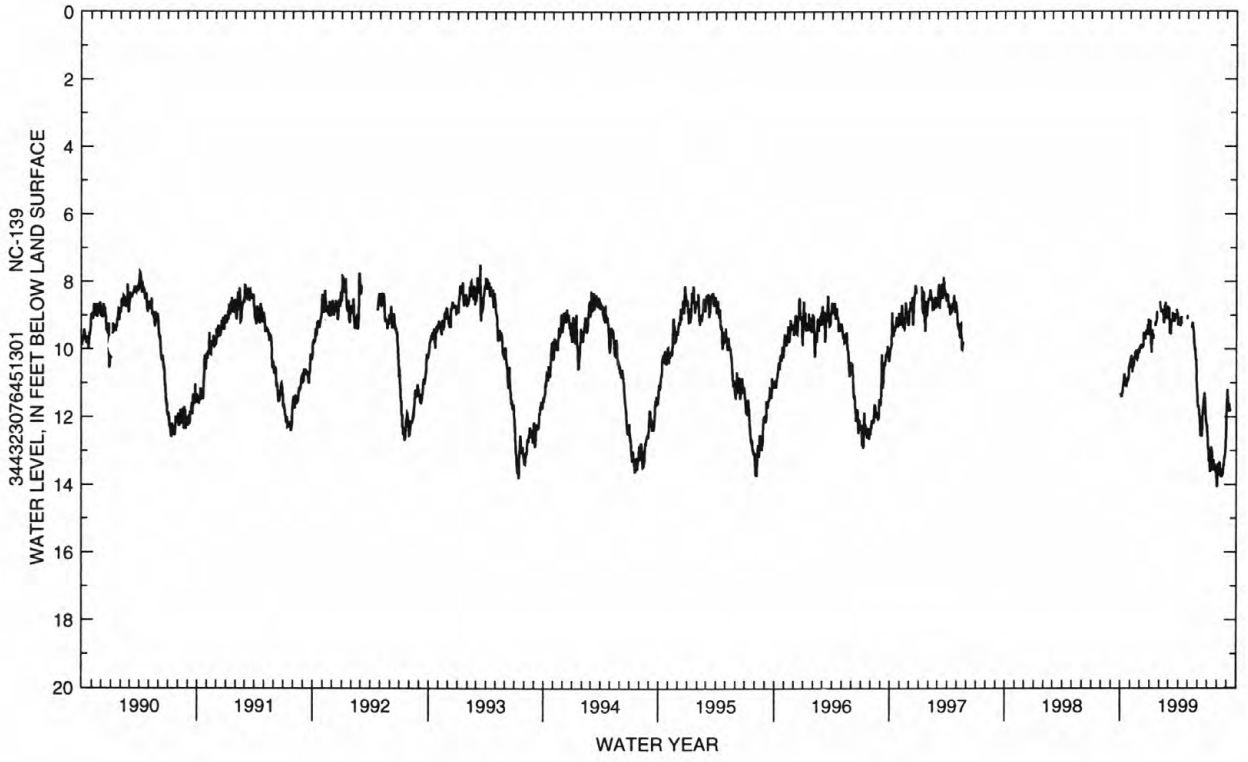
1998
1999
WATER YEAR


NC-139
344230764513O1
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
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1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

CHEROKEE COUNTY

351117083545001. Local number, NC-191.

LOCATION.--Lat 35°11'17", long 83°54'50", Hydrologic Unit 06020002, 0.6 mi north of Marble, 100 ft west of Secondary Road 1377. Owner: Coats American Company.

AQUIFER.--Saprolite derived from schist of Precambrian age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 108.5 ft, diameter 4 in., cased to 53 ft, screened interval from 53 to 83 ft, sand filter pack from 40 to 83 ft, backfilled with saprolite from 83 to 108.5 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 1,720 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 0.45 ft above land-surface datum; revised from 1.15 ft above land surface August 1995.

REMARKS.--Well is part of terrane-effects network. Water-level measured by personnel of North Carolina Department of Environment and Natural Resources Sept. 1985 to Sept. 1989.

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

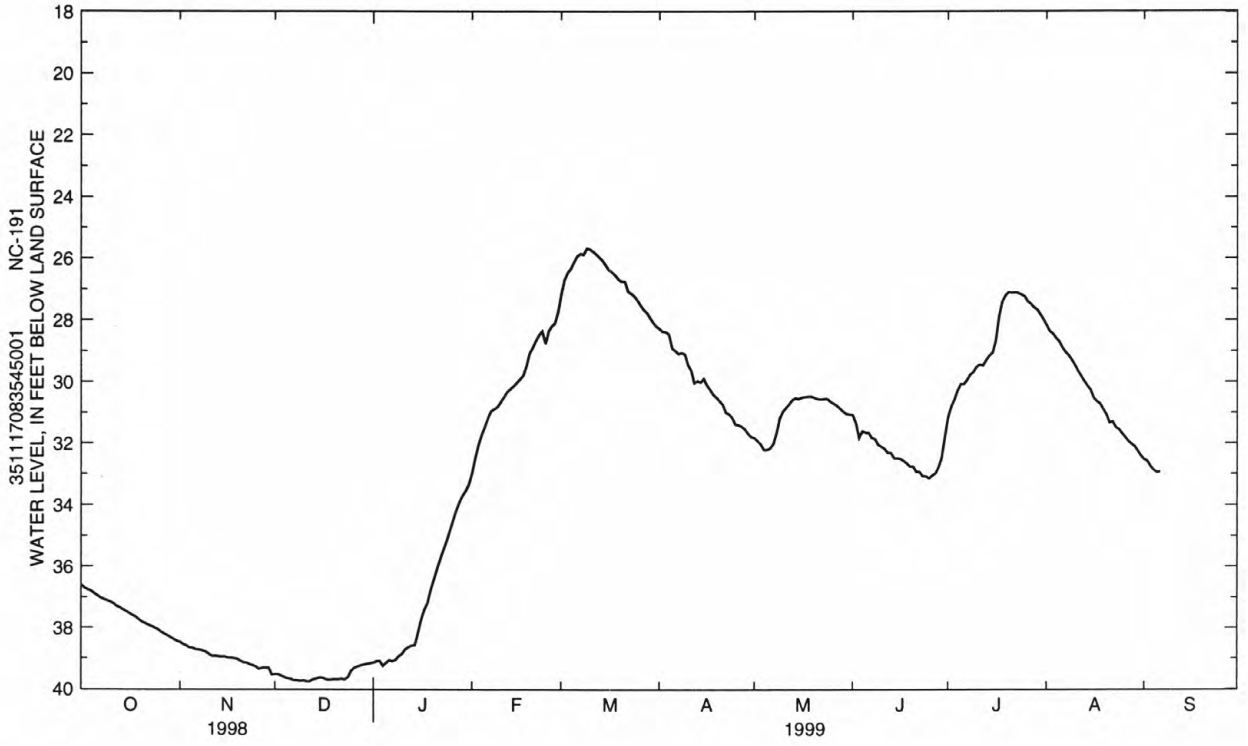
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 19.26 ft below land-surface datum, Mar. 29, 1994; lowest water level recorded, 39.79 ft below land-surface datum, Dec. 11, 12, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.61	38.47	39.52	39.15	32.97	27.15	28.28	31.83	31.08	31.16	28.16	32.53
2	36.71	38.55	39.53	39.10	32.46	26.70	28.37	31.93	31.35	30.82	28.36	32.58
3	36.76	38.59	39.57	39.09	32.05	26.46	28.38	32.03	31.83	30.58	28.44	32.76
4	36.81	38.66	39.62	39.25	31.71	26.34	28.46	32.21	31.60	30.29	28.58	32.87
5	36.89	38.67	39.66	39.16	31.45	26.12	28.92	32.21	31.65	30.08	28.69	32.95
6	36.96	38.71	39.68	39.07	31.16	25.93	28.99	32.16	31.66	30.08	28.88	32.93
7	37.03	38.73	39.73	39.10	30.95	25.85	29.09	32.02	31.83	29.93	29.03	---
8	37.08	38.75	39.73	39.06	30.88	25.88	29.05	31.65	31.86	29.77	29.14	---
9	37.12	38.78	39.75	38.94	30.81	25.68	29.10	31.19	32.05	29.68	29.29	---
10	37.16	38.85	39.73	38.86	30.65	25.70	29.44	30.96	32.11	29.51	29.46	---
11	37.21	38.93	39.76	38.72	30.49	25.78	29.63	30.84	32.18	29.44	29.66	---
12	37.30	38.93	39.76	38.64	30.32	25.87	30.03	30.73	32.31	29.47	29.82	---
13	37.35	38.94	39.69	38.59	30.23	25.97	29.97	30.59	32.31	29.29	29.99	---
14	37.41	38.96	39.67	38.57	30.14	26.07	30.01	30.53	32.48	29.15	30.13	---
15	37.47	38.95	39.63	38.19	30.03	26.23	29.90	30.55	32.48	29.05	30.26	---
16	37.53	38.99	39.64	37.74	29.91	26.38	30.10	30.51	32.51	28.67	30.52	---
17	37.60	38.99	39.69	37.42	29.80	26.45	30.25	30.49	32.57	27.88	30.64	---
18	37.65	39.00	39.71	37.19	29.49	26.55	30.41	30.48	32.65	27.42	30.71	---
19	37.74	39.02	39.70	36.77	29.08	26.68	30.51	30.47	32.76	27.21	30.90	---
20	37.81	39.08	39.69	36.42	28.88	26.75	30.62	30.52	32.76	27.10	31.06	---
21	37.86	39.14	39.69	36.08	28.67	26.75	30.74	30.55	32.93	27.12	31.33	---
22	37.91	39.15	39.67	35.75	28.48	27.07	31.00	30.56	32.93	27.11	31.30	---
23	37.96	39.20	39.70	35.46	28.36	27.14	31.05	30.55	33.07	27.12	31.49	---
24	38.01	39.23	39.62	35.17	28.76	27.23	31.17	30.55	33.07	27.17	31.55	---
25	38.06	39.28	39.42	34.84	28.36	27.36	31.39	30.64	33.14	27.23	31.69	---
26	38.14	39.36	39.32	34.50	28.19	27.51	31.40	30.71	33.05	27.39	31.81	---
27	38.20	39.32	39.28	34.18	28.10	27.67	31.46	30.77	32.98	27.47	31.94	---
28	38.26	39.32	39.24	33.90	27.71	27.76	31.54	30.87	32.79	27.59	32.03	---
29	38.32	39.32	39.21	33.70	---	27.93	31.69	30.97	32.49	27.66	32.11	---
30	38.38	39.54	39.19	33.53	---	28.08	31.79	31.05	31.79	27.81	32.27	---
31	38.44	---	39.17	33.33	---	28.21	---	31.06	---	27.98	32.41	---

WTR YR 1999 MEAN 32.96 HIGH 25.68 LOW 39.76


351117083545001 NC-191
WATER LEVEL, IN FEET BELOW LAND SURFACE
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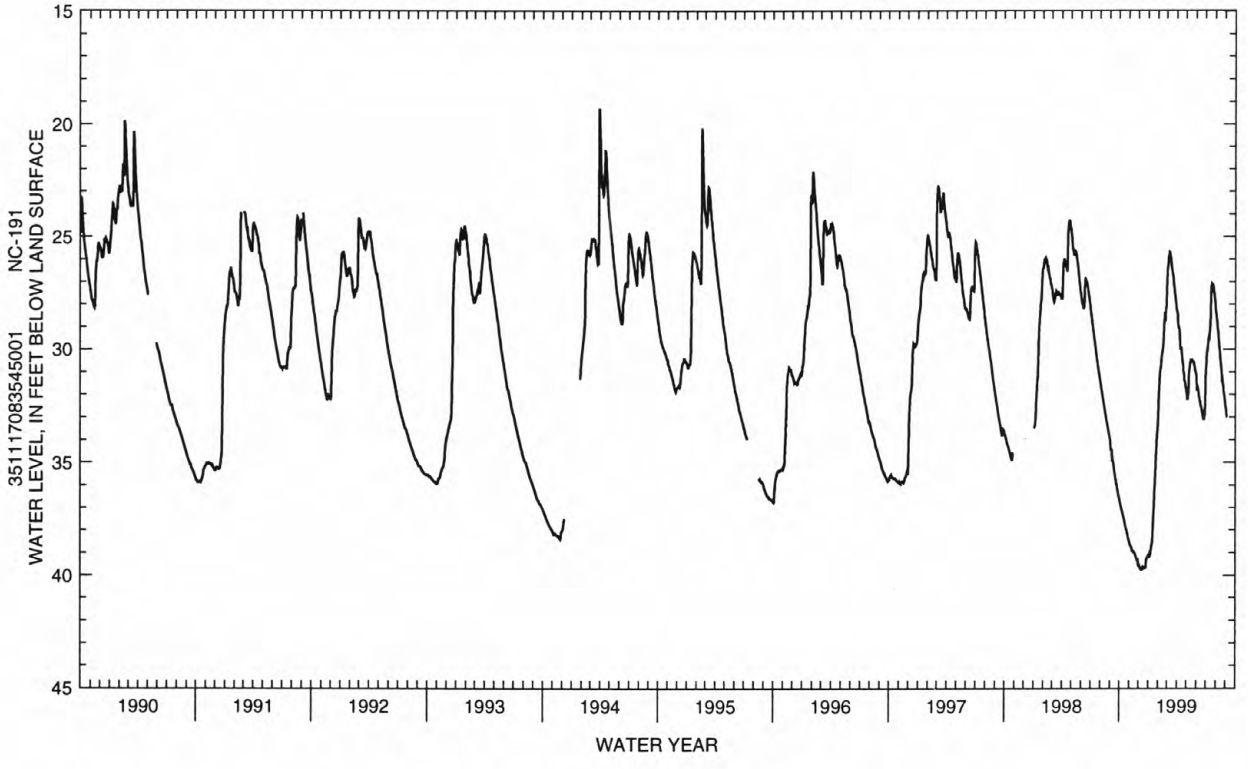
351117083545001 NC-191
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1999
WATER YEAR

CHEROKEE COUNTY--Continued

351121083545002. Local number, NC-192.

LOCATION.--Lat 35°11'21", long 83°54'50", Hydrologic Unit 06020002, 0.7 mi north of Marble, 75 ft west of Secondary Road 1377. Owner: Coats American Company.

AQUIFER.--Saprolite derived from schist of Precambrian age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 24 ft, diameter 4 in., cased to 14 ft, screened interval from 14 to 24 ft, sand filter pack from 6 to 24 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 1,710 ft above sea level (from topographic map). Measuring point: Three saw cuts in top of casing, 3.35 ft above land-surface datum.

REMARKS.--Well is part of climatic-effects network.

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

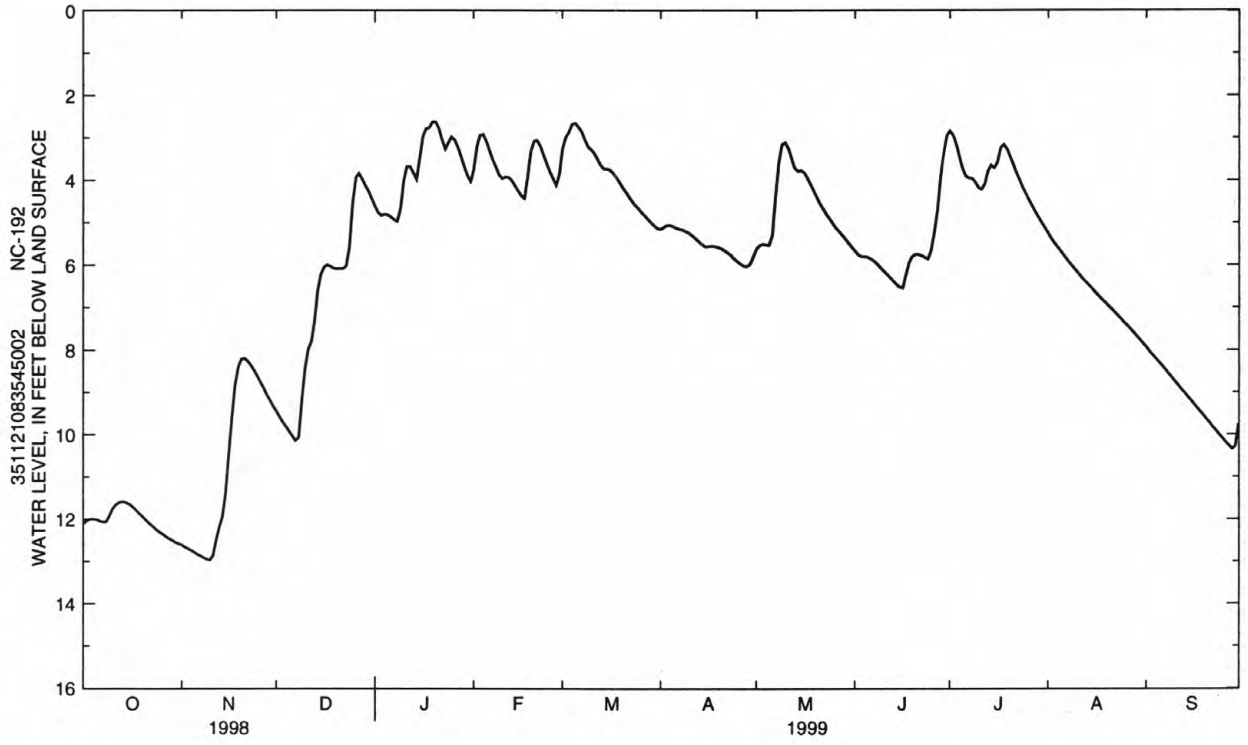
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.09 ft above land-surface datum, Mar. 28, 1993; lowest recorded, 14.44 ft below land-surface datum, Nov. 4, 5, 6, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.10	12.61	9.45	4.61	3.76	3.25	5.15	5.62	5.67	2.84	5.25	7.93
2	12.03	12.66	9.58	4.77	3.19	2.99	5.10	5.54	5.76	2.93	5.37	8.03
3	12.00	12.70	9.70	4.83	2.94	2.87	5.06	5.51	5.80	3.16	5.48	8.12
4	12.00	12.74	9.81	4.81	2.92	2.68	5.06	5.52	5.80	3.45	5.58	8.20
5	12.01	12.78	9.92	4.82	3.09	2.65	5.09	5.53	5.82	3.73	5.68	8.29
6	12.04	12.83	10.03	4.87	3.32	2.74	5.13	5.29	5.86	3.91	5.78	8.37
7	12.07	12.87	10.14	4.93	3.52	2.85	5.15	4.37	5.91	3.95	5.88	8.46
8	12.07	12.91	10.07	4.97	3.69	3.04	5.17	3.57	5.98	3.96	5.97	8.56
9	11.93	12.95	9.22	4.68	3.87	3.21	5.21	3.16	6.06	4.05	6.06	8.65
10	11.77	12.97	8.44	4.01	3.96	3.28	5.25	3.11	6.14	4.18	6.15	8.74
11	11.67	12.86	7.99	3.68	3.92	3.37	5.31	3.25	6.21	4.22	6.24	8.83
12	11.61	12.50	7.80	3.68	3.93	3.50	5.37	3.49	6.29	4.09	6.33	8.93
13	11.59	12.18	7.34	3.82	4.01	3.65	5.45	3.71	6.37	3.78	6.41	9.01
14	11.60	11.93	6.59	3.98	4.13	3.73	5.51	3.79	6.45	3.65	6.49	9.10
15	11.63	11.37	6.22	3.49	4.25	3.73	5.57	3.77	6.52	3.71	6.57	9.19
16	11.68	10.45	6.05	2.97	4.37	3.76	5.56	3.82	6.54	3.58	6.65	9.28
17	11.75	9.56	6.00	2.79	4.43	3.84	5.55	3.95	6.25	3.23	6.73	9.37
18	11.82	8.81	6.03	2.76	3.89	3.94	5.56	4.10	5.95	3.16	6.81	9.46
19	11.90	8.39	6.08	2.63	3.32	4.06	5.58	4.25	5.80	3.27	6.88	9.55
20	11.97	8.21	6.09	2.63	3.07	4.18	5.61	4.41	5.75	3.45	6.96	9.64
21	12.05	8.19	6.09	2.78	3.06	4.29	5.66	4.56	5.75	3.64	7.03	9.73
22	12.12	8.26	6.09	3.05	3.20	4.40	5.71	4.69	5.78	3.83	7.11	9.83
23	12.18	8.36	6.02	3.27	3.41	4.51	5.77	4.81	5.82	4.01	7.19	9.91
24	12.25	8.48	5.57	3.11	3.61	4.60	5.85	4.91	5.86	4.18	7.27	10.00
25	12.31	8.62	4.55	2.98	3.80	4.68	5.91	5.02	5.66	4.33	7.36	10.09
26	12.35	8.76	3.93	3.05	3.97	4.77	5.97	5.13	5.22	4.48	7.43	10.18
27	12.41	8.91	3.84	3.23	4.12	4.84	6.02	5.21	4.72	4.62	7.51	10.26
28	12.46	9.06	3.98	3.45	3.84	4.92	6.03	5.30	3.90	4.76	7.59	10.34
29	12.50	9.20	4.13	3.68	---	5.00	5.98	5.39	3.37	4.88	7.68	10.28
30	12.55	9.33	4.27	3.90	---	5.07	5.81	5.49	2.95	5.00	7.76	9.76
31	12.58	---	4.44	4.03	---	5.14	---	5.58	---	5.13	7.85	---

WTR YR 1999 MEAN 6.38 HIGH 2.63 LOW 12.97


351121083545002 NC-192
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
2
4
6
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O
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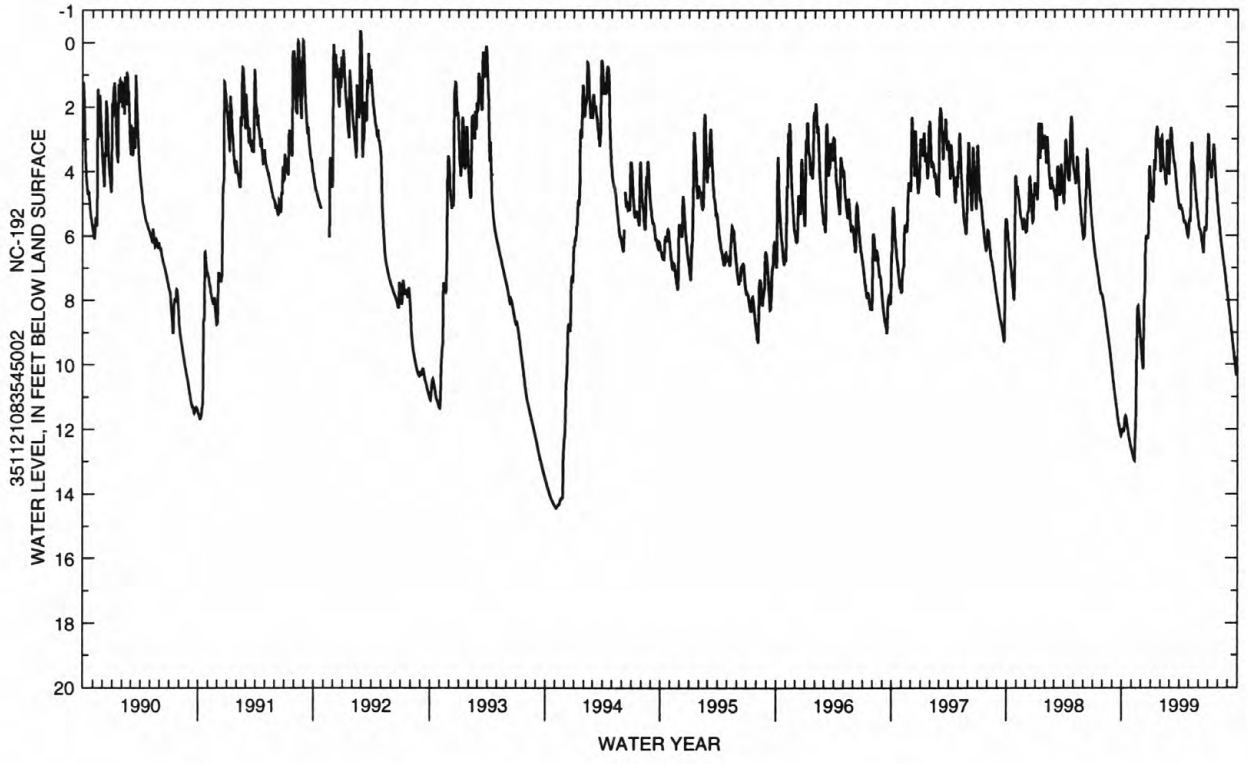
D
J
F
M
A
M
J
J
A
S
1998
1999


351121083545002 NC-192
WATER LEVEL, IN FEET BELOW LAND SURFACE
-1
0
2
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16
18
20
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

COLUMBUS COUNTY

342508078360802. Local number, NC-179; USGS well Co-89; DENR Carver Moore Research Station well AA39v2.

LOCATION.--Lat 34°25'07", long 78°36'10", Hydrologic Unit 03040206, 6.7 mi north of Hallsboro, east of Secondary Road 1001 at abandoned school on Secondary Road 1724. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 506 ft, diameter 4 in., screened interval from 496 to 506 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 105.53 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 2.10 ft above land-surface datum.

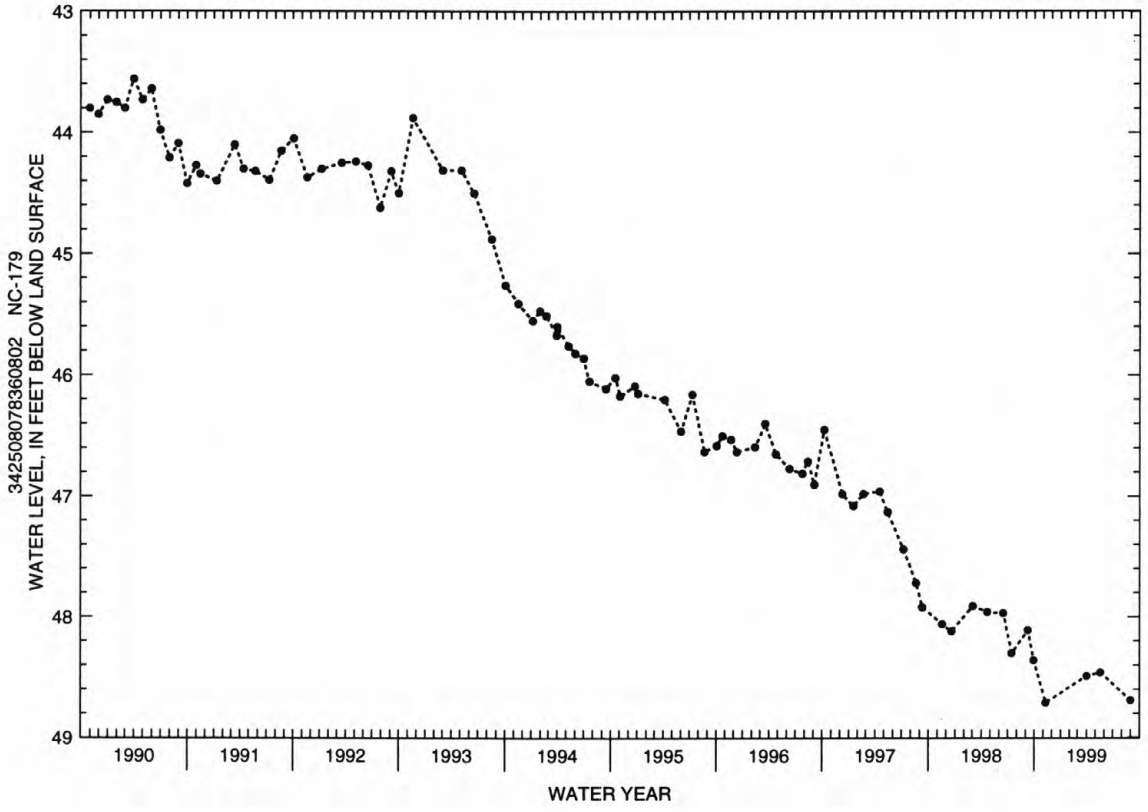
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--September 1975 to current year. Continuous record from January 1987 to November 1990. Records from September 1975 to April 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.11 ft below land-surface datum, July 20, 1976; lowest water level measured, 48.71 ft below land-surface datum, Nov. 10, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 10	48.71	APR 1	48.49	MAY 19	48.46	SEP 1	48.69


342508078360802 NC-179
WATER LEVEL, IN FEET BELOW LAND SURFACE
43
44
45
46
47
48
49
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

CRAVEN COUNTY

351019077184103. Local number, NC-167; DENR Cove City Research Station well R23x3.

LOCATION.--Lat 35°10'19", long 77°18'41", Hydrologic Unit 03020202, 0.6 mi east of Secondary Road 1001 on Secondary Road 1232, and 1 mi southeast of Cove City. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Lower Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 1,000 ft, diameter 4 in. to 260 ft, diameter 2.5 in. from 260 to 1,000 ft, screened interval from 990 to 1,000 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 46 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 2.24 ft above land-surface datum.

REMARKS.--Well is part of areal-effects network.

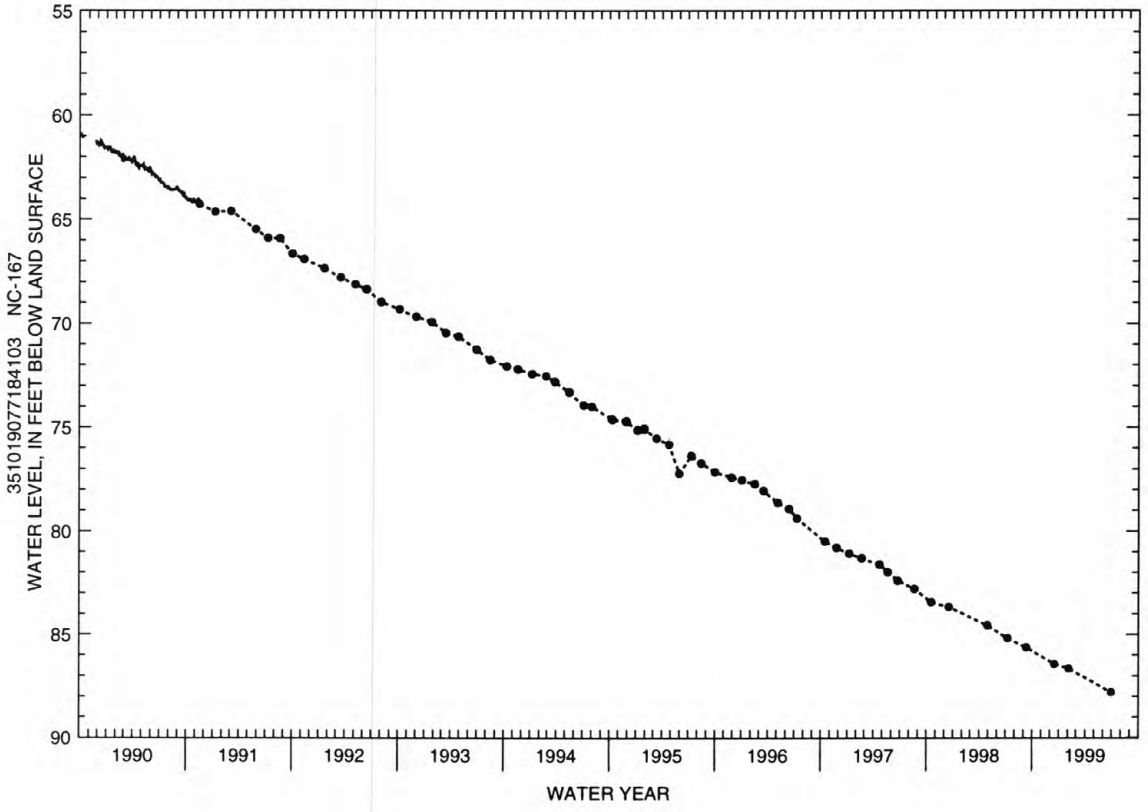
PERIOD OF RECORD.--July 1985 to current year. Continuous record from July 1985 to November 1990.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 50.29 ft below land-surface datum, Sept. 27, 1985; lowest water level measured, 87.81 ft below land-surface datum, June 30, 1999.

REVISIONS.--Water-level values for the 1993 water year published in Water Resources Data, North Carolina, NC-94-2, supersede those published in Water Resources Data, North Carolina, NC-93-2.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 16	86.43	FEB 4	86.65	JUN 30	87.81


351019077184103 NC-167
WATER LEVEL, IN FEET BELOW LAND SURFACE
55
60
65
70
75
80
85
90
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

CRAVEN COUNTY--Continued

350816077101810. Local number, NC-170; DENR Clarks Research Station well S22j10.

LOCATION.--Lat 35°08'16", long 77°10'18", Hydrologic Unit 03020202, 0.8 mi southwest of Clarks, south of U.S. Highway 70 on Secondary Road 1225 at North Carolina Department of Transportation Rest Area. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 726 ft, diameter 4 in. to 147 ft, diameter 2.5 in. from 147 to 726 ft, screened interval from 716 to 726 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 28.64 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 1.70 ft above land-surface datum.

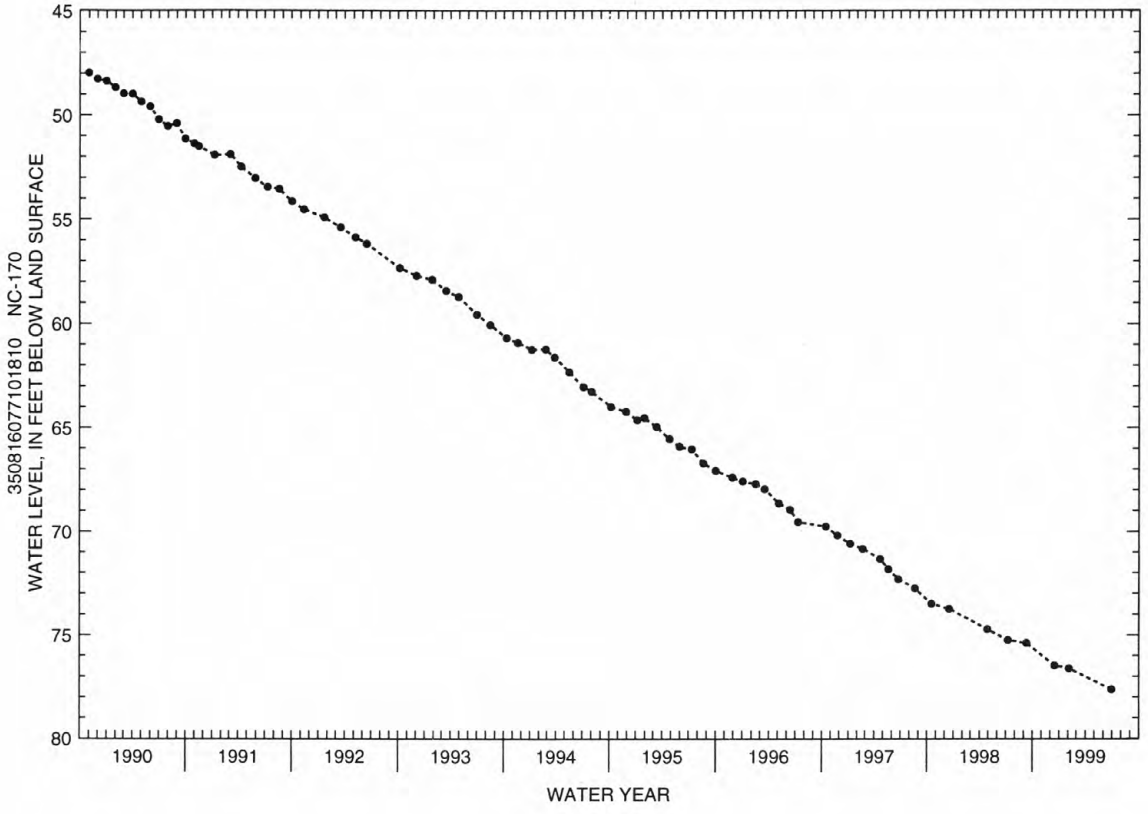
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--July 1979 to current year. Continuous record from April 1984 to November 1990. Records from July 1979 to November 1983 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.14 ft below land-surface datum, July 18, 1979; lowest water level measured, 77.63 ft below land-surface datum, June 30, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 16	76.47	FEB 4	76.62	JUN 30	77.63


350816077101810 NC-170
WATER LEVEL, IN FEET BELOW LAND SURFACE
45
50
55
60
65
70
75
80
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

CRAVEN COUNTY--Continued

350816077101811. Local number, NC-209; DENR Clarks Research Station well S22j11.

LOCATION.--Lat 35°08'16", long 77°10'18", Hydrologic Unit 03020202, 0.8 mi southwest of Clarks, south of U.S. Highway 70 on Secondary Road 1225 at North Carolina Department of Transportation Rest Area. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 1,044 ft, diameter 4 in. to 100 ft, diameter 2.5 in. from 100 to 1,044 ft, screened interval from 1,034 to 1,044 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 29.39 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 3.61 ft above land-surface datum.

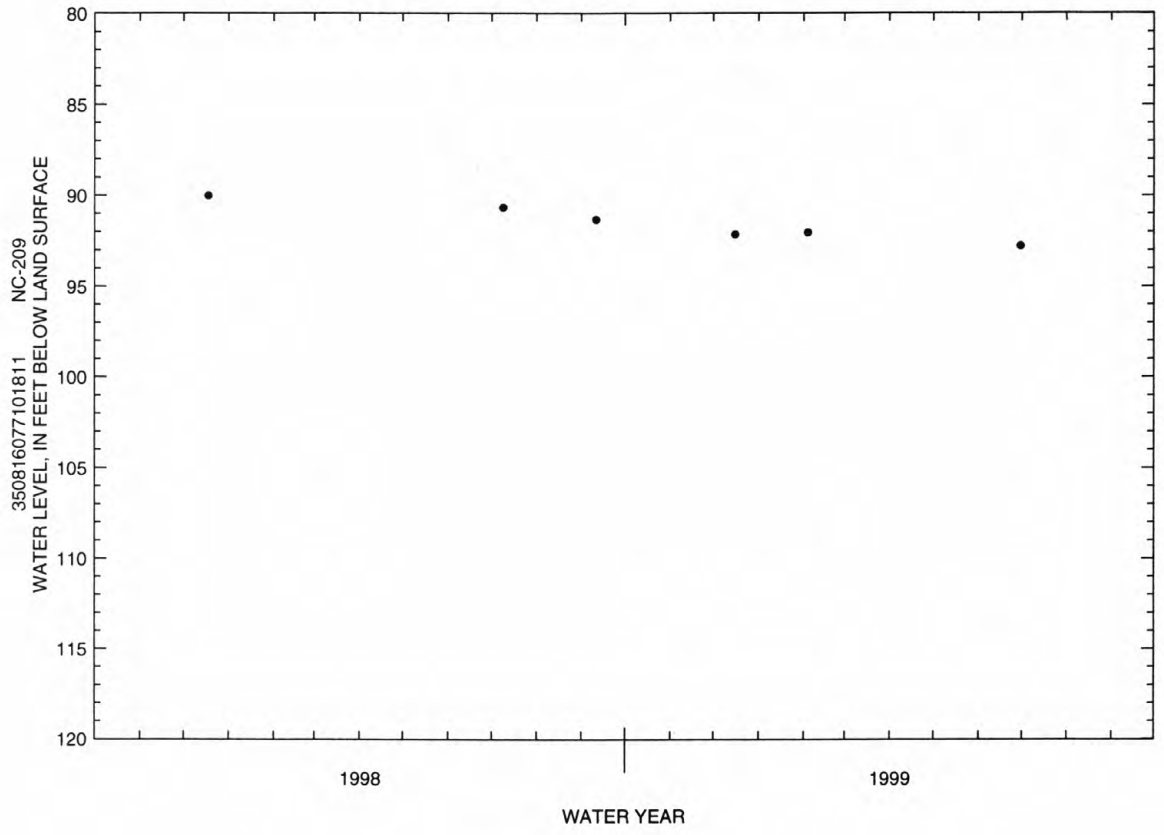
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--March 1984 to current year. Continuous record April 1984 to January 1988.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 47.60 ft below land-surface datum, March 21, 1984; lowest water level measured, 92.78 ft below land-surface datum, June 30, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 16	92.14	FEB 4	92.02	JUN 30	92.78


350816077101811 NC-209
WATER LEVEL, IN FEET BELOW LAND SURFACE
80
85
90
95
100
105
110
115
120
1998
1999
WATER YEAR

DAVIE COUNTY

355359080331701. Local number, NC-142.

LOCATION.--Lat 35°53'59", long 80°33'17", Hydrologic Unit 03040102, 0.5 mi northeast of Mocksville on U.S. Highway 158 at B.C. Brocks Community Center. Owner: U.S. Geological Survey.

AQUIFER.--Unconfined weathered granite of Paleozoic age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 30.8 ft, diameter 6 in., cased to 30.8 ft, open end, backfilled with gravel from 20 to 30.8 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals. Satellite telemetry at station.

DATUM.--Land-surface datum is 835 ft above sea level (from topographic map). Measuring point: Top of casing, 1.00 ft above land-surface datum.

REMARKS.--In October 1982, well replaced nearby NC-110. Well is part of terrane-effects network.

PERIOD OF RECORD.--October 1981 to current year.

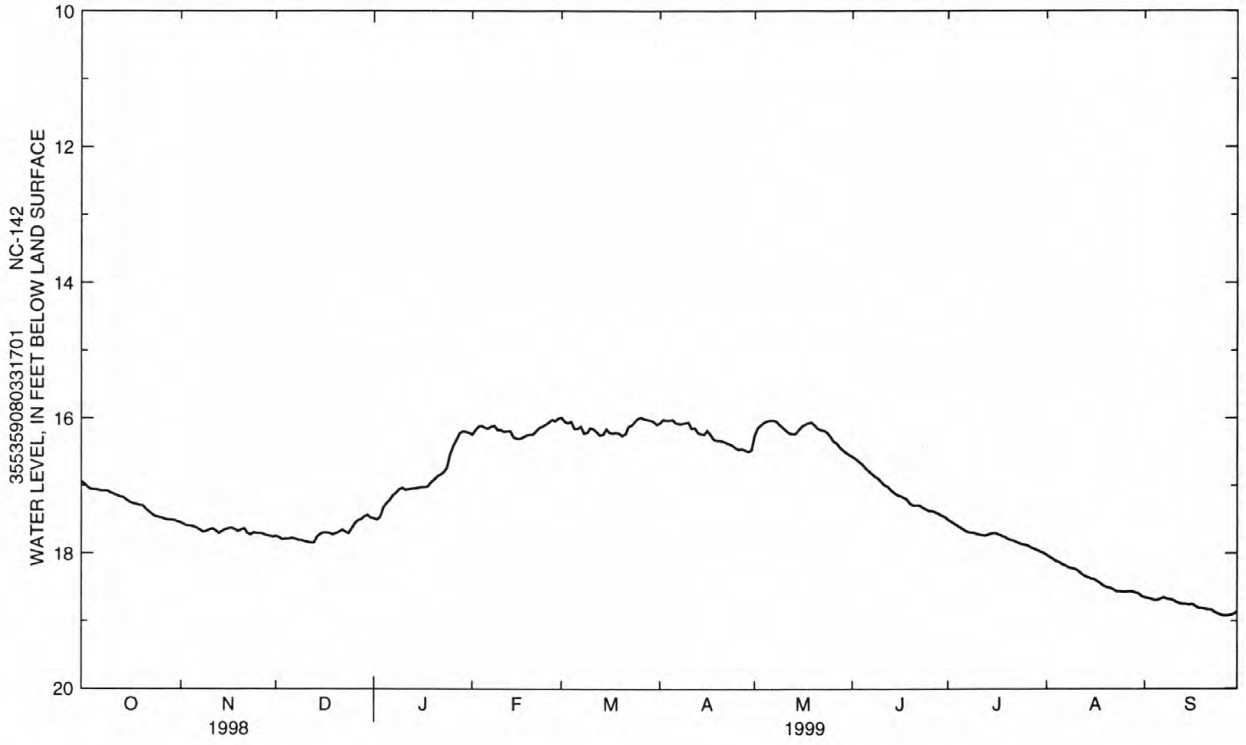
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 10.64 ft below land-surface datum, Mar. 28, 1993; lowest water level recorded, 20.98 ft below land-surface datum, Oct. 24, 25, and 26, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.94	17.54	17.74	17.48	16.24	15.99	16.07	16.25	16.57	17.50	18.02	18.65
2	16.98	17.57	17.76	17.50	16.17	16.05	16.02	16.14	16.60	17.53	18.05	18.66
3	17.03	17.59	17.79	17.46	16.12	16.07	16.03	16.10	16.64	17.56	18.08	18.67
4	17.05	17.59	17.78	17.32	16.11	16.05	16.03	16.06	16.68	17.59	18.11	18.69
5	17.05	17.60	17.78	17.26	16.14	16.15	16.02	16.04	16.73	17.62	18.13	18.69
6	17.06	17.62	17.77	17.21	16.15	16.15	16.07	16.03	16.78	17.65	18.16	18.67
7	17.07	17.65	17.78	17.14	16.12	16.12	16.08	16.03	16.82	17.68	18.18	18.65
8	17.07	17.68	17.80	17.10	16.11	16.22	16.08	16.05	16.86	17.69	18.21	18.67
9	17.07	17.67	17.80	17.05	16.17	16.21	16.07	16.10	16.89	17.69	18.22	18.68
10	17.10	17.65	17.82	17.03	16.17	16.14	16.06	16.14	16.94	17.71	18.23	18.69
11	17.12	17.63	17.83	17.06	16.20	16.16	16.15	16.18	16.99	17.72	18.26	18.72
12	17.14	17.66	17.84	17.05	16.19	16.20	16.14	16.22	17.01	17.73	18.30	18.74
13	17.16	17.70	17.84	17.04	16.19	16.25	16.21	16.23	17.06	17.73	18.33	18.75
14	17.17	17.67	17.75	17.04	16.28	16.24	16.23	16.23	17.10	17.71	18.35	18.75
15	17.21	17.64	17.71	17.03	16.30	16.16	16.24	16.17	17.13	17.70	18.37	18.76
16	17.24	17.63	17.69	17.02	16.30	16.21	16.18	16.12	17.15	17.70	18.38	18.75
17	17.26	17.62	17.69	17.02	16.28	16.22	16.24	16.09	17.17	17.72	18.41	18.78
18	17.27	17.64	17.70	17.01	16.25	16.21	16.31	16.07	17.20	17.74	18.44	18.81
19	17.29	17.67	17.72	16.95	16.24	16.22	16.33	16.06	17.26	17.76	18.48	18.81
20	17.29	17.65	17.70	16.91	16.24	16.26	16.33	16.10	17.29	17.79	18.50	18.82
21	17.34	17.63	17.68	16.86	16.19	16.23	16.34	16.15	17.29	17.80	18.51	18.83
22	17.38	17.70	17.65	16.83	16.14	16.12	16.36	16.17	17.29	17.82	18.53	18.83
23	17.42	17.72	17.68	16.80	16.12	16.10	16.38	16.18	17.32	17.84	18.56	18.87
24	17.45	17.69	17.70	16.73	16.09	16.05	16.40	16.21	17.35	17.86	18.56	18.89
25	17.46	17.70	17.63	16.53	16.06	16.00	16.44	16.27	17.37	17.87	18.57	18.91
26	17.47	17.70	17.55	16.41	16.02	15.99	16.46	16.34	17.37	17.88	18.57	18.92
27	17.49	17.71	17.51	16.32	16.04	16.01	16.45	16.37	17.39	17.91	18.56	18.92
28	17.50	17.73	17.49	16.22	16.00	16.02	16.47	16.43	17.41	17.93	18.56	18.91
29	17.50	17.74	17.45	16.19	---	16.03	16.49	16.47	17.44	17.95	18.58	18.90
30	17.51	17.75	17.43	16.20	---	16.05	16.47	16.51	17.46	17.97	18.59	18.87
31	17.53	---	17.47	16.21	---	16.09	---	16.54	---	17.99	18.63	---

WTR YR 1999 MEAN 17.19 HIGH 15.99 LOW 18.92


NC-142
355359080331701
WATER LEVEL, IN FEET BELOW LAND SURFACE
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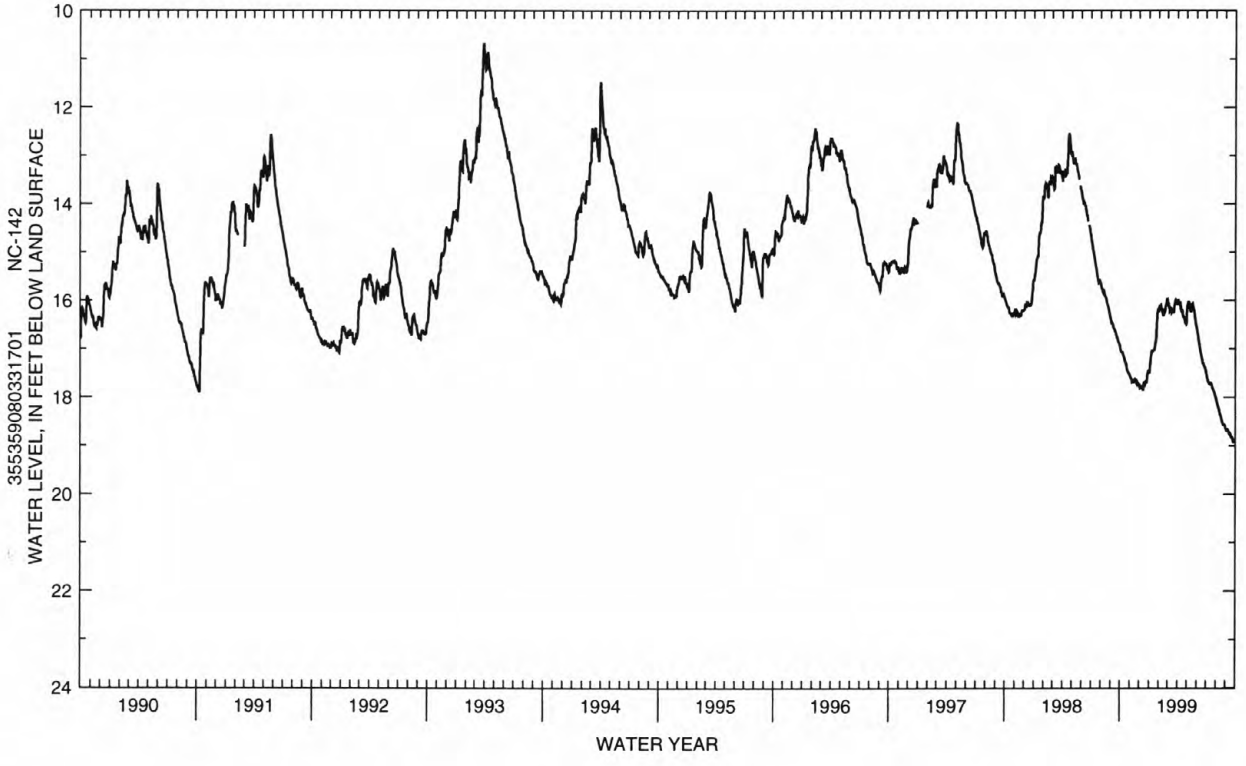
1998
1999


NC-142
355359080331701
WATER LEVEL, IN FEET BELOW LAND SURFACE
10
12
14
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18
20
22
24
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

DUPLIN COUNTY

345051078012101. Local number, NC-174; DENR Rose Hill Research Station well V32v1.

LOCATION.--Lat 34°50'51", long 78°01'21", Hydrologic Unit 03030007, 1.5 mi north of Rose Hill at Rose Hill-Magnolia Elementary School, east of U.S. Highway 117 on Secondary Road 1911. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Peedee aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 98 ft, diameter 4 in., screened interval from 83 to 98 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 85.89 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 1.75 ft above land-surface datum.

REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--March 1982 to current year. Continuous record began January 1987.

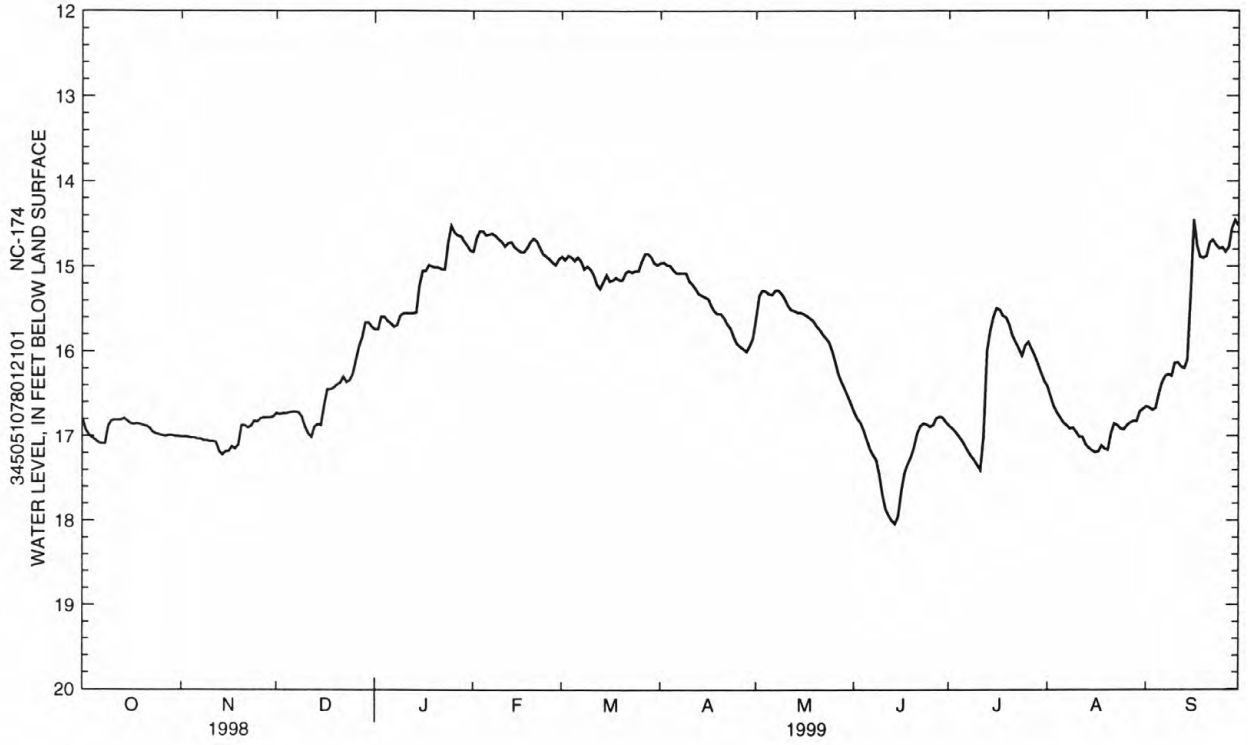
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 14.00 ft below land-surface datum, Oct. 8, 1996; lowest water level recorded, 19.93 ft below land-surface datum, Aug. 4 and 5, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.81	17.01	16.73	15.74	14.82	14.88	14.96	15.59	16.71	16.87	16.41	16.65
2	16.93	17.01	16.74	15.74	14.66	14.92	14.95	15.34	16.79	16.90	16.53	16.66
3	16.99	17.01	16.73	15.59	14.58	14.87	14.98	15.28	16.84	16.94	16.65	16.69
4	17.02	17.02	16.73	15.59	14.58	14.89	14.99	15.29	16.93	16.99	16.72	16.67
5	17.05	17.02	16.72	15.64	14.63	14.93	15.04	15.32	17.04	17.04	16.78	16.50
6	17.08	17.03	16.71	15.67	14.62	14.89	15.08	15.33	17.15	17.10	16.84	16.37
7	17.09	17.03	16.71	15.71	14.61	14.94	15.08	15.28	17.22	17.17	16.87	16.29
8	17.09	17.05	16.72	15.69	14.64	15.03	15.08	15.28	17.28	17.23	16.91	16.27
9	16.88	17.05	16.77	15.58	14.68	15.00	15.08	15.32	17.45	17.28	16.90	16.29
10	16.82	17.06	16.89	15.55	14.71	15.03	15.17	15.38	17.69	17.34	16.95	16.14
11	16.81	17.06	16.97	15.55	14.76	15.10	15.21	15.46	17.86	17.40	17.01	16.13
12	16.81	17.07	17.01	15.55	14.72	15.21	15.26	15.51	17.94	17.00	17.01	16.18
13	16.81	17.18	16.89	15.55	14.71	15.26	15.32	15.52	18.00	16.00	17.10	16.20
14	16.79	17.22	16.86	15.54	14.77	15.18	15.34	15.54	18.04	15.76	17.14	16.10
15	16.82	17.18	16.87	15.22	14.80	15.10	15.36	15.54	17.95	15.59	17.17	15.31
16	16.85	17.18	16.63	15.05	14.83	15.17	15.38	15.56	17.65	15.49	17.19	14.45
17	16.86	17.12	16.45	15.05	14.83	15.16	15.47	15.58	17.44	15.51	17.18	14.76
18	16.85	17.15	16.45	14.98	14.78	15.13	15.53	15.61	17.33	15.58	17.11	14.89
19	16.86	17.10	16.43	15.00	14.71	15.16	15.56	15.64	17.25	15.60	17.15	14.90
20	16.87	16.87	16.39	15.01	14.67	15.16	15.56	15.70	17.13	15.69	17.16	14.88
21	16.88	16.87	16.37	15.01	14.70	15.07	15.61	15.74	16.97	15.82	16.96	14.72
22	16.90	16.90	16.30	15.03	14.78	15.05	15.68	15.80	16.88	15.89	16.85	14.69
23	16.95	16.88	16.36	15.03	14.85	15.07	15.73	15.84	16.85	15.97	16.87	14.75
24	16.97	16.82	16.34	14.71	14.88	15.05	15.83	15.89	16.86	16.05	16.91	14.79
25	16.98	16.83	16.27	14.52	14.91	15.05	15.91	15.99	16.89	15.93	16.92	14.78
26	16.99	16.79	16.10	14.60	14.95	14.94	15.94	16.13	16.87	15.89	16.87	14.83
27	17.00	16.78	15.94	14.63	14.98	14.85	15.97	16.27	16.79	15.97	16.84	14.78
28	16.99	16.78	15.83	14.64	14.91	14.85	16.00	16.36	16.77	16.05	16.82	14.56
29	16.99	16.78	15.66	14.70	---	14.89	15.93	16.44	16.78	16.15	16.82	14.46
30	17.00	16.77	15.66	14.75	---	14.96	15.84	16.53	16.83	16.25	16.71	14.52
31	17.00	---	15.71	14.81	---	14.98	---	16.62	---	16.35	16.68	---

WTR YR 1999 MEAN 16.05 HIGH 14.45 LOW 18.04


345051078012101 NC-174
WATER LEVEL, IN FEET BELOW LAND SURFACE
12
13
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O
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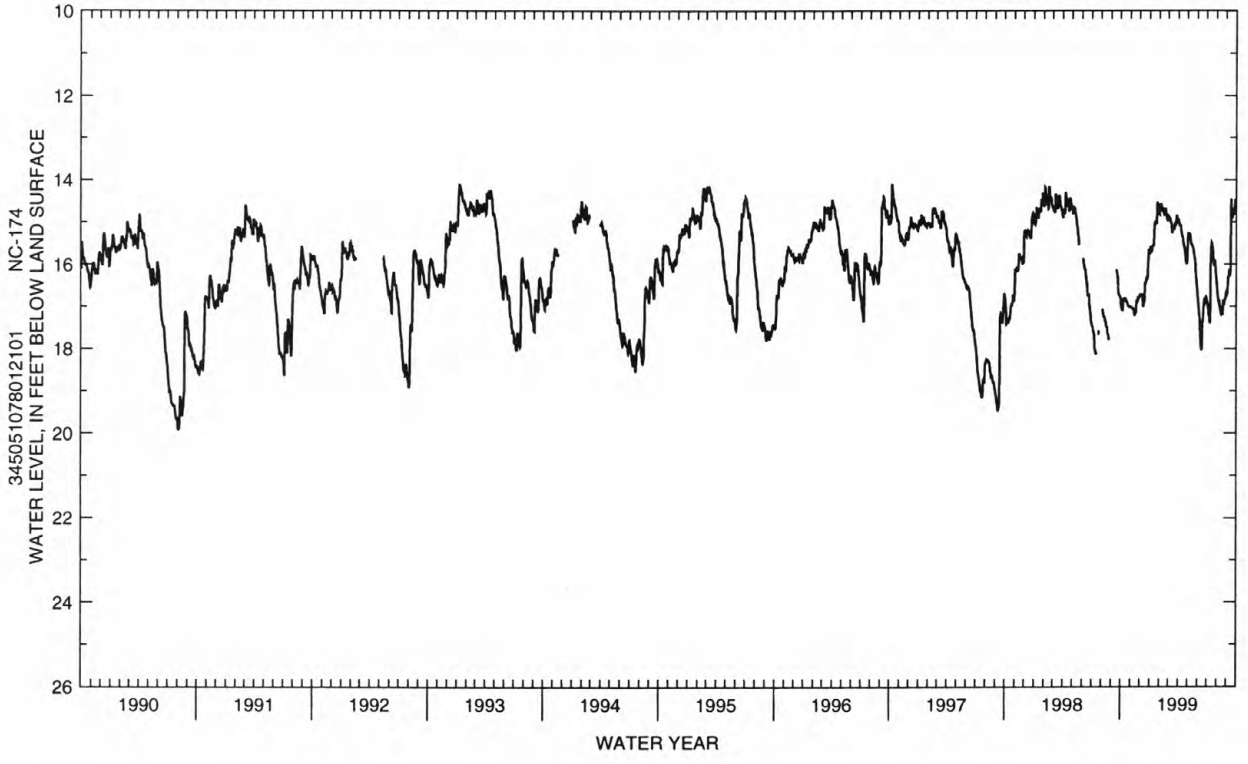
D
J
F
M
A
M
J
J
A
S
1998
1999


345051078012101 NC-174
WATER LEVEL, IN FEET BELOW LAND SURFACE
10
12
14
16
18
20
22
24
26
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

DUPLIN COUNTY--Continued

350322077482704. Local number, NC-216; DENR Pink Hill Fire Tower Research Station well T29g4.

LOCATION.--Lat 35°03'22", long 77°48'27", Hydrologic Unit 03030007, 1.25 mi east of Kornegay on State Highway 11. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 396 ft, diameter 2.5 in., cased to 386 ft, screened interval from 386 to 396 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 127.17 ft above sea level. Measuring point: Top of casing, 1.67 ft above land-surface datum.

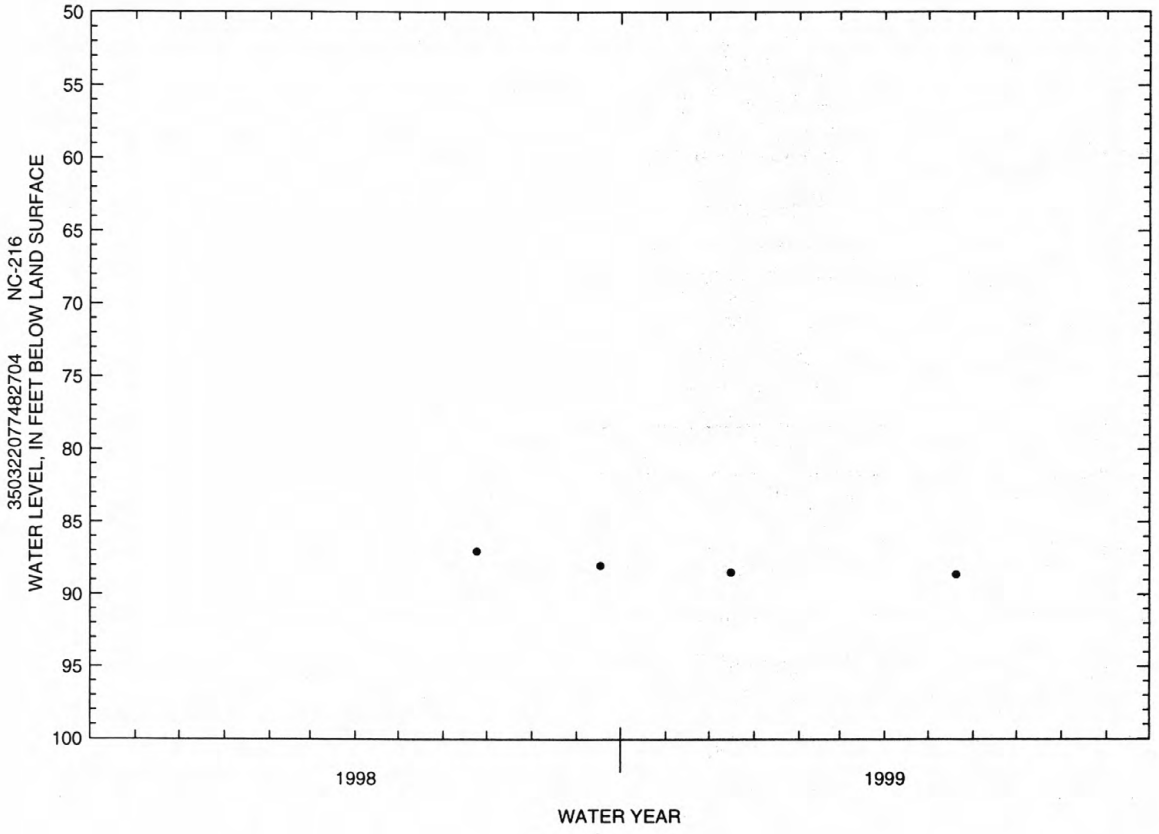
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--April 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 60.01 ft below land-surface datum, Apr., 1979; lowest water level measured, 88.61 ft below land-surface datum, May 20, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 16	88.46	MAY 20	88.61


350322077482704 NC-216
WATER LEVEL, IN FEET BELOW LAND SURFACE
50
55
60
65
70
75
80
85
90
95
100
1998
1999
WATER YEAR

DUPLIN COUNTY--Continued

345051078012106. Local number, NC-218; DENR Rose Hill Research Station well V32v6.

LOCATION.--Lat 34°50'51", long 78°01'21", Hydrologic Unit 03030007, 1.5 mi north of Rose Hill at Rose Hill-Magnolia Elementary School, east of U.S. Highway 117 on Secondary Road 1911. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 218 ft, diameter 4 in. to 103 ft, diameter 2.5 in. from 103 to 208 ft, screened interval from 208 to 218 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 86 ft above sea level (from topographic map). Measuring point: Top of collar attached to casing, 2.25 ft above land-surface datum; revised from 2.62 ft above land-surface datum, May 5, 1999

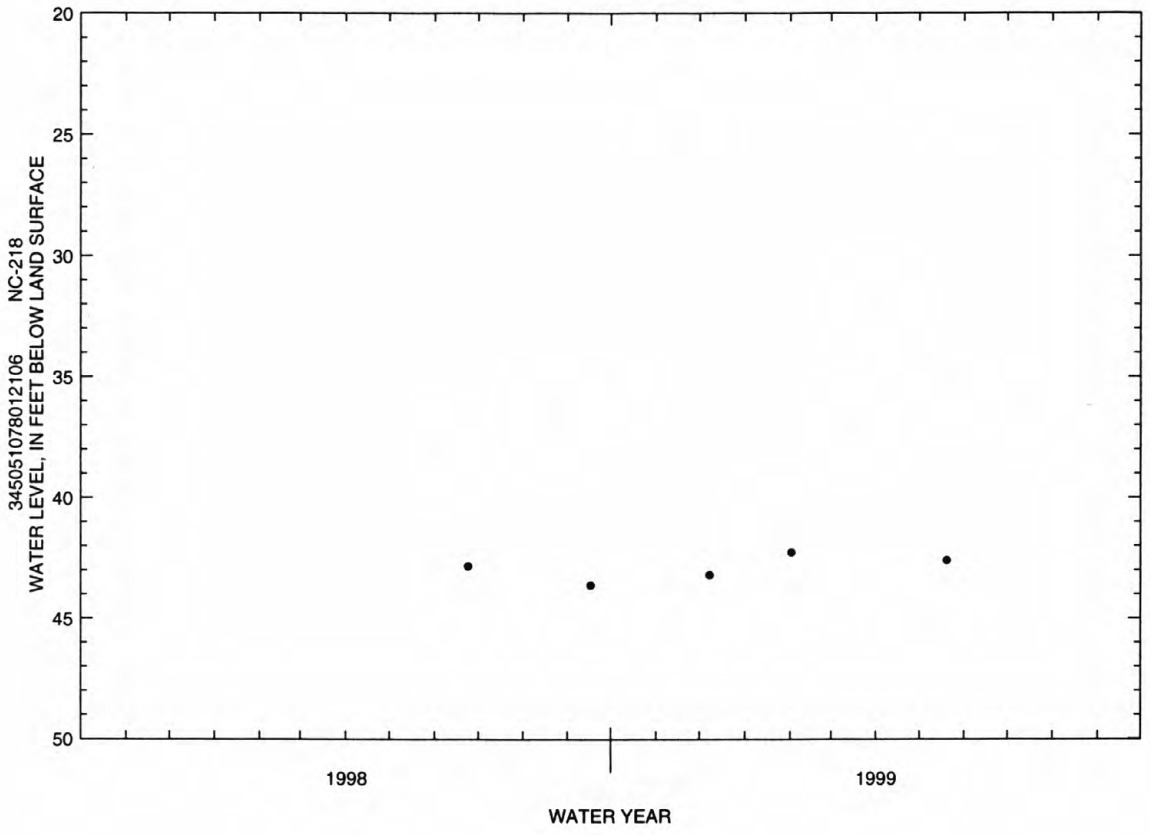
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--May 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 33.14 ft below land-surface datum, May 19, 1982; lowest water level measured, 43.62 ft below land-surface datum, Sept. 17, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 8	43.19	FEB 2	42.26	MAY 20	42.59


NC-218
345051078012106
WATER LEVEL, IN FEET BELOW LAND SURFACE
20
25
30
35
40
45
50
1998
1999
WATER YEAR

GATES COUNTY

362646076361405. Local number, NC-149; DENR Sunbury Research Station well C15s5.

LOCATION.--Lat 36°26'46", long 76°36'14", Hydrologic Unit 03010203, in northeast section of Sunbury, east of State Highway 32 on Secondary Road 1338. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 570 ft, diameter 4 in. to 520 ft, diameter 2.5 in. from 492 to 570 ft, screened interval from 555 to 565 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 37.44 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 3.58 ft above land-surface datum; revised from 3.04 ft above land-surface datum, October 1987.

REMARKS.--Well is part of areal-effects network.

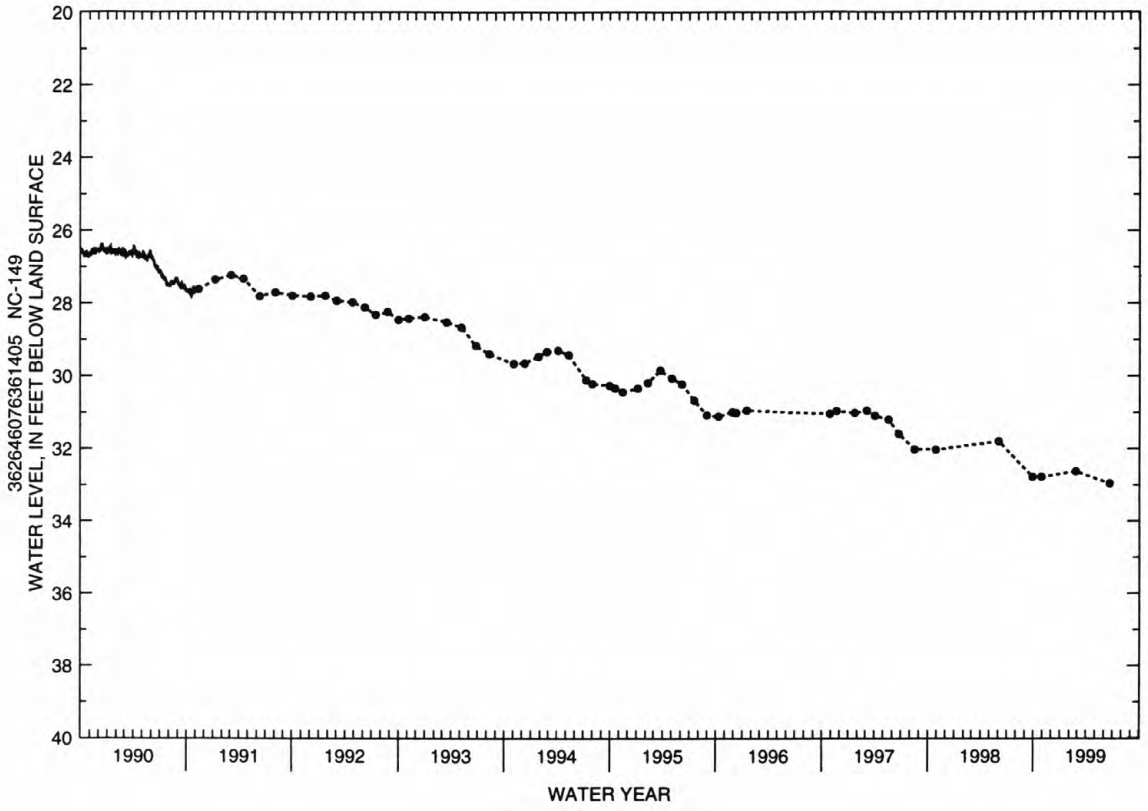
PERIOD OF RECORD.--October 1967 to current year. Continuous record from November 1986 to November 1990. Records from October 1967 to September 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.37 ft below land-surface datum, Dec. 30, 1968; lowest water level measured, 32.96 ft below land-surface datum, June 23, 1999.

REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-87-1, should be adjusted by -0.54 ft.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	32.78	FEB 25	32.63	JUN 23	32.96


362646076361405 NC-149
WATER LEVEL, IN FEET BELOW LAND SURFACE
20
22
24
26
28
30
32
34
36
38
40
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

GATES COUNTY--Continued

362646076361604. Local number, NC-201; DENR Sunbury Research Station well C15s4.

LOCATION.--Lat 36°26'46", long 76°36'14", Hydrologic Unit 03010203, in northeast section of Sunbury, east of State Highway 32 on Secondary Road 1338. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Lower Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 905 ft, diameter 4 in. to 820 ft, diameter 2.5 in. from 796 to 905 ft, screened interval from 880 to 890 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 38 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 1.52 ft above land-surface datum.

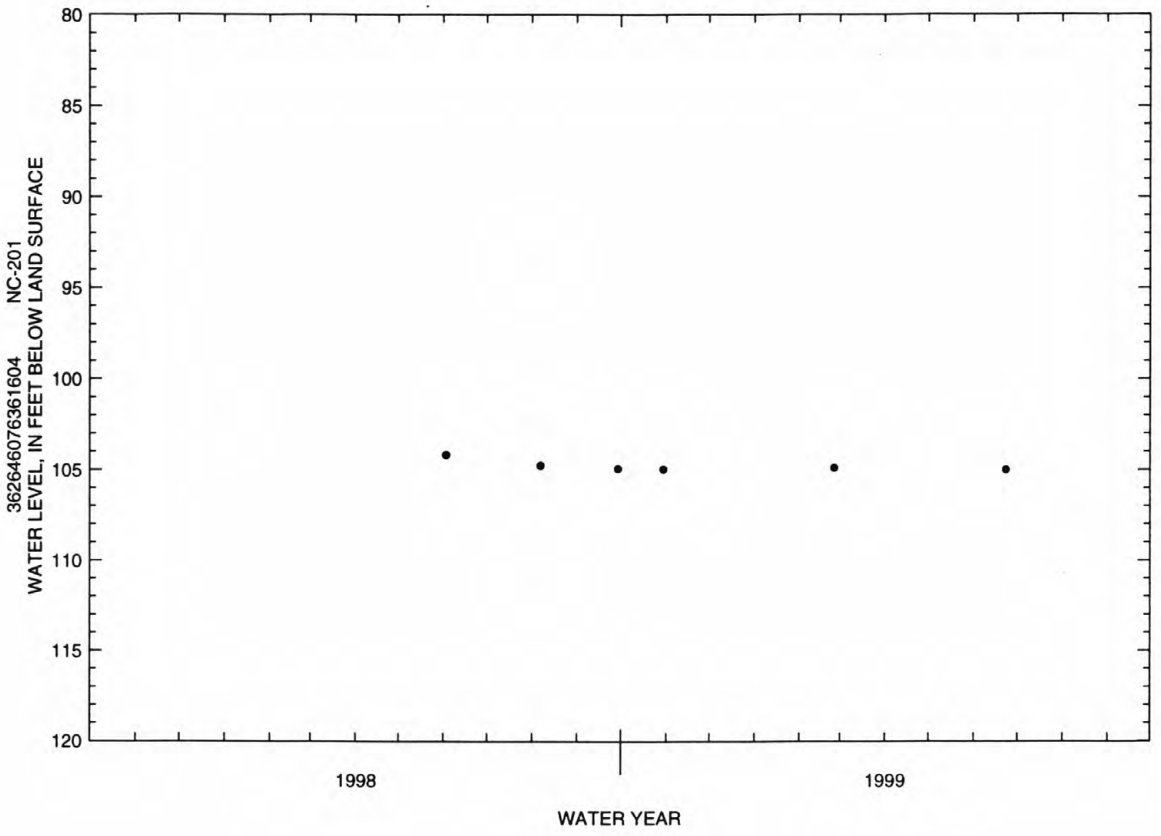
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--August 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 47.08 ft below land-surface datum, Aug. 1967; lowest water level measured, 105.00 ft below land-surface datum, June 23, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	104.97	FEB 25	104.90	JUN 23	105.00


362646076361604 NC-201
WATER LEVEL, IN FEET BELOW LAND SURFACE
80
85
90
95
100
105
110
115
120
1998
1999
WATER YEAR

GATES COUNTY--Continued

362646076361606. Local number, NC-202; DENR Sunbury Research Station well C15s6.

LOCATION.--Lat 36°26'46", long 76°36'14", Hydrologic Unit 03010203, in northeast section of Sunbury, east of State Highway 32 on Secondary Road 1338. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 269 ft, diameter 4 in. to 180 ft, diameter 2.5 in. from 174 to 216 ft, diameter 2 in. from 216 to 269 ft, screened interval from 258 to 263 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 38 ft above sea level (from topographic map). Measuring point: Top of casing, 1.08 ft above land-surface datum.

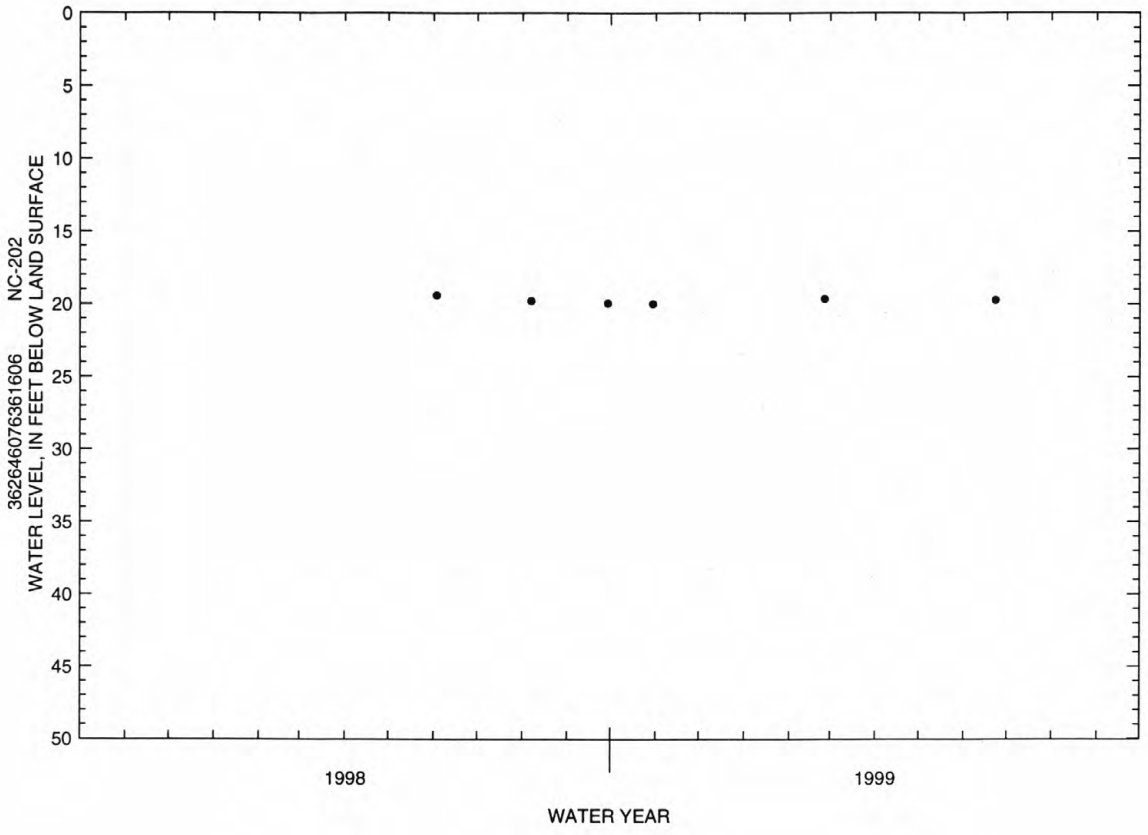
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--September 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.35 ft below land-surface datum, Sept. 1967; lowest water level measured, 19.96 ft below land-surface datum, Oct. 30, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	19.96	FEB 25	19.64	JUN 23	19.72


362646076361606 NC-202
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
5
10
15
20
25
30
35
40
45
50
1998
1999
WATER YEAR

GREENE COUNTY

352719077401101. Local number, NC-208; DENR Snow Hill Research Station well O28k1.

LOCATION.--Lat 35°27'19", long 77°40'11", Hydrologic Unit 03020203, in Snow Hill, 150 ft north of U.S. Highway 258 on Mill Street. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek aquifer of Late Cretaceous age..

WELL CHARACTERISTICS.--Drilled observation well, depth 228 ft, diameter 8 in., cased to 165 ft, and from 187 to 210 ft, screened interval from 165 to 187 ft, and 210 to 228 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 36.75 ft above sea level. Measuring point: Top of casing, 5.00 ft above land-surface datum.

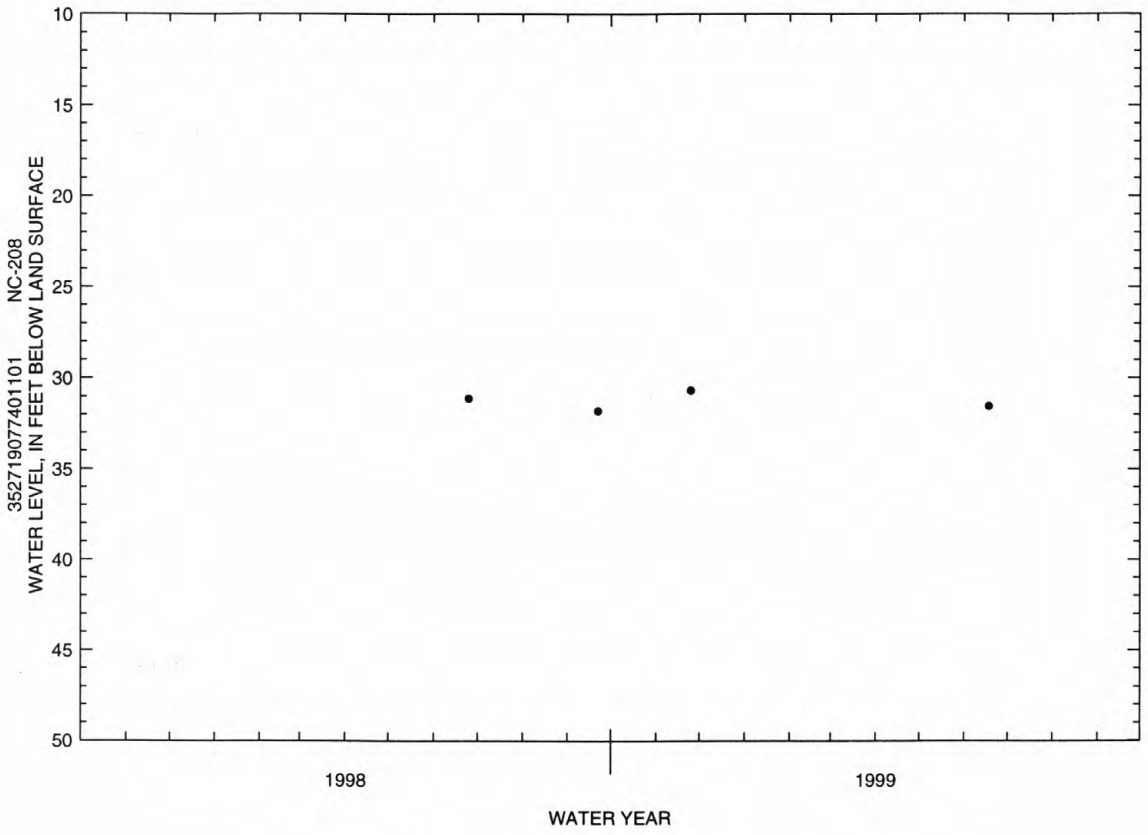
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--December 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.85 ft below land-surface datum, Nov. 16, 1987; lowest water level measured, 31.78 ft below land-surface datum, Sept. 22, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25	30.67	JUN 18	31.55


352719077401101 NC-208
WATER LEVEL, IN FEET BELOW LAND SURFACE
10
15
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25
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35
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45
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1998
1999
WATER YEAR

HAYWOOD COUNTY

352315082484401. Local number, NC-40.

LOCATION.--Lat 35°23'15", long 82°48'44", Hydrologic Unit 06010106, 2 mi south of Cruso on U.S. Highway 276 at Camp Hope. Owner: Champion International Corporation.

AQUIFER.--Unconfined saprolite derived from muscovite-biotite gneiss of Precambrian age.

WELL CHARACTERISTICS.--Dug observation well, depth 18.5 ft, diameter 12 in., cased to 18.5 ft, open end, backfilled with gravel from 4 to 18.5 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 3,148.26 ft above sea level. Measuring point: Top of casing, 1.00 ft above land-surface datum.

REMARKS.--Well is part of climatic-effects network.

PERIOD OF RECORD.--December 1955 to current year.

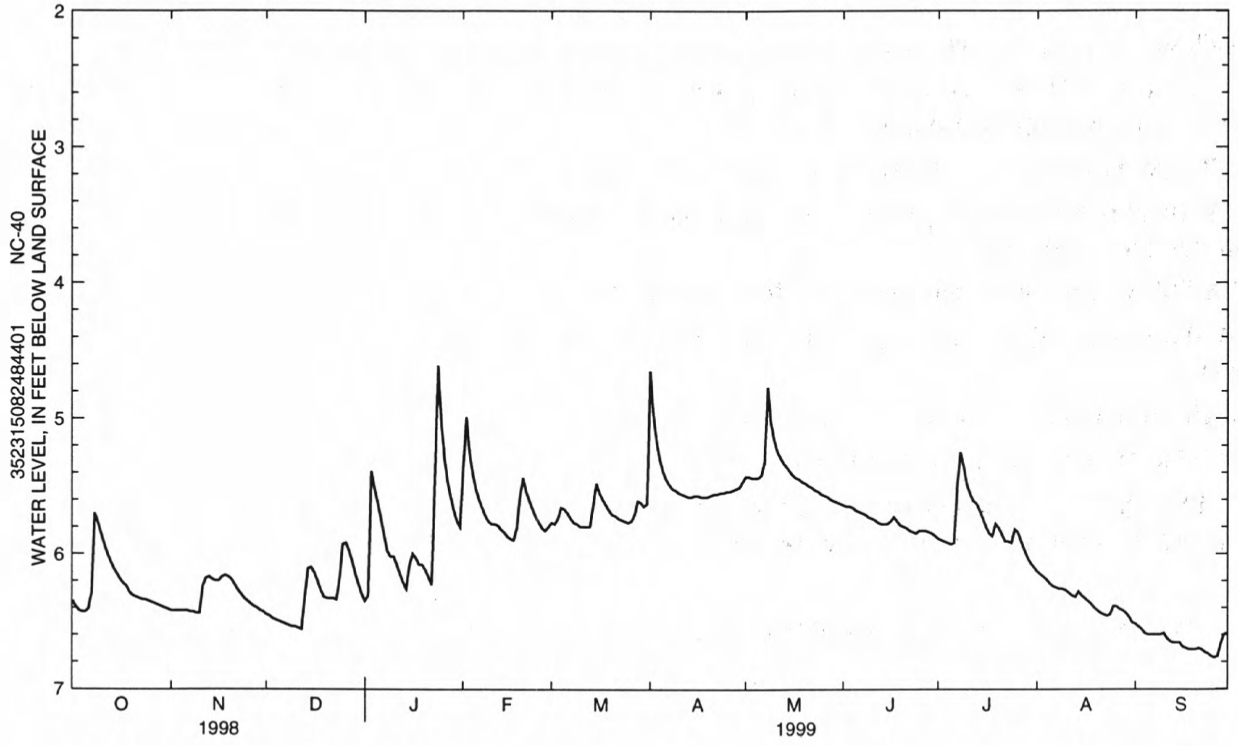
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.24 ft below land-surface datum, Mar. 12, 1977; lowest water level recorded, 6.90 ft below land-surface datum, Oct. 7, 8, 9, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.35	6.42	6.45	6.35	5.38	5.77	4.65	5.43	5.64	5.89	6.13	6.52
2	6.39	6.42	6.46	6.31	4.99	5.78	4.97	5.43	5.65	5.90	6.15	6.54
3	6.42	6.42	6.48	5.39	5.25	5.74	5.17	5.44	5.65	5.91	6.17	6.56
4	6.43	6.42	6.49	5.52	5.41	5.66	5.30	5.44	5.66	5.92	6.19	6.59
5	6.43	6.42	6.50	5.62	5.52	5.67	5.39	5.44	5.68	5.93	6.22	6.60
6	6.41	6.42	6.51	5.74	5.60	5.70	5.45	5.42	5.69	5.92	6.24	6.60
7	6.29	6.43	6.52	5.86	5.66	5.74	5.49	5.32	5.70	5.49	6.25	6.60
8	5.70	6.43	6.53	5.98	5.72	5.77	5.52	4.77	5.71	5.25	6.26	6.60
9	5.77	6.44	6.54	6.02	5.76	5.78	5.53	5.03	5.73	5.36	6.26	6.60
10	5.85	6.44	6.54	6.02	5.78	5.80	5.55	5.16	5.74	5.49	6.27	6.59
11	5.93	6.24	6.55	6.08	5.78	5.80	5.56	5.24	5.75	5.56	6.29	6.63
12	6.00	6.18	6.56	6.15	5.79	5.80	5.57	5.29	5.77	5.61	6.31	6.65
13	6.06	6.17	6.33	6.21	5.82	5.80	5.58	5.33	5.78	5.63	6.32	6.66
14	6.11	6.19	6.11	6.26	5.84	5.65	5.58	5.36	5.78	5.68	6.28	6.66
15	6.15	6.20	6.10	6.09	5.87	5.48	5.57	5.39	5.78	5.74	6.31	6.66
16	6.19	6.20	6.14	6.00	5.89	5.55	5.57	5.42	5.76	5.80	6.33	6.69
17	6.22	6.17	6.20	6.03	5.90	5.60	5.58	5.44	5.73	5.85	6.35	6.70
18	6.24	6.16	6.27	6.08	5.81	5.64	5.58	5.45	5.76	5.87	6.37	6.71
19	6.29	6.17	6.32	6.08	5.58	5.68	5.58	5.47	5.79	5.78	6.40	6.71
20	6.31	6.19	6.33	6.12	5.44	5.71	5.57	5.48	5.80	5.81	6.42	6.71
21	6.32	6.23	6.33	6.17	5.54	5.72	5.56	5.50	5.81	5.86	6.44	6.70
22	6.33	6.27	6.33	6.23	5.61	5.74	5.56	5.51	5.83	5.91	6.45	6.71
23	6.34	6.30	6.34	5.46	5.67	5.75	5.55	5.53	5.84	5.91	6.46	6.73
24	6.34	6.33	6.18	4.61	5.73	5.76	5.55	5.54	5.85	5.92	6.45	6.74
25	6.35	6.35	5.93	5.01	5.77	5.77	5.54	5.56	5.83	5.82	6.39	6.76
26	6.36	6.37	5.92	5.29	5.81	5.76	5.54	5.57	5.83	5.84	6.39	6.77
27	6.37	6.39	5.98	5.46	5.83	5.71	5.53	5.58	5.83	5.91	6.41	6.76
28	6.38	6.40	6.06	5.58	5.80	5.61	5.52	5.60	5.84	5.97	6.42	6.67
29	6.39	6.42	6.15	5.68	---	5.62	5.51	5.61	5.85	6.03	6.44	6.60
30	6.40	6.43	6.23	5.76	---	5.65	5.47	5.62	5.87	6.07	6.47	6.59
31	6.41	---	6.30	5.80	---	5.63	---	5.63	---	6.10	6.51	---

WTR YR 1999 MEAN 5.96 HIGH 4.61 LOW 6.77


352315082484401 NC-40
WATER LEVEL, IN FEET BELOW LAND SURFACE
2
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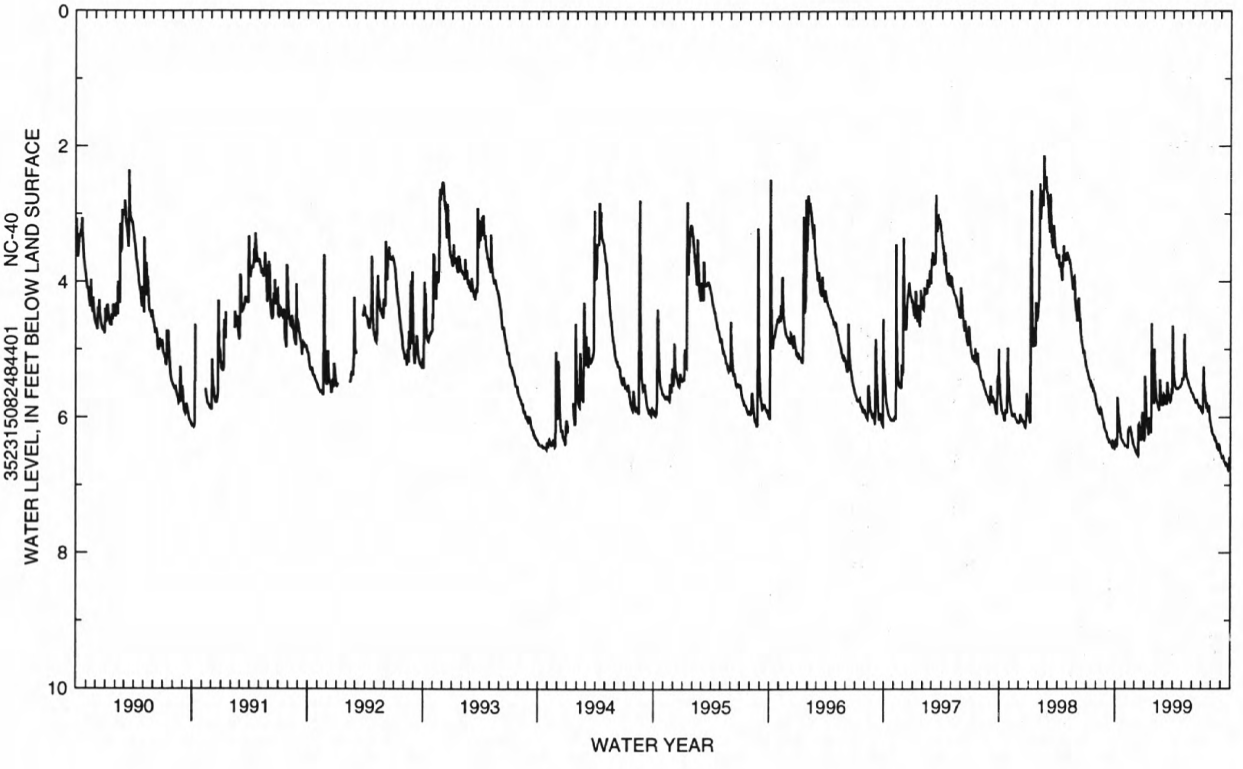
A
M
J
J
A
S
1998
1999


352315082484401 NC-40
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
2
4
6
8
10
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

HERTFORD COUNTY

363026077001906. Local number, NC-155; DENR Como Research Station well B20u6.

LOCATION.--Lat 36°30'26", long 77°00'19", Hydrologic Unit 03010203, 0.5 mi northeast of Como, and northwest of U.S. Highway 258 on Secondary Road 1316. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Lower Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 570 ft, diameter 4 in. to 211 ft, diameter 2.5 in. from 211 to 570 ft, screened interval from 560 to 570 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 68.83 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 3.00 ft above land-surface datum.

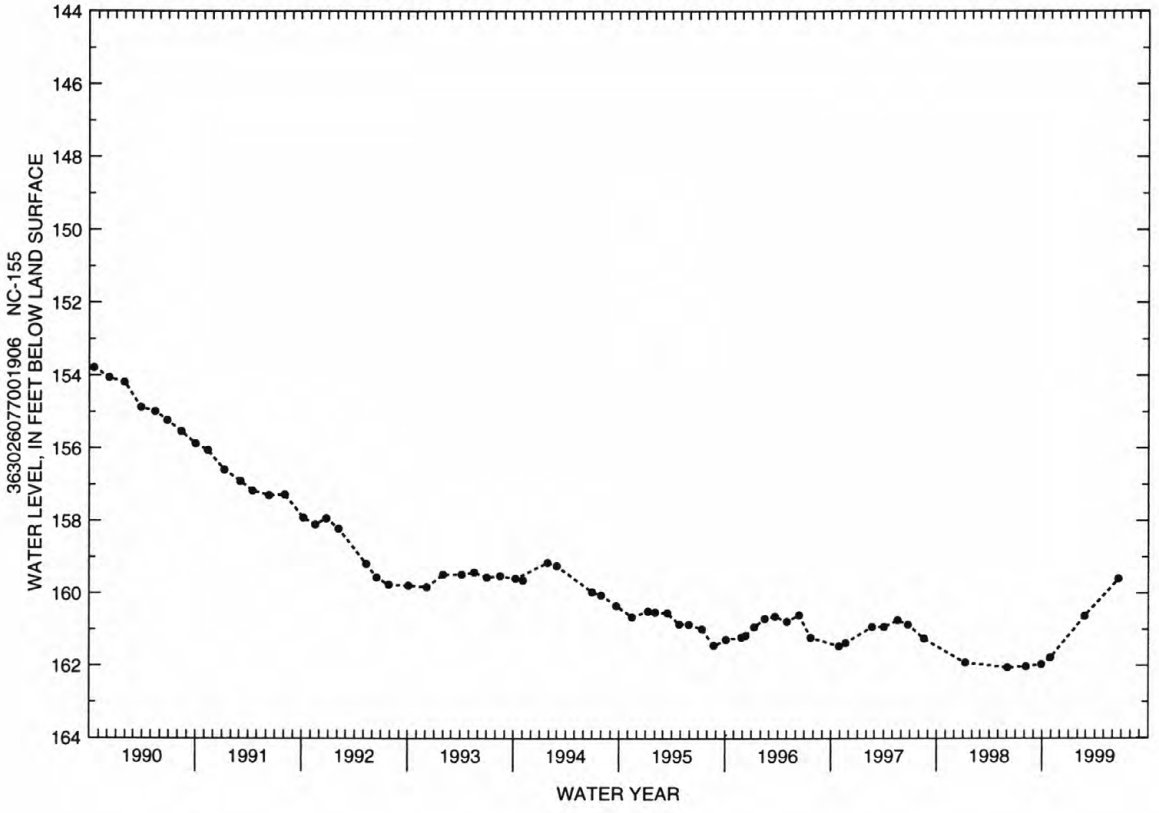
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--September 1981 to current year. Records from September 1981 to October 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 143.04 ft below land-surface datum, Feb. 9, 1983; lowest water level measured, 162.05 ft below land-surface datum, June 3, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	161.77	FEB 25	160.63	JUN 22	159.60


363026077001906 NC-155
WATER LEVEL, IN FEET BELOW LAND SURFACE
144
146
148
150
152
154
156
158
160
162
164
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

HERTFORD COUNTY--Continued

363026077001905. Local number, NC-213; DENR Como Research Station well B20u5.

LOCATION.--Lat 36°30'26", long 77°00'19", Hydrologic Unit 03010203, 0.5 mi northeast of Como, and northwest of U.S. Highway 258 on Secondary Road 1316. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 260 ft, diameter 4 in., screened interval from 250 to 260 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 67.06 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 2.09 ft above land-surface datum.

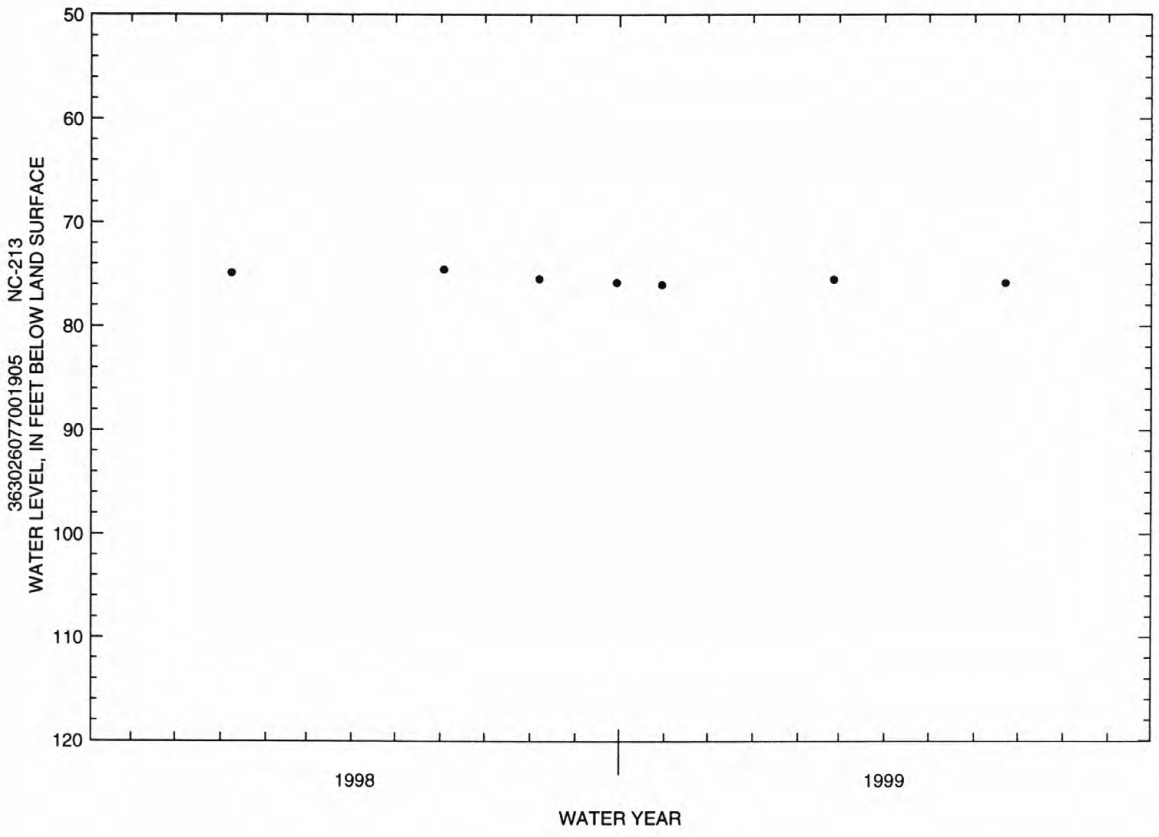
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--September 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 59.29 ft below land-surface datum, Sept. 1, 1981; lowest water level measured, 75.98 ft below land-surface datum, Oct. 30, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	75.98	FEB 25	75.49	JUN 22	75.83


363026077001905 NC-213
WATER LEVEL, IN FEET BELOW LAND SURFACE
50
60
70
80
90
100
110
120
1998
1999
WATER YEAR

JONES COUNTY

345809077301404. Local number, NC-172; DENR Comfort Research Station well U26j4.

LOCATION.--Lat 34°58'09", long 77°30'14", Hydrologic Unit 03020204, 2.5 mi south of Comfort at North Carolina Division of Forest Resources Fire Tower on Secondary Road 1003. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 545 ft, diameter 6 in. to 210 ft, diameter 4 in. from 210 to 545 ft, screened intervals from 506 to 516 ft and 535 to 545 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 68 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 1.40 ft above land-surface datum.

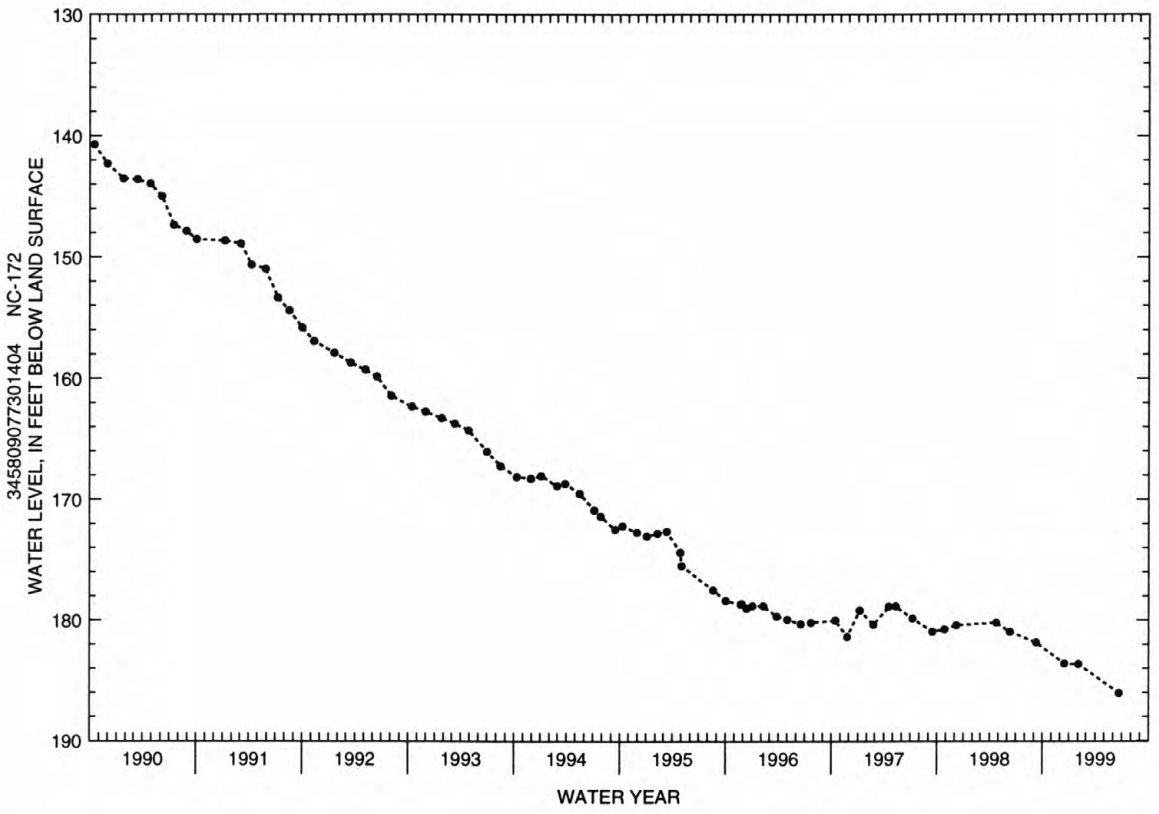
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--March 1980 to current year. Continuous record from October 1983 to December 1987. Records from March 1980 to September 1983 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 67.56 ft below land-surface datum, Mar. 18, 1980; lowest water level measured, 186.03 ft below land-surface datum, July 22, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 16	183.58	FEB 3	183.65	JUL 22	186.03


345809077301404 NC-172
WATER LEVEL, IN FEET BELOW LAND SURFACE
130
140
150
160
170
180
190
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

JONES COUNTY--Continued

345809077301408. Local number, NC-173; DENR Comfort Research Station well U26j8.

LOCATION.--Lat 34°58'09", long 77°30'14", Hydrologic Unit 03020204, 2.5 mi south of Comfort at North Carolina Division of Forest Resources Fire Tower on Secondary Road 1003. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Surficial aquifer of post-Miocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 15 ft, diameter 4 in., cased to 5 ft, screened interval from 5 to 15 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals. Satellite telemetry at station.

DATUM.--Land-surface datum is 68 ft above sea level (from topographic map). Measuring point: Top of collar on casing, 2.35 ft above land-surface datum.

REMARKS.--Well is part of climatic-effects network.

PERIOD OF RECORD.--January 1987 to current year.

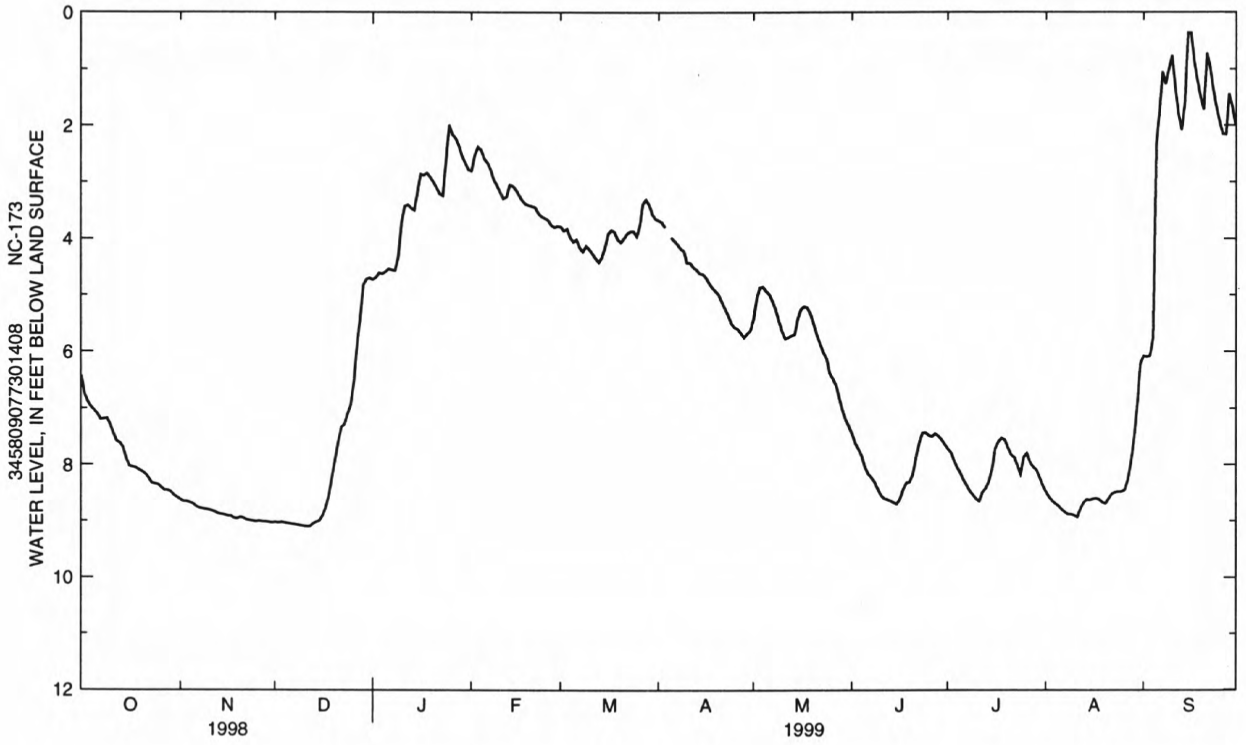
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.06 ft above land-surface datum, Sept. 16, 1999; lowest water level recorded, 9.97 ft below land-surface datum, Sept. 19, 20, 21, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.43	8.62	9.02	4.73	2.80	3.79	3.68	5.42	7.45	7.72	8.48	6.08
2	6.75	8.65	9.03	4.69	2.52	3.86	3.71	5.07	7.62	7.78	8.57	6.09
3	6.89	8.65	9.02	4.61	2.38	3.83	3.80	4.87	7.72	7.93	8.64	6.08
4	6.98	8.67	9.03	4.63	2.43	3.98	---	4.85	7.84	8.05	8.69	5.76
5	7.04	8.69	9.04	4.59	2.59	4.06	3.98	4.93	8.03	8.15	8.73	2.33
6	7.10	8.74	9.05	4.54	2.66	4.02	4.04	4.99	8.16	8.27	8.79	1.75
7	7.20	8.77	9.06	4.56	2.78	4.17	4.10	5.11	8.22	8.37	8.84	1.05
8	7.19	8.78	9.07	4.57	2.96	4.23	4.18	5.26	8.30	8.47	8.88	1.27
9	7.18	8.79	9.08	4.33	3.06	4.13	4.22	5.46	8.42	8.54	8.88	.99
10	7.29	8.80	9.09	3.72	3.18	4.19	4.43	5.64	8.54	8.61	8.90	.76
11	7.45	8.82	9.10	3.43	3.29	4.27	4.43	5.77	8.60	8.65	8.93	1.34
12	7.58	8.84	9.10	3.40	3.26	4.35	4.51	5.75	8.62	8.49	8.78	1.79
13	7.61	8.87	9.05	3.46	3.05	4.42	4.55	5.72	8.64	8.42	8.67	2.08
14	7.69	8.88	9.02	3.50	3.07	4.33	4.62	5.70	8.67	8.30	8.62	1.63
15	7.89	8.89	9.00	3.19	3.14	4.14	4.63	5.42	8.70	8.08	8.63	.36
16	8.02	8.91	8.91	2.86	3.24	3.91	4.69	5.25	8.61	7.72	8.61	.36
17	8.04	8.91	8.77	2.88	3.33	3.85	4.79	5.20	8.44	7.59	8.60	.88
18	8.05	8.95	8.55	2.84	3.39	3.88	4.87	5.22	8.32	7.53	8.62	1.21
19	8.09	8.96	8.23	2.91	3.41	4.02	4.93	5.34	8.31	7.56	8.67	1.51
20	8.12	8.93	7.90	3.00	3.43	4.07	4.99	5.52	8.17	7.70	8.69	1.72
21	8.16	8.95	7.60	3.10	3.45	3.99	5.12	5.71	7.88	7.83	8.60	.72
22	8.23	8.98	7.34	3.21	3.56	3.91	5.24	5.87	7.61	7.87	8.52	.97
23	8.32	8.99	7.29	3.24	3.61	3.87	5.36	6.01	7.44	8.02	8.49	1.38
24	8.34	9.00	7.10	2.60	3.64	3.87	5.50	6.12	7.43	8.17	8.48	1.68
25	8.35	9.01	6.95	1.99	3.67	3.96	5.57	6.38	7.48	7.86	8.48	1.94
26	8.40	9.00	6.52	2.16	3.76	3.77	5.60	6.48	7.50	7.80	8.45	2.15
27	8.45	9.01	5.88	2.22	3.80	3.38	5.67	6.60	7.45	7.96	8.27	2.16
28	8.45	9.01	5.40	2.36	3.78	3.31	5.75	6.83	7.49	8.04	7.97	1.44
29	8.48	9.02	4.82	2.54	---	3.40	5.68	7.04	7.55	8.09	7.52	1.67
30	8.54	9.03	4.72	2.66	---	3.57	5.63	7.21	7.64	8.22	6.93	2.00
31	8.58	---	4.70	2.78	---	3.65	---	7.32	---	8.37	6.21	---

WTR YR 1999 MEAN 6.05 HIGH .36 LOW 9.10


345809077301408 NC-173
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
2
4
6
8
10
12
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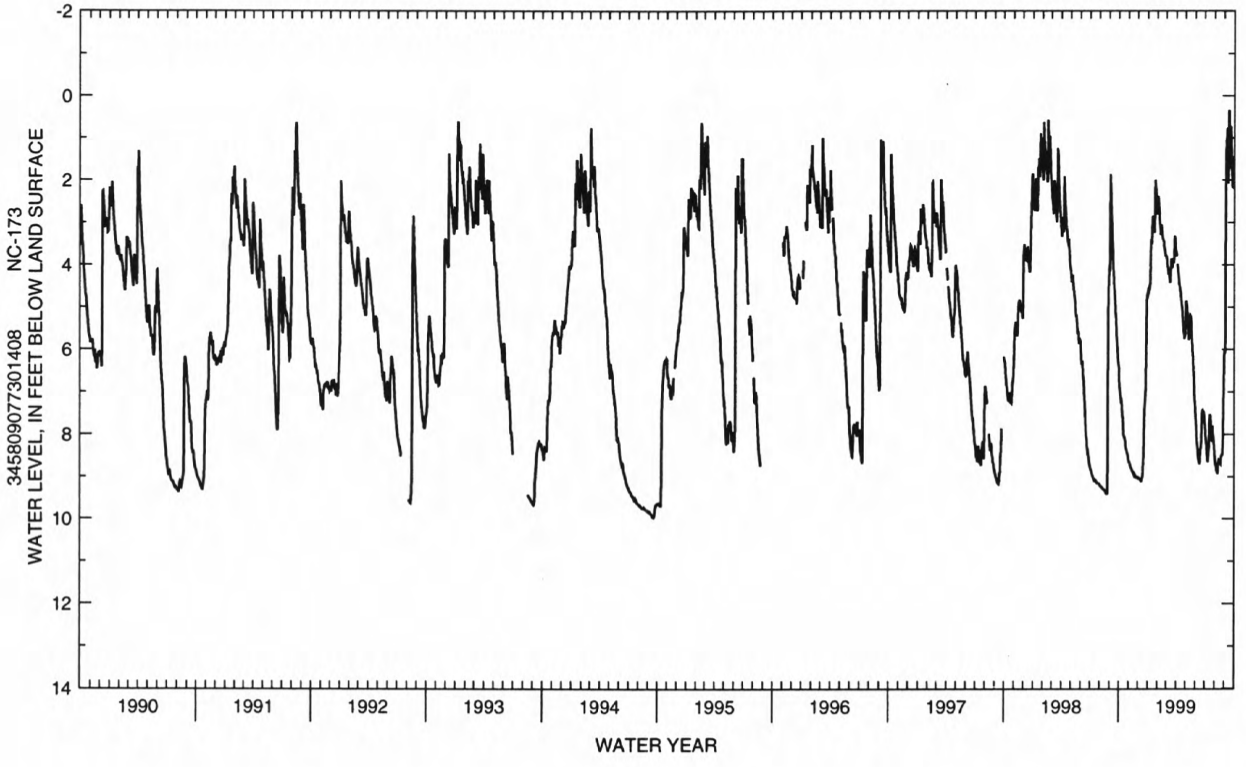
F
M
A
M
J
J
A
S
1998
1999


345809077301408 NC-173
WATER LEVEL, IN FEET BELOW LAND SURFACE
-2
0
2
4
6
8
10
12
14
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

JONES COUNTY--Continued

345809077301405. Local number, NC-187; DENR Comfort Research Station well U26j5.

LOCATION.--Lat 34°58'09", long 77°30'14", Hydrologic Unit 03020204, 2.5 mi south of Comfort at North Carolina Division of Forest Resources Fire Tower on Secondary Road 1003. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Peedee aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 284 ft, diameter 4 in., screened interval from 274 to 284 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 68 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 1.30 ft above land-surface datum.

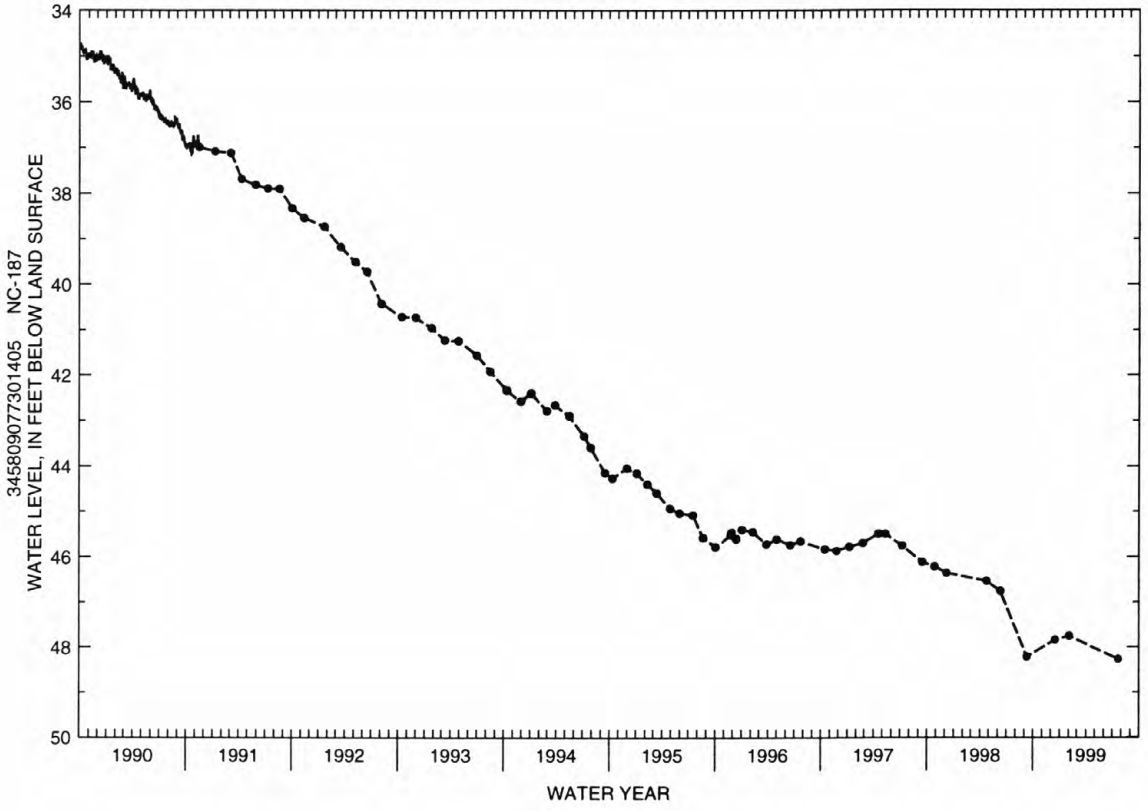
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--July 1980 to current year. Continuous record from July 1986 to November 1990. Records from July 1980 to June 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.53 ft below land-surface datum, Oct. 29, 1980; lowest water level measured, 48.27 ft below land-surface datum, July 22, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 16	47.84	FEB 3	47.76	JUL 22	48.27


345809077301405 NC-187
WATER LEVEL, IN FEET BELOW LAND SURFACE
34
36
38
40
42
44
46
48
50
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

LENOIR COUNTY

351600077381001. Local number, NC-128.

LOCATION.--Lat 35°15'59", long 77°37'52", Hydrologic Unit 03020202, on west edge of Kinston at intersection of U.S. Highways 70 and 258 Bypass, and U.S. Highways 70 and 258 Business. Owner: City of Kinston.

AQUIFER.--Black Creek aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 300 ft, diameter 10 in., cased to 160 ft, screened intevals unknown.

INSTRUMENTATION.--Water-level recorder collecting data at 30-minute intervals.

DATUM.--Land-surface datum is 33.5 ft above sea level. Measuring point: Top of instrument shelf, 2.10 ft above land-surface datum.

REMARKS.--Well is part of local-effects network.

PERIOD OF RECORD.--September 1968 to September 1992, October 1993 to current year.

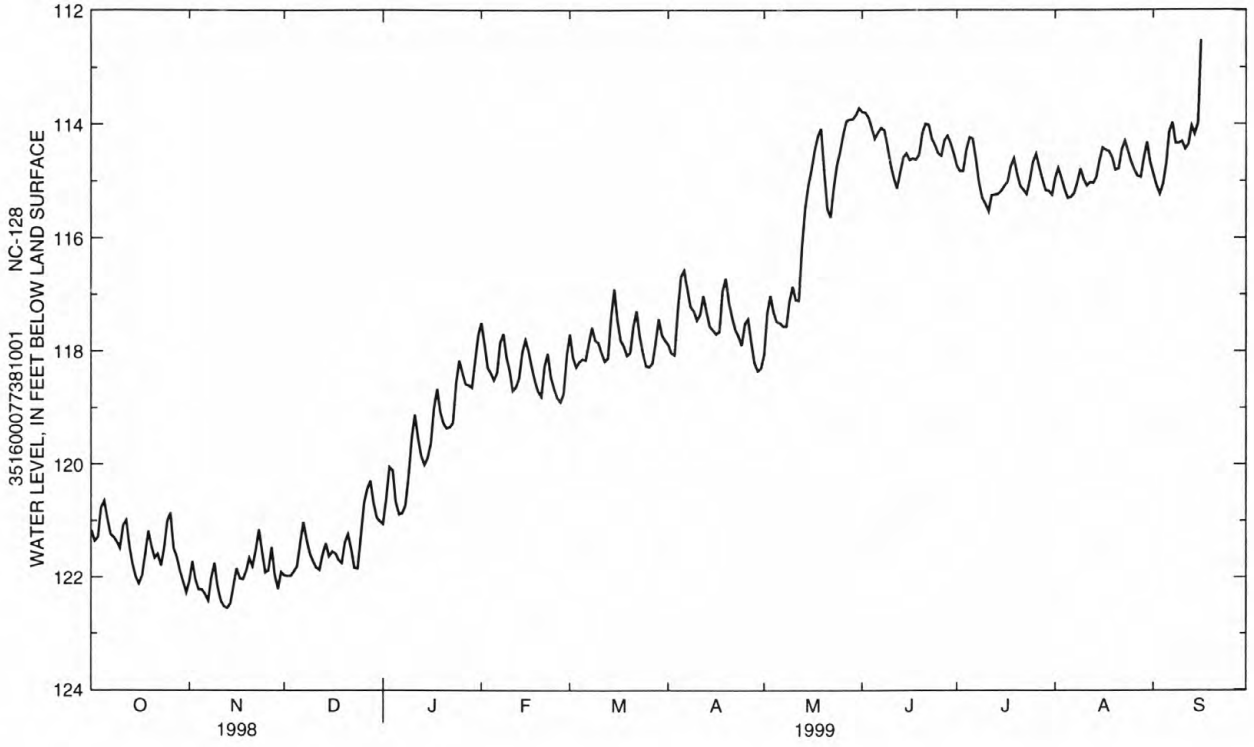
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 34.83 ft below land-surface datum, Dec. 30, 1968; lowest water level recorded 125.96 ft below land-surface datum, Sept. 27, 1997.

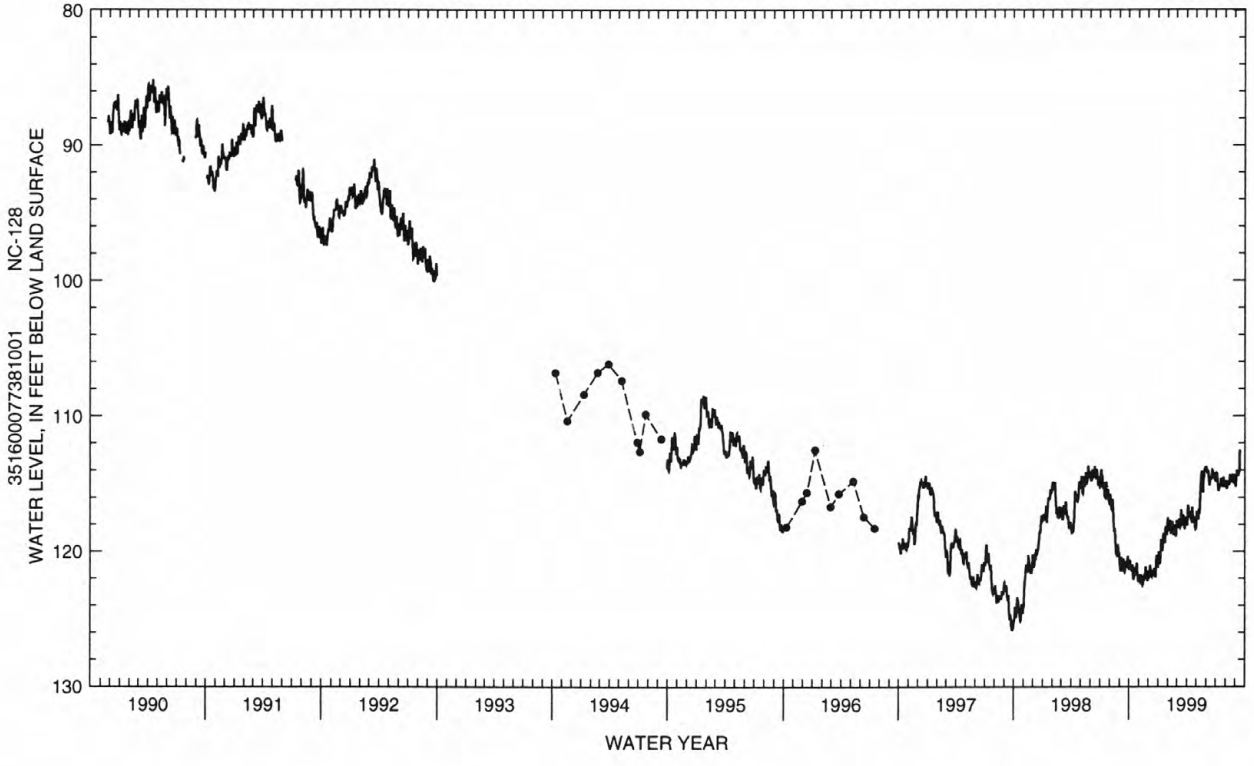
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121.17	122.07	121.97	121.06	117.50	117.70	117.88	118.06	113.78	114.73	114.95	114.88
2	121.36	121.72	121.98	120.60	117.89	118.11	118.03	117.32	113.79	114.82	114.77	115.08
3	121.29	122.05	121.98	120.05	118.29	118.28	118.07	117.02	113.88	114.82	114.95	115.23
4	120.77	122.22	121.90	120.11	118.39	118.19	117.28	117.32	114.06	114.45	115.14	115.07
5	120.65	122.22	121.81	120.67	118.51	118.14	116.68	117.48	114.25	114.23	115.30	114.70
6	120.96	122.30	121.39	120.89	118.38	118.16	116.57	117.50	114.14	114.25	115.28	114.13
7	121.24	122.42	121.02	120.87	117.85	117.85	116.91	117.56	114.06	114.62	115.21	113.97
8	121.29	122.01	121.34	120.73	117.69	117.58	117.21	117.56	114.10	115.03	115.02	114.33
9	121.38	121.75	121.58	120.23	118.10	117.81	117.29	117.12	114.38	115.30	114.78	114.33
10	121.49	122.17	121.72	119.54	118.35	117.85	117.45	116.85	114.71	115.40	114.97	114.30
11	121.08	122.42	121.83	119.12	118.70	118.03	117.35	117.09	114.94	115.53	115.08	114.43
12	120.99	122.52	121.87	119.55	118.63	118.18	117.02	117.10	115.13	115.25	115.02	114.36
13	121.47	122.55	121.60	119.85	118.47	118.12	117.31	116.14	114.86	115.24	115.03	114.03
14	121.77	122.47	121.40	120.01	118.01	117.40	117.56	115.47	114.58	115.23	114.93	114.17
15	122.00	122.15	121.63	119.89	117.80	116.90	117.63	115.08	114.51	115.17	114.64	113.98
16	122.12	121.84	121.55	119.63	118.01	117.45	117.70	114.79	114.63	115.09	114.41	112.52
17	121.97	122.02	121.58	119.01	118.28	117.81	117.65	114.46	114.60	115.01	114.45	---
18	121.59	122.04	121.70	118.67	118.53	117.91	116.93	114.20	114.62	114.74	114.47	---
19	121.18	121.89	121.75	119.07	118.71	118.08	116.71	114.07	114.53	114.60	114.59	---
20	121.45	121.66	121.38	119.28	118.80	118.03	117.14	114.85	114.15	114.87	114.80	---
21	121.66	121.81	121.24	119.36	118.27	117.55	117.41	115.49	113.99	115.09	114.78	---
22	121.59	121.53	121.51	119.34	118.04	117.29	117.62	115.63	114.01	115.15	114.45	---
23	121.80	121.15	121.84	119.27	118.45	117.75	117.74	115.12	114.25	115.23	114.29	---
24	121.49	121.54	121.85	118.56	118.66	118.03	117.90	114.70	114.37	114.99	114.47	---
25	121.00	121.92	121.29	118.16	118.82	118.26	117.51	114.48	114.51	114.66	114.66	---
26	120.86	121.88	120.69	118.39	118.90	118.28	117.43	114.16	114.55	114.52	114.80	---
27	121.49	121.47	120.44	118.58	118.75	118.22	117.86	113.94	114.28	114.76	114.91	---
28	121.64	121.96	120.29	118.60	118.07	117.87	118.21	113.91	114.20	114.97	114.93	---
29	121.89	122.21	120.69	118.64	---	117.43	118.35	113.91	114.33	115.16	114.58	---
30	122.08	121.91	120.95	118.16	---	117.71	118.31	113.83	114.52	115.17	114.31	---
31	122.28	---	121.01	117.71	---	117.81	---	113.71	---	115.24	114.66	---

WTR YR 1999 MEAN 117.81 HIGH 112.52 LOW 122.55


351600077381001 NC-128
WATER LEVEL, IN FEET BELOW LAND SURFACE
112
114
116
118
120
122
124
O
N
D
J
F
M
A
M
J
J
A
S
1998
1999


351600077381001 NC-128
WATER LEVEL, IN FEET BELOW LAND SURFACE
80
90
100
110
120
130
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

LENOIR COUNTY--Continued

351937077284201. Local number, NC-185; DENR Graingers Research Station well Q25d12.

LOCATION.--Lat 35°19'37", long 77°28'42", Hydrologic Unit 03020202, 1.6 mi northeast of Graingers on N.C. Highway 11 at E. I. du Pont de Nemours and Company's Kinston Plant. Owner: DENR (North Carolina Department of Environment, and Natural Resources).

AQUIFER.--Peedee aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 134 ft, diameter 4 in., screened interval from 124 to 134 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 66 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 3.10 ft above land-surface datum.

REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--December 1985 to current year.

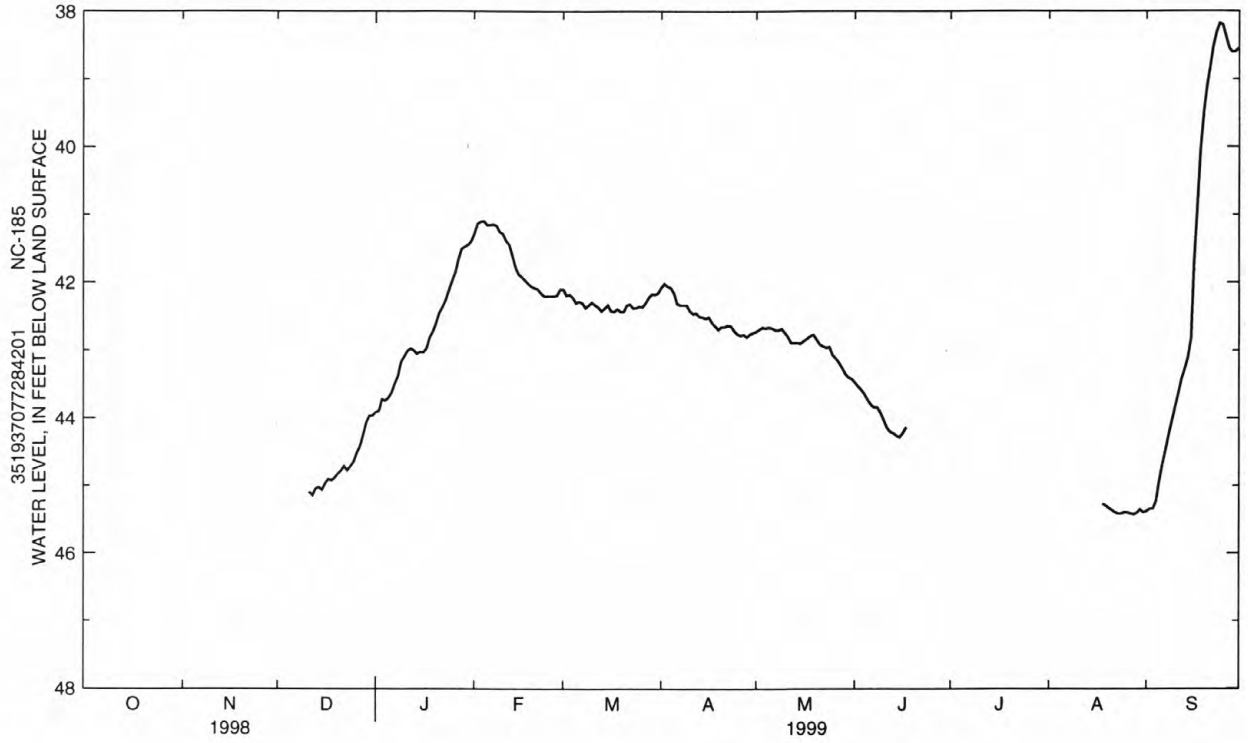
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 38.14 ft below land-surface datum, Sept. 24, 1999; lowest water level recorded, 60.61 ft below land-surface datum, July 31, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	43.91	41.28	42.10	42.07	42.72	43.47	---	---	45.38
2	---	---	---	43.89	41.13	42.19	42.02	42.69	43.53	---	---	45.34
3	---	---	---	43.72	41.10	42.18	42.06	42.66	43.58	---	---	45.34
4	---	---	---	43.74	41.09	42.22	42.08	42.67	43.65	---	---	45.23
5	---	---	---	43.70	41.15	42.30	42.16	42.66	43.73	---	---	44.92
6	---	---	---	43.62	41.15	42.28	42.31	42.67	43.80	---	---	44.70
7	---	---	---	43.49	41.14	42.30	42.33	42.70	43.84	---	---	44.46
8	---	---	---	43.38	41.16	42.37	42.33	42.70	43.84	---	---	44.25
9	---	---	---	43.17	41.25	42.33	42.33	42.68	43.92	---	---	44.05
10	---	---	---	43.09	41.28	42.29	42.42	42.74	44.03	---	---	43.84
11	---	---	45.09	43.01	41.38	42.33	42.46	42.80	44.14	---	---	43.64
12	---	---	45.14	42.97	41.44	42.36	42.45	42.89	44.20	---	---	43.43
13	---	---	45.04	43.00	41.60	42.42	42.50	42.89	44.22	---	---	43.28
14	---	---	45.02	43.05	41.78	42.38	42.51	42.89	44.26	---	---	43.11
15	---	---	45.06	43.02	41.88	42.33	42.53	42.90	44.28	---	---	42.83
16	---	---	44.96	43.03	41.92	42.42	42.51	42.86	44.21	---	---	41.72
17	---	---	44.90	42.97	41.97	42.43	42.59	42.83	44.13	---	---	40.82
18	---	---	44.92	42.81	42.02	42.39	42.64	42.79	---	---	45.27	40.05
19	---	---	44.88	42.72	42.06	42.43	42.69	42.77	---	---	45.29	39.51
20	---	---	44.82	42.59	42.08	42.43	42.65	42.84	---	---	45.33	39.11
21	---	---	44.78	42.45	42.10	42.33	42.65	42.91	---	---	45.36	38.83
22	---	---	44.71	42.36	42.16	42.32	42.63	42.94	---	---	45.39	38.51
23	---	---	44.77	42.26	42.20	42.38	42.64	42.96	---	---	45.41	38.31
24	---	---	44.71	42.11	42.20	42.37	42.71	42.95	---	---	45.41	38.18
25	---	---	44.65	41.98	42.20	42.35	42.76	43.07	---	---	45.39	38.20
26	---	---	44.51	41.85	42.20	42.36	42.78	43.12	---	---	45.40	38.36
27	---	---	44.42	41.65	42.19	42.30	42.77	43.18	---	---	45.41	38.54
28	---	---	44.25	41.50	42.10	42.22	42.80	43.26	---	---	45.42	38.60
29	---	---	44.07	41.47	---	42.17	42.76	43.35	---	---	45.40	38.59
30	---	---	43.96	41.44	---	42.18	42.74	43.40	---	---	45.35	38.54
31	---	---	43.96	41.39	---	42.15	---	43.42	---	---	45.39	---

WTR YR 1999 MEAN 42.83 HIGH 38.18 LOW 45.42


351937077284201 NC-185
WATER LEVEL, IN FEET BELOW LAND SURFACE
38
40
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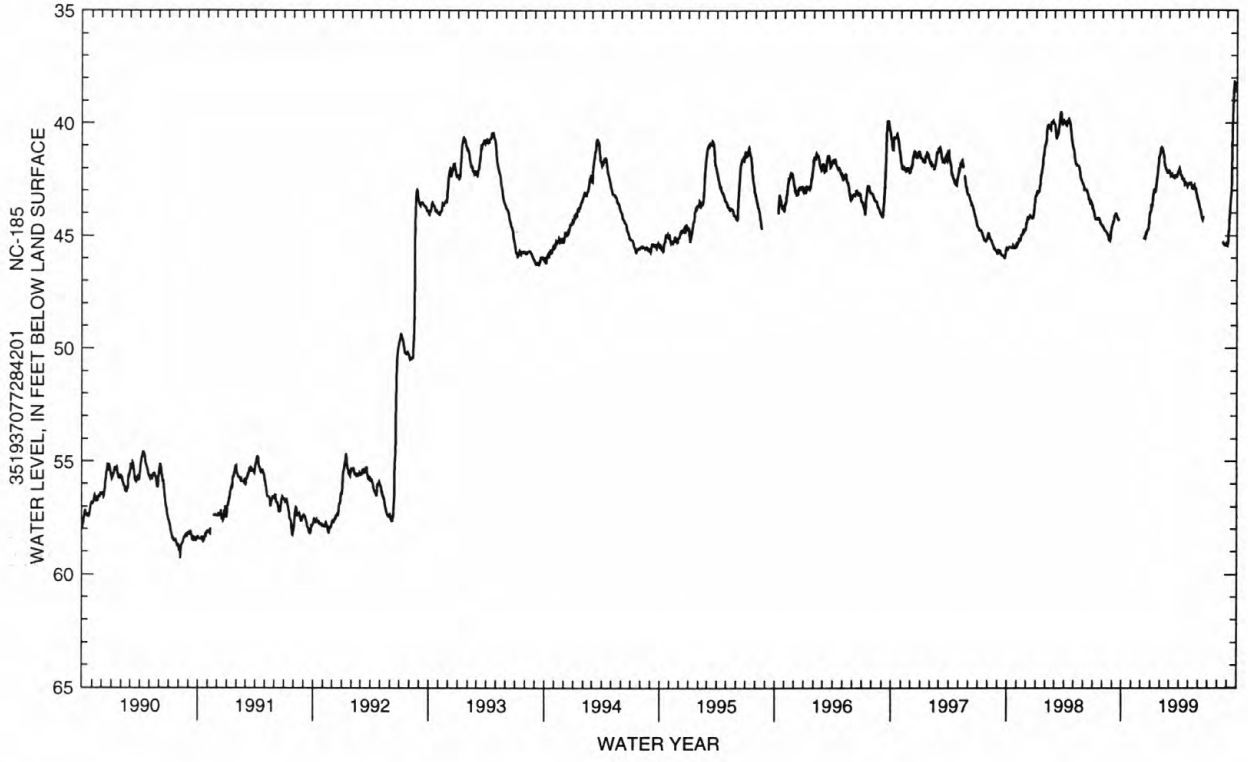
1999


351937077284201 NC-185
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

LENOIR COUNTY--Continued

351609077370605. Local number, NC-186; DENR Kinston Yard Research Station well Q27r5.

LOCATION.--Lat 35°16'09", long 77°37'06", Hydrologic Unit 03020202, on west edge of Kinston on U.S. Highways 70 and 258 Business at DENR Supply Yard. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear aquifer of late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 520 ft, diameter 6 in. to 355 ft, diameter 2.5 in. from 291 to 520 ft, screened interval from 480 to 490 ft.

INSTRUMENTATION.-- Measured periodically with steel tape.

DATUM.--Land-surface datum is 44.03 ft above sea level (levels by DENR). Measuring point: Top of flush mount, 0.00 ft above land-surface datum (since December 1997).

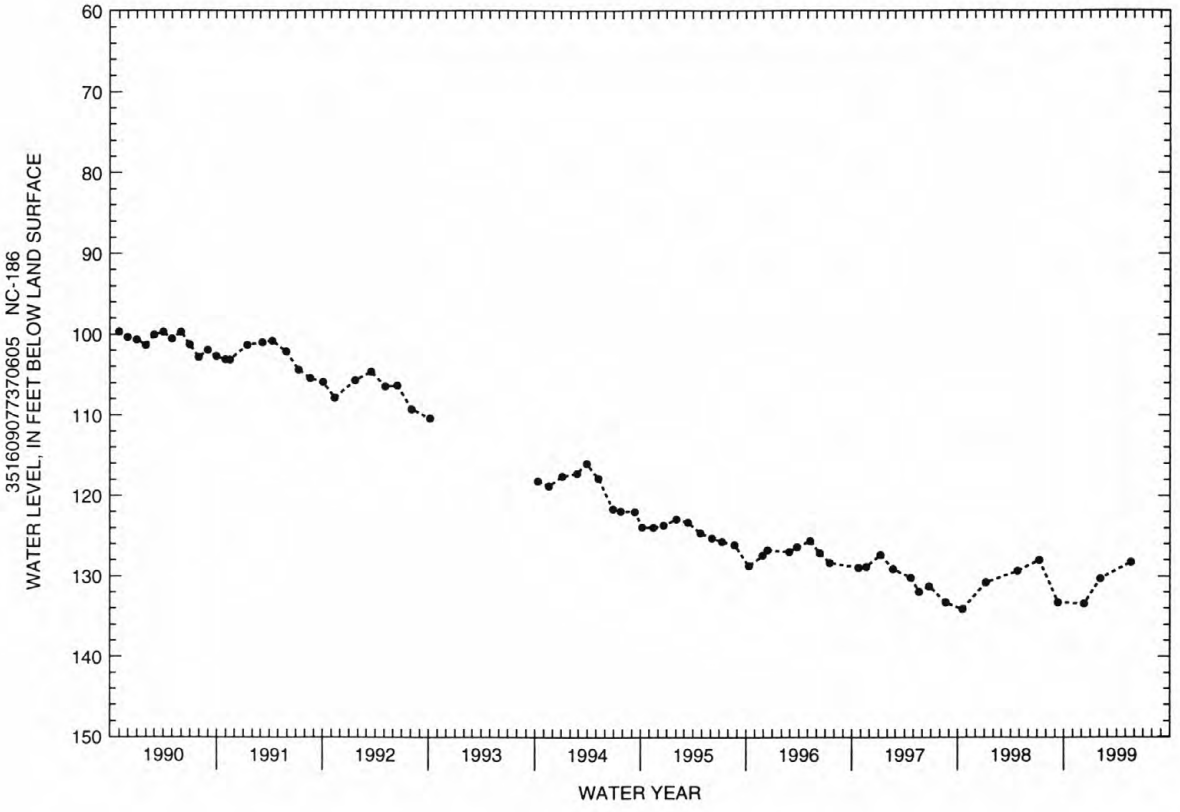
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--August 1974 to September 1992, October 1993 to current year. Continuous record from August 1983 to November 1990. Records from August 1974 to July 1983 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 68.78 ft below land-surface datum, Aug. 12, 1974; lowest water level measured, 134.11 ft below land-surface datum, Oct. 17, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 10	133.41	FEB 4	130.29	MAY 20	128.98


351609077370605 NC-186
WATER LEVEL, IN FEET BELOW LAND SURFACE
60
70
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120
130
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1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

LENOIR COUNTY--Continued

351142077451101. Local number, NC-206; DENR Moss Hill Research Station well R29t2.

LOCATION.--Lat 35°11'42", long 77°45'11", Hydrologic Unit 03020202, 1 mi west of Secondary Road 1300 on State Highway 55. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek aquifer of Late Cretaceous age..

WELL CHARACTERISTICS.--Drilled observation well, depth 207 ft, diameter 4 in., cased to 190 ft, screened interval from 190 to 207 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 109.60 ft above sea level. Measuring point: Top of casing, 0.45 ft above land-surface datum.

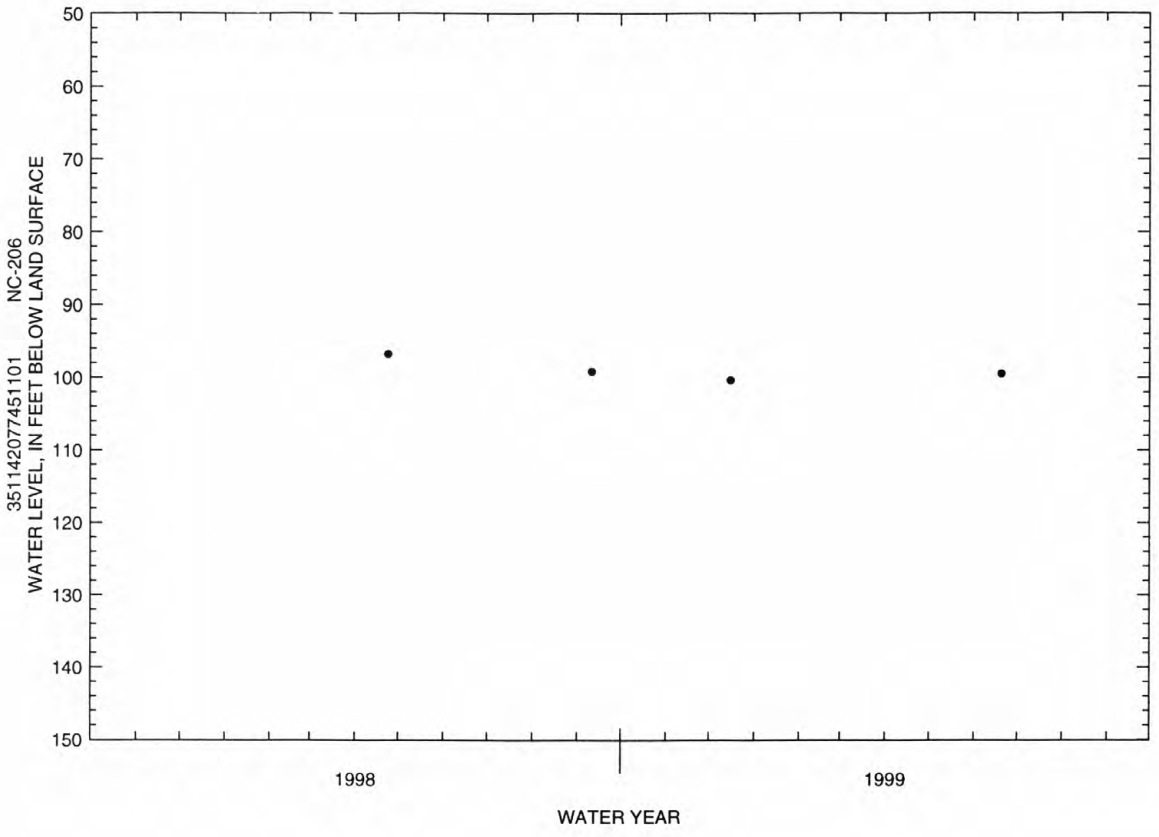
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--March 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 64.49 ft below land-surface datum, Mar. 29, 1978; lowest water level measured, 100.35 ft below land-surface datum, Dec. 16, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 16	100.35	JUN 20	99.45


351142077451101 NC-206
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1999
WATER YEAR

MECKLENBURG COUNTY

350126080503903. Local number, Me-250.

LOCATION.--Lat 35°01'26", long 80°50'39", Hydrologic Unit 03050103, near Pineville. Owner: U.S. Geological Survey.

AQUIFER.--Unconfined saprolite derived from felsic metavolcanic rock.

WELL CHARACTERISTICS.--Drilled observation well, depth 26.0 ft, diameter 4 in., cased to 21.0 ft, screened and sand filter packed from 21.0 to 26.0 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 688.6 ft above sea level (levels by private contractor). Measuring point: Top of casing, 1.20 ft above land-surface datum.

REMARKS.--Well is part of the Charlotte-Mecklenburg urban hydrology study, U.S. Hwy 521 well B-1A. Recorded water levels are unreliable when greater than 25.6 ft below land-surface datum because there is not enough water in the well to allow the float to move freely (although there may be up to 0.4 ft of water in the well). Beginning in water year 1999, recorded water levels greater than 25.6 ft below land-surface datum were deleted. During water year 1999, recorded water levels were greater than 25.6 ft below land-surface datum from August 4, 1999 through September 30, 1999.

PERIOD OF RECORD.--December 1984 to current year.

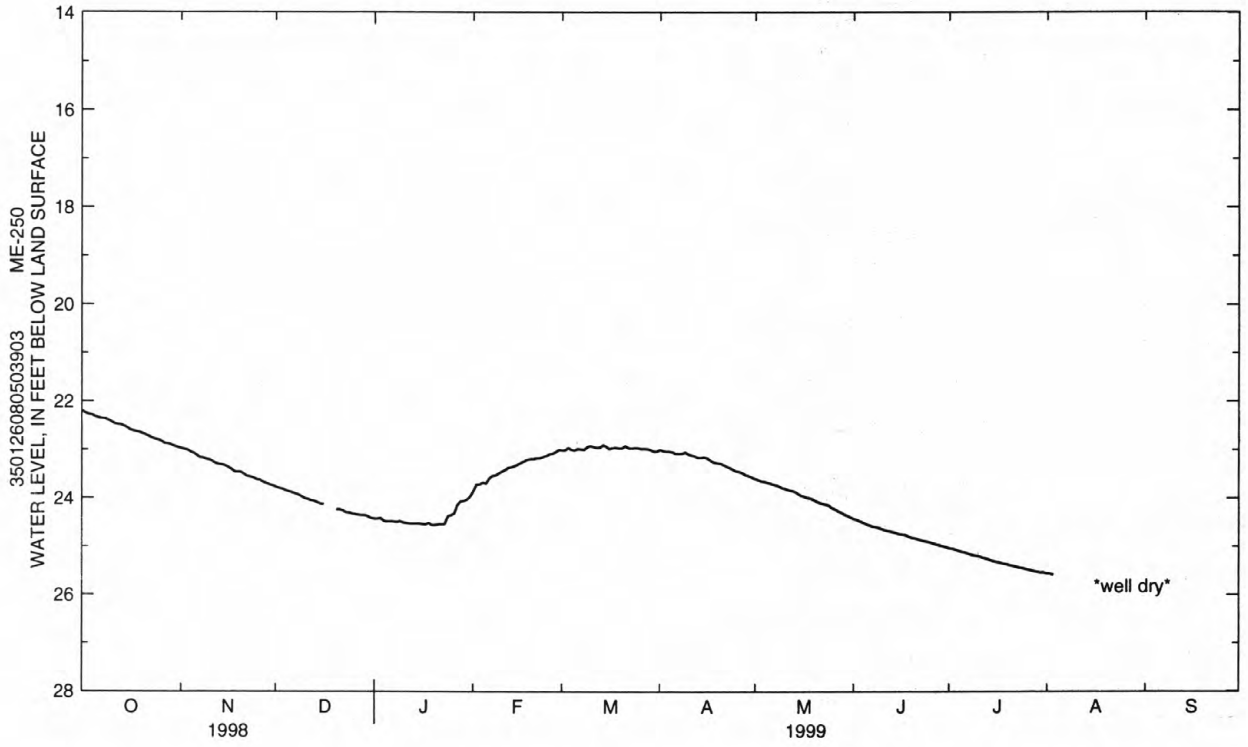
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.63 ft below land-surface datum, Apr. 10, 1993; lowest water level measured, 25.87 ft below land-surface datum during site visit on Sept. 1, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.20	22.97	23.77	24.43	23.86	23.01	23.00	23.60	24.43	25.04	25.57	---
2	22.25	22.99	23.79	24.43	23.72	23.01	23.02	23.62	24.45	25.05	25.57	---
3	22.27	23.00	23.81	24.42	23.72	22.96	23.03	23.65	24.48	25.07	25.59	---
4	22.28	23.04	23.84	24.48	23.68	23.00	23.03	23.66	24.51	25.09	---	---
5	22.32	23.07	23.86	24.49	23.70	23.01	23.05	23.68	24.54	25.11	---	---
6	22.34	23.11	23.88	24.49	23.59	22.98	23.08	23.70	24.57	25.13	---	---
7	22.36	23.16	23.91	24.49	23.54	22.99	23.08	23.72	24.59	25.15	---	---
8	22.36	23.17	23.93	24.50	23.53	23.00	23.08	23.74	24.60	25.17	---	---
9	22.39	23.19	23.96	24.48	23.49	22.94	23.05	23.77	24.62	25.19	---	---
10	22.42	23.21	24.00	24.51	23.45	22.92	23.09	23.80	24.65	25.20	---	---
11	22.46	23.24	24.02	24.52	23.42	22.94	23.11	23.82	24.67	25.22	---	---
12	22.48	23.28	24.05	24.53	23.37	22.95	23.13	23.84	24.68	25.24	---	---
13	22.49	23.30	24.06	24.53	23.36	22.95	23.16	23.85	24.70	25.26	---	---
14	22.51	23.31	24.09	24.53	23.34	22.90	23.16	23.89	24.72	25.29	---	---
15	22.55	23.33	24.12	24.53	23.31	22.93	23.15	23.93	24.74	25.31	---	---
16	22.59	23.36	24.13	24.54	23.27	22.98	23.17	23.96	24.75	25.33	---	---
17	22.61	23.40	---	24.55	23.24	22.96	23.22	23.98	24.76	25.34	---	---
18	22.63	23.45	---	24.52	23.21	22.95	23.26	24.00	24.79	25.36	---	---
19	22.64	23.46	---	24.56	23.19	22.97	23.27	24.02	24.82	25.37	---	---
20	22.67	23.46	24.24	24.56	23.19	22.97	23.28	24.06	24.83	25.39	---	---
21	22.69	23.51	24.24	24.55	23.17	22.92	23.31	24.09	24.85	25.41	---	---
22	22.73	23.55	24.26	24.55	23.17	22.96	23.34	24.11	24.87	25.42	---	---
23	22.76	23.56	24.30	24.54	23.15	22.97	23.37	24.13	24.89	25.44	---	---
24	22.78	23.58	24.31	24.38	23.13	22.96	23.41	24.15	24.90	25.45	---	---
25	22.80	23.61	24.33	24.36	23.09	22.96	23.44	24.20	24.92	25.47	---	---
26	22.83	23.63	24.34	24.32	23.08	22.98	23.45	24.23	24.94	25.49	---	---
27	22.87	23.67	24.35	24.15	23.05	22.98	23.48	24.27	24.96	25.50	---	---
28	22.87	23.69	24.36	24.07	23.00	22.98	23.52	24.30	24.98	25.52	---	---
29	22.90	23.72	24.36	24.06	---	23.00	23.54	24.34	25.00	25.53	---	---
30	22.93	23.74	24.39	24.03	---	23.03	23.57	24.37	25.01	25.55	---	---
31	22.95	---	24.42	23.97	---	23.03	---	24.40	---	25.55	---	---

WTR YR 1999 MEAN 23.82 HIGH 22.20 LOW 25.59


ME-250
350126080503903
WATER LEVEL, IN FEET BELOW LAND SURFACE
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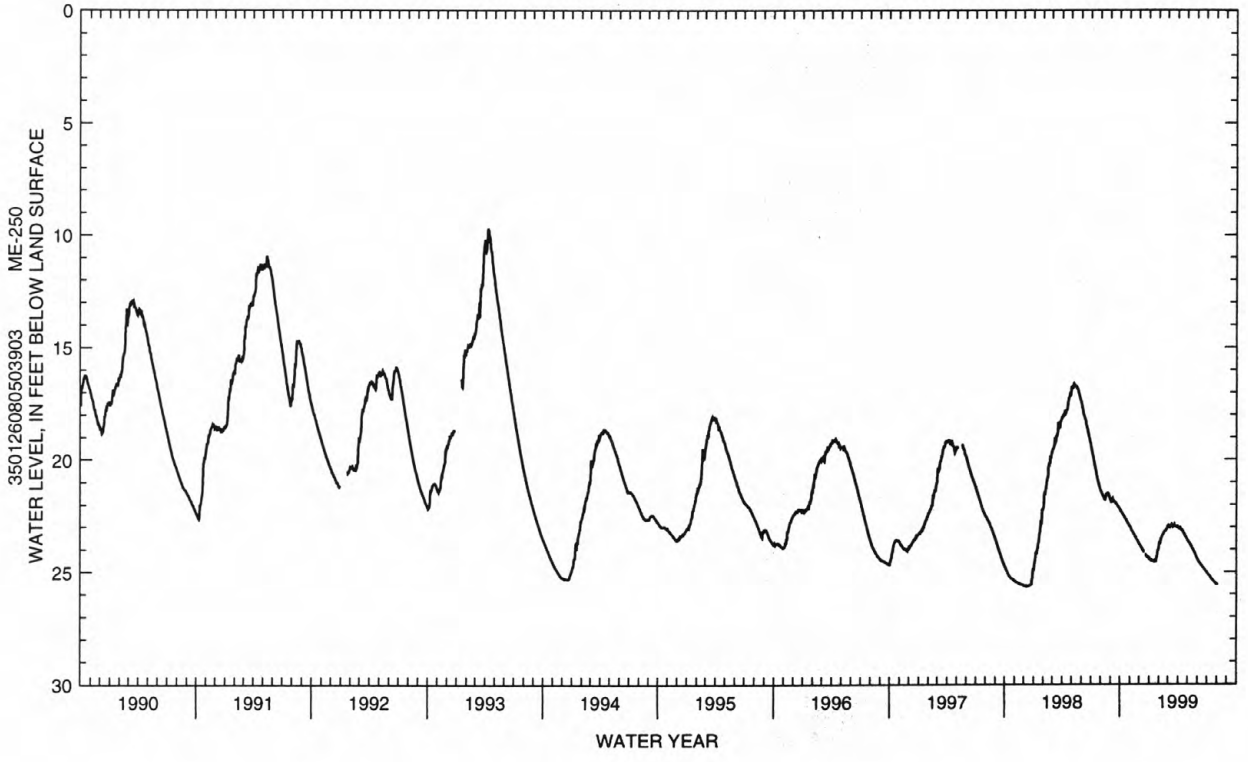
ME-250
350126080503903
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1999
WATER YEAR

MECKLENBURG COUNTY--Continued

351730080524203. Local number, NC-146.

LOCATION.--Lat 35°19'16", long 80°52'39", Hydrologic Unit 03050101, 6 mi south of Huntersville in Hornets Nest Park. Owner: U.S. Geological Survey.

AQUIFER.--Unconfined saprolite derived from metamorphosed quartz diorite.

WELL CHARACTERISTICS.--Drilled observation well, depth 17.1 ft, diameter 4 in., cased to 12.1 ft, screened interval from 12.1 to 17.1 ft, sand filter packed from 12.1 to 17.1 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 730 ft above sea level (from topographic map). Measuring point: Top of casing, 1.90 ft above land-surface datum.

REMARKS.--Well is part of climatic-effects network.

PERIOD OF RECORD.--November 1984 to current year.

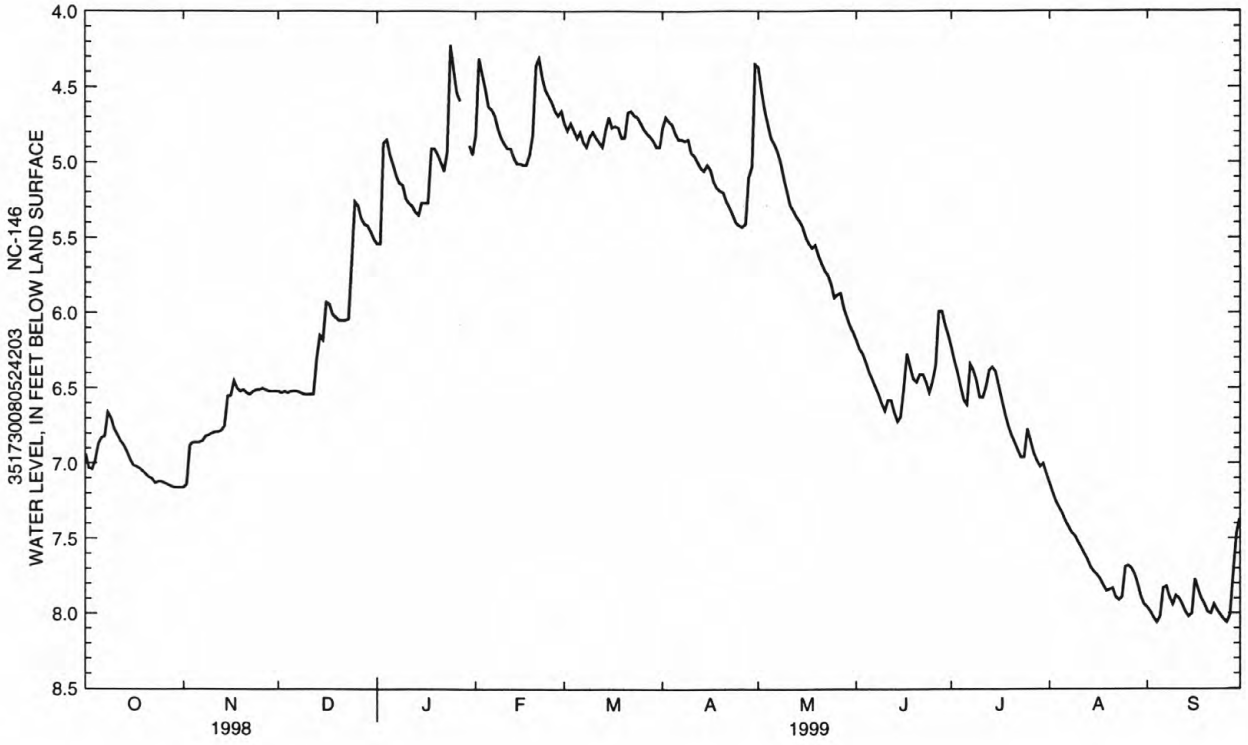
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.28 ft below land-surface datum, Mar. 24, 1993; lowest water level recorded, 8.09 ft below land-surface datum, Sep. 4, 5, 26, 27, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.94	7.16	6.52	5.54	4.82	4.74	4.77	4.37	6.18	6.23	7.13	7.96
2	7.03	7.14	6.53	5.54	4.31	4.79	4.70	4.52	6.24	6.32	7.19	7.99
3	7.04	6.88	6.52	4.87	4.41	4.74	4.73	4.65	6.27	6.40	7.25	8.03
4	6.98	6.86	6.53	4.85	4.51	4.79	4.75	4.75	6.33	6.49	7.29	8.06
5	6.87	6.86	6.52	4.95	4.63	4.84	4.81	4.84	6.39	6.58	7.33	8.02
6	6.83	6.86	6.52	5.02	4.65	4.80	4.85	4.88	6.44	6.61	7.38	7.83
7	6.82	6.85	6.52	5.09	4.69	4.87	4.85	4.93	6.49	6.34	7.42	7.82
8	6.66	6.82	6.53	5.14	4.78	4.90	4.86	5.00	6.54	6.38	7.46	7.89
9	6.70	6.81	6.54	5.15	4.84	4.83	4.85	5.10	6.60	6.45	7.48	7.94
10	6.77	6.80	6.54	5.24	4.88	4.80	4.94	5.19	6.65	6.56	7.52	7.88
11	6.81	6.79	6.54	5.27	4.91	4.84	4.96	5.28	6.58	6.56	7.56	7.90
12	6.85	6.79	6.54	5.29	4.91	4.87	5.00	5.32	6.58	6.49	7.60	7.94
13	6.88	6.78	6.31	5.33	4.97	4.90	5.04	5.36	6.66	6.38	7.64	7.99
14	6.92	6.75	6.15	5.35	5.01	4.79	5.06	5.39	6.72	6.36	7.69	8.02
15	6.97	6.55	6.18	5.27	5.01	4.70	5.02	5.43	6.69	6.39	7.72	8.00
16	7.01	6.55	5.93	5.27	5.02	4.77	5.05	5.50	6.49	6.48	7.74	7.77
17	7.02	6.45	5.94	5.27	5.02	4.76	5.13	5.54	6.27	6.58	7.77	7.84
18	7.03	6.50	6.01	4.91	4.95	4.77	5.17	5.57	6.36	6.67	7.81	7.90
19	7.05	6.52	6.03	4.91	4.82	4.84	5.19	5.55	6.44	6.75	7.85	7.94
20	7.07	6.51	6.05	4.95	4.36	4.84	5.20	5.62	6.46	6.81	7.84	7.99
21	7.09	6.53	6.05	5.00	4.31	4.67	5.26	5.67	6.41	6.86	7.83	8.00
22	7.10	6.54	6.05	5.06	4.44	4.66	5.30	5.72	6.41	6.91	7.89	7.94
23	7.13	6.52	6.04	4.93	4.52	4.69	5.35	5.75	6.46	6.96	7.91	7.98
24	7.12	6.51	5.65	4.22	4.56	4.70	5.40	5.81	6.53	6.96	7.89	8.01
25	7.12	6.51	5.26	4.38	4.60	4.74	5.42	5.90	6.46	6.77	7.69	8.04
26	7.13	6.50	5.29	4.54	4.66	4.78	5.43	5.88	6.35	6.85	7.68	8.06
27	7.14	6.51	5.37	4.59	4.69	4.81	5.41	5.87	5.99	6.93	7.70	8.01
28	7.15	6.52	5.41	---	4.66	4.83	5.10	5.97	5.99	6.98	7.74	7.74
29	7.16	6.52	5.42	---	---	4.86	5.03	6.03	6.08	7.02	7.81	7.47
30	7.16	6.52	5.46	4.89	---	4.90	4.35	6.09	6.15	7.00	7.89	7.37
31	7.16	---	5.51	4.95	---	4.90	---	6.13	---	7.07	7.94	---

WTR YR 1999 MEAN 6.12 HIGH 4.22 LOW 8.06


351730080524203 NC-146
WATER LEVEL, IN FEET BELOW LAND SURFACE
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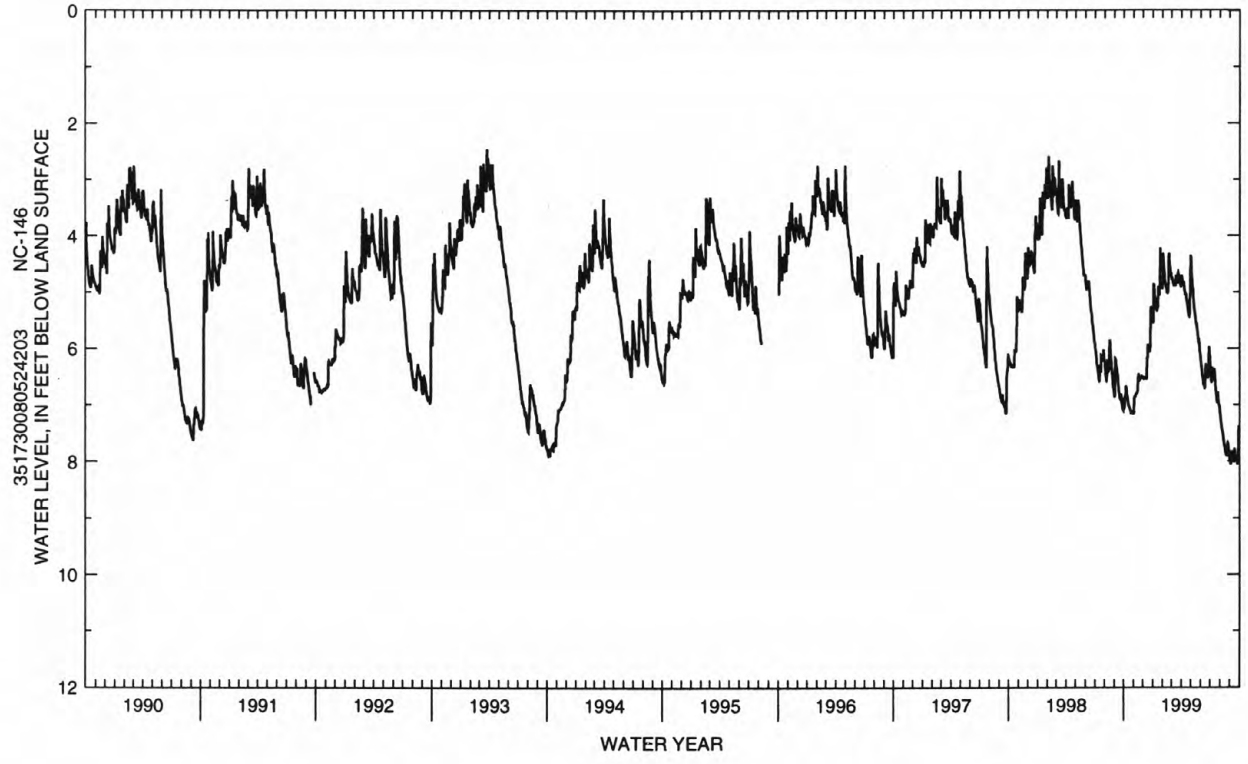
351730080524203 NC-146
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

NEW HANOVER COUNTY

341000077524201. Local number, NC-20.

LOCATION.--Lat 34°09'53", long 77°52'48", Hydrologic Unit 03030001, southeast of Wilmington, 1 mi west of Secondary Road 1492 on Secondary Road 1516. Owner: Masonboro Forest.

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 173 ft, diameter 3 in., cased and screened intervals unknown; measured depth 169 ft, September 1973.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 21 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 1.85 ft above land-surface datum.

REMARKS.--Well is part of local-effects network. Water levels are affected by nearby supply well in subdivision.

PERIOD OF RECORD.--November 1963 to current year. Continuous record from December 1964 to November 1980, August 1999 to September 1999.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.42 ft below land-surface datum, June 10, 1966; lowest water level measured, 36.69 ft below land-surface datum, July 16, 1998.

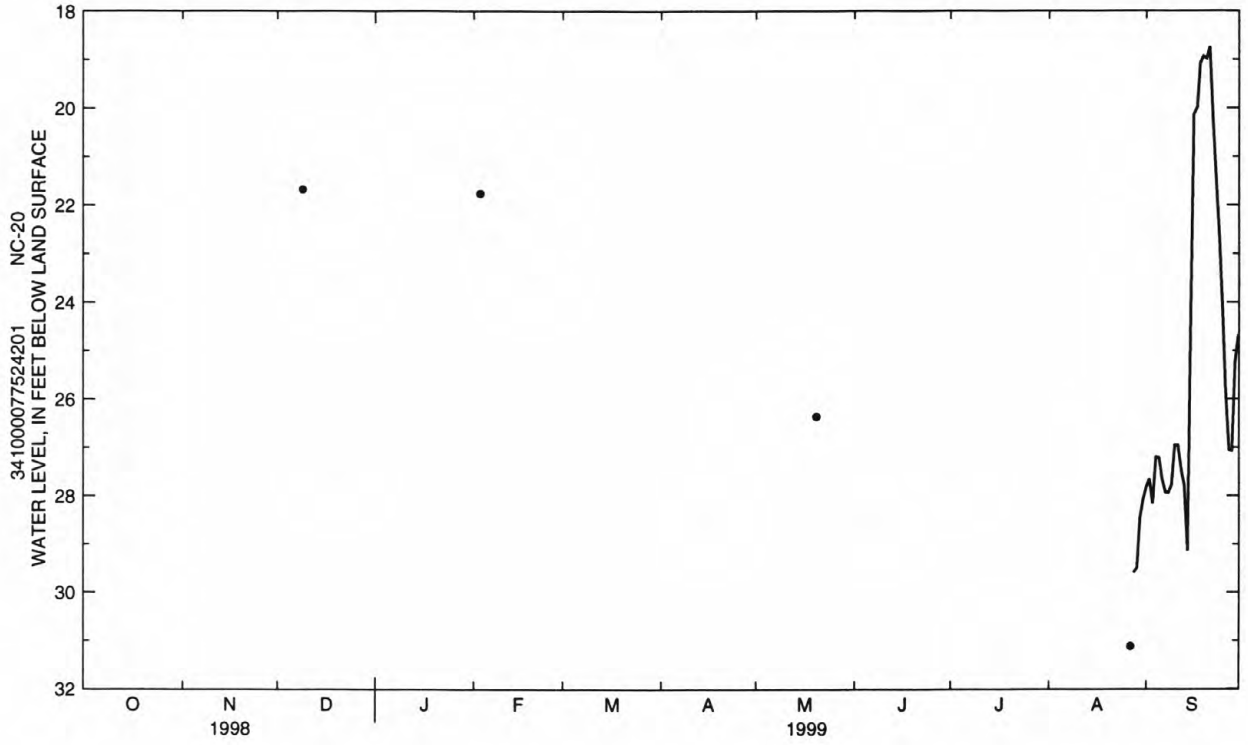
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 09	21.67	FEB 03	21.76	MAY 20	26.36	AUG 27	31.12

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	---	---	---	---	---	---	---	---	27.21
10	---	---	---	---	---	---	---	---	---	---	---	26.95
15	---	---	---	---	---	---	---	---	---	---	---	23.98
20	---	---	---	---	---	---	---	---	---	---	---	18.98
25	---	---	---	---	---	---	---	---	---	---	---	24.13
EOM	---	---	---	---	---	---	---	---	---	---	28.08	24.67


341000077524201 NC-20
WATER LEVEL, IN FEET BELOW LAND SURFACE
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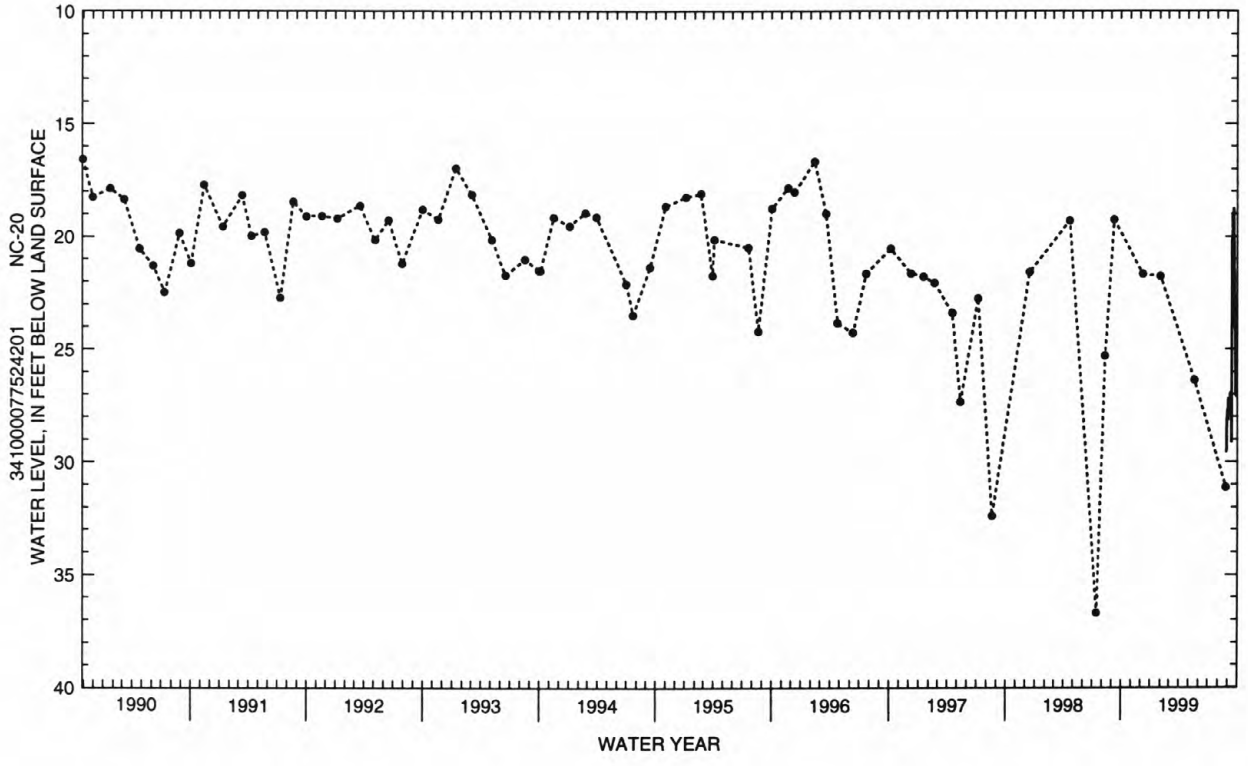
1998
1999


341000077524201 NC-20
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

ONSLOW COUNTY

344425077272501. Local number, NC-52.

LOCATION.--Lat 34°44'18", long 77°27'29", Hydrologic Unit 03030001, southwest of Jacksonville, 0.25 mi east of U.S. Highway 17 at U.S. Marine Corps Camp Geiger, and 2 mi south of U.S. Highway 258. Owner: U.S. Marine Corps.

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled abandoned supply well, depth 70 ft, diameter 18 in. to 23 ft, open hole from 23 to 70 ft; measured depth 68 ft, January 1974.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 17 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 1.83 ft above land-surface datum (since April 1993).

REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--January 1963 to current year.

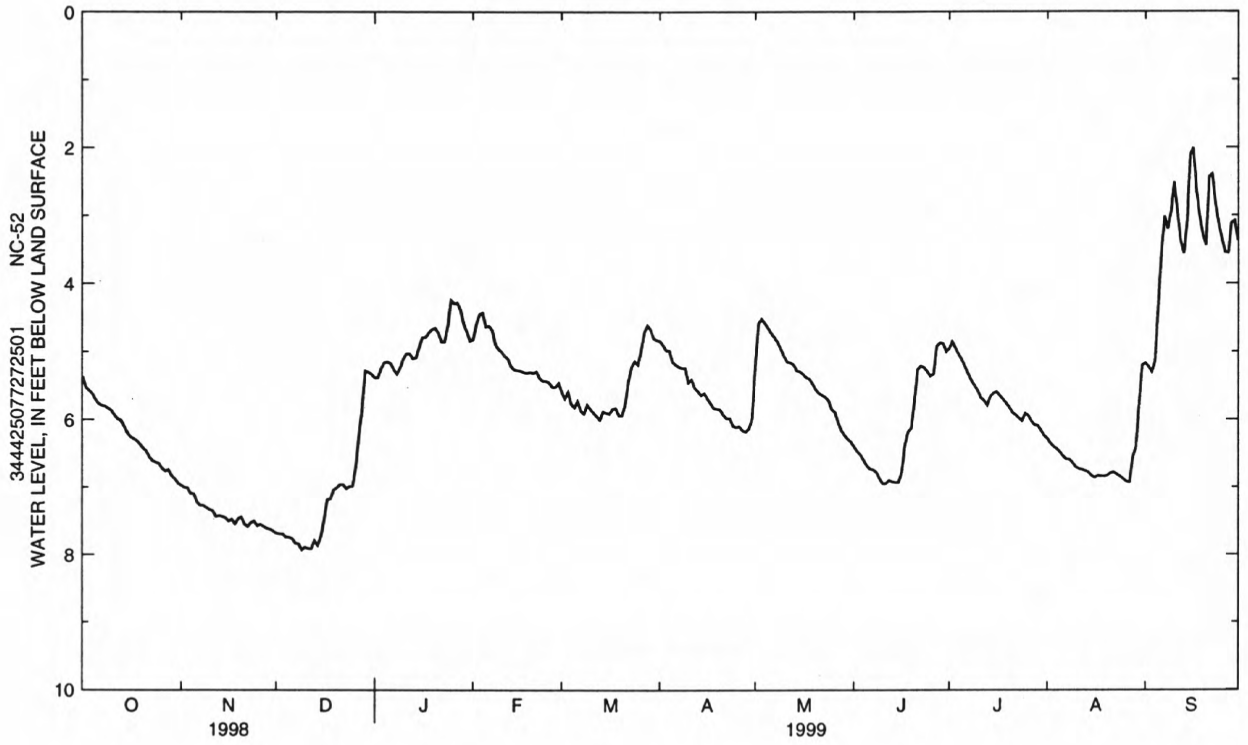
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.19 ft below land-surface datum, Sept. 16, 1999; lowest water level recorded, 10.44 ft below land-surface datum, Jan. 3, 1966.

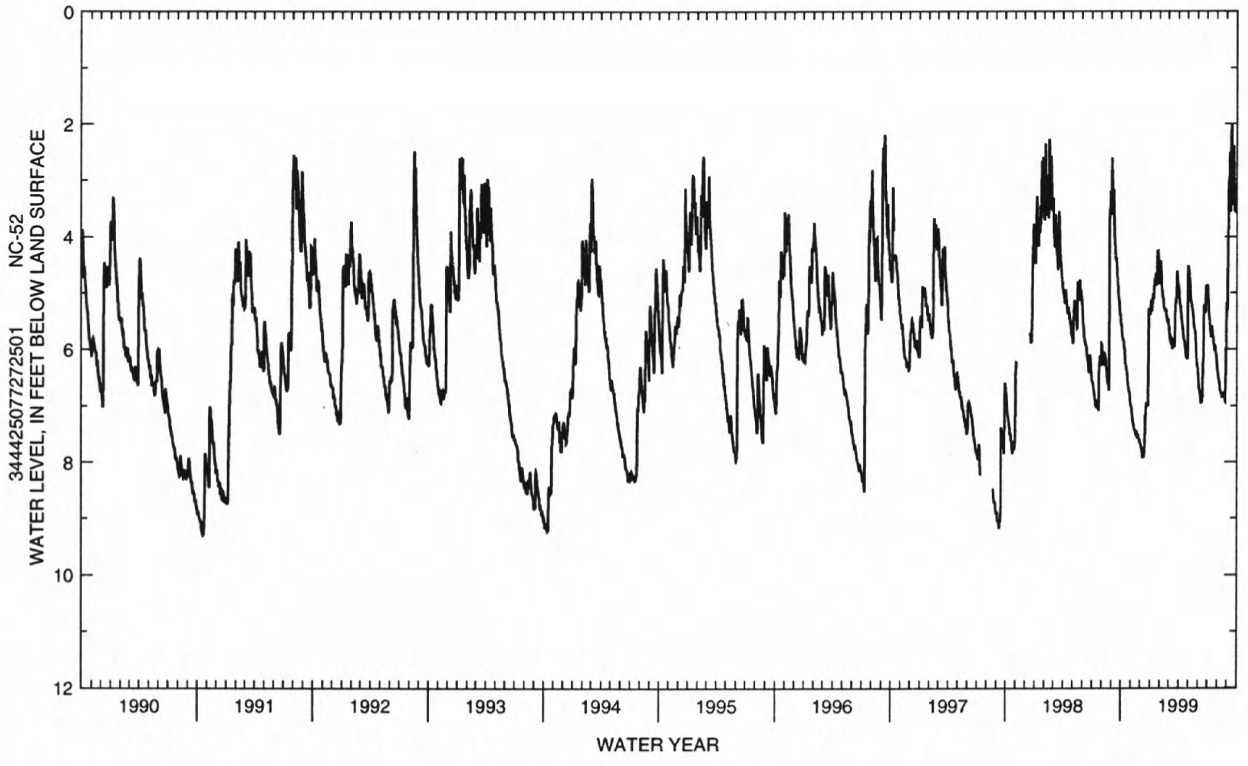
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.37	6.97	7.68	5.38	4.82	5.59	4.84	5.18	6.40	4.95	6.28	5.17
2	5.52	7.00	7.69	5.38	4.59	5.69	4.90	4.58	6.47	4.85	6.35	5.22
3	5.57	7.01	7.69	5.25	4.45	5.59	4.98	4.52	6.52	4.95	6.40	5.30
4	5.61	7.09	7.74	5.16	4.43	5.77	4.98	4.58	6.60	5.04	6.43	5.15
5	5.70	7.10	7.74	5.15	4.63	5.82	5.15	4.65	6.68	5.12	6.48	4.26
6	5.76	7.22	7.76	5.17	4.62	5.73	5.19	4.73	6.73	5.22	6.54	3.51
7	5.79	7.27	7.83	5.26	4.68	5.87	5.22	4.79	6.74	5.33	6.59	3.01
8	5.80	7.27	7.84	5.33	4.89	5.91	5.24	4.86	6.78	5.42	6.59	3.20
9	5.83	7.30	7.93	5.24	4.96	5.78	5.24	4.96	6.87	5.50	6.64	2.94
10	5.86	7.33	7.89	5.10	5.00	5.84	5.45	5.07	6.95	5.57	6.70	2.51
11	5.93	7.35	7.91	5.03	5.06	5.90	5.41	5.15	6.95	5.68	6.73	2.95
12	5.99	7.43	7.91	5.03	5.10	5.95	5.53	5.16	6.90	5.72	6.74	3.37
13	6.01	7.42	7.79	5.10	5.21	6.00	5.58	5.19	6.92	5.79	6.76	3.56
14	6.09	7.43	7.86	5.09	5.26	5.88	5.64	5.28	6.93	5.66	6.78	3.13
15	6.19	7.45	7.73	4.93	5.27	5.90	5.61	5.29	6.93	5.61	6.83	2.11
16	6.25	7.50	7.48	4.79	5.28	5.91	5.69	5.33	6.78	5.59	6.86	2.01
17	6.28	7.47	7.18	4.79	5.30	5.84	5.76	5.38	6.38	5.65	6.83	2.65
18	6.31	7.54	7.17	4.72	5.31	5.83	5.83	5.40	6.18	5.70	6.84	3.01
19	6.36	7.46	7.04	4.67	5.30	5.94	5.84	5.47	6.13	5.76	6.84	3.29
20	6.42	7.44	7.01	4.65	5.31	5.94	5.85	5.56	5.72	5.82	6.83	3.44
21	6.46	7.55	6.96	4.72	5.29	5.77	5.93	5.61	5.26	5.90	6.79	2.43
22	6.55	7.58	6.96	4.85	5.39	5.44	5.98	5.64	5.21	5.93	6.78	2.39
23	6.61	7.52	7.02	4.85	5.43	5.22	5.98	5.67	5.23	5.98	6.81	2.84
24	6.63	7.50	6.99	4.61	5.43	5.14	6.09	5.72	5.29	6.02	6.84	3.13
25	6.65	7.57	6.99	4.24	5.45	5.19	6.11	5.85	5.36	5.91	6.88	3.35
26	6.72	7.55	6.70	4.29	5.52	4.98	6.10	5.89	5.33	5.94	6.92	3.54
27	6.76	7.58	6.24	4.28	5.52	4.71	6.16	6.04	4.92	6.03	6.93	3.55
28	6.74	7.61	5.82	4.39	5.46	4.61	6.18	6.16	4.87	6.08	6.56	3.11
29	6.83	7.62	5.28	4.59	---	4.67	6.13	6.23	4.88	6.09	6.41	3.08
30	6.87	7.65	5.30	4.71	---	4.80	5.99	6.29	5.00	6.16	5.77	3.37
31	6.94	---	5.33	4.84	---	4.83	---	6.33	---	6.24	5.20	---

WTR YR 1999 MEAN 5.76 HIGH 2.01 LOW 7.93


344425077272501 NC-52
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
2
4
6
8
10
O
N
D
J
F
M
A
M
J
J
A
S
1998
1999


344425077272501 NC-52
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
2
4
6
8
10
12
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

344837077291607. Local number, NC-189; DENR Jacksonville 258 Well Field Research Station well W25f7.

LOCATION.--Lat 34°48'37", long 77°29'16", Hydrologic Unit 03030001, 1.4 mi northeast of U.S. Highway 258 and State Highway 24 on Wells Road. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 834 ft, diameter 4 in., cased to 824 ft, screened interval from 824 to 834 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 26.62 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 3.78 ft above land-surface datum.

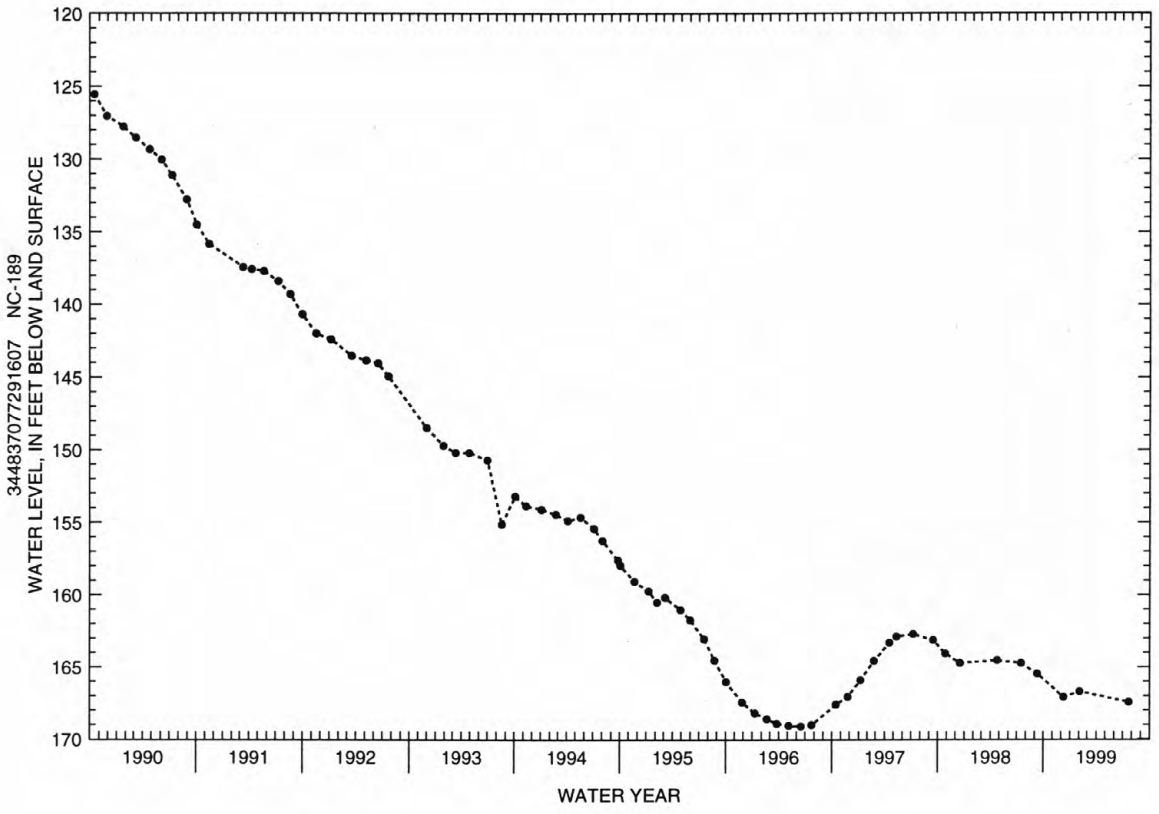
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--October 1986 to current year. Continuous record from October 1986 to April 1988 are unreliable and unpublished.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 96.64 ft below land-surface datum, Oct. 15, 1986; lowest water level measured, 169.10 ft below land-surface datum, June 17, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 09	167.08	FEB 03	166.70	JUL 22	167.43


344837077291607 NC-189
WATER LEVEL, IN FEET BELOW LAND SURFACE
120
125
130
135
140
145
150
155
160
165
170
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

343512077265601. Local number, On-218; Rifle Range Well RR-97A.

LOCATION.--Lat 34°35'12", long 77°26'56", Hydrologic Unit 03030001, from Jacksonville take U.S. Highway 17 south to N.C. Highway 210, turn left, go 1.7 mi to the Rifle Range, turn left, go 0.8 mi, well is on right 20 feet off road. Owner: U.S. Marine Corps.

AQUIFER.--Peedee aquifer.

WELL CHARACTERISTICS.--Drilled supply well, depth 437 ft, diameter 8 in., cased to 365 ft, screened interval from 365 to 395 ft and 415 to 425 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 50 ft above sea level, from topographic map. Measuring point: Top of shelter floor, 1.97 ft above land-surface datum.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year. Prior to October 1, 1997 published as On-292, Rifle Range Well RR-97.

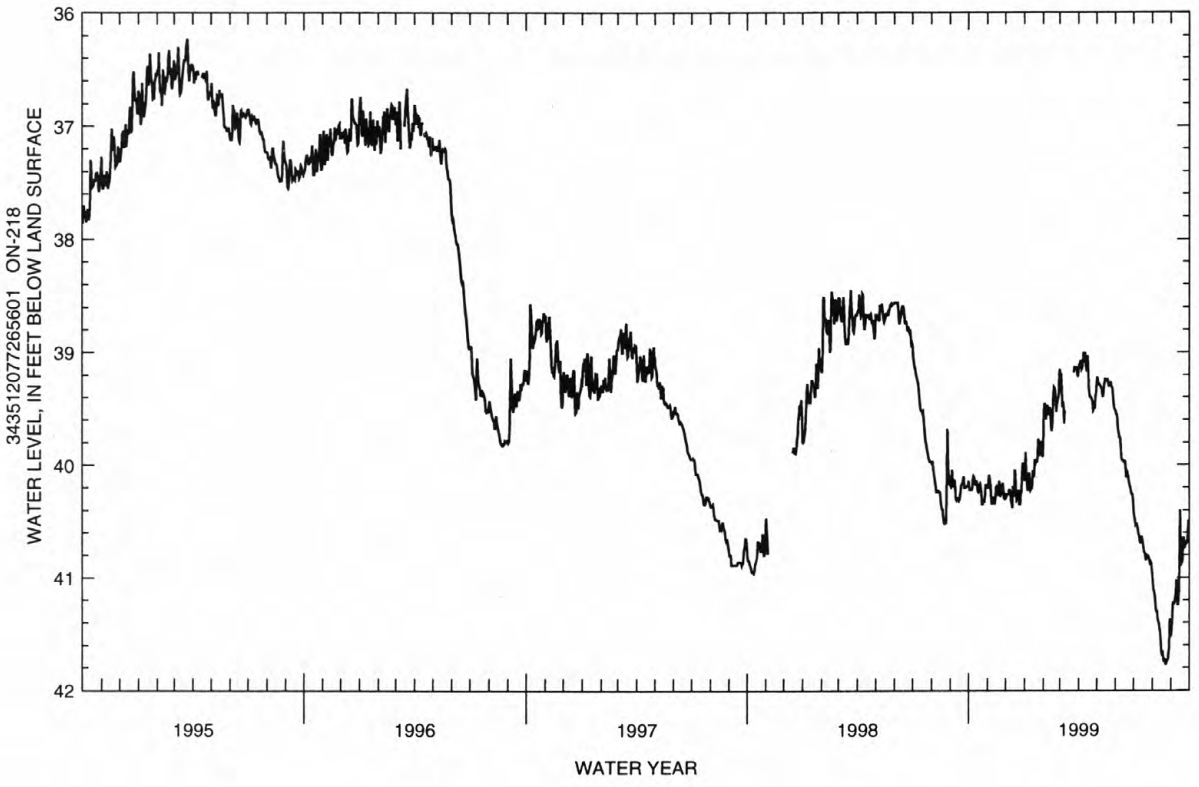
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 36.19 ft below land-surface datum, Mar. 23, 1995; lowest water level recorded, 41.77 ft below land-surface datum, Aug. 23, 24, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40.14	40.20	40.27	40.13	39.83	39.15	39.14	39.27	39.52	40.41	40.98	41.52
2	40.19	40.20	40.28	40.14	39.53	39.26	39.11	39.22	39.55	40.45	41.04	41.47
3	40.22	40.11	40.26	39.89	39.46	39.19	39.11	39.25	39.55	40.49	41.11	41.37
4	40.22	40.09	40.26	40.02	39.46	39.29	39.08	39.28	39.58	40.53	41.12	41.24
5	40.22	40.13	40.26	40.16	39.59	39.49	39.08	39.29	39.67	40.52	41.16	41.22
6	40.22	40.18	40.24	40.22	39.59	39.44	39.15	39.29	39.71	40.52	41.22	41.24
7	40.21	40.28	40.22	40.22	39.50	39.47	39.14	39.30	39.75	40.54	41.29	41.21
8	40.13	40.35	40.22	40.22	39.47	39.63	39.08	39.31	39.75	40.57	41.30	41.17
9	40.10	40.32	40.26	40.07	39.55	39.52	39.00	39.32	39.78	40.61	41.30	41.14
10	40.11	40.30	40.33	40.13	39.52	---	39.02	39.36	39.86	40.63	41.37	41.02
11	40.16	40.28	40.34	40.22	39.56	---	39.04	39.40	39.94	40.67	41.39	41.16
12	40.17	40.34	40.38	40.21	39.49	---	39.00	39.37	39.96	40.69	41.41	41.24
13	40.16	40.34	40.19	40.21	39.53	---	39.11	39.30	39.96	40.69	41.46	41.24
14	40.14	40.29	40.22	40.17	39.67	---	39.17	39.26	39.97	40.63	41.48	41.13
15	40.16	40.20	40.28	40.05	39.70	---	39.13	39.23	39.97	40.65	41.56	40.84
16	40.23	40.19	40.04	40.10	39.65	---	39.03	39.25	39.98	40.69	41.65	40.40
17	40.24	40.18	40.09	40.10	39.53	---	39.17	39.25	39.96	40.73	41.68	40.70
18	40.22	40.27	40.26	39.96	39.37	---	39.32	39.24	40.05	40.77	41.67	40.81
19	40.18	40.25	40.31	39.96	39.31	---	39.38	39.24	40.11	40.78	41.71	40.87
20	40.17	40.14	40.30	39.98	39.32	---	39.40	39.28	40.06	40.79	41.75	40.86
21	40.20	40.18	40.28	39.97	39.34	---	39.40	39.30	40.07	40.84	41.72	40.66
22	40.24	40.28	40.22	39.97	39.44	---	39.41	39.30	40.11	40.84	41.74	40.64
23	40.35	40.26	40.35	39.93	39.53	---	39.42	39.29	40.14	40.81	41.77	40.74
24	40.35	40.19	40.35	39.77	39.47	39.18	39.44	39.26	40.17	40.82	41.77	40.73
25	40.33	40.21	40.35	39.82	39.44	39.13	39.52	39.30	40.19	40.81	41.74	40.68
26	40.31	40.16	40.24	39.92	39.41	39.13	39.51	39.31	40.22	40.82	41.73	40.70
27	40.33	40.22	40.24	39.89	39.38	39.13	39.47	39.32	40.25	40.84	41.73	40.69
28	40.27	40.29	40.10	39.80	39.18	39.13	39.48	39.39	40.26	40.87	41.66	40.66
29	40.18	40.30	39.99	39.80	---	39.14	39.39	39.45	40.26	40.86	41.63	40.56
30	40.18	40.30	39.99	39.87	---	39.20	39.36	39.50	40.31	40.87	41.37	40.49
31	40.18	---	40.13	39.93	---	39.22	---	39.51	---	40.92	41.52	---

WTR YR 1999 MEAN 40.13 HIGH 39.00 LOW 41.77


343512077265601 ON-218
WATER LEVEL, IN FEET BELOW LAND SURFACE
36
37
38
39
40
41
42
1995
1996
1997
1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

343641077290103. Local number, On-227; DENR Dixon Tower Research Station well Y25q3.

LOCATION.--Lat 34°36'41", long 77°29'01", Hydrologic Unit 03030001, 1.5 mi north of Dixon on U.S. Highway 17. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 240 ft, diameter 4 in., cased to 150 ft, screened interval from 150 to 240 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 68 ft above sea level, (from topographic map). Measuring point: Top of shelter floor, 2.13 ft above land-surface datum.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

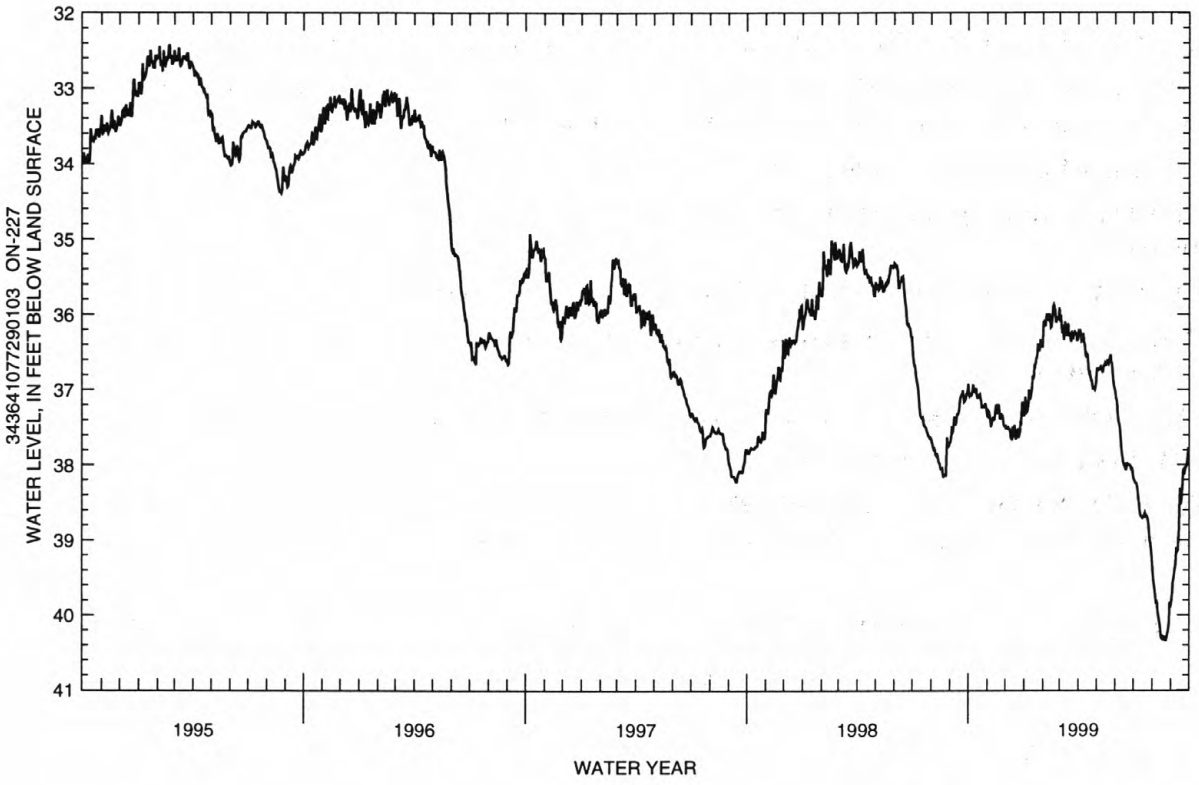
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 32.35 ft below land-surface datum, Feb. 22, 1995; lowest water level recorded, 40.37 ft below land-surface datum, Aug. 23, 24, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.92	37.35	37.48	37.34	36.33	35.96	36.23	36.78	37.04	38.18	39.32	39.85
2	37.06	37.36	37.52	37.28	36.11	36.10	36.20	36.71	37.11	38.20	39.44	39.79
3	37.08	37.28	37.49	37.09	36.11	36.01	36.24	36.73	37.13	38.22	39.54	39.71
4	37.05	37.29	37.50	37.23	36.07	36.13	36.20	36.74	37.20	38.24	39.59	39.57
5	37.05	37.33	37.51	37.30	36.16	36.25	36.27	36.74	37.33	38.24	39.67	39.54
6	37.07	37.40	37.50	37.29	36.10	36.15	36.35	36.72	37.42	38.25	39.74	39.47
7	37.06	37.49	37.52	37.24	36.00	36.20	36.34	36.70	37.45	38.29	39.82	39.39
8	36.99	37.47	37.52	37.19	36.00	36.34	36.31	36.69	37.48	38.35	39.81	39.35
9	36.93	37.41	37.56	37.00	36.05	36.19	36.25	36.71	37.56	38.44	39.82	39.25
10	36.98	37.39	37.64	37.08	36.04	36.10	36.37	36.73	37.67	38.51	39.93	39.10
11	37.02	37.36	37.65	37.13	36.09	36.18	36.38	36.77	37.77	38.60	39.99	39.16
12	37.03	37.41	37.67	37.08	35.99	36.22	36.44	36.72	37.85	38.65	40.05	39.15
13	37.00	37.38	37.49	37.03	36.06	36.29	36.54	36.68	37.91	38.68	40.10	39.06
14	36.98	37.31	37.59	36.95	36.17	36.15	36.57	36.68	37.97	38.68	40.14	38.88
15	37.06	37.23	37.63	36.81	36.16	36.12	36.52	36.65	37.99	38.70	40.22	38.55
16	37.11	37.24	37.47	36.86	36.08	36.29	36.53	36.67	38.01	38.71	40.30	38.31
17	37.11	37.19	37.52	36.82	35.99	36.27	36.65	36.67	37.97	38.70	40.31	38.53
18	37.10	37.32	37.66	36.66	35.89	36.25	36.74	36.63	38.05	38.68	40.27	38.49
19	37.07	37.28	37.64	36.68	35.87	36.33	36.78	36.60	38.07	38.66	40.30	38.41
20	37.06	37.19	37.60	36.64	35.91	36.36	36.77	36.63	38.00	38.64	40.34	38.29
21	37.11	37.29	37.57	36.58	35.95	36.22	36.84	36.65	37.98	38.68	40.28	38.07
22	37.15	37.39	37.51	36.57	36.06	36.26	36.88	36.61	37.99	38.67	40.31	38.06
23	37.23	37.36	37.64	36.51	36.11	36.33	36.88	36.57	38.00	38.68	40.34	38.13
24	37.23	37.31	37.59	36.39	36.05	36.27	36.94	36.53	38.00	38.71	40.34	38.08
25	37.21	37.38	37.58	36.43	36.04	36.25	37.00	36.62	38.00	38.74	40.29	38.03
26	37.21	37.33	37.44	36.49	36.05	36.23	36.97	36.65	38.02	38.81	40.25	38.03
27	37.24	37.40	37.45	36.42	36.06	36.24	36.98	36.71	38.05	38.91	40.22	37.99
28	37.20	37.46	37.28	36.33	35.91	36.26	37.00	36.83	38.04	39.01	40.17	37.94
29	37.18	37.48	37.16	36.36	---	36.28	36.96	36.90	38.05	39.05	40.09	37.83
30	37.24	37.48	37.23	36.40	---	36.35	36.91	36.96	38.13	39.13	39.83	37.77
31	37.28	---	37.34	36.44	---	36.33	---	36.99	---	39.22	39.90	---

WTR YR 1999 MEAN 37.47 HIGH 35.87 LOW 40.34


343641077290103 ON-227
WATER LEVEL, IN FEET BELOW LAND SURFACE
32
33
34
35
36
37
38
39
40
41
1995
1996
1997
1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

343641077290106. Local number, On-230; DENR Dixon Tower Research Station well Y25q6.

LOCATION.--Lat 34°36'41", long 77°29'01", Hydrologic Unit 03030001, 1.5 mi. north of Dixon on U.S. Highway 17. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Surficial aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 22.0 ft, diameter 4 in., cased to 18.4 ft, screened interval from 18.4 to 22.0 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 68 ft above sea level, (levels by DENR). Measuring point: Top of shelter floor, 2.52 ft above land-surface datum; revised from 2.10 ft above land-surface datum July 21, 1999.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

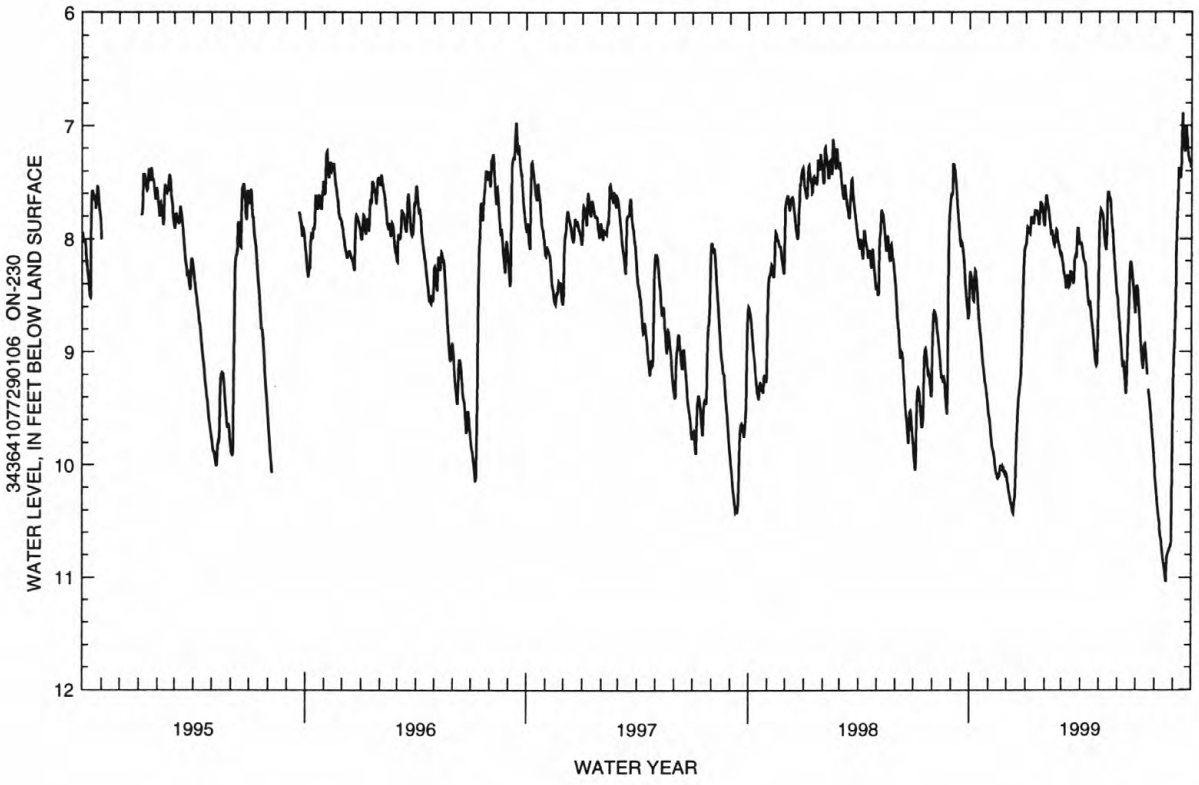
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 6.37 ft below land-surface datum, Jan. 22, 1995; lowest water level recorded, 11.07 ft below land-surface datum, Aug. 20, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.41	9.54	10.08	8.06	7.88	8.15	8.05	8.14	8.52	8.55	10.01	9.23
2	8.29	9.57	10.13	8.04	7.71	8.20	8.03	7.87	8.61	8.42	10.09	9.03
3	8.31	9.59	10.17	7.95	7.62	8.22	8.07	7.79	8.69	8.42	10.16	8.91
4	8.34	9.64	10.21	7.90	7.62	8.28	8.11	7.74	8.73	8.45	10.22	8.71
5	8.40	9.71	10.25	7.91	7.67	8.32	8.15	7.75	8.81	8.52	10.29	8.43
6	8.47	9.78	10.27	7.92	7.70	8.33	8.18	7.77	8.90	8.61	10.36	8.12
7	8.54	9.83	10.30	7.94	7.73	8.38	8.20	7.77	8.97	8.71	10.42	7.82
8	8.55	9.86	10.33	7.95	7.79	8.44	8.21	7.82	9.05	8.81	10.47	7.68
9	8.37	9.87	10.36	7.89	7.84	8.41	8.25	7.91	9.13	8.90	10.51	7.57
10	8.28	9.90	10.39	7.81	7.88	8.32	8.34	7.98	9.13	9.00	10.58	7.37
11	8.29	9.93	10.42	7.81	7.94	8.33	8.39	8.05	9.08	9.07	10.63	7.39
12	8.35	9.99	10.43	7.83	7.93	8.36	8.45	8.08	9.17	9.12	10.67	7.43
13	8.42	10.04	10.36	7.85	7.93	8.42	8.53	8.10	9.25	9.15	10.72	7.46
14	8.49	10.07	10.31	7.87	7.99	8.41	8.58	7.97	9.34	9.03	10.77	7.34
15	8.59	10.08	10.27	7.79	8.02	8.29	8.59	7.66	9.37	8.94	10.82	7.05
16	8.68	10.11	10.03	7.76	8.05	8.29	8.55	7.59	9.27	8.93	10.86	6.89
17	8.76	10.12	9.81	7.77	8.06	8.30	8.60	7.59	9.02	8.98	10.90	7.02
18	8.81	10.11	9.68	7.75	8.02	8.31	8.66	7.63	8.82	9.04	10.94	7.10
19	8.86	10.10	9.55	7.75	7.96	8.36	8.72	7.64	8.72	9.11	11.00	7.17
20	8.90	10.04	9.44	7.79	7.92	8.40	8.76	7.66	8.46	9.20	11.04	7.23
21	8.98	10.02	9.39	7.82	7.93	8.36	8.82	7.75	8.26	---	10.94	7.05
22	9.04	10.03	9.33	7.86	7.99	8.20	8.88	7.83	8.21	9.33	10.82	7.00
23	9.10	10.02	9.27	7.88	8.03	8.16	8.94	7.90	8.21	9.40	10.79	7.07
24	9.15	10.01	9.22	7.77	8.05	8.14	9.00	7.96	8.25	9.46	10.78	7.13
25	9.20	10.04	9.10	7.67	8.07	8.15	9.07	8.07	8.31	9.49	10.76	7.20
26	9.26	10.03	8.86	7.69	8.11	7.99	9.10	8.15	8.37	9.55	10.74	7.27
27	9.28	10.06	8.65	7.69	8.14	7.91	9.12	8.23	8.45	9.64	10.73	7.31
28	9.31	10.08	8.41	7.72	8.13	7.91	9.10	8.30	8.53	9.71	10.70	7.32
29	9.36	10.09	8.19	7.76	---	7.96	8.88	8.36	8.59	9.78	10.69	7.32
30	9.42	10.07	8.10	7.83	---	8.02	8.58	8.45	8.66	9.85	10.19	7.37
31	9.47	---	8.07	7.88	---	8.05	---	8.50	---	9.93	9.60	---

WTR YR 1999 MEAN 8.75 HIGH 6.89 LOW 11.04


343641077290106 ON-230
WATER LEVEL, IN FEET BELOW LAND SURFACE
6
7
8
9
10
11
12
1995
1996
1997
1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

344139077211201. Local number, On-255; DENR Hadnot Point Research Station well X24s1.

LOCATION.--Lat 34°41'39", long 77°21'12", Hydrologic Unit 03030001, on Camp Lejeune, from the corner of Brewster Boulevard and Stone Street Extension proceed south on Stone Street Extension 1.6 mi to horse stables, well is in pasture 0.4 mi from tack shop. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 90 ft, diameter 4 in., cased to 80 ft, screened interval from 80 to 90 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 18.63 ft above sea level, (levels by DENR). Measuring point: Top of floor of shelter 1.32 ft above land-surface datum.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

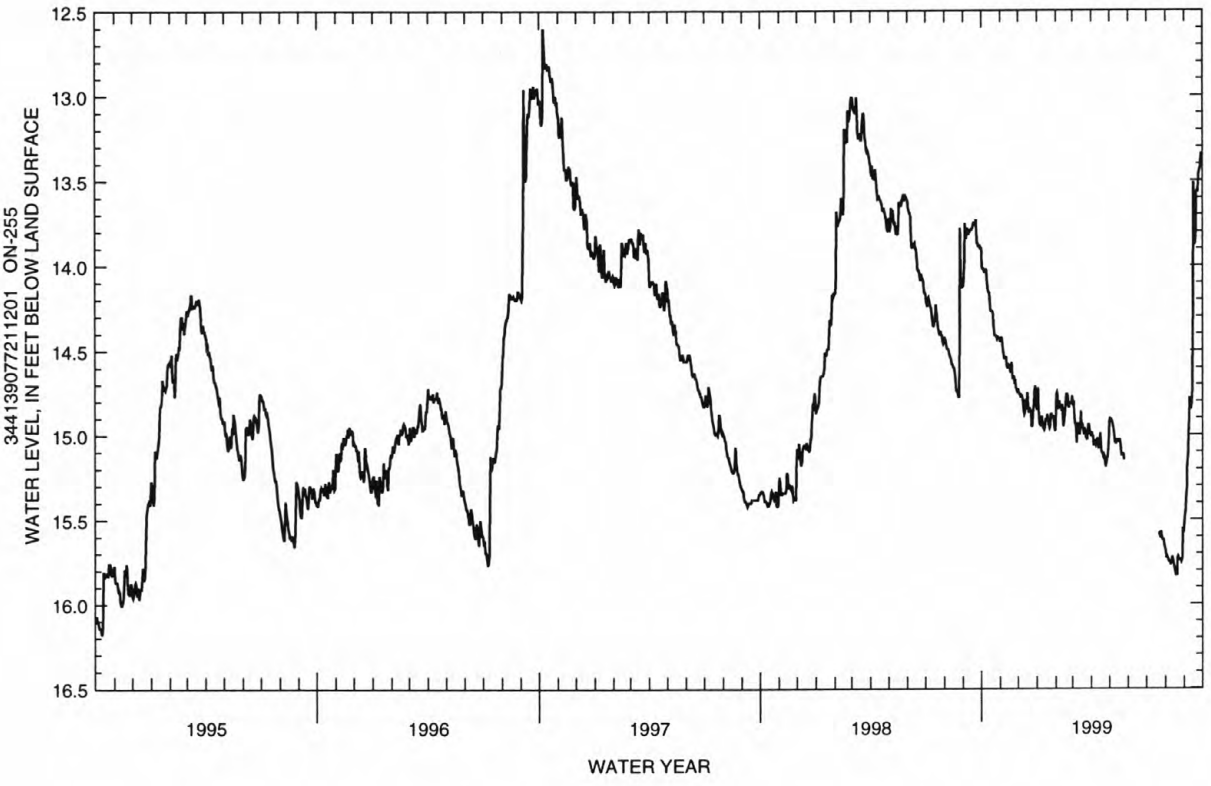
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 12.36 ft below land-surface datum, Oct. 8, 1996; lowest water level recorded, 16.19 ft below land-surface datum, Oct. 11, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.90	14.45	14.73	14.85	14.93	14.79	14.99	14.92	---	---	15.68	15.53
2	14.01	14.44	14.75	14.85	14.76	14.83	14.99	14.90	---	---	15.70	15.48
3	14.02	14.42	14.76	14.72	14.75	14.80	15.01	14.91	---	---	15.73	15.45
4	14.02	14.43	14.76	14.84	14.77	14.88	15.01	14.91	---	---	15.72	15.37
5	14.03	14.47	14.78	14.93	14.85	14.94	15.06	14.92	---	---	15.73	15.32
6	14.04	14.51	14.76	14.94	14.83	14.93	15.06	14.93	---	---	15.74	15.19
7	14.04	14.53	14.77	14.94	14.80	14.97	15.05	14.95	---	---	15.75	15.11
8	14.03	14.55	14.78	14.95	14.82	15.05	15.06	14.97	---	---	15.75	14.97
9	14.02	14.54	14.82	14.89	14.84	14.98	15.03	15.00	---	---	15.75	14.93
10	14.09	14.54	14.86	14.93	14.84	14.93	15.06	15.04	---	---	15.77	14.78
11	14.13	14.54	14.88	14.96	14.86	14.95	15.02	15.05	---	---	15.75	14.83
12	14.15	14.59	14.87	14.96	14.82	14.97	15.04	15.05	---	---	15.72	14.85
13	14.16	14.60	14.79	14.97	14.88	15.00	15.08	15.03	---	---	15.73	14.82
14	14.16	14.60	14.85	14.96	14.95	14.94	15.08	15.03	---	---	15.75	14.75
15	14.21	14.59	14.84	14.91	14.92	14.86	15.03	15.04	---	---	15.77	14.32
16	14.26	14.60	14.75	14.91	14.89	14.95	14.99	15.04	---	---	15.79	13.51
17	14.27	14.58	14.79	14.92	14.85	14.94	15.05	15.03	---	---	15.81	13.81
18	14.27	14.63	14.87	14.88	14.79	14.94	15.10	15.03	---	---	15.83	13.88
19	14.27	14.62	14.85	14.91	14.76	14.98	15.11	15.05	---	---	15.83	13.87
20	14.28	14.57	14.84	14.94	14.76	15.00	15.11	15.09	---	---	15.83	13.81
21	14.34	14.64	14.86	14.94	14.77	14.96	15.13	15.12	---	15.58	15.73	13.57
22	14.38	14.67	14.86	14.96	14.83	14.98	15.12	15.12	---	15.58	15.72	13.56
23	14.41	14.66	14.95	14.95	14.84	15.01	15.13	15.12	---	15.60	15.73	13.57
24	14.41	14.65	14.95	14.88	14.81	15.02	15.17	15.11	---	15.61	15.74	13.50
25	14.41	14.70	14.92	14.88	14.81	15.03	15.19	15.15	---	15.57	15.74	13.46
26	14.42	14.67	14.84	14.90	14.81	14.98	15.17	---	---	15.60	15.74	13.44
27	14.43	14.72	14.82	14.89	14.82	14.94	15.15	---	---	15.62	15.75	13.42
28	14.42	14.73	14.74	14.89	14.77	14.94	15.13	---	---	15.62	15.74	13.38
29	14.42	14.74	14.71	14.92	---	14.96	15.09	---	---	15.62	15.73	13.34
30	14.43	14.73	14.77	14.96	---	14.99	15.03	---	---	15.65	15.55	13.36
31	14.43	---	14.84	14.98	---	15.00	---	---	---	15.67	15.58	---

WTR YR 1999 MEAN 14.87 HIGH 13.34 LOW 15.83


12.5
13.0
13.5
14.0
14.5
15.0
15.5
16.0
16.5
WATER LEVEL, IN FEET BELOW LAND SURFACE
344139077211201 ON-255
1995
1996
1997
1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

344139077211202. Local number, On-256; DENR Hadnot Point Research Station well X24s2.

LOCATION.--Lat 34°41'39", long 77°21'12", Hydrologic Unit 03030001, on Camp Lejeune, from the corner of Brewster Boulevard and Stone Street Extension proceed south on Stone Street Extension 1.6 mi to horse stables, well is in pasture 0.4 mi from tack shop. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 918.0 ft, well cased 2.5 in. to 918.0 ft in the Black Creek aquifer, screened interval from 908.0 to 918.0 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 19.24 ft above sea level, (levels by DENR) . Measuring point: Top of floor of shelter 4.69 ft above land-surface datum.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

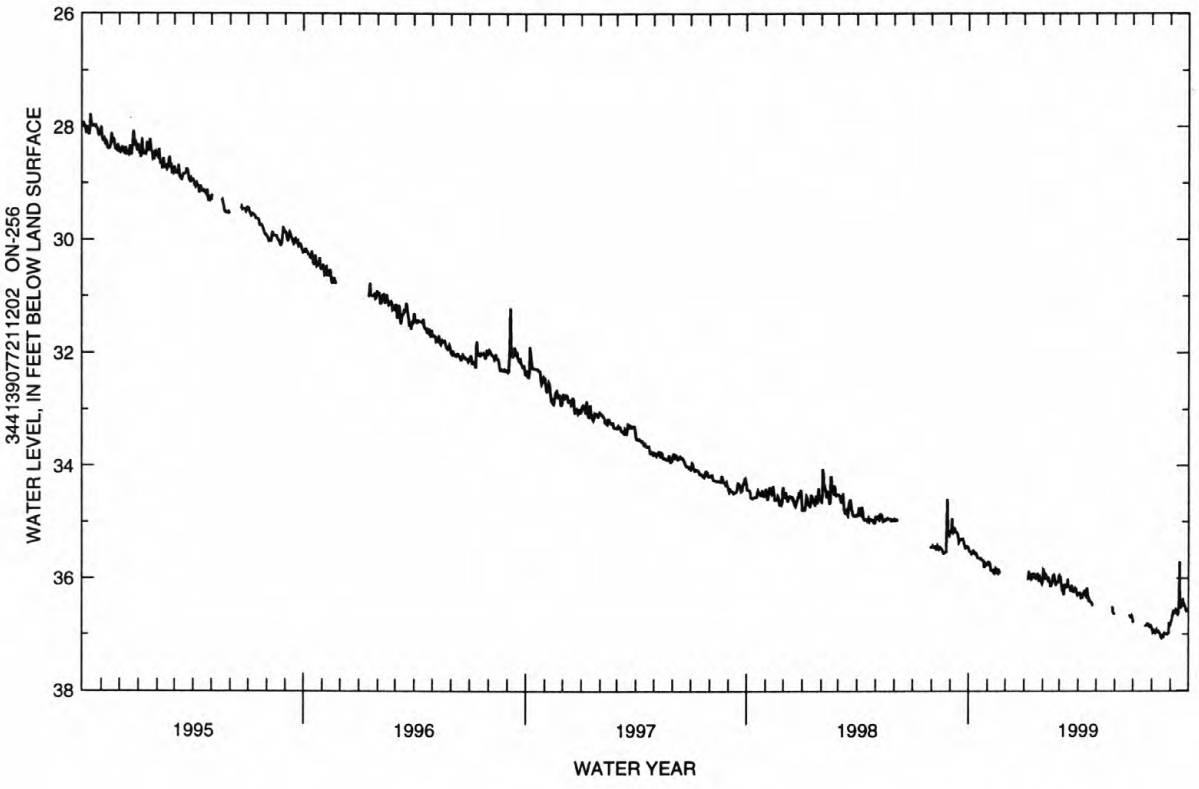
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 27.70 ft below land-surface datum, Oct. 14, 1994; lowest water level recorded, 37.06 ft below land-surface datum, Aug. 16, 17, 20, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35.45	35.76	---	---	36.06	35.95	36.28	---	---	36.78	36.89	36.82
2	35.51	35.76	---	---	35.84	36.00	36.27	---	---	36.79	36.91	36.77
3	35.52	35.71	---	---	35.85	35.96	36.28	---	---	---	36.96	36.75
4	35.53	35.71	---	---	35.91	36.08	36.27	---	---	---	36.94	36.67
5	35.54	35.72	---	---	36.01	36.18	36.31	---	---	---	36.93	36.62
6	35.57	35.76	---	36.01	36.01	36.16	36.35	---	---	---	36.96	36.64
7	35.56	35.86	---	36.01	35.95	36.23	36.34	---	---	---	36.98	36.62
8	35.53	35.86	---	36.01	35.97	36.30	36.34	---	---	---	36.96	36.58
9	35.51	35.86	---	35.87	36.00	36.23	36.27	---	---	---	36.93	36.58
10	35.52	35.87	---	35.94	36.03	36.10	36.26	---	---	---	36.95	36.56
11	35.55	35.86	---	35.98	36.07	36.15	36.25	---	---	---	36.94	36.57
12	35.57	35.91	---	36.00	36.02	36.16	36.21	---	---	---	36.94	36.64
13	35.58	35.92	---	36.03	36.05	36.16	36.30	---	---	---	36.96	36.65
14	35.56	35.89	---	36.02	36.14	36.11	36.32	---	---	---	36.97	36.62
15	35.58	35.83	---	35.91	36.14	36.01	36.25	---	---	---	37.00	36.42
16	35.63	35.85	---	35.98	36.11	36.14	36.17	---	---	---	37.04	35.71
17	35.64	35.82	---	35.98	36.09	36.16	36.29	---	---	---	37.06	36.23
18	35.64	35.91	---	35.91	35.97	36.16	36.37	---	---	---	37.03	36.46
19	35.64	35.92	---	35.97	35.95	36.21	36.42	---	---	---	37.02	36.52
20	35.64	35.84	---	35.99	35.94	36.24	36.38	---	---	---	37.04	36.51
21	35.64	35.88	---	35.97	35.97	36.14	36.41	---	---	36.87	37.00	36.40
22	35.66	35.92	---	36.01	36.07	36.14	36.43	---	---	36.85	36.98	36.39
23	35.68	---	---	36.01	36.13	36.22	36.43	---	---	36.84	37.00	36.45
24	35.68	---	---	35.91	36.09	36.24	36.45	---	36.66	36.84	37.00	36.46
25	35.68	---	---	35.98	36.08	36.24	36.48	---	36.66	36.81	36.99	36.49
26	35.69	---	---	36.04	36.07	36.18	36.48	---	36.67	36.81	36.99	36.52
27	35.81	---	---	36.03	36.07	36.17	---	36.50	36.70	36.84	37.00	36.59
28	35.77	---	---	35.99	35.96	36.19	---	36.53	36.70	36.86	36.99	36.59
29	35.73	---	---	36.03	---	36.19	---	36.61	36.67	36.83	36.98	36.56
30	35.74	---	---	36.07	---	36.27	---	36.63	36.71	36.83	36.79	36.56
31	35.74	---	---	36.10	---	36.30	---	36.65	---	36.86	36.86	---

WTR YR 1999 MEAN 36.25 HIGH 35.45 LOW 37.06


26
28
30
32
34
36
38
WATER LEVEL, IN FEET BELOW LAND SURFACE
344139077211202 ON-256
1995
1996
1997
1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

344139077211204. Local number, On-264; DENR Hadnot Point Research Station well X24s4.

LOCATION.--Lat 34°41'39", long 77°21'12", Hydrologic Unit 03030001, on Camp Lejeune, from the corner of Brewster Boulevard and Stone Street Extension proceed south on Stone Street Extension 1.6 mi to horse stables, well is in pasture 0.4 mi from tack shop. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Pee Dee aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 527 ft, diameter 4 in., cased to 517 ft, screened interval from 517 to 527 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 23.19 ft above sea level, (levels by DENR). Measuring point: Top of shelter floor, 3.47 ft above land-surface datum.

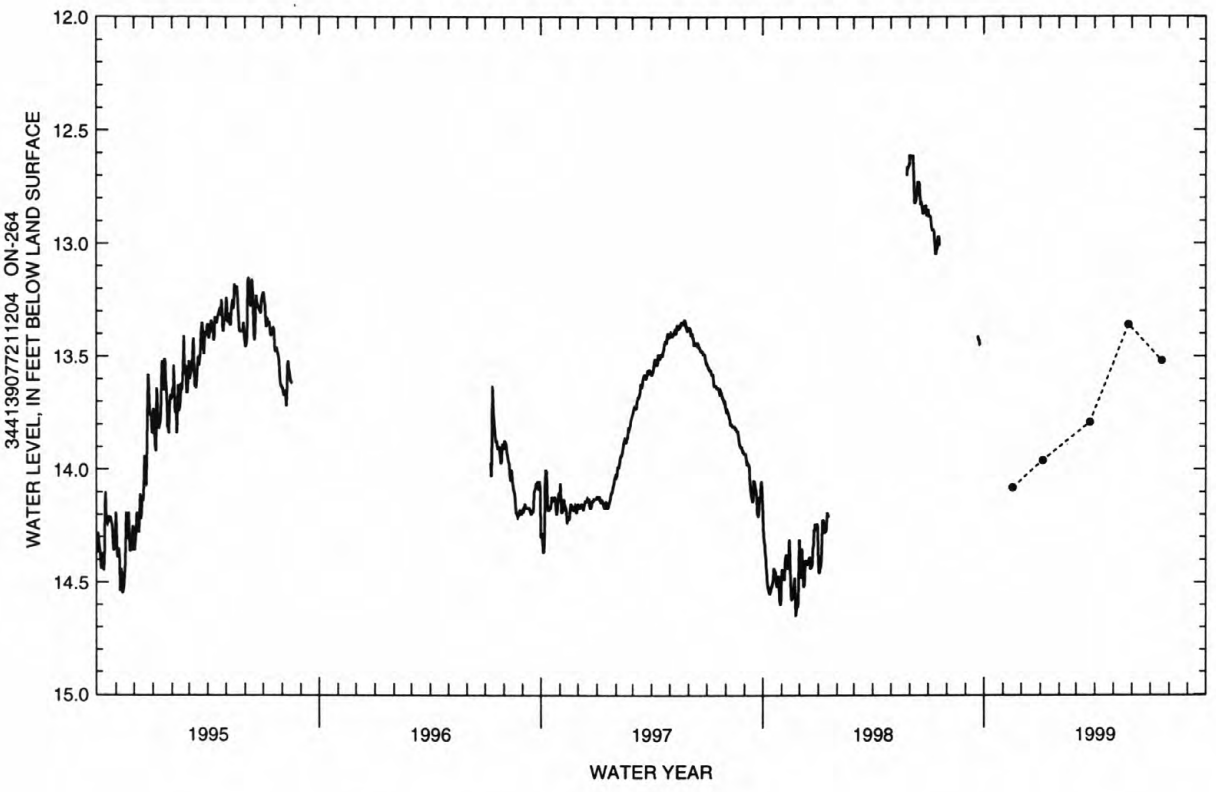
REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year. Continuous record October 1994 to September 1998.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.08 ft below land-surface datum, June 6, 1995; lowest water level recorded, 14.57 ft below land-surface datum, Nov. 11, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 17	14.08	JAN 05	13.96	MAR 24	13.79	MAY 26	13.36	JUL 20	13.52


344139077211204 ON-264
WATER LEVEL, IN FEET BELOW LAND SURFACE
12.0
12.5
13.0
13.5
14.0
14.5
15.0
1995
1996
1997
1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

344139077211205. Local number, On-265; DENR Hadnot Point Research Station well X24s5.

LOCATION.--Lat 34°41'39", long 77°21'12", Hydrologic Unit 03030001, on Camp Lejeune, from the corner of Brewster Boulevard and Stone Street Extension proceed south on Stone Street Extension 1.6 mi to horse stables, well is in pasture 0.4 mi from tack shop. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 295 ft, diameter 4 in., well cased to 285 ft, screened interval from 285 to 295 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 23.26 ft above sea level, (levels by DENR). Measuring point: Top of shelter floor, 3.47 ft above land-surface datum.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

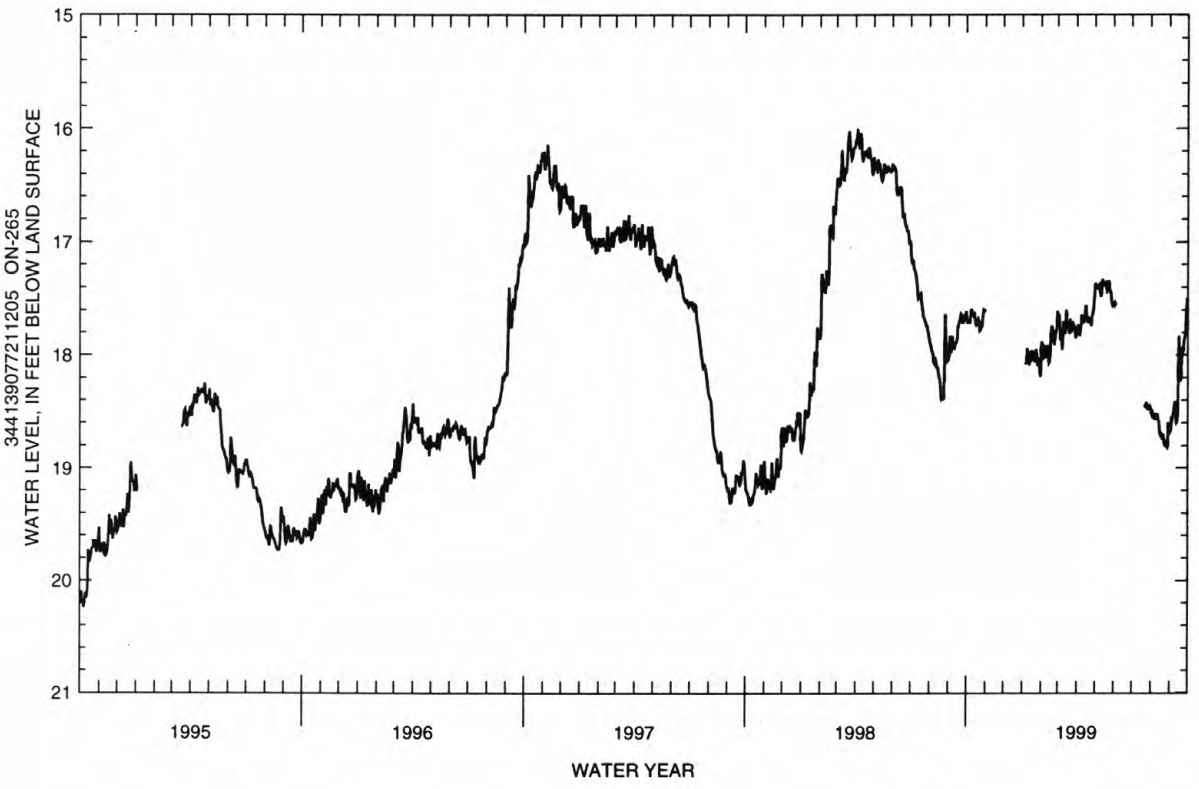
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 16.08 ft below land-surface datum, Nov. 8, 1996; lowest water level recorded, 20.26 ft below land-surface datum, Oct. 7, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.61	17.61	---	---	18.10	17.63	17.76	17.40	17.55	---	18.48	18.69
2	17.69	---	---	---	17.88	17.73	17.75	17.36	17.56	---	18.51	18.67
3	17.71	---	---	---	17.90	17.64	17.78	17.39	17.54	---	18.53	18.66
4	17.71	---	---	---	17.91	17.74	17.73	17.39	17.56	---	18.51	18.55
5	17.71	---	---	---	18.04	17.87	17.78	17.40	---	---	18.53	18.56
6	17.71	---	---	18.08	18.00	17.79	17.83	17.39	---	---	18.54	18.54
7	17.71	---	---	18.07	17.93	17.84	17.78	17.39	---	---	18.57	18.52
8	17.64	---	---	18.07	17.95	17.95	17.73	17.38	---	---	18.55	18.47
9	17.59	---	---	17.94	18.00	17.80	17.64	17.42	---	---	18.52	18.46
10	17.61	---	---	18.01	17.99	17.70	17.70	17.45	---	---	18.57	18.41
11	17.64	---	---	18.07	18.02	17.74	17.66	17.48	---	---	18.55	18.52
12	17.65	---	---	18.08	17.92	17.77	17.66	17.41	---	---	18.54	18.60
13	17.64	---	---	18.08	17.97	17.81	17.70	17.33	---	---	18.57	18.59
14	17.62	---	---	18.05	18.07	17.67	17.69	17.34	---	---	18.58	18.54
15	17.67	---	---	17.96	18.06	17.60	17.60	17.36	---	---	18.64	18.27
16	17.72	---	---	18.03	17.98	17.76	17.56	17.38	---	---	18.70	17.83
17	17.73	---	---	18.05	17.90	17.75	17.64	17.38	---	---	18.71	18.09
18	17.72	---	---	17.96	17.77	17.72	17.69	17.37	---	---	18.70	18.21
19	17.70	---	---	18.01	17.74	17.79	17.71	17.36	---	---	18.71	18.23
20	17.68	---	---	18.03	17.78	17.81	17.66	17.40	---	---	18.75	18.18
21	17.70	---	---	18.01	17.79	17.68	17.69	17.43	---	18.44	18.70	17.98
22	17.72	---	---	18.04	17.88	17.72	17.70	17.42	---	18.44	18.73	17.93
23	17.78	---	---	18.03	17.91	17.80	17.68	17.38	---	18.46	18.77	17.97
24	17.77	---	---	17.95	17.84	17.77	17.71	17.34	---	18.46	18.79	17.92
25	17.72	---	---	18.03	17.81	17.77	17.74	17.42	---	18.42	18.78	17.88
26	17.71	---	---	18.09	17.79	17.72	17.66	17.44	---	18.45	18.80	17.85
27	17.72	---	---	18.07	17.77	17.73	17.64	17.44	---	18.48	18.81	17.80
28	17.65	---	---	18.03	17.61	17.76	17.61	17.50	---	18.48	18.82	17.72
29	17.60	---	---	18.08	---	17.78	17.55	17.54	---	18.46	18.80	17.59
30	17.61	---	---	18.13	---	17.84	17.49	17.56	---	18.45	18.60	17.50
31	17.60	---	---	18.19	---	17.84	---	17.55	---	18.47	18.70	---

WTR YR 1999 MEAN 17.93 HIGH 17.33 LOW 18.82


15
16
17
18
19
20
21
WATER LEVEL, IN FEET BELOW LAND SURFACE
344139077211205 ON-265
1995
1996
1997
1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

344139077211206. Local number, On-266; DENR Hadnot Point Research Station well X24s6.

LOCATION.--Lat 34°41'39", long 77°21'12", Hydrologic Unit 03030001, on Camp Lejeune, from the corner of Brewster Boulevard and Stone Street Extension proceed south on Stone Street Extension 1.6 mi to horse stables, well is in pasture 0.4 mi from tack shop. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 130 ft, diameter 6 in., cased to 120 ft, screened interval from 120 to 130 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 23.47 ft above sea level, (levels by DENR). Measuring point: Top of shelter floor, 1.73 ft above land-surface datum.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

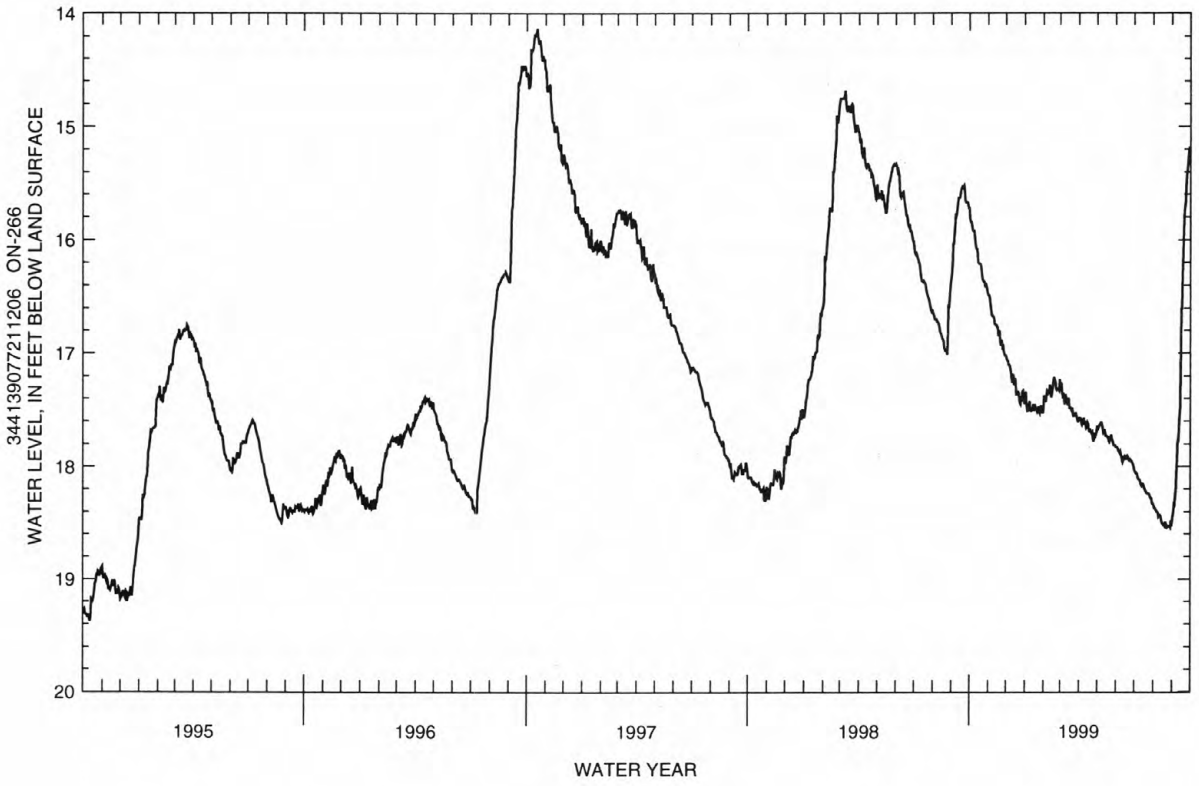
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 14.09 ft below land-surface datum, Oct. 18, 1996; lowest water level recorded, 19.38 ft below land-surface datum, Oct. 11, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.72	16.48	17.02	17.44	17.50	17.26	17.57	17.65	17.83	18.03	18.33	18.48
2	15.81	16.49	17.05	17.41	17.38	17.31	17.57	17.65	17.83	18.04	18.35	18.44
3	15.84	16.49	17.06	17.34	17.38	17.26	17.59	17.66	17.83	18.05	18.37	18.41
4	15.84	16.52	17.07	17.45	17.38	17.34	17.57	17.64	17.84	18.06	18.37	18.35
5	15.87	16.57	17.10	17.51	17.43	17.40	17.62	17.63	17.86	18.06	18.38	18.36
6	15.91	16.62	17.10	17.51	17.39	17.35	17.63	17.62	17.87	18.07	18.39	18.27
7	15.92	16.66	17.11	17.50	17.33	17.39	17.61	17.61	17.88	18.10	18.40	18.21
8	15.92	16.67	17.13	17.48	17.34	17.45	17.60	17.61	17.87	18.11	18.40	18.06
9	15.92	16.67	17.17	17.42	17.35	17.41	17.57	17.63	17.90	18.11	18.41	17.95
10	15.99	16.68	17.22	17.49	17.33	17.36	17.63	17.66	17.91	18.12	18.44	17.78
11	16.04	16.69	17.25	17.51	17.34	17.40	17.60	17.70	17.94	18.14	18.43	17.78
12	16.07	16.74	17.25	17.51	17.28	17.42	17.63	17.69	17.96	18.16	18.43	17.71
13	16.08	16.75	17.18	17.50	17.32	17.46	17.66	17.67	17.94	18.17	18.44	17.59
14	16.08	16.75	17.27	17.50	17.39	17.40	17.65	17.70	17.92	18.15	18.46	17.49
15	16.16	16.75	17.27	17.45	17.36	17.40	17.61	17.73	17.91	18.15	18.49	17.11
16	16.20	16.77	17.22	17.48	17.33	17.48	17.62	17.73	17.92	18.16	18.50	16.60
17	16.21	16.77	17.28	17.49	17.27	17.48	17.67	17.73	17.90	18.19	18.51	16.61
18	16.21	16.84	17.37	17.45	17.23	17.48	17.69	17.74	17.93	18.20	18.52	16.35
19	16.21	16.84	17.35	17.49	17.21	17.50	17.69	17.74	17.93	18.21	18.52	16.17
20	16.22	16.80	17.34	17.49	17.24	17.51	17.68	17.77	17.91	18.22	18.53	15.98
21	16.27	16.89	17.34	17.50	17.25	17.48	17.70	17.78	17.92	18.23	18.49	15.76
22	16.31	16.93	17.35	17.52	17.31	17.54	17.71	17.76	17.94	18.24	18.51	15.71
23	16.35	16.91	17.42	17.51	17.32	17.56	17.70	17.74	17.95	18.24	18.52	15.68
24	16.36	16.90	17.44	17.47	17.31	17.54	17.75	17.72	17.95	18.24	18.54	15.54
25	16.37	16.95	17.45	17.52	17.31	17.54	17.78	17.76	17.94	18.24	18.53	15.44
26	16.37	16.94	17.40	17.53	17.32	17.53	17.75	17.77	17.95	18.25	18.53	15.39
27	16.41	16.98	17.42	17.48	17.33	17.53	17.72	17.78	17.96	18.27	18.53	15.32
28	16.41	17.01	17.34	17.46	17.23	17.56	17.73	17.81	17.97	18.28	18.53	15.24
29	16.40	17.02	17.33	17.48	---	17.58	17.71	17.81	17.98	18.28	18.54	15.20
30	16.43	17.02	17.39	17.51	---	17.60	17.70	17.81	18.00	18.32	18.48	15.18
31	16.46	---	17.44	17.53	---	17.60	---	17.82	---	18.33	18.53	---

WTR YR 1999 MEAN 17.44 HIGH 15.18 LOW 18.54


344139077211206 ON-266
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1995
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1997
1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

344139077211207. Local number, On-267; DENR Hadnot Point Research Station well X24s7.

LOCATION.--Lat 34°41'39", long 77°21'12", Hydrologic Unit 03030001, on Camp Lejeune, from the corner of Brewster Boulevard and Stone Street Extension proceed south on Stone Street Extension 1.6 mi to horse stables, well is in pasture 0.4 mi from tack shop. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Surficial aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 40 ft, diameter 4 in., cased to 30 ft, screened interval from 30 to 40 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 24.06 ft above sea level, (levels by DENR). Measuring point: Top of shelter floor, 0.93 ft above land-surface datum.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

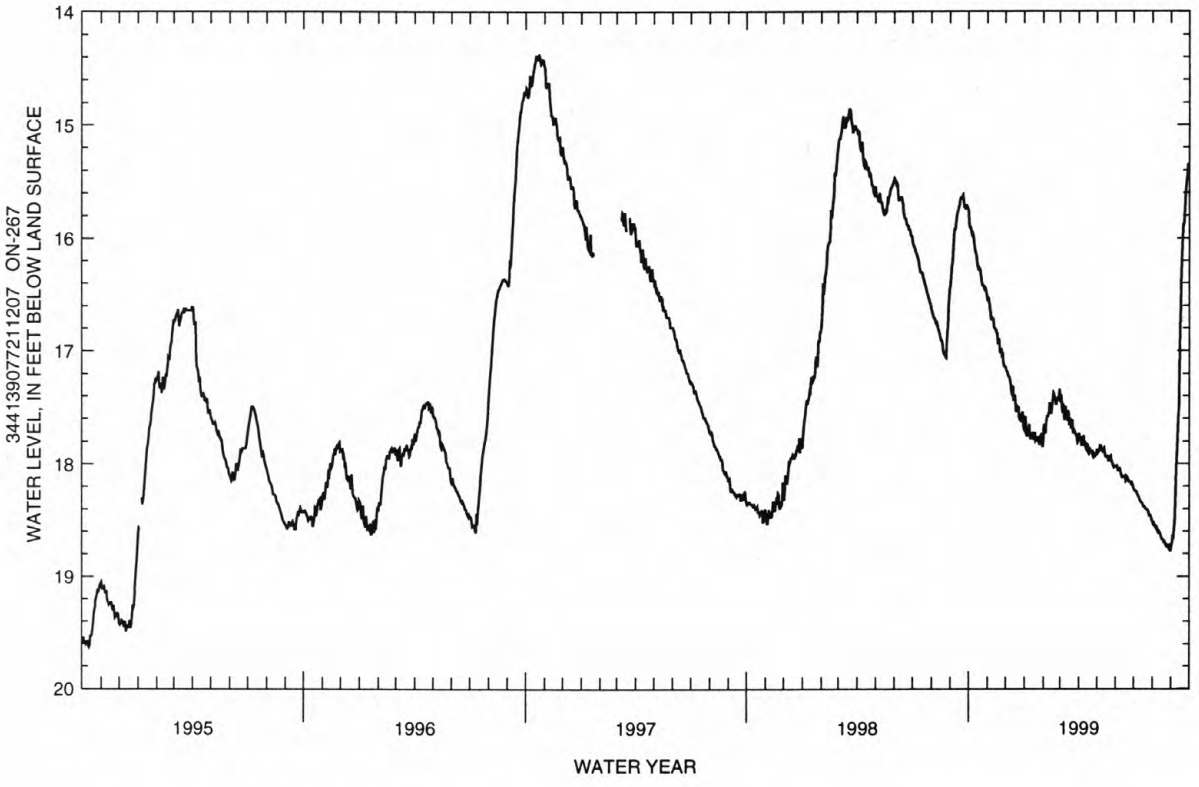
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 14.35 ft below land-surface datum, Oct. 18, 1996; lowest water level recorded, 19.63 ft below land-surface datum, Oct. 11, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.75	16.55	17.14	17.70	17.77	17.40	17.73	17.88	18.03	18.22	18.51	18.75
2	15.86	16.55	17.17	17.65	17.65	17.46	17.75	17.88	18.03	18.23	18.53	18.72
3	15.90	16.54	17.18	17.58	17.70	17.39	17.79	17.90	18.01	18.24	18.54	18.69
4	15.90	16.57	17.19	17.72	17.66	17.49	17.76	17.89	18.03	18.24	18.53	18.63
5	15.92	16.61	17.22	17.76	17.73	17.55	17.82	17.88	18.06	18.25	18.55	18.67
6	15.95	16.67	17.22	17.74	17.64	17.47	17.84	17.85	18.06	18.25	18.56	18.58
7	15.97	16.72	17.23	17.74	17.58	17.54	17.81	17.86	18.06	18.27	18.57	18.51
8	15.96	16.72	17.25	17.71	17.58	17.61	17.79	17.85	18.05	18.28	18.56	18.33
9	15.98	16.71	17.29	17.65	17.58	17.51	17.75	17.87	18.07	18.29	18.57	18.16
10	16.04	16.72	17.34	17.75	17.55	17.49	17.84	17.88	18.09	18.30	18.60	17.98
11	16.09	16.72	17.38	17.78	17.54	17.55	17.80	17.90	18.11	18.32	18.61	17.89
12	16.12	16.79	17.39	17.76	17.46	17.58	17.84	17.87	18.12	18.33	18.60	17.74
13	16.13	16.80	17.31	17.76	17.51	17.62	17.87	17.86	18.11	18.34	18.61	17.60
14	16.15	16.81	17.43	17.75	17.56	17.53	17.88	17.90	18.11	18.34	18.62	17.49
15	16.20	16.81	17.43	17.72	17.52	17.55	17.82	17.93	18.11	18.35	18.64	17.12
16	16.25	16.84	17.39	17.78	17.47	17.66	17.84	17.94	18.12	18.36	18.66	16.79
17	16.27	16.84	17.46	17.78	17.42	17.63	17.90	17.94	18.11	18.38	18.67	16.60
18	16.26	16.92	17.54	17.72	17.37	17.62	17.91	17.93	18.15	18.38	18.67	16.34
19	16.27	16.91	17.51	17.79	17.38	17.68	17.90	17.93	18.14	18.38	18.68	16.17
20	16.28	16.89	17.49	17.78	17.42	17.68	17.88	17.97	18.12	18.39	18.70	16.04
21	16.32	16.97	17.50	17.78	17.42	17.61	17.90	17.97	18.13	18.40	18.68	15.88
22	16.36	17.02	17.50	17.80	17.47	17.71	17.90	17.96	18.14	18.40	18.71	15.88
23	16.40	17.00	17.59	17.78	17.47	17.73	17.88	17.94	18.16	18.41	18.72	15.83
24	16.42	16.98	17.60	17.76	17.43	17.70	17.93	17.93	18.16	18.41	18.73	15.72
25	16.42	17.04	17.62	17.82	17.42	17.71	17.94	17.98	18.16	18.42	18.72	15.62
26	16.43	17.03	17.59	17.83	17.43	17.73	17.91	17.98	18.17	18.44	18.73	15.54
27	16.45	17.10	17.63	17.76	17.43	17.74	17.92	18.00	18.18	18.46	18.74	15.47
28	16.44	17.13	17.56	17.75	17.34	17.75	17.93	18.02	18.17	18.46	18.75	15.42
29	16.45	17.14	17.54	17.80	---	17.78	17.92	18.03	18.18	18.46	18.74	15.35
30	16.48	17.14	17.64	17.83	---	17.81	17.92	18.02	18.20	18.48	18.71	15.35
31	16.51	---	17.69	17.85	---	17.80	---	18.02	---	18.50	18.78	---

WTR YR 1999 MEAN 17.61 HIGH 15.35 LOW 18.78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WATER LEVEL, IN FEET BELOW LAND SURFACE
344139077211207 ON-267
1995
1996
1997
1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

344037077253901. Local number, On-291; Ragged Point Well

LOCATION.--Lat 34°40'37", long 77°25'39", Hydrologic Unit 03030001, at U.S. Highway 17 in Verona, turn east onto Town Point Road, go 2.05 mi to road on left marked TLZ Eagle, turn left, go 0.9 mi, well is on left side of road. Owner: U.S. Geological Survey.

AQUIFER.--Castle Hayne aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 180 ft, diameter 2 in., cased to 170 ft, screened interval from 170 to 180 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 25 ft above sea level, from topographic map. Measuring point: Top of shelter floor, 2.87 ft above land-surface datum.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

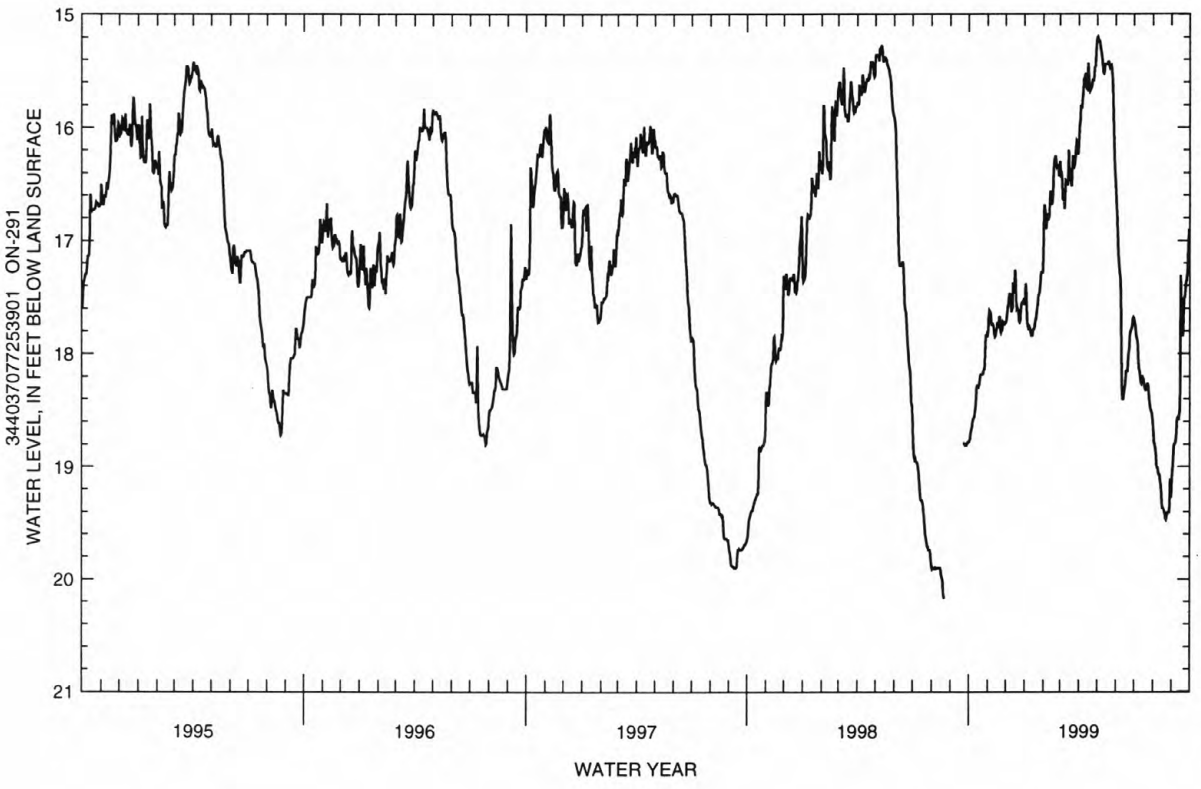
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 15.20 ft below land-surface datum, May 2, 1999; lowest water level recorded, 20.18 ft below land-surface datum, Aug. 21, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.78	17.83	17.72	17.56	17.14	16.30	16.10	15.21	16.56	17.69	18.62	19.18
2	18.77	17.80	17.71	17.56	16.75	16.44	15.99	15.20	16.68	17.72	18.70	19.07
3	18.76	17.67	17.65	17.38	16.68	16.39	15.95	15.22	16.79	17.76	18.79	19.01
4	18.70	17.62	17.59	17.46	16.73	16.44	15.81	15.23	16.96	17.82	18.80	18.90
5	18.67	17.63	17.57	17.68	16.88	16.64	15.81	15.24	17.12	17.86	18.84	18.81
6	18.66	17.64	17.51	17.75	16.90	16.63	15.83	15.27	17.21	17.87	18.90	18.80
7	18.61	17.73	17.47	17.76	16.81	16.60	15.75	15.31	17.28	17.92	18.99	18.79
8	18.58	17.75	17.47	17.79	16.76	16.72	15.68	15.34	17.31	18.05	19.01	18.77
9	18.57	17.73	17.51	17.76	16.82	16.63	15.56	15.38	17.45	18.13	19.01	18.70
10	18.56	17.75	17.63	17.77	16.80	16.47	15.59	15.44	17.89	18.15	19.06	18.58
11	18.51	17.76	17.61	17.81	16.78	16.48	15.54	15.51	18.32	18.20	19.07	18.57
12	18.47	17.82	17.59	17.84	16.62	16.48	15.52	15.52	18.40	18.25	19.07	18.58
13	18.39	17.85	17.38	17.84	16.56	16.51	15.65	15.50	18.40	18.26	19.13	18.58
14	18.29	17.84	17.38	17.84	16.66	16.41	15.66	15.44	18.35	18.20	19.16	18.52
15	18.28	17.80	17.45	17.80	16.68	16.20	15.59	15.44	18.31	18.20	19.23	18.48
16	18.28	17.78	17.26	17.78	16.66	16.42	15.43	15.44	18.29	18.22	19.33	17.31
17	18.29	17.72	17.29	17.78	16.58	16.45	15.53	15.44	18.22	18.25	19.37	17.57
18	18.27	17.75	17.51	17.74	16.39	16.45	15.65	15.44	18.15	18.29	19.37	17.79
19	18.23	17.77	17.60	17.70	16.30	16.50	15.68	15.42	18.15	18.31	19.38	17.84
20	18.19	17.68	17.59	17.69	16.27	16.52	15.67	15.42	18.15	18.32	19.41	17.84
21	18.18	17.67	17.61	17.64	16.25	16.35	15.65	15.45	18.05	18.32	19.42	17.63
22	18.18	17.79	17.62	17.60	16.29	16.25	15.64	15.47	17.99	18.30	19.46	17.50
23	18.18	17.81	17.71	17.56	16.35	16.34	15.60	15.46	17.96	18.26	19.47	17.50
24	18.18	17.79	17.72	17.49	16.34	16.35	15.57	15.45	17.85	18.28	19.45	17.43
25	18.15	17.79	17.71	17.47	16.35	16.32	15.59	15.48	17.80	18.34	19.41	17.37
26	18.14	17.72	17.62	17.45	16.36	16.27	15.55	15.56	17.79	18.40	19.41	17.35
27	18.12	17.73	17.56	17.39	16.43	16.18	15.47	15.67	17.77	18.45	19.41	17.29
28	17.97	17.74	17.55	17.30	16.34	16.12	15.46	15.90	17.75	18.49	19.41	17.16
29	17.84	17.74	17.54	17.28	---	16.13	15.37	16.13	17.69	18.51	19.36	17.01
30	17.84	17.73	17.53	17.28	---	16.21	15.26	16.32	17.68	18.52	19.11	16.90
31	17.82	---	17.56	17.28	---	16.24	---	16.45	---	18.57	19.28	---

WTR YR 1999 MEAN 17.39 HIGH 15.20 LOW 19.47


344037077253901 ON-291
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1999
WATER YEAR

ONSLOW COUNTY--Continued

344304077232901. Local number, On-292; Paradise Point Well.

LOCATION.--Lat 34°43'04", long 77°23'29", Hydrologic Unit 03030001, from Brewster Boulevard entrance of Camp Lejeune golf course, go north to driving range, west on gravel road north of pond to split in road, right to tree line, 500 ft north. Owner: U.S. Geological Survey.

AQUIFER.--Castle Hayne aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 232 ft, diameter 2 in., cased to 222 ft, screened interval from 222 to 232 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 15 ft above sea level, from topographic map. Measuring point: Top of shelter floor, 2.47 ft above land-surface datum.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year. Prior to October 1, 1997, published as On-290, Paradise Point Well.

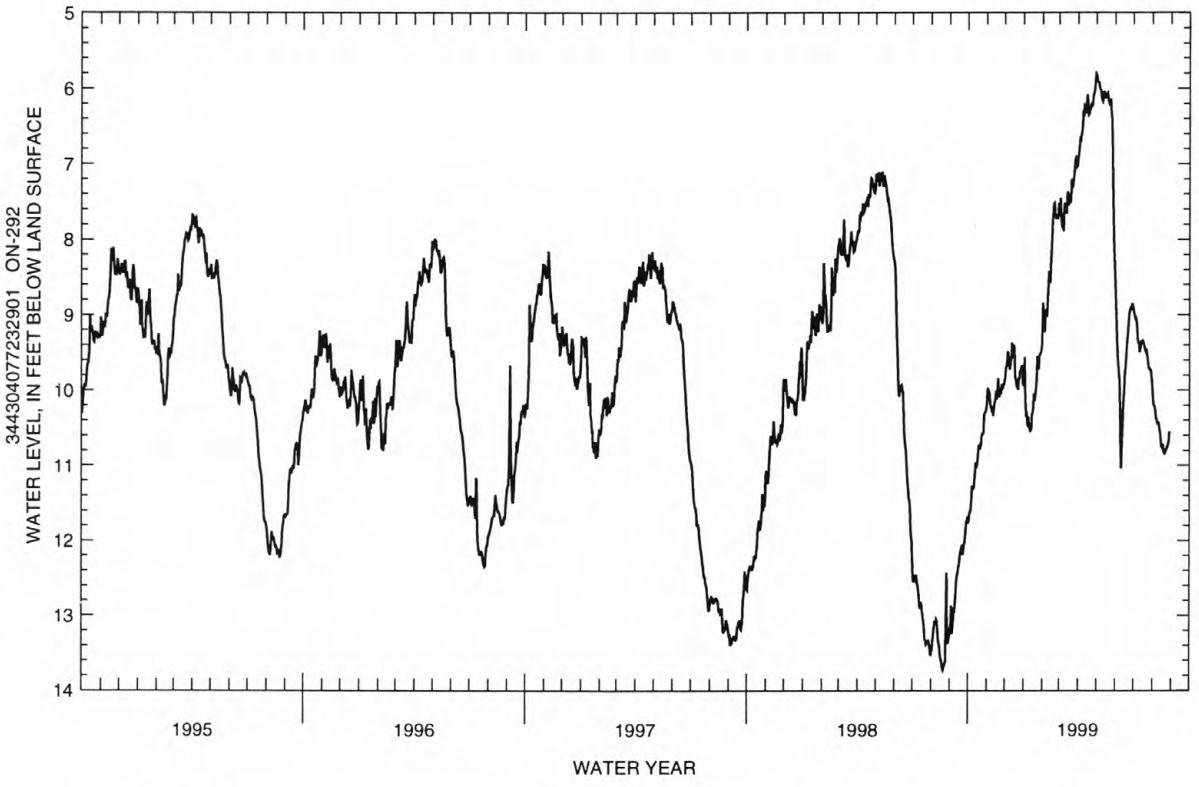
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 5.71 ft below land-surface datum, Apr. 30, May 1, 2, 1999; lowest water level recorded, 13.80 ft below land-surface datum, Aug. 20, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.68	10.22	9.87	9.93	9.16	7.58	6.91	5.81	8.57	8.93	9.96	---
2	11.77	10.12	9.82	9.89	8.84	7.64	6.85	5.86	8.81	8.97	10.11	---
3	11.68	9.97	9.69	9.56	8.99	7.45	6.78	5.91	9.07	9.01	10.19	---
4	11.62	9.99	9.68	10.09	9.03	7.71	6.64	5.92	9.35	9.05	10.20	---
5	11.62	10.01	9.60	10.32	9.23	7.84	6.71	5.92	9.53	9.04	10.23	---
6	11.55	10.06	9.48	10.31	9.04	7.70	6.63	5.99	9.68	9.07	10.29	---
7	11.42	10.19	9.52	10.40	8.93	7.85	6.59	6.01	9.79	9.17	10.38	---
8	11.27	10.22	9.59	10.48	9.03	7.89	6.50	6.02	9.87	9.33	10.38	---
9	11.29	10.24	9.72	10.35	8.96	7.57	6.29	6.10	10.23	9.37	10.43	---
10	11.32	10.29	9.70	10.49	8.78	7.52	6.37	6.15	10.77	9.38	10.46	---
11	11.27	10.22	9.60	10.51	8.62	7.54	6.20	6.17	11.04	9.50	10.42	---
12	11.18	10.34	9.58	10.54	8.42	7.60	6.29	6.11	10.78	9.45	10.47	---
13	11.07	10.23	9.37	10.53	8.58	7.66	6.33	6.04	10.46	9.41	10.54	---
14	10.96	10.17	9.57	10.50	8.56	7.40	6.27	6.06	10.24	9.35	10.57	---
15	11.03	10.14	9.50	10.31	8.32	7.37	6.13	6.12	10.08	9.35	10.66	---
16	11.00	10.10	9.40	10.30	8.15	7.55	6.08	6.12	9.97	9.34	10.75	---
17	10.93	10.01	9.46	10.24	7.98	7.49	6.23	6.09	9.75	9.36	10.76	---
18	10.82	10.12	9.82	10.04	7.76	7.47	6.35	6.07	9.71	9.38	10.71	---
19	10.74	10.00	9.85	10.14	7.65	7.52	6.34	6.06	9.58	9.42	10.79	---
20	10.74	9.84	9.89	10.10	7.53	7.47	6.27	6.14	9.40	9.46	10.83	---
21	10.73	10.02	9.96	9.99	7.52	7.20	6.27	6.18	9.30	9.48	10.84	---
22	10.75	10.09	9.90	9.95	7.69	7.26	6.21	6.20	9.22	9.45	10.84	---
23	10.71	10.04	9.99	9.77	7.71	7.32	6.19	6.18	9.09	9.50	10.79	---
24	10.59	10.04	9.83	9.55	7.70	7.23	6.24	6.14	8.99	9.57	10.79	---
25	10.58	10.04	9.86	9.69	7.67	7.16	6.16	6.31	8.94	9.63	10.76	---
26	10.58	9.92	9.74	9.72	7.73	7.03	6.08	6.40	8.91	9.70	10.74	---
27	10.55	9.99	9.77	9.55	7.70	6.94	6.07	6.71	8.92	9.71	10.71	---
28	10.33	9.95	9.73	9.52	7.52	6.92	6.01	7.23	8.88	9.73	10.68	---
29	10.30	9.93	9.67	9.52	---	6.96	5.92	7.69	8.85	9.73	10.55	---
30	10.29	9.92	9.79	9.49	---	7.04	5.80	8.07	8.88	9.78	---	---
31	10.27	---	9.92	9.43	---	7.03	---	8.35	---	9.86	---	---

WTR YR 1999 MEAN 8.97 HIGH 5.80 LOW 11.77


WATER LEVEL, IN FEET BELOW LAND SURFACE
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1995
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1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

343609077171301. Local number, On-293; Sneads Ferry Road Well

LOCATION.--Lat 34°36'09", long 77°17'13", Hydrologic Unit 03030001, from main gate of Camp Lejeune take Holcomb Boulevard to Sneads Ferry Road, approximately 6.0 mi south on Sneads Ferry Road. Well is at tree line on left side of road just past a small power sub-station. Owner: U.S. Geological Survey.

AQUIFER.--Castle Hayne aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 235 ft, diameter 2 in., cased to 225 ft, screened interval from 225 to 235 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 40 ft above sea level, from topographic map. Measuring point: Top of shelter floor, 2.30 ft above land-surface datum.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

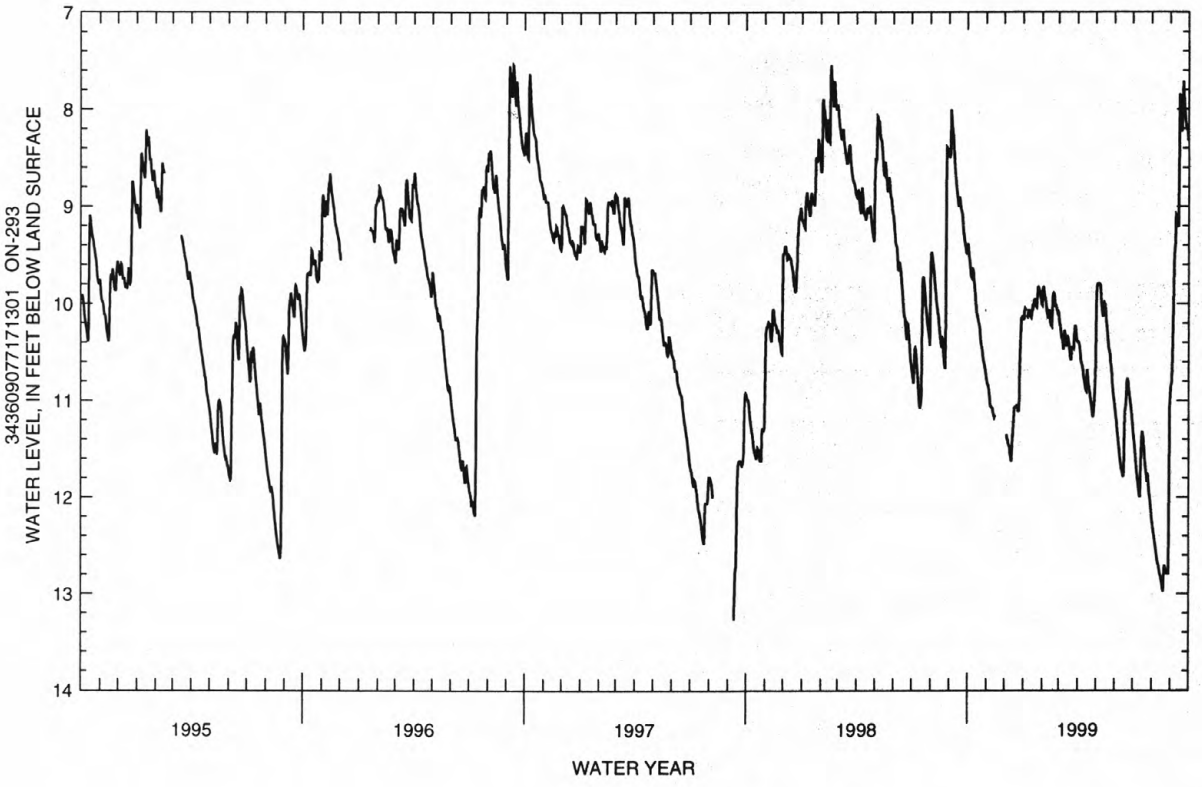
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 7.50 ft below land-surface datum, Aug. 12, 13, 1996; lowest water level recorded, 13.28 ft below land-surface datum, Sept. 10, 11, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.44	10.77	---	10.16	10.01	10.12	10.39	10.26	11.07	11.28	12.22	10.88
2	9.38	10.81	---	10.16	9.86	10.21	10.39	9.89	11.12	11.35	12.27	10.84
3	9.49	10.83	---	10.08	9.82	10.22	10.41	9.81	11.17	11.42	12.32	10.81
4	9.54	10.84	11.35	10.05	9.84	10.28	10.44	9.79	11.22	11.49	12.36	10.64
5	9.59	10.88	11.39	10.07	9.91	10.35	10.51	9.79	11.31	11.57	12.41	10.37
6	9.66	10.95	11.41	---	9.94	10.36	10.58	9.79	11.38	11.65	12.46	10.04
7	9.72	11.03	11.44	10.12	9.97	10.39	10.61	9.80	11.44	11.71	12.50	9.56
8	9.73	11.06	11.46	10.13	10.03	10.47	10.64	9.80	11.49	11.77	12.55	9.44
9	9.63	11.06	11.49	10.09	10.09	10.44	10.67	9.86	11.56	11.83	12.59	9.38
10	9.65	11.07	11.54	10.06	10.11	10.27	10.73	9.98	11.62	11.89	12.64	9.08
11	9.73	11.08	11.58	10.09	10.15	10.30	10.78	10.06	11.67	11.95	12.68	9.09
12	9.79	11.12	11.63	10.11	10.09	10.36	10.79	10.11	11.71	11.99	12.70	9.15
13	9.86	11.15	11.50	10.13	10.06	10.43	10.85	10.13	11.73	11.99	12.73	9.19
14	9.94	11.17	11.35	10.14	10.15	10.43	10.89	10.05	11.77	11.66	12.77	9.21
15	10.02	11.15	11.35	10.08	10.20	10.33	10.90	9.99	11.79	11.47	12.80	8.58
16	10.09	---	11.16	10.03	10.22	10.35	10.68	10.00	11.72	11.32	12.82	7.84
17	10.12	---	11.07	10.04	10.23	10.39	10.71	10.08	11.29	11.34	12.86	7.98
18	10.15	---	11.07	9.99	10.08	10.44	10.80	10.17	11.09	11.39	12.90	8.10
19	10.18	---	11.07	9.95	9.91	10.53	10.85	10.23	11.07	11.46	12.95	8.18
20	10.21	---	11.06	9.97	9.89	10.57	10.88	10.31	10.95	11.55	12.98	8.23
21	10.24	---	11.05	9.99	9.90	10.57	10.94	10.39	10.79	11.63	12.83	7.82
22	10.31	---	11.05	10.02	9.97	10.45	10.99	10.45	10.77	11.69	12.71	7.71
23	10.39	---	11.11	10.03	10.02	10.45	11.03	10.48	10.80	11.76	12.71	7.86
24	10.44	---	11.11	9.94	10.02	10.45	11.07	10.51	10.85	11.84	12.74	7.97
25	10.47	---	11.00	9.82	10.04	10.46	11.13	10.60	10.92	11.75	12.78	8.05
26	10.52	---	10.74	9.84	10.07	10.31	11.17	10.64	10.98	11.78	12.79	8.13
27	10.58	---	10.47	9.86	10.10	10.23	11.12	10.71	11.03	11.89	12.79	8.18
28	10.60	---	10.28	9.87	10.09	10.23	11.00	10.82	11.08	11.96	12.79	8.20
29	10.63	---	10.15	9.90	---	10.27	10.87	10.89	11.14	12.01	12.79	8.23
30	10.68	---	10.14	9.95	---	10.35	10.71	10.95	11.21	12.08	11.98	8.32
31	10.72	---	10.16	10.00	---	10.39	---	11.01	---	12.15	11.05	---

WTR YR 1999 MEAN 10.66 HIGH 7.71 LOW 12.98


343609077171301 ON-293
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1995
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1998
1999
WATER YEAR

ONSLOW COUNTY--Continued

343842077241501. Local number, On-294; Town Creek Well 1

LOCATION.--Lat 34°38'42", long 77°24'15", Hydrologic Unit 03030001, at U.S. Highway 17 in Verona, turn east onto Town Point Road, 4 mi to dirt road, turn left, 0.4 mi, well is on left side in field 600 ft off road. Owner: U.S. Geological Survey.

AQUIFER.--Surficial Aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 23 ft, diameter 2 in., screened interval from 12 to 22 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 65 ft above sea level (from topographic map). Measuring point: Top of shelter floor, 2.43 ft above land-surface datum.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

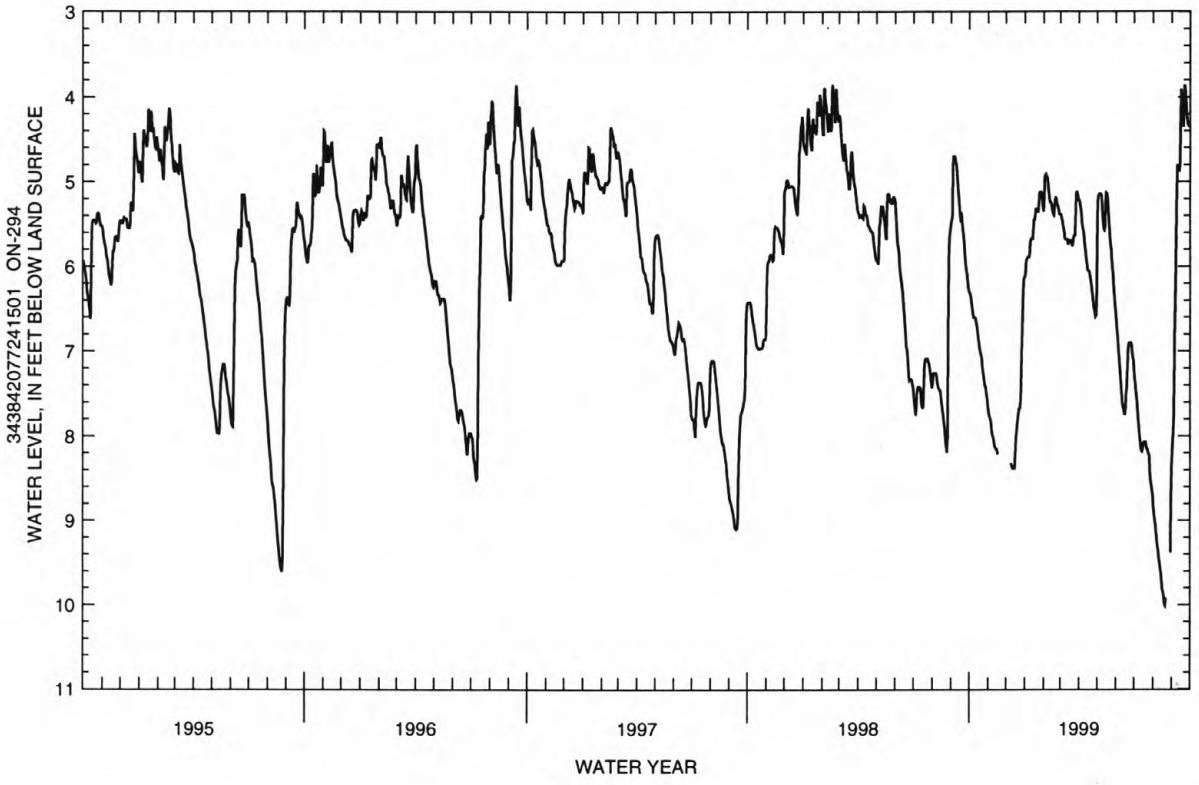
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 3.82 ft below land-surface datum, Sept. 16, 1999; lowest water level recorded, 10.03 ft below land-surface datum, Aug. 20, 21, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.30	7.68	---	6.12	5.35	5.38	5.22	5.73	6.58	7.23	8.75	8.32
2	6.31	7.72	---	6.08	5.17	5.39	5.23	5.23	6.69	7.32	8.87	8.13
3	6.34	7.76	---	5.95	4.94	5.43	5.28	5.17	6.77	7.40	8.92	8.00
4	6.39	7.78	---	5.91	4.92	5.45	5.32	5.15	6.83	7.49	8.99	7.80
5	6.46	7.80	---	5.90	4.91	5.52	5.38	5.14	6.95	7.54	9.05	7.23
6	6.50	7.86	---	5.89	4.94	5.55	5.48	5.14	7.06	7.63	9.13	6.76
7	6.56	7.94	---	5.89	4.95	5.59	5.53	5.15	7.16	7.73	9.20	6.08
8	6.60	7.99	---	5.89	5.00	5.66	5.58	5.15	7.26	7.82	9.28	5.52
9	6.60	8.00	8.32	5.84	5.09	5.68	5.62	5.24	7.36	7.91	9.32	5.21
10	6.60	8.03	8.35	5.71	5.14	5.68	5.71	5.38	7.46	8.00	9.37	4.82
11	6.61	8.07	8.37	5.68	5.21	5.68	5.78	5.49	7.55	8.07	9.45	4.80
12	6.65	8.12	8.38	5.67	5.24	5.68	5.83	5.56	7.64	8.13	9.50	4.86
13	6.68	8.14	8.38	5.67	5.24	5.70	5.91	5.57	7.66	8.17	9.57	4.88
14	6.72	8.15	8.38	5.67	5.27	5.74	5.97	5.52	7.70	8.18	9.61	4.80
15	6.78	8.15	8.38	5.56	5.32	5.71	6.04	5.21	7.74	8.16	9.68	4.30
16	6.85	8.18	8.20	5.45	5.35	5.69	6.05	5.13	7.74	8.08	9.79	3.91
17	6.91	8.21	8.02	5.45	5.38	5.69	6.05	5.14	7.66	8.07	9.83	4.08
18	6.97	---	7.96	5.40	5.39	5.69	6.06	5.19	7.49	8.07	9.86	4.20
19	7.00	---	7.88	5.32	5.30	5.70	6.10	5.29	7.43	8.07	9.92	4.28
20	7.04	---	7.81	5.32	5.20	5.74	6.14	5.41	7.18	8.07	10.00	4.35
21	7.05	---	7.75	5.32	5.19	5.76	6.20	5.52	6.98	8.12	10.01	4.05
22	7.12	---	7.68	5.33	5.20	5.70	6.27	5.63	6.92	8.15	9.92	3.86
23	7.20	---	7.67	5.36	5.26	5.65	6.32	5.73	6.90	8.16	---	3.93
24	7.27	---	7.66	5.29	5.28	5.63	6.39	5.80	6.90	8.20	---	4.06
25	7.31	---	7.56	5.13	5.29	5.63	6.45	5.92	6.90	8.21	---	4.15
26	7.37	---	7.24	5.12	5.33	5.43	6.50	6.02	6.90	8.23	---	4.24
27	7.41	---	6.93	5.12	5.38	5.15	6.53	6.08	6.94	8.42	---	4.32
28	7.42	---	6.65	5.12	5.38	5.12	6.59	6.20	7.03	8.51	---	4.33
29	7.48	---	6.30	5.15	---	5.12	6.58	6.30	7.07	8.57	---	4.33
30	7.54	---	6.14	5.23	---	5.15	6.40	6.40	7.11	8.62	9.38	4.36
31	7.60	---	6.13	5.31	---	5.20	---	6.51	---	8.67	8.64	---

WTR YR 1999 MEAN 6.56 HIGH 3.86 LOW 10.01


343842077241501 ON-294
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1999
WATER YEAR

ONSLOW COUNTY--Continued

344203077182001. Local number, On-295; Wallace Creek Well

LOCATION.--Lat 34°42'03", long 77°18'20", Hydrologic Unit 03030001, from Highway 24 enter Camp Lejeune Piney Green gate, proceed 0.8 mi to dirt road, turn left, go 1.0 mi to dirt road, turn right and proceed 0.3 mi, well is on right 75 ft into clearing. Owner: U.S. Geological Survey.

AQUIFER.--Castle Hayne aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 253 ft, diameter 2 in., cased to 243 ft, screened interval from 243 to 253 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 35 ft above sea level, from topographic map. Measuring point: Top of shelter, 2.38 ft above land-surface datum.

REMARKS.--Well is part of U.S. Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

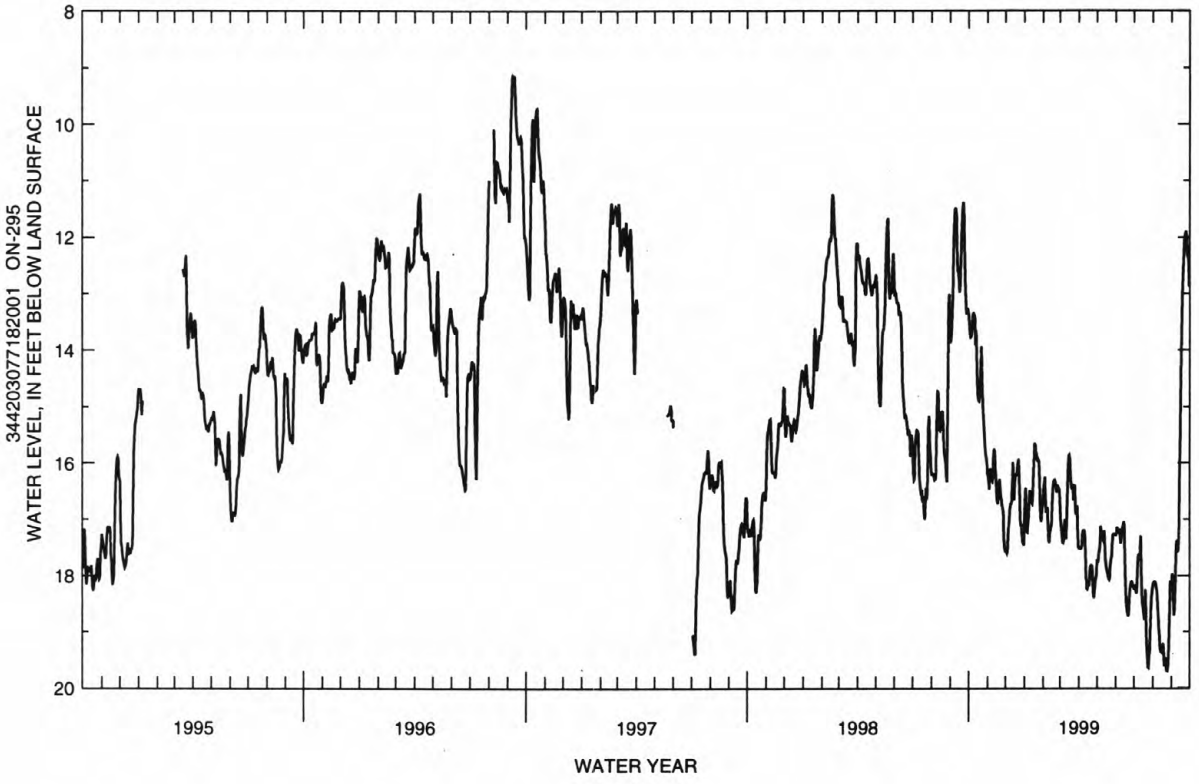
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.07 ft below land-surface datum, Sept. 12, 1996; lowest water level recorded, 19.72 ft below land-surface datum, Aug. 24, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.37	16.19	17.56	17.02	16.61	16.81	17.51	17.75	17.28	18.23	18.18	18.26
2	13.52	16.23	17.57	16.68	16.44	17.06	17.50	17.76	17.24	18.22	18.13	17.97
3	13.68	16.33	17.60	16.44	16.37	17.14	17.51	17.75	17.14	18.17	18.12	18.11
4	13.77	16.47	17.53	16.80	16.25	17.26	17.52	17.59	17.20	18.25	18.11	18.45
5	13.76	16.15	17.26	17.22	16.64	17.41	17.51	17.55	17.21	18.32	18.12	18.71
6	13.68	16.10	17.11	17.23	16.88	17.42	17.46	17.43	17.18	18.15	18.17	18.60
7	13.54	16.28	17.01	17.07	16.80	17.36	17.25	17.12	17.18	17.81	18.23	18.17
8	13.36	16.30	16.81	16.98	16.80	17.10	17.20	17.24	17.32	17.66	18.30	17.60
9	13.35	16.32	16.73	16.74	17.11	17.00	17.20	17.32	17.43	17.62	18.54	17.41
10	13.38	16.26	16.73	16.49	17.35	17.26	17.20	17.34	17.33	17.68	18.70	17.37
11	13.43	15.87	16.68	16.55	17.42	17.35	17.29	17.37	17.22	17.51	18.91	17.45
12	13.91	15.75	16.30	16.65	17.24	16.91	17.61	17.31	17.16	17.29	19.10	17.58
13	13.64	15.87	15.99	16.70	17.18	16.51	18.01	17.20	17.11	17.92	19.30	17.36
14	14.03	16.14	16.52	16.72	17.13	16.11	18.23	17.49	17.04	18.30	19.35	16.25
15	14.49	16.28	16.66	16.59	17.05	15.88	18.24	17.72	17.14	18.49	19.36	15.67
16	14.78	16.52	16.31	16.25	16.69	15.86	18.17	17.82	17.72	18.59	19.37	14.85
17	14.89	16.67	16.22	15.96	16.47	15.94	18.17	17.90	18.12	18.68	19.26	14.13
18	14.90	16.73	16.21	15.65	16.35	16.18	18.17	17.94	18.38	18.76	19.21	13.47
19	14.82	16.51	16.21	15.70	16.31	16.38	18.01	18.00	18.56	18.75	19.35	12.95
20	14.54	16.38	16.16	15.81	16.30	16.47	17.85	18.05	18.66	18.25	19.61	12.66
21	14.23	16.29	16.02	15.84	16.34	16.43	17.82	18.07	18.71	18.72	19.53	12.32
22	13.93	16.44	15.93	15.93	16.43	16.38	17.82	18.03	18.71	19.21	19.51	12.06
23	14.43	16.61	16.20	15.98	16.51	16.66	17.84	17.80	18.52	19.44	19.60	11.99
24	14.97	16.64	16.52	15.94	16.51	16.60	18.13	17.70	18.31	19.63	19.69	11.93
25	15.19	16.76	17.01	15.97	16.49	16.39	18.33	17.66	18.20	19.64	19.70	11.89
26	15.35	16.82	17.10	16.26	16.43	16.77	18.40	17.44	18.12	19.44	19.61	12.03
27	15.56	16.88	17.10	16.70	16.46	16.91	18.27	17.28	18.11	19.35	19.39	12.35
28	15.71	17.35	17.27	16.97	16.54	16.80	18.09	17.26	18.13	18.99	18.97	12.25
29	15.85	17.49	17.41	17.04	---	16.79	18.05	17.26	18.18	18.56	18.62	12.45
30	15.93	17.56	17.43	16.85	---	17.18	18.00	17.27	18.21	18.38	18.10	12.87
31	16.02	---	17.46	16.74	---	17.49	---	17.28	---	18.28	18.22	---

WTR YR 1999 MEAN 16.94 HIGH 11.89 LOW 19.70


344203077182001 ON-295
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

ORANGE COUNTY

355522079043001. Local number, NC-126.

LOCATION.--Lat 35°55'22", long 79°04'30", Hydrologic Unit 03030002, in Chapel Hill, west of University of North Carolina campus, southeast of intersection of Cameron Avenue and Ransom Street. Owner: Chi Psi Fraternity.

AQUIFER.--Unconfined saprolite derived from granite of Paleozoic age.

WELL CHARACTERISTICS.--Dug observation well, depth 48 ft, diameter 36 in., lined with rock; measured depth 46.2 ft, August 1986.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 511.50 ft above sea level. Measuring point: Top of shelf, 3.27 ft above land-surface datum (since July 1981).

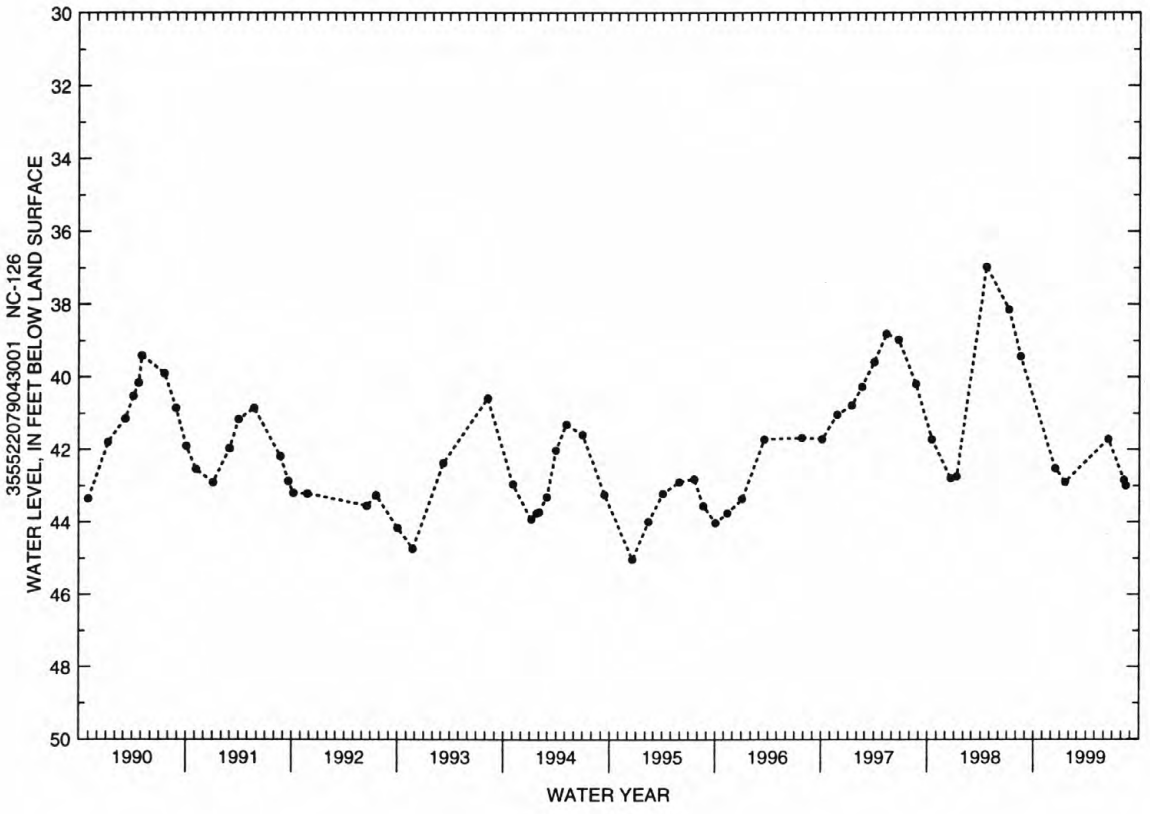
REMARKS.-- Well is part of terrane-effects network. Well found dry from October 13, 1988, to January 24, 1989. No periodic measurements made from January 24 to July 19, 1989.

PERIOD OF RECORD.--August 1938 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.22 ft below land-surface datum, May 14, 1984; lowest water level occurred during periods when well was dry, Oct. 11 to Dec. 31, 1940, and Oct. 13 to Jan. 24, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 15	42.52	JAN 19	42.89	JUN 17	41.71	AUG 10	42.84	AUG 17	42.99


355522079043001 NC-126
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

PASQUOTANK COUNTY

362050076163705. Local number, NC-150; DENR Elizabeth City Forest Service Research Station well D11v5.

LOCATION.--Lat 36°20'50", long 76°16'37", Hydrologic Unit 03010205, 4 mi northwest of Elizabeth City at North Carolina Division of Forest Resources Maintenance Yard, west of U.S. Highways 17 and 158 on Secondary Road 1338. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Yorktown aquifer of Pliocene and Miocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 130 ft, diameter 4 in., screened interval from 120 to 130 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 7.14 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 3.48 ft above land-surface datum; revised from 3.13 ft above land-surface datum, October 1987.

REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--July 1975 to current year. Records from July 1975 to November 1986 are unpublished and available in the files of the Groundwater Section, DENR. U.S. Geological Survey continuous record began November 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.22 ft below land-surface datum, June 26, 1979; lowest water level recorded, 10.29 ft below land-surface datum, Aug. 26, 1995.

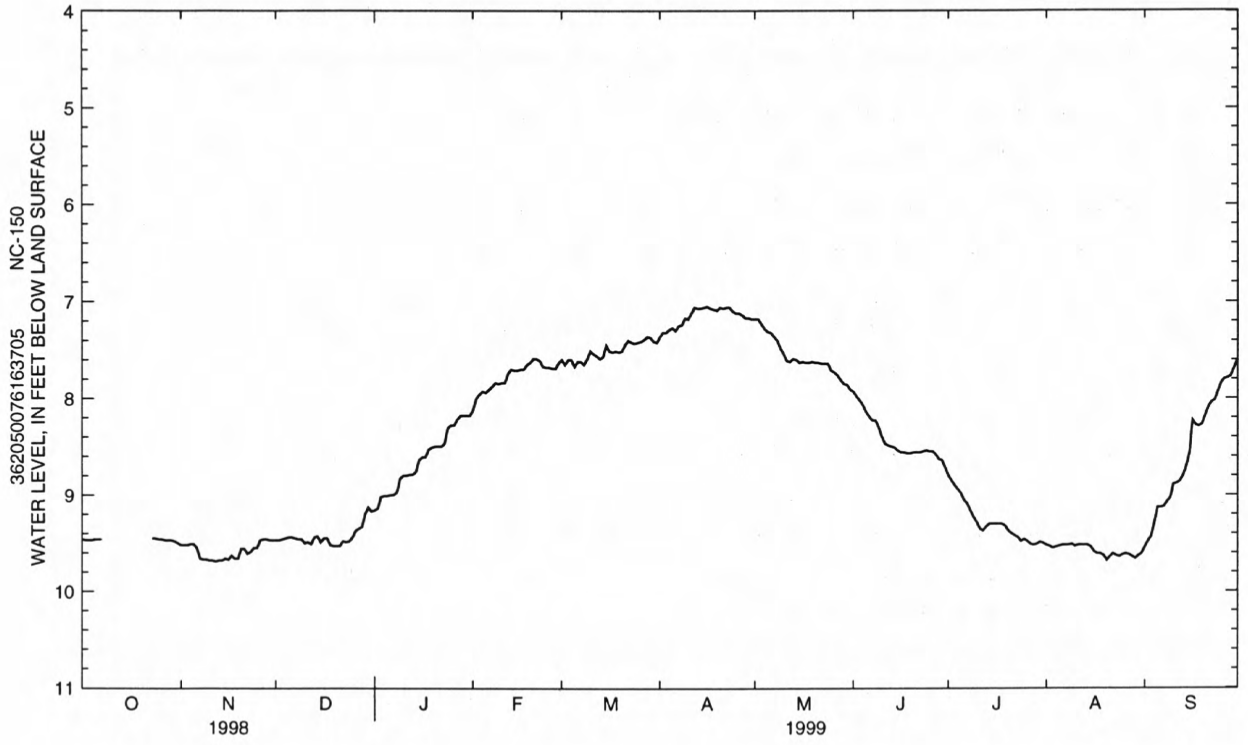
REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-87-1, should be adjusted by -0.35 ft.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.46	9.52	9.47	9.16	8.12	7.60	7.36	7.18	7.93	8.80	9.52	9.54
2	9.47	9.52	9.47	9.14	8.00	7.65	7.32	7.18	7.98	8.85	9.53	9.48
3	9.47	9.52	9.46	9.02	7.96	7.60	7.32	7.23	8.02	8.90	9.55	9.43
4	9.47	9.51	9.45	9.01	7.93	7.60	7.29	7.28	8.07	8.94	9.54	9.29
5	9.46	9.51	9.44	9.01	7.94	7.67	7.27	7.31	8.14	8.98	9.53	9.13
6	9.46	9.55	9.44	9.00	7.91	7.62	7.30	7.32	8.19	9.05	9.52	9.13
7	9.46	9.66	9.45	9.00	7.88	7.62	7.25	7.36	8.23	9.09	9.52	9.12
8	---	9.67	9.46	8.97	7.84	7.65	7.24	7.40	8.23	9.16	9.52	9.07
9	---	9.67	9.46	8.83	7.85	7.59	7.17	7.48	8.30	9.23	9.51	9.03
10	---	9.68	9.50	8.80	7.84	7.51	7.18	7.54	8.40	9.28	9.53	8.89
11	---	9.68	9.49	8.80	7.84	7.54	7.12	7.61	8.47	9.35	9.52	8.88
12	---	9.69	9.51	8.79	7.74	7.56	7.06	7.62	8.49	9.37	9.52	8.86
13	---	9.68	9.44	8.79	7.70	7.59	7.07	7.59	8.50	9.33	9.52	8.80
14	---	9.68	9.43	8.76	7.71	7.57	7.07	7.60	8.51	9.30	9.52	8.71
15	---	9.66	9.49	8.64	7.71	7.45	7.06	7.63	8.54	9.30	9.54	8.57
16	---	9.67	9.45	8.61	7.70	7.51	7.05	7.62	8.56	9.30	9.59	8.23
17	---	9.63	9.45	8.61	7.70	7.52	7.07	7.63	8.56	9.30	9.61	8.28
18	---	9.66	9.52	8.53	7.65	7.51	7.08	7.63	8.57	9.30	9.61	8.29
19	---	9.66	9.53	8.51	7.63	7.52	7.09	7.62	8.57	9.32	9.63	8.27
20	---	9.56	9.53	8.50	7.59	7.51	7.06	7.63	8.56	9.37	9.68	8.18
21	---	9.56	9.53	8.50	7.59	7.44	7.07	7.63	8.56	9.40	9.64	8.09
22	---	9.61	9.48	8.50	7.61	7.40	7.06	7.64	8.56	9.42	9.61	8.04
23	9.45	9.59	9.49	8.47	7.67	7.42	7.06	7.64	8.55	9.44	9.63	8.02
24	9.45	9.55	9.48	8.31	7.68	7.43	7.10	7.64	8.54	9.48	9.64	7.93
25	9.46	9.55	9.44	8.28	7.68	7.42	7.12	7.71	8.55	9.46	9.62	7.84
26	9.46	9.47	9.37	8.28	7.69	7.41	7.12	7.73	8.55	9.48	9.61	7.80
27	9.47	9.46	9.35	8.22	7.69	7.39	7.14	7.76	8.58	9.51	9.62	7.79
28	9.47	9.46	9.33	8.18	7.63	7.36	7.17	7.81	8.63	9.52	9.64	7.77
29	9.47	9.47	9.20	8.18	---	7.37	7.17	7.85	8.64	9.51	9.66	7.69
30	9.48	9.47	9.13	8.18	---	7.41	7.18	7.86	8.72	9.49	9.63	7.61
31	9.50	---	9.17	8.18	---	7.42	---	7.91	---	9.50	9.61	---

WTR YR 1999 MEAN 8.55 HIGH 7.05 LOW 9.69


362050076163705 NC-150
WATER LEVEL, IN FEET BELOW LAND SURFACE
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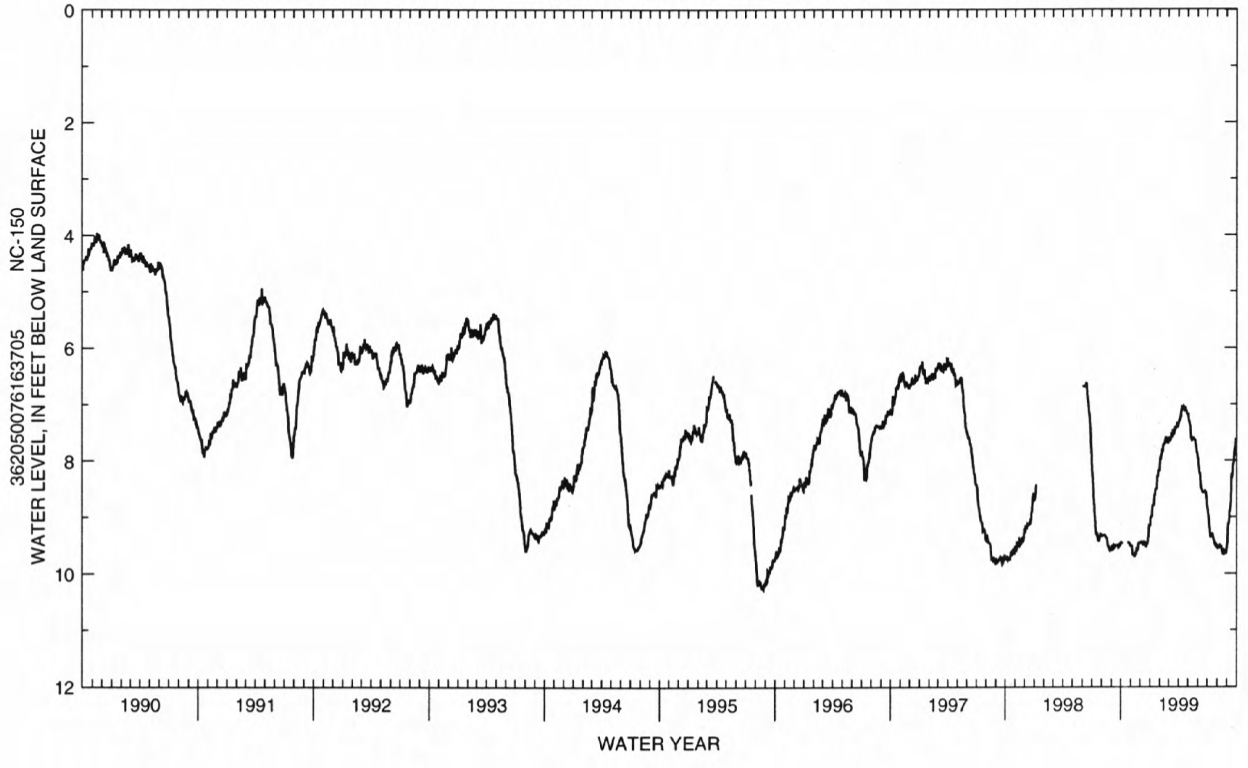
362050076163705 NC-150
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

PASQUOTANK COUNTY--Continued

361829076163201. Local number, NC-195.

LOCATION.--Lat 36°18'29", long 76°16'32", Hydrologic Unit 03010205, northwest of Elizabeth City, 1.2 mi west of Secondary Road 1307 on Secondary Road 1309. Owner: U.S. Geological Survey.

AQUIFER.--Surficial aquifer of post-Miocene age.

WELL CHARACTERISTICS.--Bored observation well, augered to 13.0 ft, diameter 4 in., cased to 2.4 ft, screened interval from 2.4 to 12.4 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals. Satellite telemetry at station.

DATUM.--Land-surface datum is 15 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 3.38 ft above land-surface datum.

REMARKS.--In October 1991, well replaced nearby NC-143. Well is part of climatic-effects network. Negative values of water levels in feet below land surface indicate ground-water levels that are above land surface.

PERIOD OF RECORD.--October 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.70 ft above land-surface datum, Jan. 4, 1992; lowest water level recorded, 5.96 ft below land-surface datum, Oct. 12, 1997.

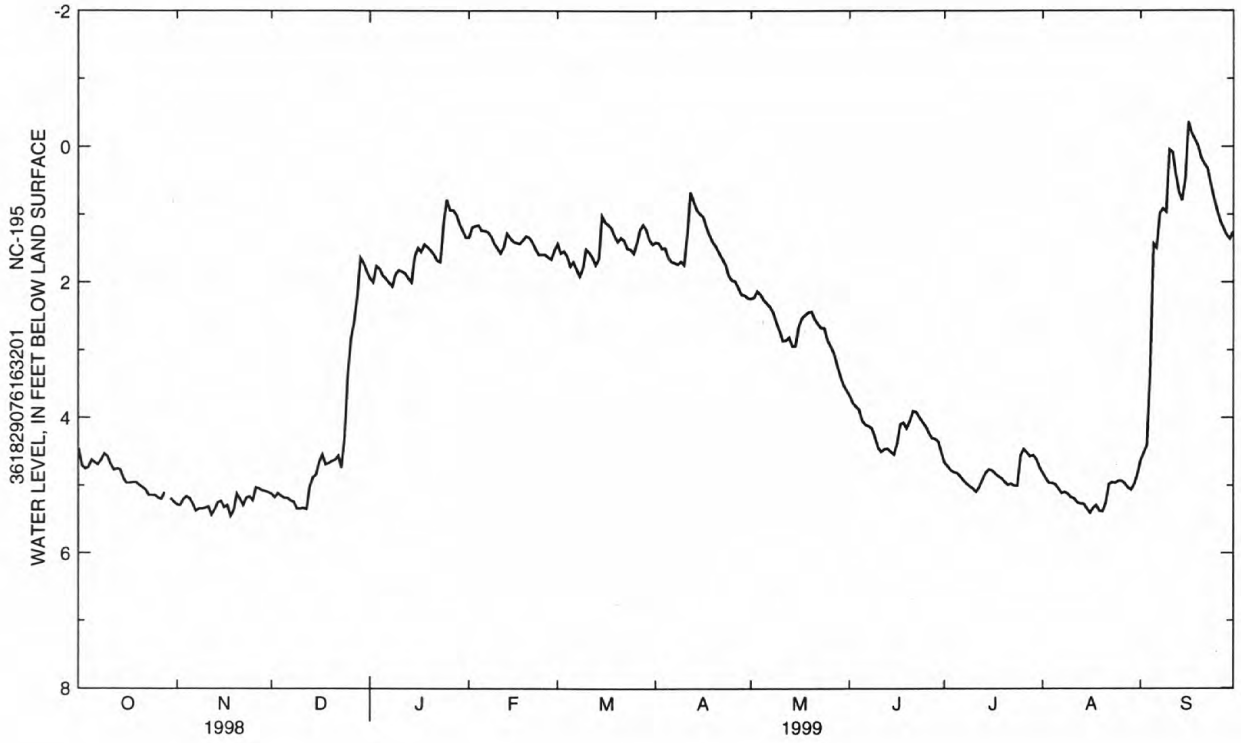
REVISIONS.--The measuring point description published in annual data reports prior to 1995 was in error. The measuring point description given above supersedes the description published for water years 1992, 1993, and 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.46	5.28	5.12	1.94	1.34	1.43	1.41	2.24	3.67	4.66	4.81	4.63
2	4.71	5.29	5.17	2.00	1.19	1.57	1.42	2.22	3.78	4.71	4.89	4.52
3	4.75	5.20	5.11	1.76	1.17	1.54	1.50	2.13	3.83	4.77	4.96	4.40
4	4.73	5.16	5.15	1.80	1.16	1.61	1.49	2.18	3.88	4.80	4.96	3.34
5	4.62	5.19	5.18	1.90	1.24	1.76	1.63	2.26	4.04	4.81	4.98	1.43
6	4.66	5.27	5.18	1.95	1.24	1.70	1.69	2.31	4.10	4.86	5.04	1.49
7	4.69	5.37	5.22	2.01	1.26	1.81	1.71	2.36	4.12	4.92	5.11	.98
8	4.62	5.34	5.24	2.06	1.33	1.91	1.73	2.45	4.15	4.97	5.09	.91
9	4.53	5.34	5.34	1.88	1.43	1.79	1.69	2.59	4.28	5.01	5.12	.96
10	4.57	5.33	5.34	1.82	1.50	1.51	1.74	2.72	4.44	5.04	5.17	.04
11	4.69	5.31	5.33	1.84	1.57	1.56	1.27	2.86	4.50	5.09	5.19	.08
12	4.77	5.43	5.35	1.87	1.48	1.63	.67	2.85	4.46	5.02	5.25	.40
13	4.75	5.35	5.02	1.94	1.28	1.74	.81	2.81	4.45	4.91	5.27	.67
14	4.76	5.25	4.88	2.00	1.35	1.66	.93	2.94	4.50	4.81	5.27	.79
15	4.90	5.23	4.84	1.62	1.40	1.02	.99	2.94	4.54	4.76	5.34	.46
16	4.96	5.32	4.65	1.49	1.42	1.11	1.03	2.65	4.37	4.77	5.40	-.37
17	4.96	5.29	4.54	1.55	1.43	1.15	1.19	2.53	4.09	4.82	5.33	-.20
18	4.95	5.45	4.69	1.44	1.38	1.20	1.31	2.48	4.07	4.86	5.29	-.11
19	4.95	5.36	4.67	1.48	1.32	1.32	1.41	2.44	4.15	4.89	5.37	-.01
20	4.99	5.12	4.64	1.53	1.34	1.40	1.47	2.43	4.04	4.94	5.38	.16
21	5.02	5.20	4.62	1.59	1.41	1.34	1.57	2.54	3.90	4.99	5.25	.25
22	5.06	5.29	4.56	1.68	1.51	1.38	1.65	2.61	3.91	4.97	4.98	.32
23	5.14	5.18	4.74	1.70	1.59	1.50	1.74	2.67	3.99	5.00	4.95	.55
24	5.14	5.16	4.28	1.12	1.59	1.51	1.90	2.67	4.06	5.00	4.96	.75
25	5.14	5.22	3.39	.78	1.59	1.57	1.97	2.85	4.12	4.56	4.93	.93
26	5.18	5.03	2.83	.93	1.63	1.42	1.98	2.94	4.22	4.46	4.93	1.09
27	5.20	5.04	2.59	.93	1.66	1.22	2.08	3.04	4.30	4.51	4.97	1.20
28	5.10	5.07	2.19	1.00	1.52	1.15	2.18	3.21	4.31	4.57	5.03	1.30
29	---	5.08	1.64	1.14	---	1.22	2.19	3.37	4.35	4.55	5.06	1.36
30	5.19	5.10	1.72	1.24	---	1.37	2.23	3.51	4.52	4.61	4.98	1.26
31	5.24	---	1.84	1.34	---	1.44	---	3.59	---	4.73	4.84	---

WTR YR 1999 MEAN 3.21 HIGH -.37 LOW 5.45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WATER LEVEL, IN FEET BELOW LAND SURFACE
361829076163201 NC-195
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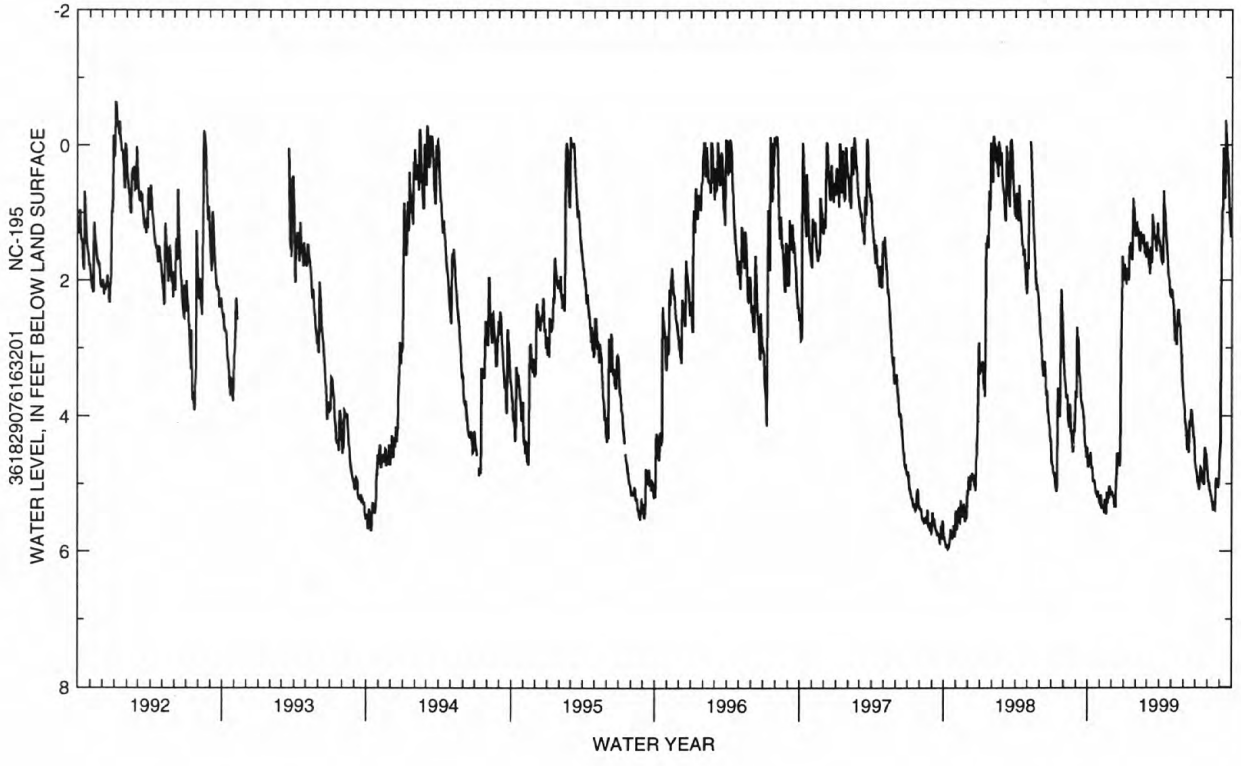
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WATER LEVEL, IN FEET BELOW LAND SURFACE
361829076163201 NC-195
1992
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1997
1998
1999
WATER YEAR

PASQUOTANK COUNTY--Continued

362601076230702. Local number, NC-203: DENR Morgans Corner Research Station well C12w2.

LOCATION.--Lat 36°26'01", long 76°23'07", Hydrologic Unit 03010205, near Morgans Corners on Secondary Road 1360 0.8 mi northeast of U.S. Highway 158. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Surficial aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 37 ft, diameter 2.5 in., cased to 27 ft, screened interval from 27 to 32 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 12.42 ft above sea level. Measuring point: Top of casing, 1.72 ft above land-surface datum.

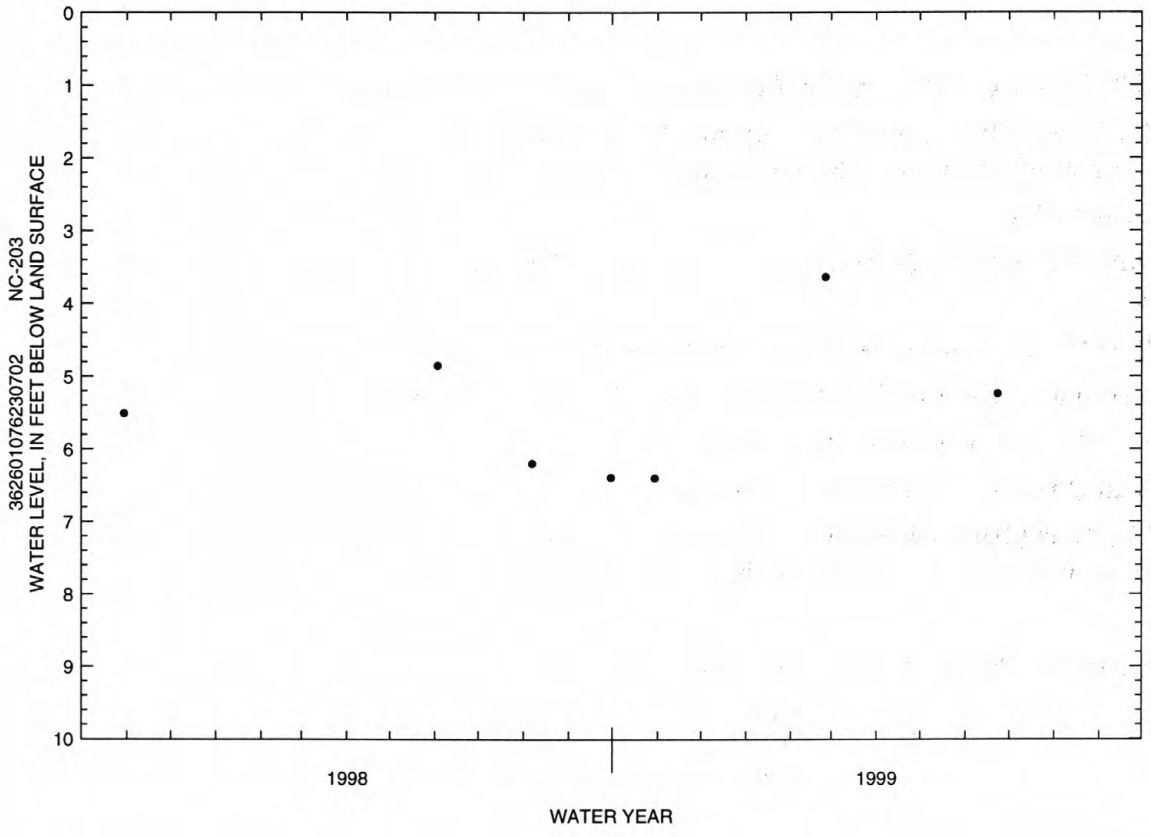
REMARKS.-- Well is part of induced-effects network.

PERIOD OF RECORD.--October 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.64 ft below land-surface datum, Feb. 25, 1999; lowest water level measured, 6.40 ft below land-surface datum, Oct. 30, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	6.40	FEB 25	3.64	JUN 23	5.24


362601076230702 NC-203
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1998
1999
WATER YEAR

PASQUOTANK COUNTY--Continued

362601076230704. Local number, NC-204: DENR Morgans Corner Research Station well C12w4.

LOCATION.--Lat 36°26'00", long 76°22'00", Hydrologic Unit 03010205, near Morgans Corners on Secondary Road 1360 0.8 mi northeast of U.S. Highway 158. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 648 ft, diameter 4 in., cased to 385 ft, screened interval from 385 to 420 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 12.42 ft above sea level. Measuring point: Top of casing, 2.40 ft above land-surface datum; revised from 2.90 ft above land-surface datum, June 23, 1999. Locking cap installed.

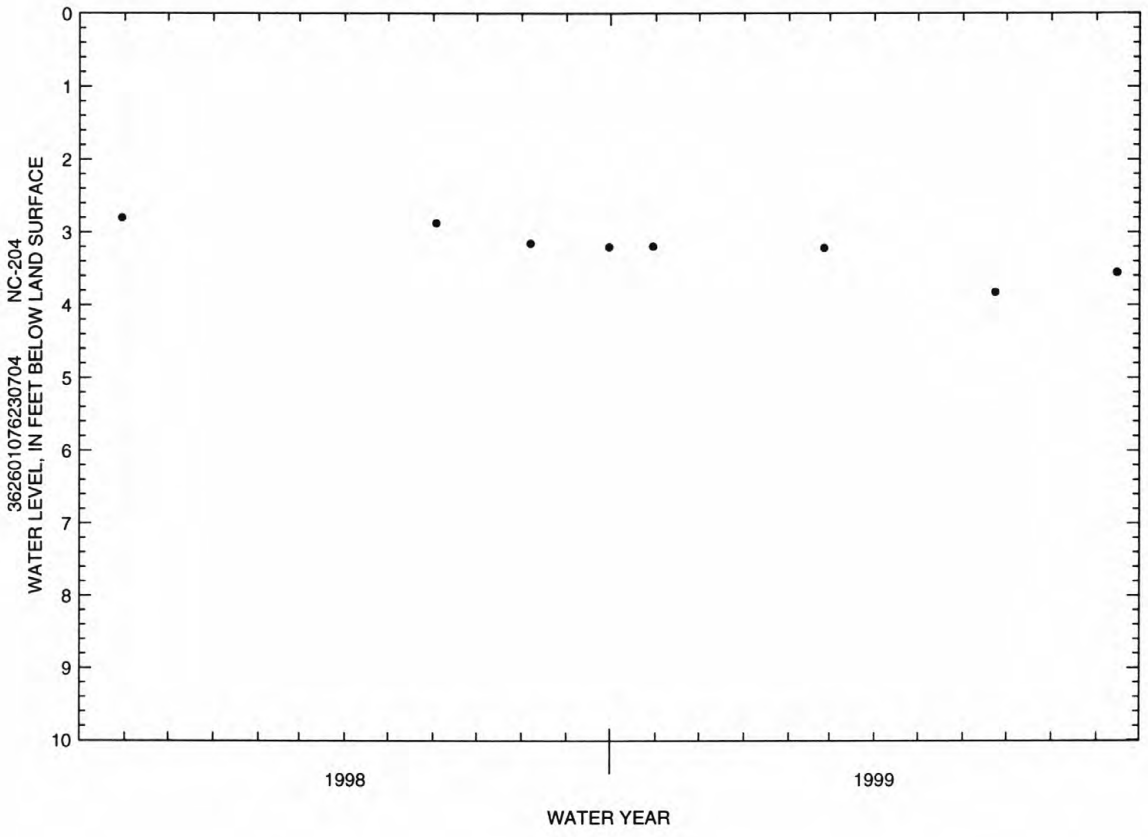
REMARKS.-- Well is part of areal-effects network.

PERIOD OF RECORD.--September 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.42 ft above land-surface datum, Sept. 2, 1981; lowest water level measured, 3.82 ft below land-surface, June 23, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	3.19	FEB 25	3.21	JUN 23	3.82	SEP 15	3.55


362601076230704 NC-204
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1
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7
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9
10
1998
1999
WATER YEAR

PASQUOTANK COUNTY--Continued

362601076230705. Local number, NC-205: DENR Morgans Corner Research Station well C12w5.

LOCATION.--Lat 36°26'00", long 76°22'00", Hydrologic Unit 03010205, near Morgans Corners on Secondary Road 1360 0.8 mi northeast of U.S. Highway 158. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Lower Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 1,310 ft, diameter 2.5 in., cased to 1,300 ft, screened interval from 1,300 to 1,310 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 13.11 ft above sea level. Measuring point: Top of casing, 3.58 ft above land-surface datum; revised from 4.22 ft above land-surface datum, June 3, 1998.

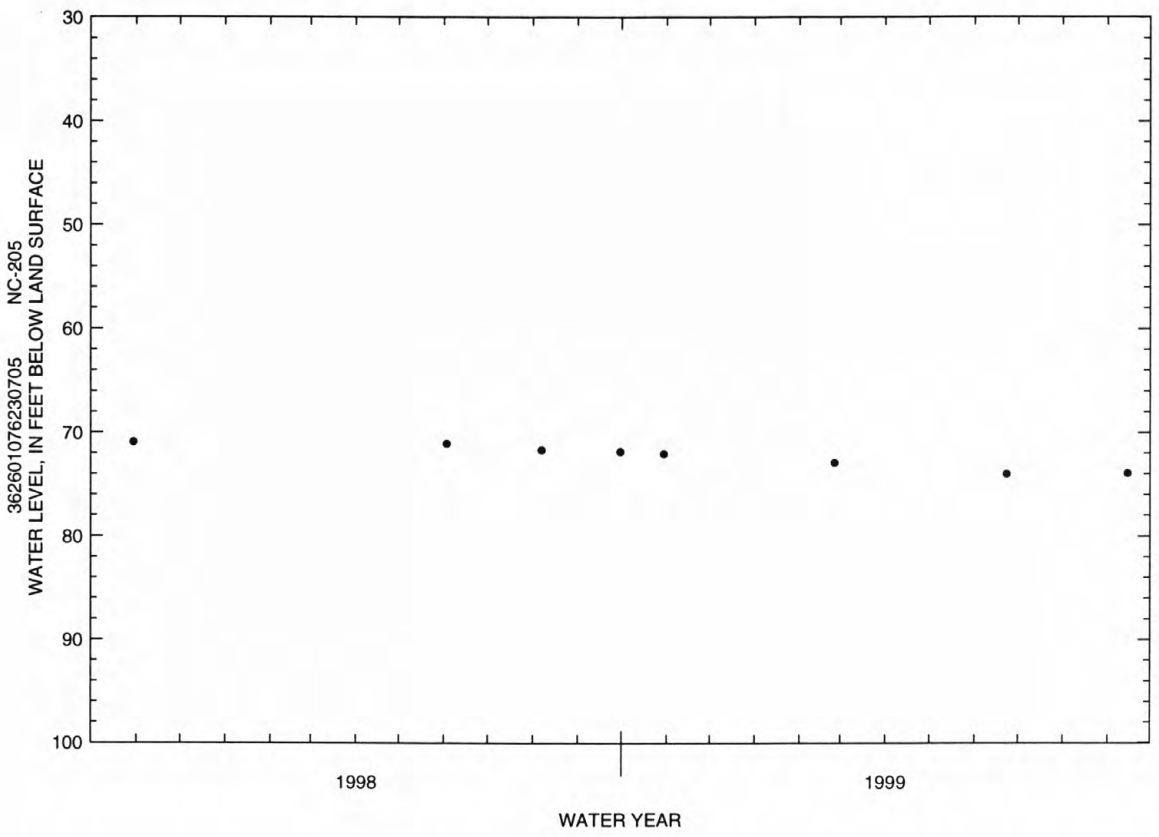
REMARKS.-- Well is part of induced-effects network.

PERIOD OF RECORD.--September 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 51.47 ft below land-surface datum, Sept. 2, 1981; lowest water level measured, 74.02 ft below land-surface datum, June 23, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	72.04	FEB 25	72.92	JUN 23	74.02	SEP 15	73.96


362601076230705 NC-205
WATER LEVEL, IN FEET BELOW LAND SURFACE
30
40
50
60
70
80
90
100
1998
1999
WATER YEAR

PERQUIMANS COUNTY

361744076274402. Local number, NC-151; DENR Parkville Research Station well E13m2.

LOCATION.--Lat 36°17'44", long 76°27'44", Hydrologic Unit 03010205, 3.5 mi west of Parkville, and west of Secondary Road 1223 on logging road. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Lower Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 1,019 ft; diameter 4 in. to 147 ft, diameter 2.5 in. from 147 to 1,019 ft; screened interval from 1,009 to 1,019 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 16.82 ft above sea level (levels by DENR). Measuring point: Top of 4-inch casing, 2.64 ft above land-surface datum (since July 1994).

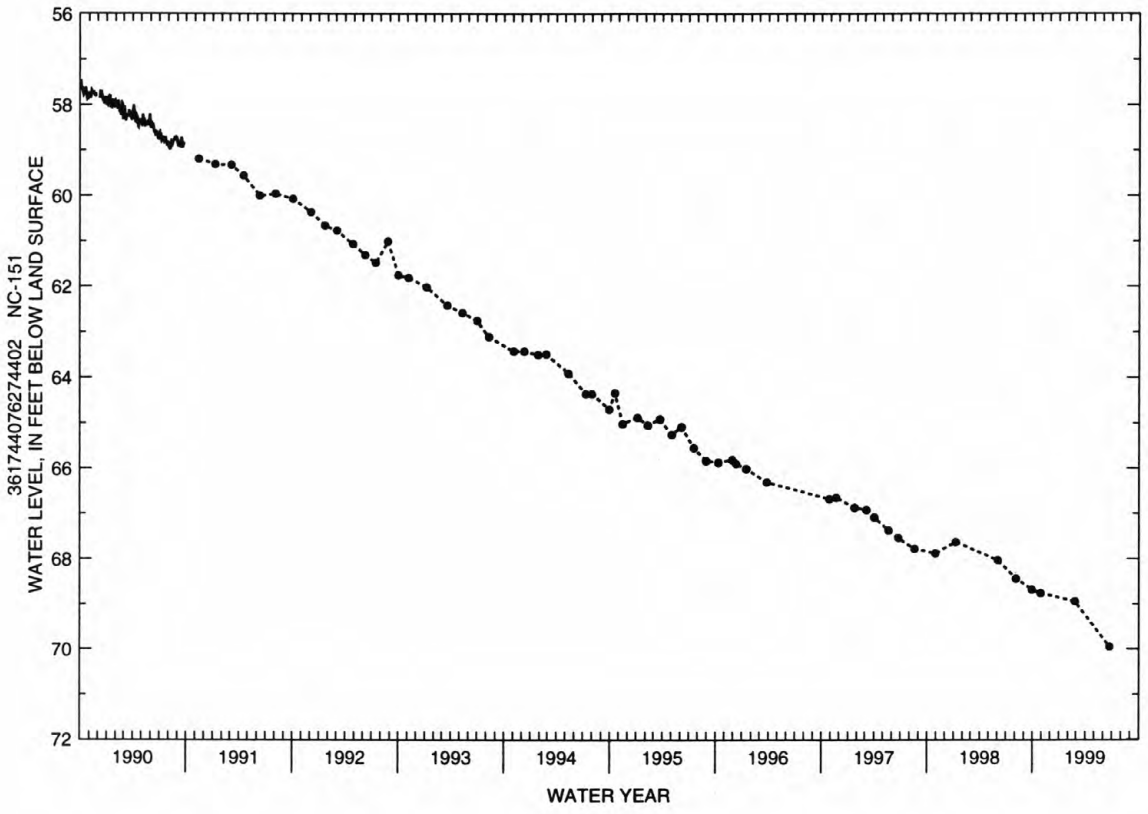
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--December 1977 to current year. Continuous record from November 1986 to September 1990. Records from December 1977 to July 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.17 ft below land-surface datum, Dec. 7, 1977; lowest water level measured, 69.95 ft below land-surface datum, June 23, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	68.76	FEB 25	68.95	JUN 23	69.95


361744076274402 NC-151
WATER LEVEL, IN FEET BELOW LAND SURFACE
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58
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68
70
72
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

PERQUIMANS COUNTY--Continued

361744076274403. Local number, NC-152; DENR Parkville Research Station well E13m3.

LOCATION.--Lat 36°17'44", long 76°27'44", Hydrologic Unit 03010205, 3.5 mi west of Parkville, west of Secondary Road 1223 on logging road. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 351 ft, diameter 4 in. to 240 ft, diameter 2.5 in. from 210 to 336 ft, open hole from 336 to 351 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 16.73 ft above sea level (levels by DENR). Measuring point: Top of collar on 4-inch casing, 2.90 ft above land-surface datum (since July 1994).

REMARKS.--Well is part of areal-effects network.

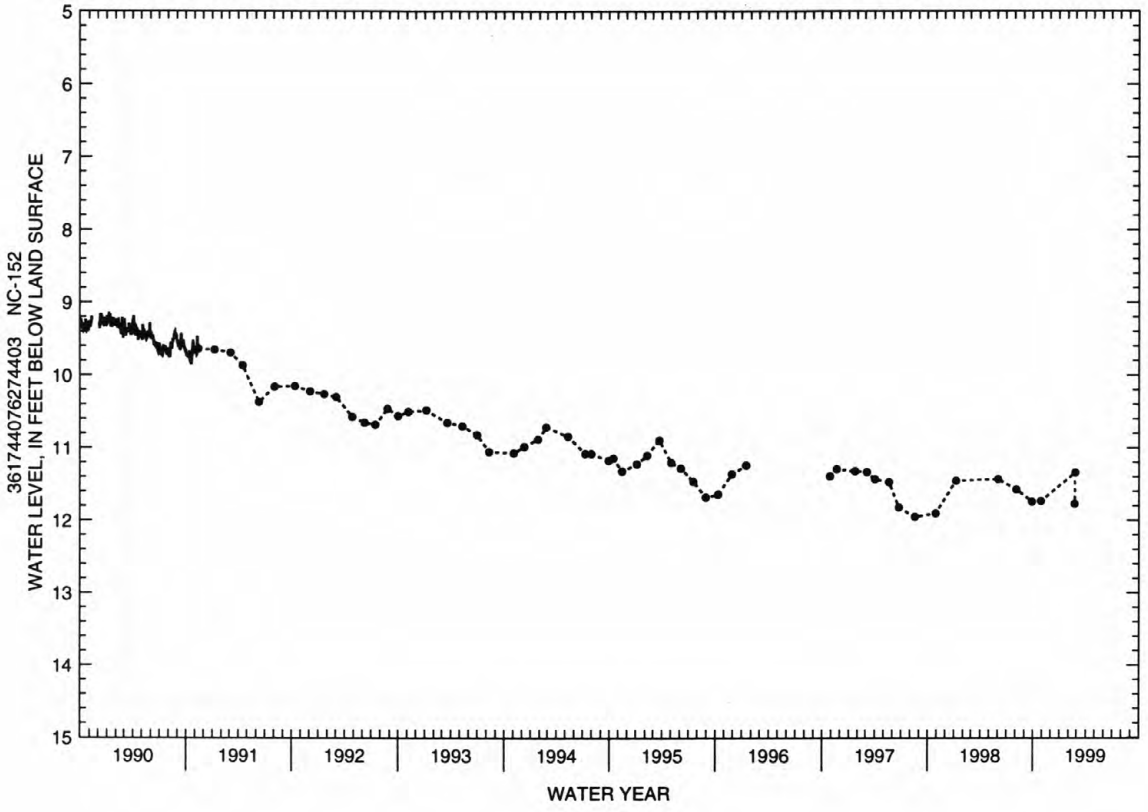
PERIOD OF RECORD.--December 1977 to current year. Continuous record from November 1986 to November 1990. Records from December 1977 to July 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.46 ft below land-surface datum, Dec. 20, 1978; lowest water level measured, 11.95 ft below land-surface datum, Aug. 18, 1997.

REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-87-1, should be adjusted by +0.49 ft.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	11.73	FEB 25	11.34	JUN 23	11.77


361744076274403 NC-152
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1990
1991
1992
1993
1994
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1996
1997
1998
1999
WATER YEAR

PERQUIMANS COUNTY--Continued

361744076274401. Local number, NC-200; DENR Parkville Research Station well E13m1.

LOCATION.--Lat 36°17'44", long 76°27'44", Hydrologic Unit 03010205, 3.5 mi west of Parkville, and west of Secondary Road 1223 on logging road. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Surficial aquifer of post-Miocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 49 ft, diameter 2.5 in., screened interval from 39 to 49 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 16.88 ft above sea level (levels by DENR). Measuring point: Top of collar on casing, 1.32 ft above land-surface datum.

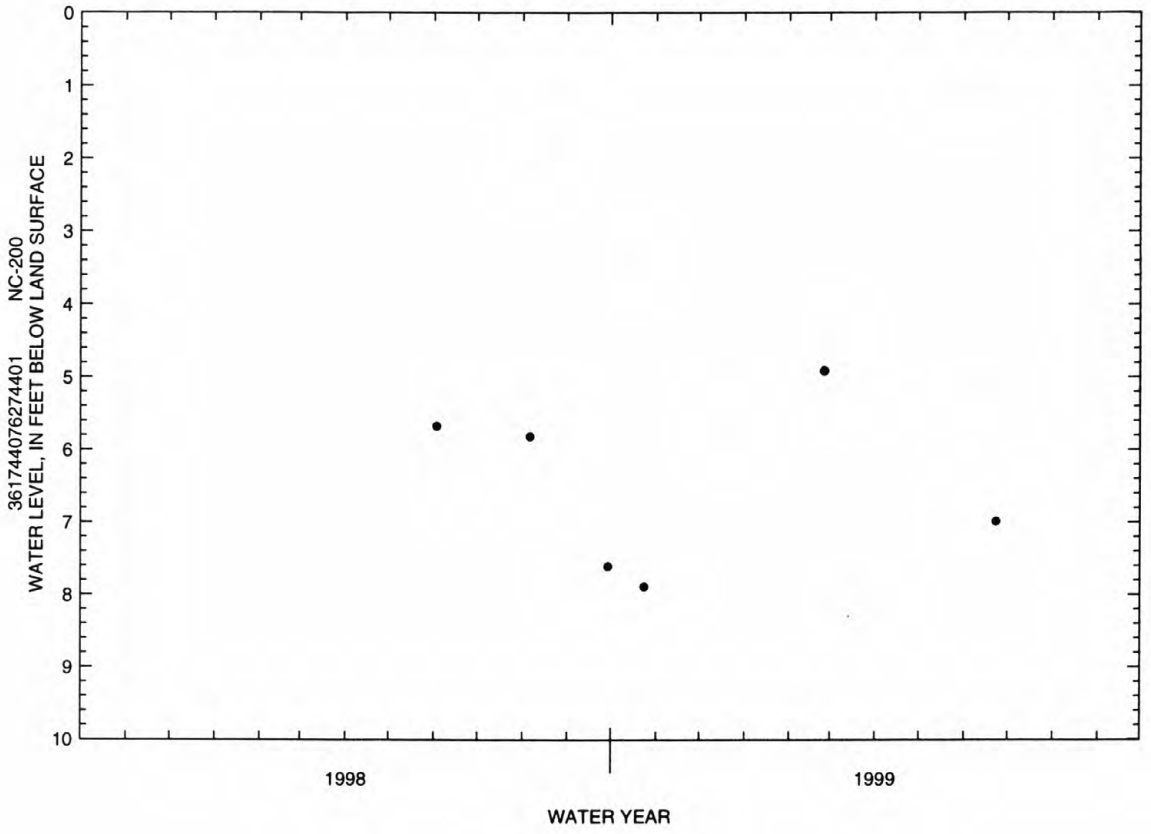
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--December 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.70 ft below land-surface datum, Dec. 5, 1989; lowest water level measured, 7.89 ft below land-surface datum, Oct. 24, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	7.89	FEB 25	4.92	JUN 23	6.99


NC-200
361744076274401
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1998
1999
WATER YEAR

PITT COUNTY

353219077153801. Local number, NC-160; USGS well PI-532.

LOCATION.--Lat 35°32'19", long 77°15'38", Hydrologic Unit 03020103, 2.7 mi southwest of Simpson in southeast corner of intersection of Secondary Roads 1755 and 1769. Owner: U.S. Geological Survey.

AQUIFER.--Surficial aquifer of post-Miocene age.

WELL CHARACTERISTICS.--Bored observation well, augered to 12 ft, diameter 6 in., cased to 5.9 ft, screened interval from 5.9 ft to 10.9 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals. Satellite telemetry at station.

DATUM.--Land-surface datum is 56.27 ft above sea level (levels by Soil Conservation Service). Measuring point: Top of instrument shelf, 3.72 ft above land-surface datum; revised from 1.04 ft above land-surface datum, Oct. 4, 1990.

REMARKS.--Well is part of climatic-effects network.

PERIOD OF RECORD.--December 1976 to current year. Prior to October 1986, published as Local number, PI-532.

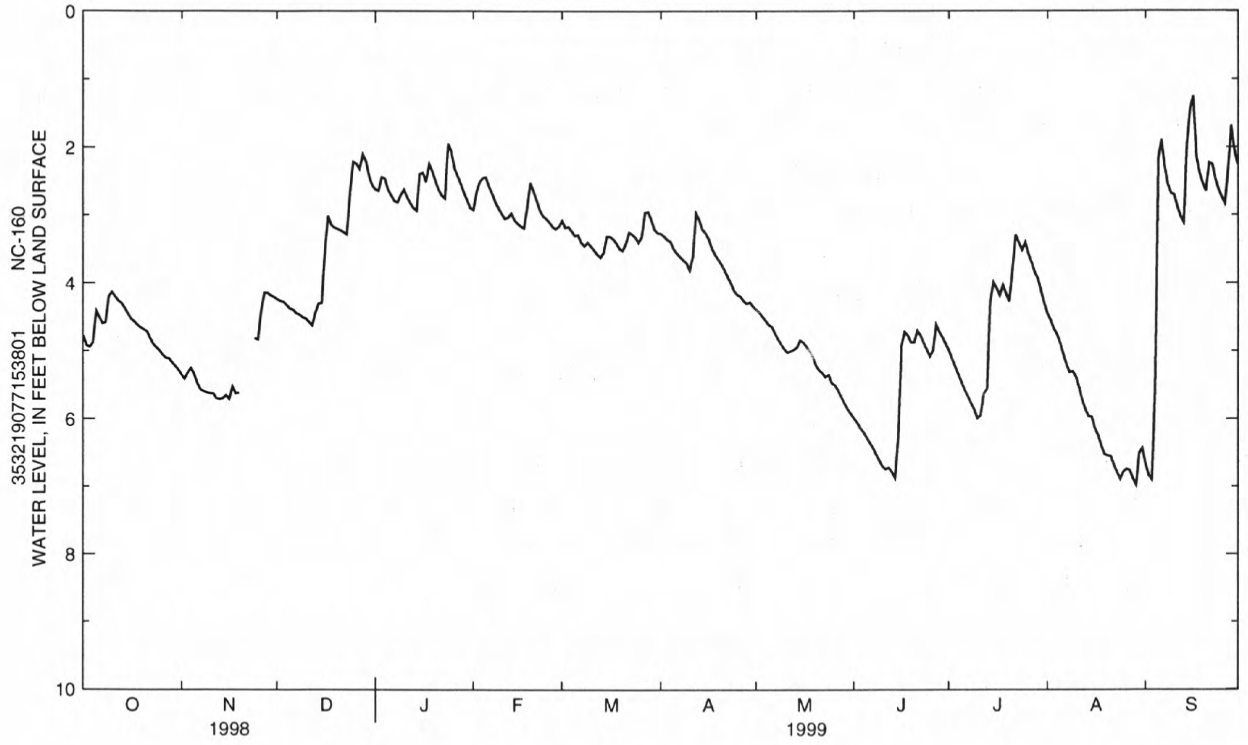
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.55 ft below land-surface datum, Sept. 16, 1999; lowest water level recorded, 8.84 ft below land-surface datum, Nov. 6, 7, 8, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.78	5.35	4.23	2.62	2.92	3.08	3.27	4.39	5.99	4.99	4.45	6.67
2	4.92	5.41	4.26	2.64	2.65	3.18	3.31	4.43	6.05	5.11	4.54	6.83
3	4.94	5.31	4.27	2.44	2.51	3.17	3.36	4.49	6.13	5.23	4.67	6.90
4	4.88	5.25	4.32	2.46	2.45	3.23	3.39	4.55	6.19	5.34	4.75	5.56
5	4.41	5.34	4.37	2.62	2.44	3.30	3.50	4.61	6.27	5.46	4.88	2.16
6	4.50	5.48	4.39	2.71	2.58	3.29	3.56	4.64	6.35	5.57	5.04	1.89
7	4.59	5.57	4.44	2.79	2.68	3.40	3.61	4.74	6.42	5.67	5.20	2.29
8	4.58	5.59	4.46	2.81	2.81	3.45	3.66	4.83	6.52	5.77	5.31	2.55
9	4.19	5.61	4.50	2.70	2.90	3.40	3.70	4.90	6.61	5.86	5.30	2.68
10	4.13	5.62	4.52	2.62	2.98	3.45	3.81	4.97	6.70	5.99	5.38	2.70
11	4.20	5.63	4.57	2.73	3.05	3.51	3.60	5.02	6.74	5.95	5.54	2.88
12	4.26	5.70	4.62	2.82	3.03	3.57	2.97	5.00	6.72	5.63	5.72	3.02
13	4.29	5.71	4.44	2.89	2.97	3.62	3.07	4.98	6.78	5.56	5.86	3.11
14	4.36	5.70	4.30	2.93	3.07	3.55	3.21	4.94	6.87	4.28	5.96	1.96
15	4.45	5.65	4.29	2.39	3.12	3.31	3.26	4.84	6.26	3.99	5.97	1.43
16	4.52	5.71	3.51	2.37	3.16	3.31	3.35	4.87	4.92	4.07	6.14	1.25
17	4.56	5.52	3.01	2.51	3.19	3.35	3.49	4.93	4.72	4.18	6.24	2.15
18	4.61	5.62	3.14	2.24	2.87	3.41	3.58	5.00	4.77	4.03	6.39	2.38
19	4.65	5.61	3.18	2.35	2.52	3.49	3.65	5.08	4.87	4.16	6.52	2.54
20	4.68	---	3.20	2.50	2.65	3.52	3.72	5.21	4.87	4.27	6.54	2.65
21	4.71	---	3.22	2.62	2.78	3.41	3.81	5.28	4.70	3.77	6.55	2.23
22	4.81	---	3.25	2.71	2.93	3.25	3.91	5.32	4.77	3.29	6.68	2.25
23	4.90	---	3.28	2.75	3.01	3.28	4.00	5.38	4.88	3.41	6.79	2.48
24	4.94	4.81	2.65	1.94	3.05	3.32	4.11	5.35	4.98	3.51	6.89	2.63
25	4.99	4.83	2.21	2.05	3.10	3.40	4.17	5.47	5.08	3.40	6.78	2.74
26	5.05	4.41	2.24	2.31	3.17	3.32	4.19	5.50	4.99	3.57	6.74	2.83
27	5.10	4.14	2.32	2.42	3.20	2.96	4.26	5.58	4.61	3.70	6.76	2.30
28	5.11	4.14	2.10	2.54	3.16	2.95	4.30	5.68	4.72	3.84	6.88	1.68
29	5.17	4.18	2.20	2.67	---	3.07	4.28	5.77	4.80	3.94	6.98	2.04
30	5.22	4.20	2.43	2.78	---	3.21	4.34	5.86	4.90	4.12	6.50	2.25
31	5.28	---	2.56	2.89	---	3.26	---	5.92	---	4.30	6.43	---

WTR YR 1999 MEAN 4.17 HIGH 1.25 LOW 6.98


353219077153801 NC-160
WATER LEVEL, IN FEET BELOW LAND SURFACE
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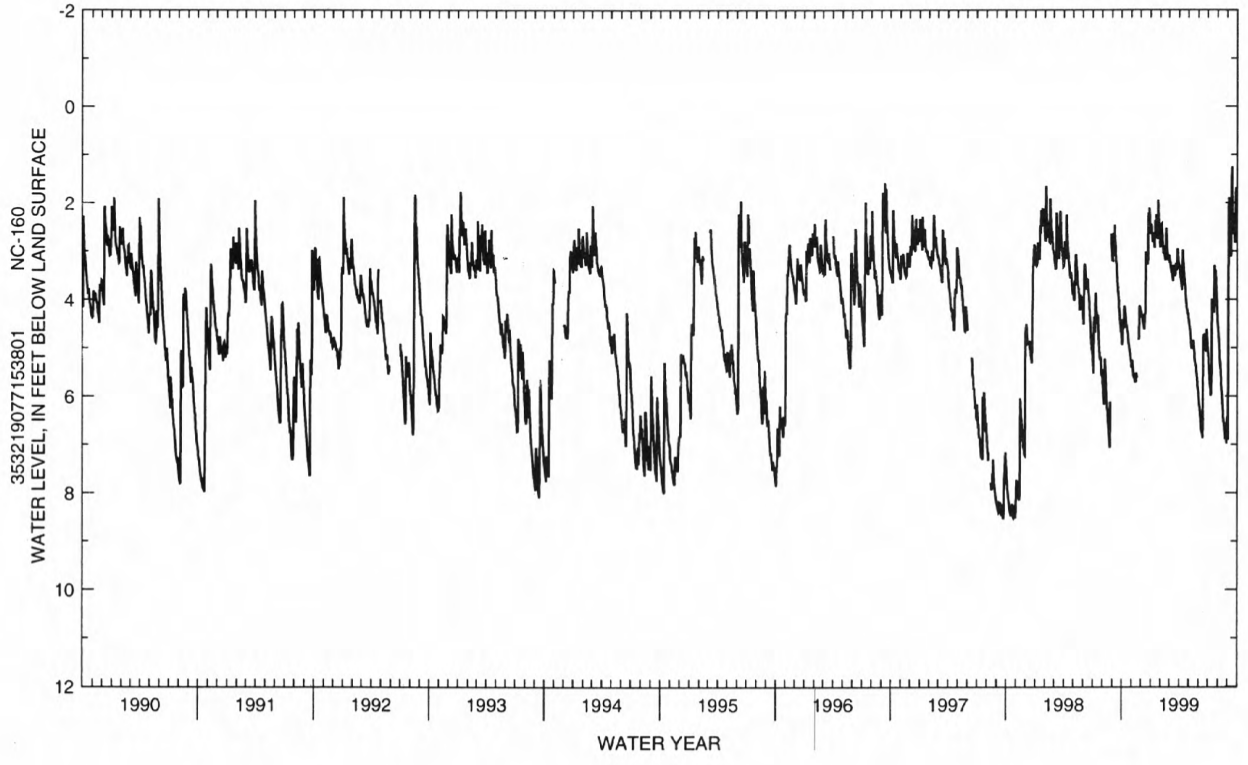
1998
1999


353219077153801 NC-160
WATER LEVEL, IN FEET BELOW LAND SURFACE
-2
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2
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10
12
1990
1991
1992
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1994
1995
1996
1997
1998
1999
WATER YEAR

PITT COUNTY--Continued

354457077215504. Local number, NC-183; DENR Bethel Research Station well L24b4.

LOCATION.--Lat 35°44'57", long 77°21'55", Hydrologic Unit 03020103, 4.2 mi south of Bethel on U.S. Highway 13 and State Highway 11 at North Pitt High School. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 370 ft, diameter 4 in., cased to 360 ft, screened interval from 360 to 370 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 55.31 ft above sea level (levels by DENR). Measuring point: Top of casing, 0.76 ft above land-surface datum; revised from 1.87 ft above land-surface datum, July 7, 1999. Locking cap installed.

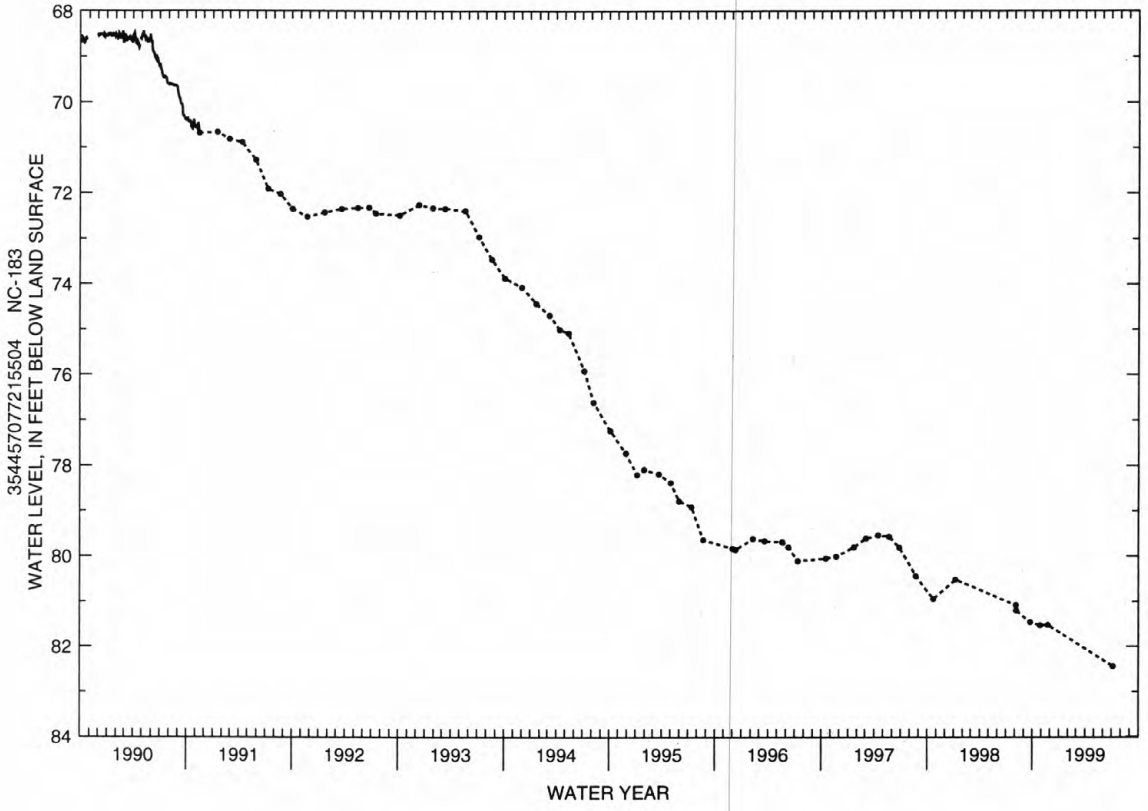
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--April 1980 to current year. Continuous record October 1983 to November 1990. Records from April 1980 to September 1983 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 56.33 ft below land-surface datum, Apr. 17, 1980; lowest water level measured, 82.44 ft below land-surface datum, July 7, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	81.53	NOV 24	81.52	JUL 07	82.44


354457077215504 NC-183
WATER LEVEL, IN FEET BELOW LAND SURFACE
68
70
72
74
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82
84
1990
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1992
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1994
1995
1996
1997
1998
1999
WATER YEAR

PITT COUNTY--Continued

353146077193403. Local number, NC-184; DENR Conley Research Station well N23p3.

LOCATION.--Lat 35°14'46", long 77°19'34", Hydrologic Unit 03020203, 0.2 mi west of State Highway 43 on Secondary Road 1711 at Conley High School, and 6 mi southeast of Greenville. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Peedee aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 132 ft, diameter 4 in., cased to 122 ft, screened interval from 122 to 132 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 69 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 3.63 ft above land-surface datum.

REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--June 1984 to current year.

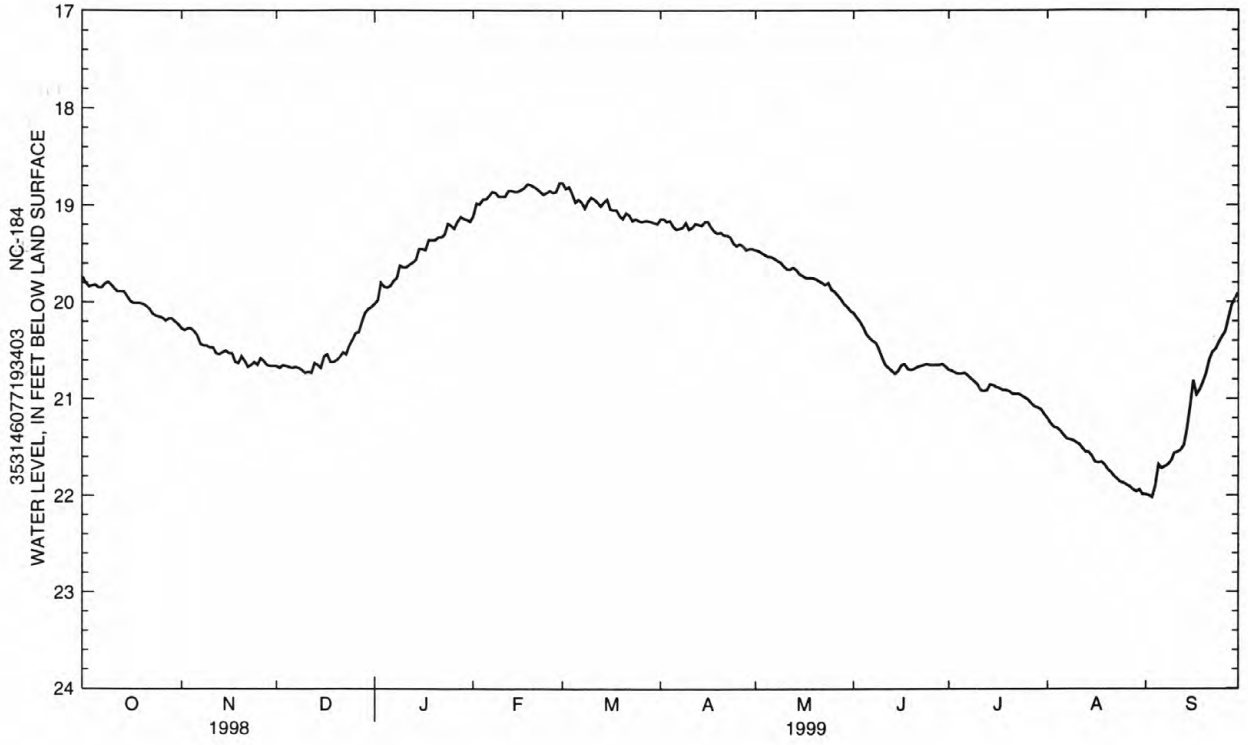
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 17.84 ft below land-surface datum, May 24, 1989; lowest water level recorded, 23.15 ft below land-surface datum, Oct. 6, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.74	20.27	20.66	20.02	19.11	18.77	19.14	19.46	20.11	20.70	21.20	21.99
2	19.80	20.29	20.68	19.98	18.98	18.83	19.14	19.47	20.16	20.71	21.25	22.00
3	19.84	20.27	20.65	19.80	18.99	18.81	19.17	19.49	20.20	20.73	21.29	22.02
4	19.83	20.27	20.66	19.84	18.94	18.88	19.16	19.51	20.26	20.74	21.30	21.90
5	19.82	20.30	20.67	19.85	18.94	18.97	19.22	19.53	20.33	20.74	21.33	21.68
6	19.85	20.34	20.68	19.83	18.90	18.94	19.25	19.53	20.37	20.73	21.37	21.72
7	19.85	20.43	20.67	19.78	18.86	18.97	19.24	19.55	20.40	20.76	21.41	21.70
8	19.81	20.45	20.68	19.75	18.87	19.03	19.23	19.57	20.42	20.79	21.42	21.68
9	19.79	20.45	20.70	19.62	18.91	18.96	19.18	19.59	20.49	20.82	21.43	21.64
10	19.82	20.47	20.73	19.64	18.91	18.92	19.25	19.63	20.58	20.85	21.45	21.56
11	19.86	20.47	20.72	19.64	18.91	18.94	19.23	19.66	20.65	20.91	21.47	21.55
12	19.89	20.53	20.73	19.61	18.85	18.97	19.19	19.66	20.68	20.92	21.51	21.53
13	19.89	20.54	20.63	19.59	18.85	19.01	19.20	19.64	20.71	20.91	21.55	21.48
14	19.89	20.52	20.65	19.56	18.86	18.97	19.21	19.67	20.74	20.85	21.55	21.31
15	19.94	20.50	20.68	19.45	18.86	18.94	19.17	19.71	20.71	20.86	21.59	21.07
16	19.99	20.53	20.56	19.45	18.84	19.04	19.17	19.73	20.65	20.88	21.65	20.81
17	20.01	20.53	20.54	19.46	18.82	19.05	19.23	19.75	20.64	20.89	21.66	20.96
18	20.01	20.62	20.62	19.36	18.78	19.05	19.27	19.75	20.69	20.91	21.65	20.91
19	20.01	20.63	20.62	19.36	18.79	19.11	19.29	19.75	20.70	20.91	21.68	20.83
20	20.02	20.56	20.60	19.36	18.81	19.14	19.28	19.76	20.69	20.92	21.73	20.74
21	20.04	20.61	20.57	19.33	18.83	19.08	19.31	19.78	20.67	20.95	21.76	20.60
22	20.07	20.67	20.52	19.33	18.86	19.10	19.31	19.80	20.66	20.95	21.80	20.52
23	20.12	20.65	20.54	19.30	18.89	19.16	19.33	19.82	20.65	20.95	21.83	20.49
24	20.14	20.62	20.45	19.19	18.87	19.14	19.39	19.80	20.64	20.97	21.86	20.42
25	20.15	20.65	20.39	19.21	18.85	19.16	19.42	19.87	20.65	20.99	21.87	20.36
26	20.16	20.58	20.32	19.24	18.87	19.17	19.40	19.89	20.65	21.01	21.89	20.31
27	20.19	20.61	20.31	19.17	18.86	19.16	19.42	19.93	20.65	21.05	21.91	20.17
28	20.17	20.65	20.20	19.12	18.77	19.16	19.46	19.97	20.65	21.08	21.94	20.04
29	20.17	20.66	20.11	19.14	---	19.17	19.45	20.02	20.64	21.09	21.96	19.97
30	20.20	20.66	20.07	19.15	---	19.18	19.45	20.05	20.67	21.11	21.94	19.91
31	20.23	---	20.05	19.17	---	19.19	---	20.09	---	21.16	21.99	---

WTR YR 1999 MEAN 20.14 HIGH 18.77 LOW 22.02


353146077193403 NC-184
WATER LEVEL, IN FEET BELOW LAND SURFACE
17
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A
M
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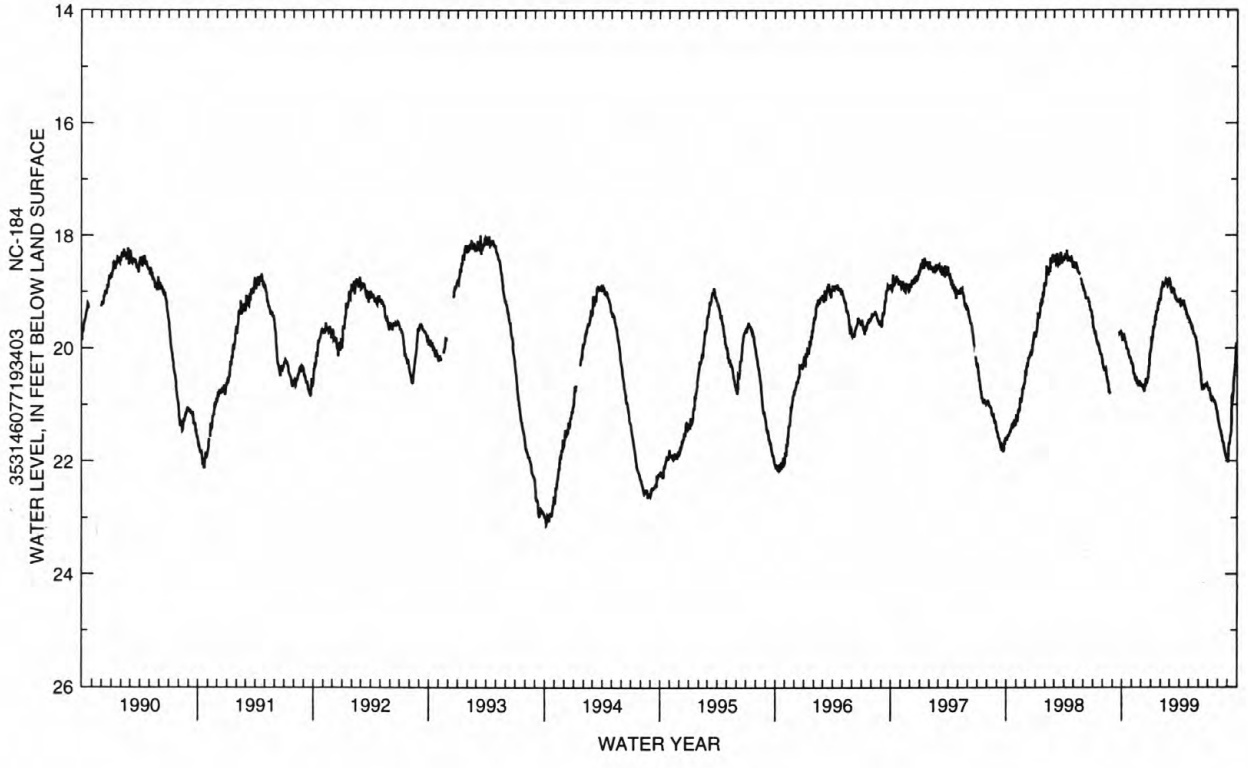
J
A
S
1998
1999


353146077193403 NC-184
WATER LEVEL, IN FEET BELOW LAND SURFACE
14
16
18
20
22
24
26
1990
1991
1992
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1994
1995
1996
1997
1998
1999
WATER YEAR

PITT COUNTY--Continued

353119077284401. Local number, NC-207; DENR Winterville Research Station well N25q2.

LOCATION.--Lat 35°31'18", long 77°28'38", Hydrologic Unit 03020203, 4.5 east of Winterville on Secondary Road 1124, 0.4 mi south of Secondary Road 1125. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 99 ft, diameter 4 in., cased to 74 ft, screened interval from 74 to 99 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 78.66 ft above sea level (levels by DENR). Measuring point: Top of casing, 0.85 ft above land-surface datum.

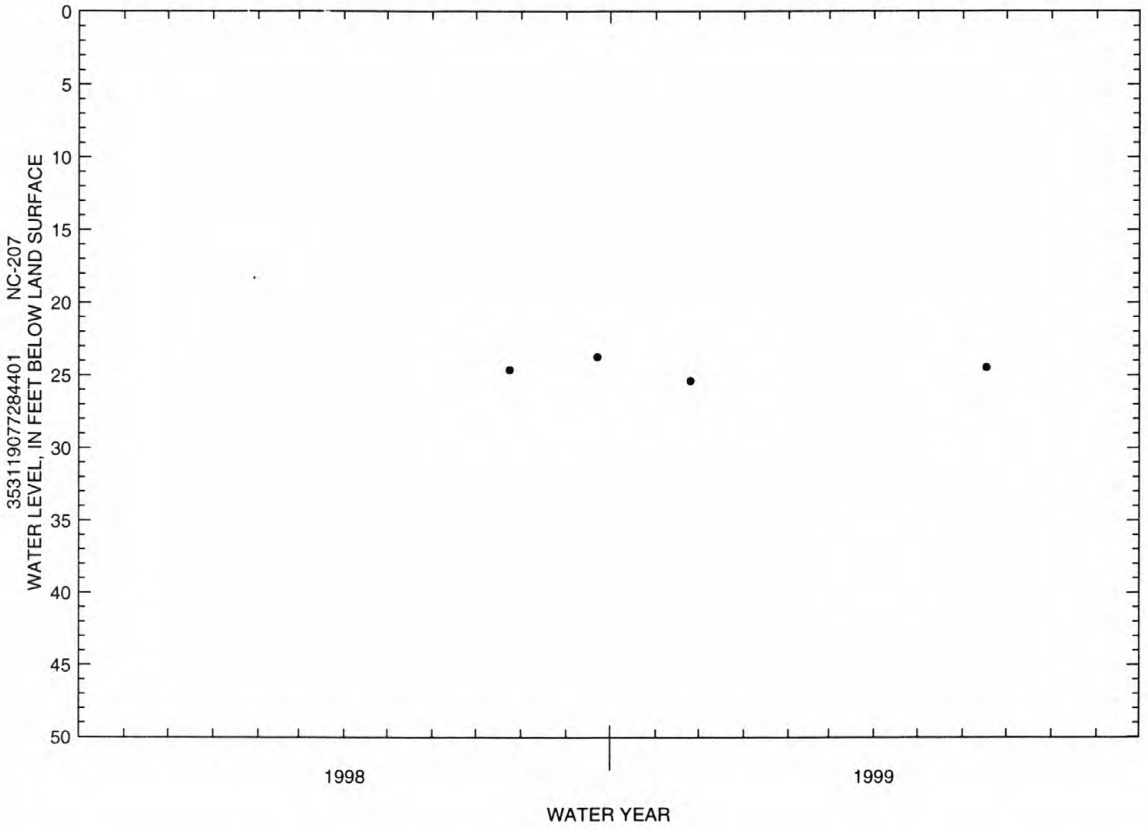
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--February 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.34 ft below land-surface datum, Dec. 31, 1986; lowest water level measured, 25.37 ft below land-surface datum, Nov. 25, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25	25.37	JUN 17	24.45


353119077284401 NC-207
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
5
10
15
20
25
30
35
40
45
50
1998
1999
WATER YEAR

ROBESON COUNTY

343840078550009. Local number, NC-177; USGS well Rb-183; DENR Littlefield School Research Station well Y42f9.

LOCATION.--Lat 34°38'40", long 78°55'00", Hydrologic Unit 03040203, 6 mi east of Lumberton on State Highway 41 at Littlefield School. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, depth 468 ft; diameter 6 in. to 348 ft, diameter 4 in. from 348 to 468 ft; screened intervals from 390 to 395 ft, 429 to 434 ft, and 444 to 449 ft; measured depth 462 ft, December 1987.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 142 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 1.40 ft above land-surface datum.

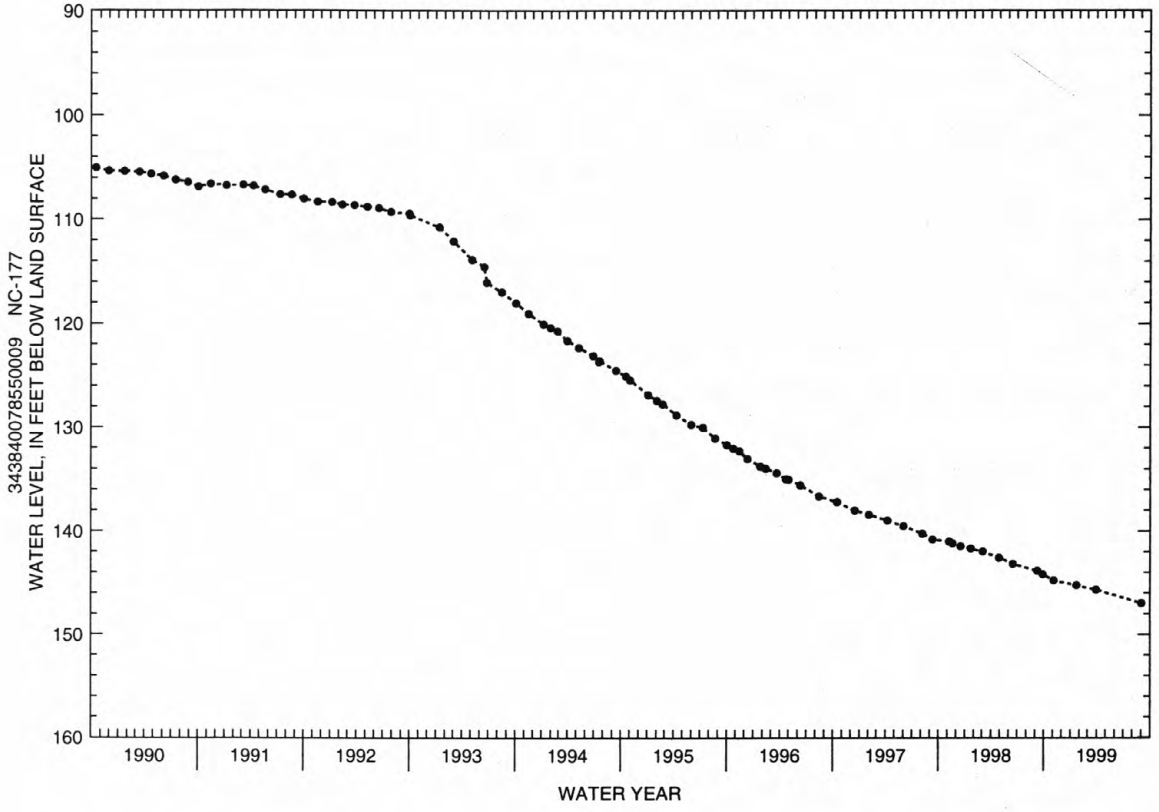
REMARKS.--Well is part of areal-effects network. Records prior to July 1985 are from Littlefield School Research Station well Y42f3 which was adjacent to and of similar construction to well Y42f9. Well Y42f3 was destroyed in September 1987.

PERIOD OF RECORD.--October 1970 to current year. Records for well Y42f3 from October 1970 to June 1985 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 76.40 ft below land-surface datum, Jan. 5, 1971; lowest water level measured, 146.97 ft below land-surface datum, Sept. 2, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 5	144.79	JAN 22	145.26	MAR 30	145.68	SEP 2	146.97


343840078550009 NC-177
WATER LEVEL, IN FEET BELOW LAND SURFACE
90
100
110
120
130
140
150
160
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
WATER YEAR

ROWAN COUNTY

354057080362601. Local number, NC-193; DENR Piedmont Research Station well L63t1.

LOCATION.--Lat 35°40'57", long 80°36'26", Hydrologic Unit 03040102, 0.75 mi south of Secondary Road 1526 on Piedmont Research Station road and 30 ft east of road, and 2.75 mi south of Barber. Owner: NCDA (North Carolina Department of Agriculture), Piedmont Research Station.

AQUIFER.--Unconfined alluvial silt.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 24 ft, diameter 4 in., cased to 9 ft, screened interval from 9 to 19 ft, sand filter pack from 7.2 to 24 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals. Satellite telemetry at station.

DATUM.--Land-surface datum is 678 ft above sea level (from topographic map). Measuring point: Two saw cuts in top of casing, 3.30 ft above land-surface datum.

REMARKS.--Well is part of climatic-effects network.

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

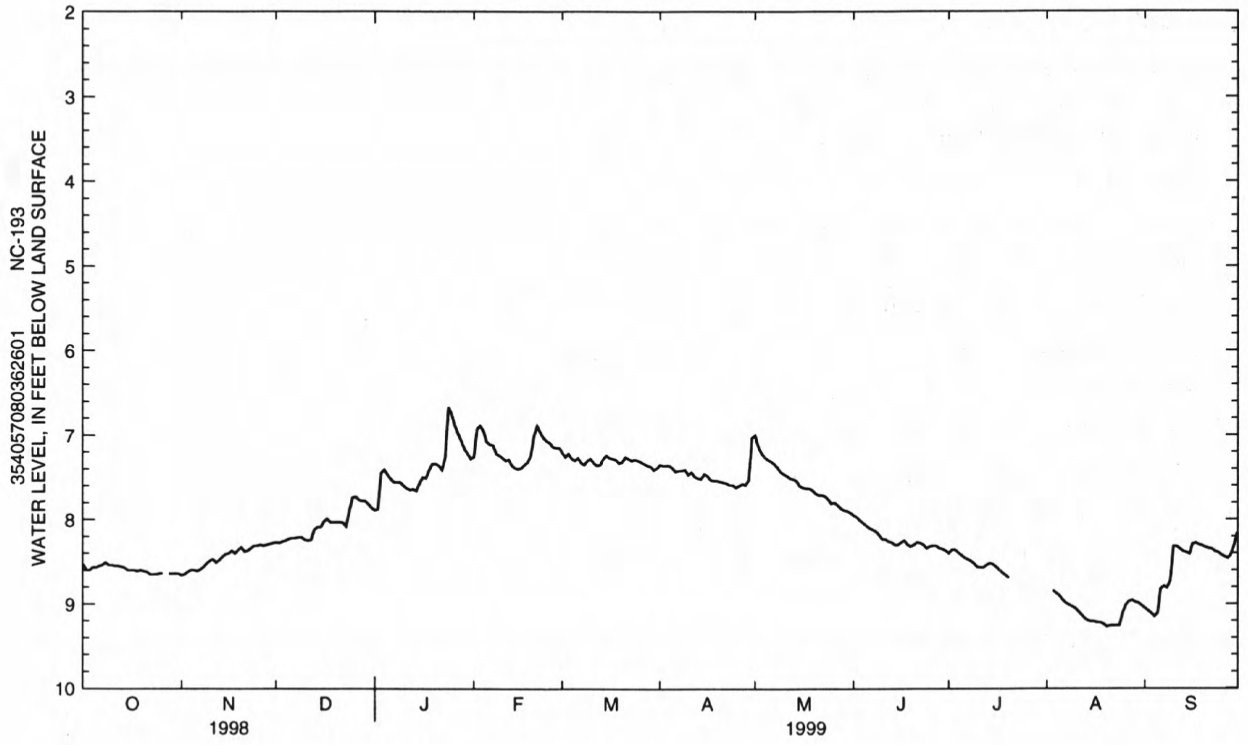
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.97 ft below land-surface datum, Mar. 30, 1993; lowest water level recorded, 9.27 ft below land-surface datum, Aug. 19, 20, 21, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.53	8.66	8.27	7.89	7.26	7.21	7.35	7.00	7.95	8.40	---	9.05
2	8.60	8.65	8.28	7.88	6.92	7.26	7.36	7.13	7.97	8.36	---	9.08
3	8.60	8.62	8.26	7.45	6.89	7.22	7.36	7.21	8.01	8.36	8.84	9.11
4	8.57	8.60	8.25	7.41	6.95	7.28	7.36	7.26	8.04	8.39	8.87	9.15
5	8.57	8.60	8.23	7.47	7.08	7.30	7.39	7.29	8.07	8.42	8.90	9.11
6	8.55	8.61	8.22	7.52	7.11	7.27	7.43	7.31	8.10	8.45	8.95	8.82
7	8.54	8.59	8.22	7.56	7.12	7.33	7.42	7.34	8.12	8.47	8.99	8.79
8	8.51	8.56	8.21	7.56	7.22	7.35	7.42	7.38	8.14	8.49	9.01	8.81
9	8.54	8.52	8.21	7.56	7.24	7.30	7.41	7.43	8.18	8.52	9.03	8.73
10	8.54	8.49	8.24	7.60	7.27	7.28	7.47	7.46	8.23	8.56	9.05	8.32
11	8.55	8.47	8.25	7.63	7.30	7.33	7.44	7.48	8.23	8.57	9.09	8.32
12	8.55	8.51	8.24	7.65	7.29	7.36	7.49	7.51	8.26	8.57	9.13	8.35
13	8.56	8.48	8.12	7.64	7.36	7.35	7.51	7.52	8.27	8.54	9.17	8.38
14	8.57	8.44	8.09	7.66	7.39	7.28	7.52	7.54	8.30	8.52	9.20	8.39
15	8.60	8.41	8.09	7.57	7.40	7.24	7.46	7.60	8.30	8.53	9.21	8.41
16	8.60	8.40	8.02	7.50	7.39	7.27	7.48	7.62	8.27	8.56	9.21	8.29
17	8.60	8.37	7.99	7.51	7.35	7.28	7.53	7.63	8.25	8.60	9.22	8.28
18	8.61	8.40	8.03	7.41	7.32	7.29	7.54	7.63	8.30	8.63	9.22	8.30
19	8.60	8.36	8.03	7.34	7.24	7.33	7.54	7.65	8.32	8.66	9.24	8.31
20	8.61	8.33	8.03	7.34	7.00	7.32	7.55	7.69	8.30	8.69	9.27	8.33
21	8.62	8.38	8.03	7.36	6.89	7.26	7.56	7.71	8.27	---	9.26	8.34
22	8.65	8.37	8.04	7.41	6.97	7.28	7.57	7.71	8.28	---	9.26	8.35
23	8.65	8.34	8.08	7.27	7.03	7.30	7.59	7.72	8.30	---	9.26	8.38
24	8.65	8.31	7.89	6.67	7.07	7.29	7.59	7.76	8.34	---	9.26	8.39
25	8.64	8.31	7.74	6.75	7.09	7.30	7.62	7.81	8.32	---	9.11	8.42
26	8.64	8.30	7.73	6.89	7.14	7.32	7.60	7.80	8.31	---	9.01	8.44
27	---	8.31	7.77	6.98	7.15	7.34	7.58	7.83	8.31	---	8.97	8.46
28	8.64	8.30	7.78	7.07	7.15	7.36	7.59	7.87	8.34	---	8.96	8.42
29	8.64	8.29	7.78	7.16	---	7.37	7.53	7.89	8.35	---	8.98	8.31
30	8.64	8.28	7.82	7.22	---	7.41	7.03	7.90	8.37	---	8.99	8.16
31	8.64	---	7.86	7.28	---	7.39	---	7.92	---	---	9.02	---

WTR YR 1999 MEAN 8.01 HIGH 6.67 LOW 9.27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WATER LEVEL, IN FEET BELOW LAND SURFACE
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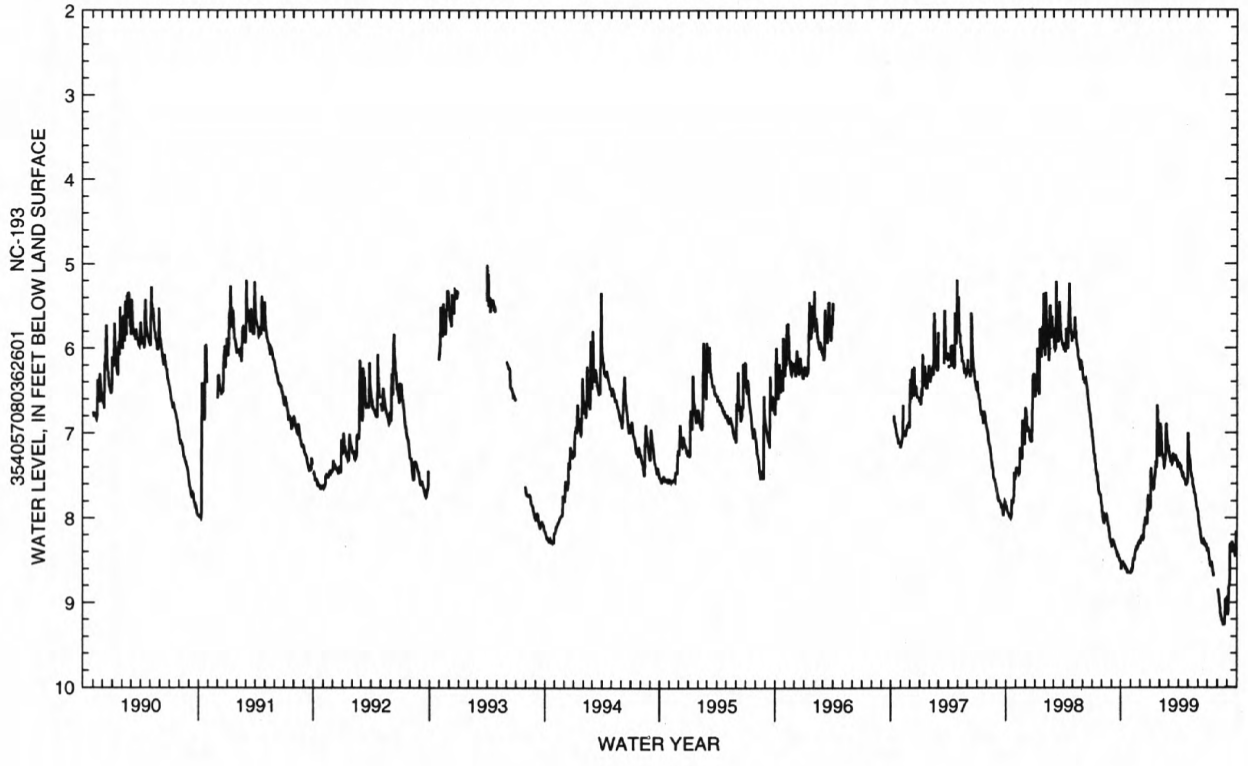
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WATER YEAR

SCOTLAND COUNTY

345812079313401. Local number, NC-194.

LOCATION.--Lat 34°58'17", long 79°31'41", Hydrologic Unit 03040204, in Sandhills Game Management Area, 0.15 mi west of Secondary Road 1328, 3.4 mi east of Marston, 4.8 mi south of Hoffman, and 6.1 mi southwest of Silver Hill. Owner: U.S. Geological Survey.

AQUIFER.--Unconfined sands in the upper Black Creek aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 35.6 ft, diameter 4 in., cased to 30.5 ft, screened interval from 30.6 to 35.6 ft. Annular space filled with native clayey sand from 0 to 30 ft below land surface.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 433 ft above sea level, from topographic map. Measuring point: Top of casing, 2.93 ft above land-surface datum.

REMARKS.--Well is part of terrane-effects network.

PERIOD OF RECORD.--September 1987 to current year.

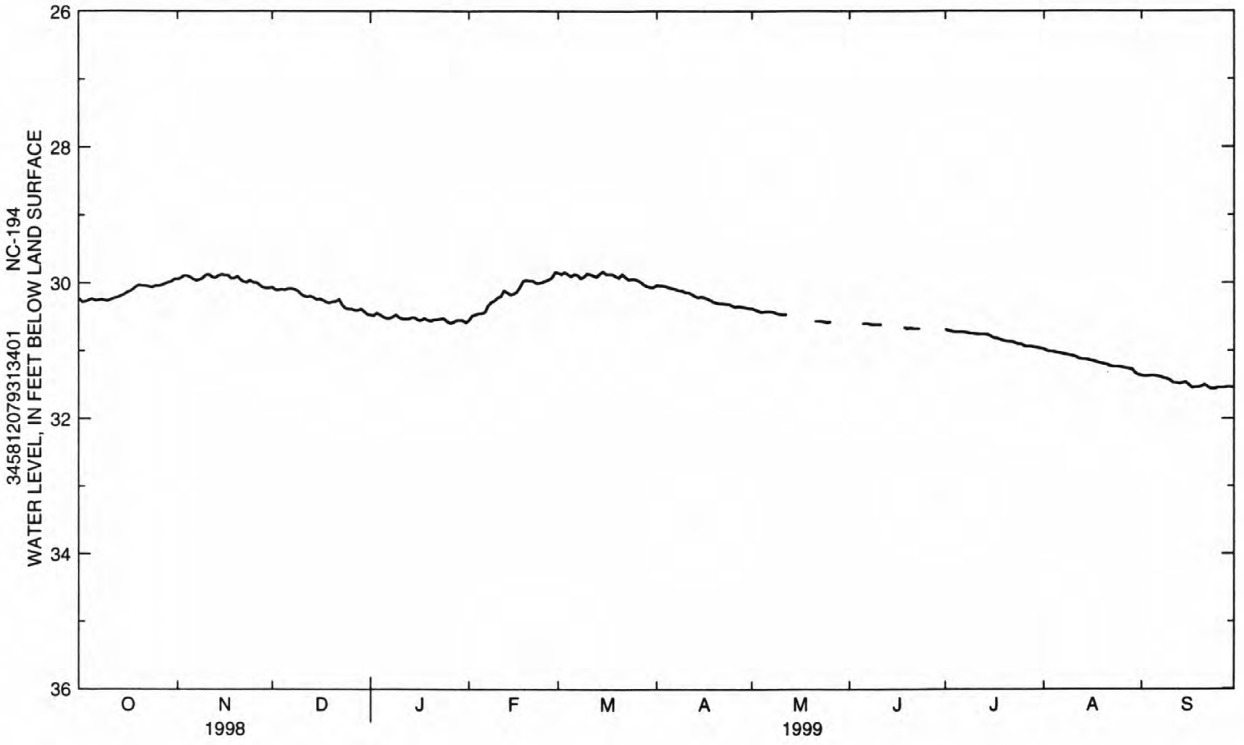
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 28.28 ft below land-surface datum, May 7-12, 1998; lowest water level recorded, 33.08 ft below land-surface datum, Mar. 24, 1992 and Feb. 27, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.23	29.94	30.06	30.47	30.55	29.85	30.03	30.37	---	30.68	30.97	31.36
2	30.28	29.93	30.10	30.48	30.48	29.87	30.04	30.39	---	30.70	30.99	31.37
3	30.27	29.89	30.10	30.44	30.47	29.84	30.04	30.41	---	30.71	31.01	31.37
4	30.25	29.89	30.09	30.47	30.45	29.87	30.05	30.43	---	30.72	31.01	31.36
5	30.23	29.91	30.10	30.50	30.45	29.90	30.07	30.42	30.59	30.72	31.02	31.36
6	30.25	29.94	30.08	30.52	30.43	29.87	30.08	30.42	30.60	30.72	31.03	31.37
7	30.25	29.96	30.08	30.52	30.33	29.88	30.09	30.42	30.60	30.72	31.04	31.38
8	30.24	29.95	30.09	30.50	30.28	29.93	30.11	30.43	30.61	30.73	31.05	31.40
9	30.25	29.93	30.11	30.47	30.26	29.91	30.11	30.45	30.61	30.74	31.06	31.41
10	30.26	29.88	30.16	30.51	30.21	29.86	30.14	30.46	30.61	30.74	31.07	31.43
11	30.24	29.87	30.19	30.53	30.20	29.87	30.14	30.46	30.61	30.75	31.08	31.47
12	30.22	29.91	30.20	30.53	30.11	29.89	30.16	30.46	---	30.75	31.11	31.47
13	30.21	29.92	30.19	30.53	30.14	29.91	30.19	---	---	30.75	31.12	31.48
14	30.19	29.89	30.21	30.51	30.17	29.86	30.21	---	---	30.75	31.12	31.47
15	30.17	29.87	30.24	30.51	30.16	29.83	30.20	---	---	30.77	31.13	31.46
16	30.14	29.88	30.23	30.55	30.13	29.87	30.21	---	---	30.80	31.14	31.50
17	30.12	29.88	30.25	30.55	30.06	29.87	30.23	---	---	30.81	31.15	31.54
18	30.09	29.93	30.28	30.52	29.97	29.87	30.25	---	30.65	30.82	31.17	31.53
19	30.05	29.93	30.29	30.55	29.96	29.90	30.28	---	30.67	30.84	31.18	31.53
20	30.03	29.90	30.27	30.56	29.97	29.92	30.29	---	30.66	30.85	31.19	31.52
21	30.04	29.95	30.27	30.54	29.97	29.87	30.30	30.56	30.67	30.86	31.20	31.50
22	30.04	29.98	30.24	30.54	30.00	29.91	30.30	30.56	30.67	30.86	31.22	31.53
23	30.05	29.99	30.32	30.53	30.00	29.95	30.31	30.56	30.67	30.88	31.23	31.56
24	30.06	29.96	30.37	30.52	29.99	29.94	30.31	30.57	---	30.90	31.23	31.56
25	30.04	29.99	30.38	30.56	29.97	29.94	30.34	30.58	---	30.90	31.23	31.54
26	30.04	29.99	30.38	30.59	29.95	29.96	30.35	30.57	---	30.93	31.24	31.54
27	30.03	30.03	30.40	30.58	29.92	29.99	30.34	---	---	30.93	31.25	31.54
28	30.01	30.06	30.40	30.55	29.84	30.03	30.35	---	---	30.93	31.26	31.53
29	29.99	30.07	30.38	30.55	---	30.05	30.36	---	---	30.94	31.27	31.53
30	29.98	30.07	30.42	30.55	---	30.06	30.37	---	---	30.95	31.32	31.54
31	29.94	---	30.46	30.58	---	30.06	---	---	---	30.96	31.35	---

WTR YR 1999 MEAN 30.46 HIGH 29.83 LOW 31.56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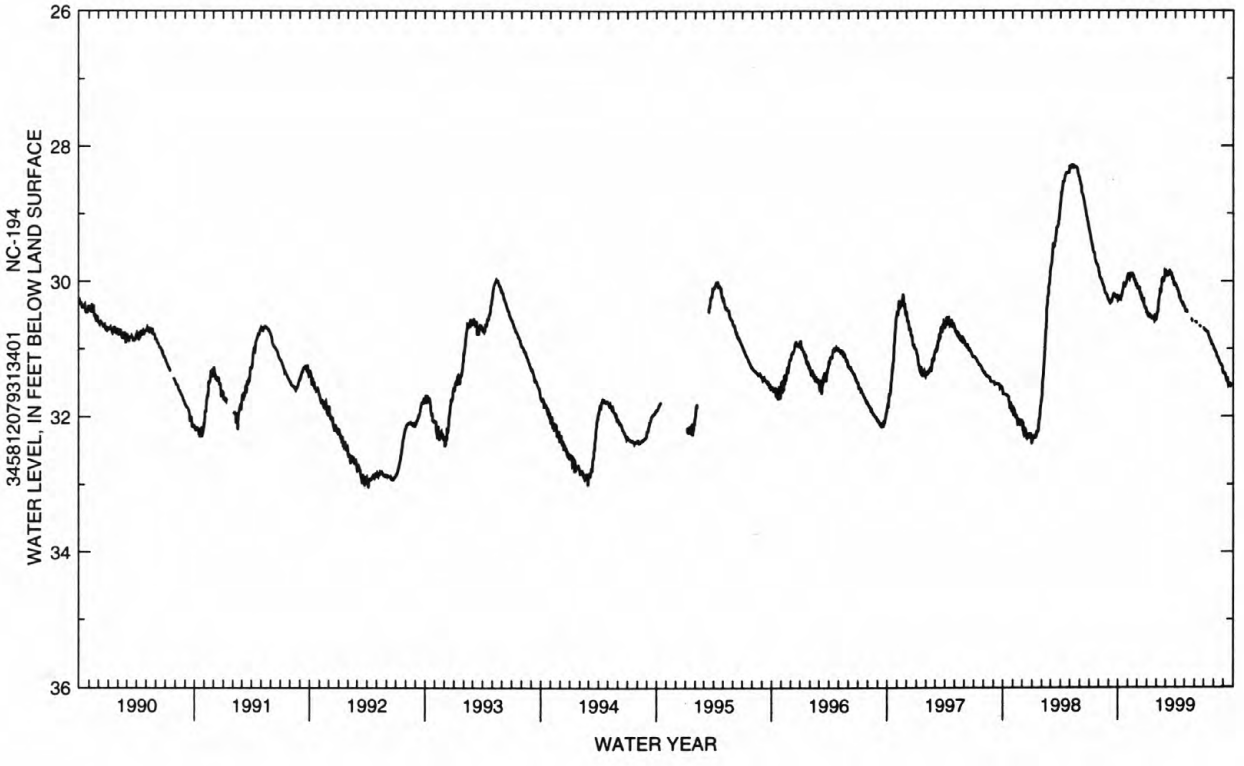
NC-194
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WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

TRANSYLVANIA COUNTY

351808082374302. Local number NC-144.

LOCATION.--Lat 35°18'08", long 82°37'43", Hydrologic Unit 06010105, at Blantyre, 0.25 mi northwest of U.S. Highway 64 on King Road (Secondary Road 1502). Owner: U.S. Geological Survey.

AQUIFER.--Unconfined saprolite derived from gneiss of Paleozoic age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 70 ft, diameter 4 in., cased to 58 ft, casing perforated from 15 to 58 ft, gravel filter pack from 5 to 58 ft, backfilled with gravel and saprolite from 58 to 70 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 2,147.11 ft above sea level. Measuring point: Top of casing, 1.30 ft above land-surface datum.

REMARKS.--In September 1984, well replaced nearby NC-127. Well is part of terrane-effects network.

PERIOD OF RECORD.--October 1981 to current year.

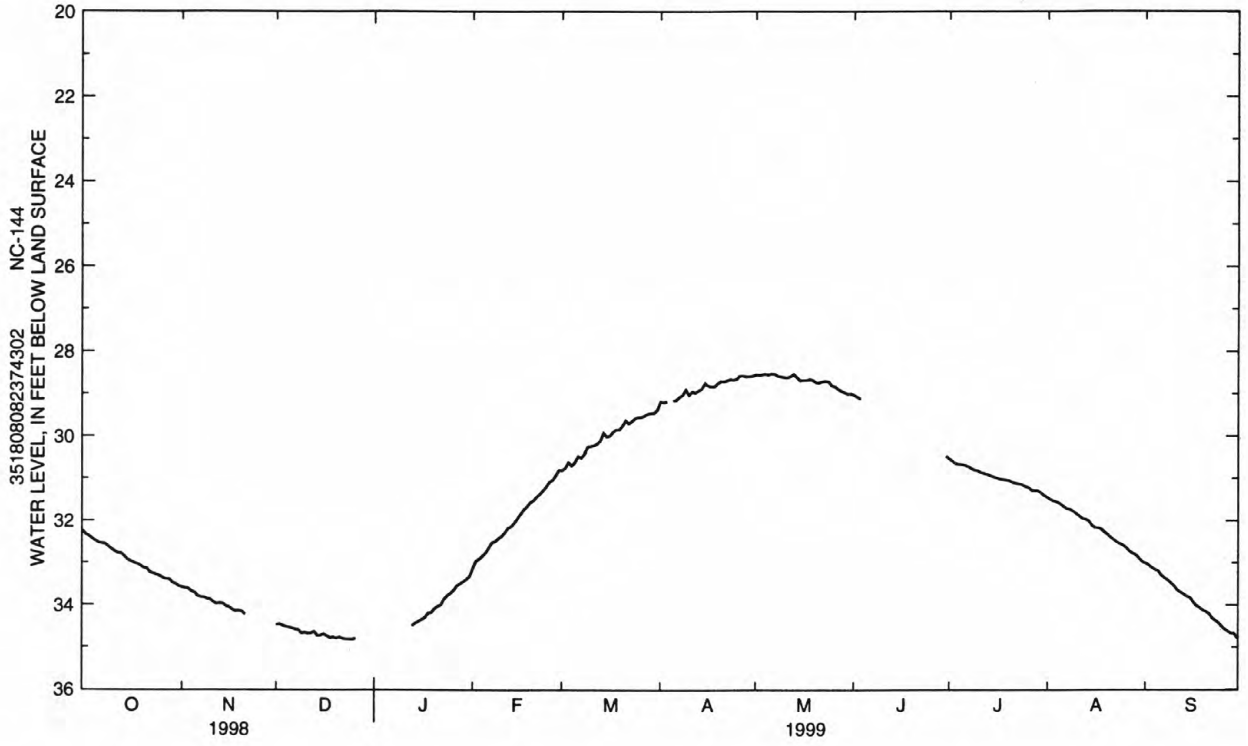
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 22.20 ft below land-surface datum, Apr. 26, 1993; lowest water level recorded, 37.95 ft below land-surface datum, Dec. 23, 24, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.24	33.58	34.47	---	33.13	30.81	29.18	28.55	29.03	30.54	31.45	33.01
2	32.33	33.60	34.46	---	32.96	30.76	29.20	28.56	29.08	30.60	31.50	33.05
3	32.37	33.61	34.48	---	32.92	30.62	29.18	28.55	29.12	30.65	31.54	33.11
4	32.43	33.68	34.52	---	32.84	30.70	---	28.54	---	30.67	31.55	33.16
5	32.48	33.71	34.53	---	32.77	30.62	29.16	28.55	---	30.68	31.60	33.19
6	32.53	33.79	34.55	---	32.64	30.48	29.15	28.53	---	30.69	31.66	33.29
7	32.54	33.82	34.58	---	32.52	30.52	29.08	28.54	---	30.72	31.71	33.36
8	32.55	33.82	34.59	---	32.50	30.43	29.03	28.58	---	30.77	31.73	33.41
9	32.62	33.86	34.67	---	32.43	30.25	28.90	28.60	---	30.80	31.77	33.47
10	32.67	33.87	34.65	---	32.37	30.24	29.03	28.61	---	30.82	31.83	33.54
11	32.73	33.94	34.68	---	32.29	30.22	28.95	28.62	---	30.87	31.89	33.64
12	32.77	33.98	34.67	---	32.18	30.18	28.98	28.59	---	30.88	31.95	33.69
13	32.78	33.96	34.63	34.49	32.14	30.11	28.93	28.54	---	30.91	31.97	33.74
14	32.84	33.97	34.73	34.43	32.06	29.92	28.88	28.61	---	30.94	32.00	33.79
15	32.93	34.03	34.72	34.39	31.95	30.01	28.75	28.69	---	30.97	32.11	33.82
16	32.97	34.05	34.69	34.35	31.84	29.99	28.81	28.68	---	30.99	32.17	33.91
17	33.00	34.11	34.73	34.30	31.74	29.90	28.83	28.68	---	31.02	32.17	34.01
18	33.03	34.15	34.78	34.20	31.67	29.84	28.83	28.66	---	31.03	32.20	34.05
19	33.07	34.14	34.77	34.18	31.58	29.84	28.76	28.68	---	31.04	32.28	34.11
20	33.12	34.15	34.79	34.09	31.52	29.75	28.70	28.73	---	31.06	32.33	34.15
21	33.14	34.23	34.77	34.04	31.44	29.63	28.71	28.74	---	31.10	32.40	34.20
22	33.23	---	34.80	34.00	31.38	29.70	28.69	28.71	---	31.12	32.45	34.30
23	33.26	---	34.81	33.87	31.29	29.65	28.66	28.70	---	31.13	32.51	34.37
24	33.28	---	34.81	33.78	31.20	29.57	28.67	28.71	---	31.15	32.55	34.42
25	33.31	---	34.82	33.73	31.09	29.56	28.65	28.81	---	31.19	32.59	34.50
26	33.36	---	34.80	33.66	31.04	29.55	28.57	28.83	---	31.22	32.65	34.57
27	33.39	---	---	33.55	30.93	29.51	28.57	28.89	---	31.28	32.73	34.62
28	33.39	---	---	33.50	30.80	29.47	28.60	28.94	---	31.29	32.78	34.67
29	33.47	---	---	33.45	---	29.46	28.59	28.97	---	31.29	32.82	34.68
30	33.50	---	---	33.40	---	29.45	28.58	29.01	30.48	31.35	32.89	34.78
31	33.56	---	---	33.32	---	29.37	---	29.00	---	31.41	32.98	---

WTR YR 1999 MEAN 31.80 HIGH 28.53 LOW 34.82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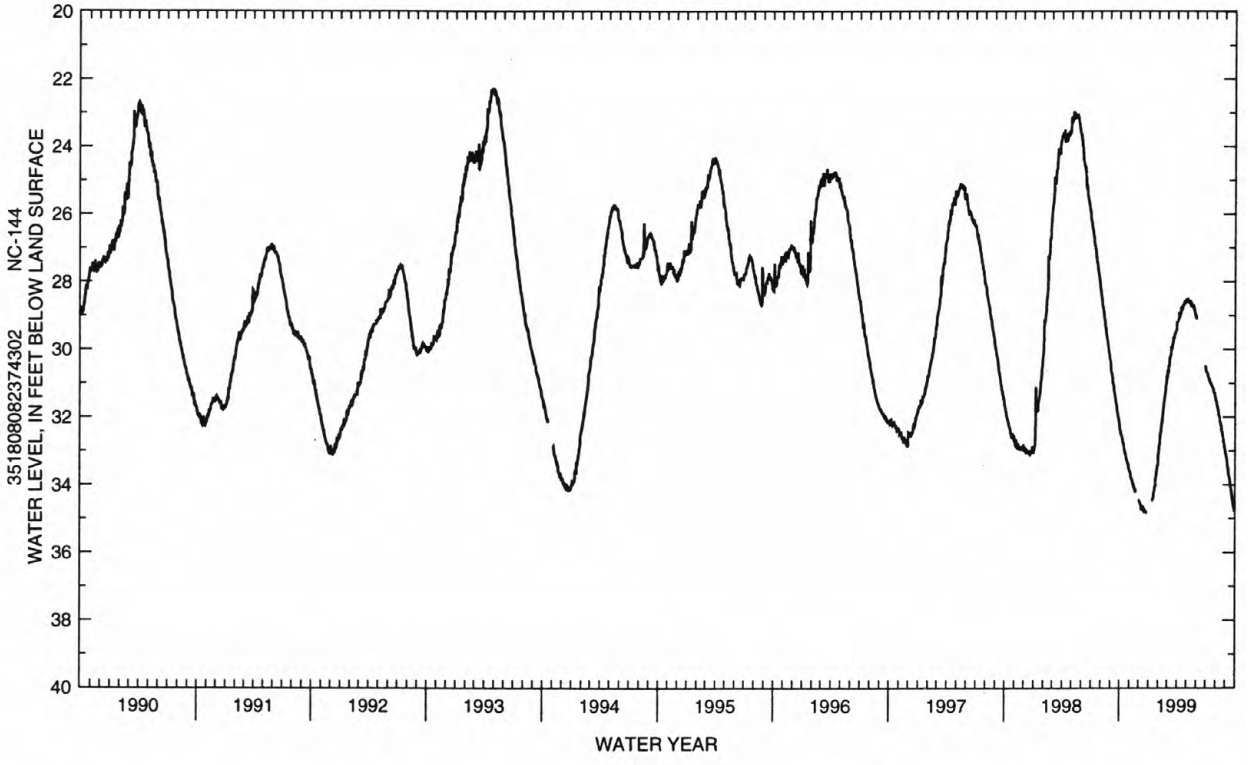
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WATER YEAR

TRANSYLVANIA COUNTY--Continued

351709082434101. Local number, NC-147.

LOCATION.--Lat 35°17'09", long 82°43'41", Hydrologic Unit 06010105, 3.5 mi north of Brevard on U.S. Highway 276, 700 ft northwest of U.S. Forest Service Ranger Station in Pisgah National Forest. Owner: U.S. Geological Survey.

AQUIFER.--Unconfined alluvial sand.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 25 ft, diameter 4 in., cased to 11.6 ft, screened interval from 11.6 to 21.6 ft; measured depth 22.9 ft, June 1985.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 2,176.70 ft above sea level. Measuring point: Top of casing, 2.24 ft above land-surface datum.

REMARKS.--Well is part of climatic-effects network.

PERIOD OF RECORD.--June 1985 to current year.

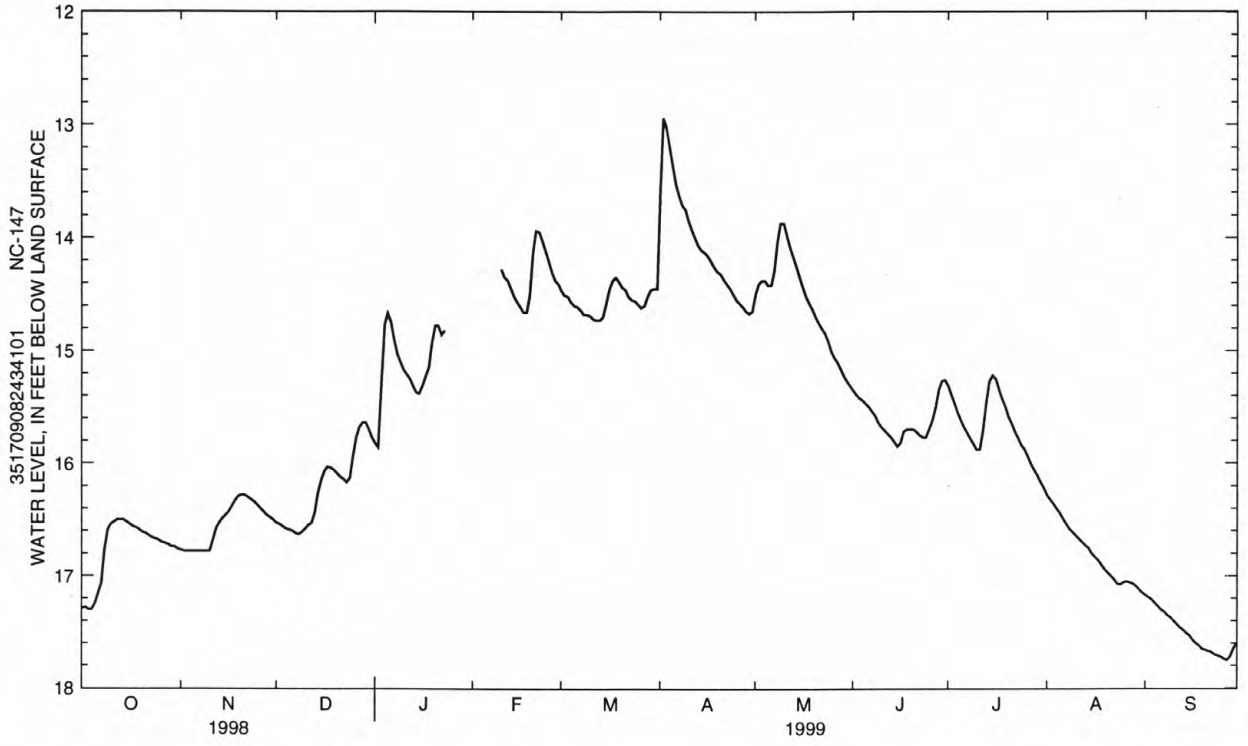
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 7.43 ft below land-surface datum, Oct. 2, 1989; lowest water level recorded, 17.75 ft below land-surface datum, Sept. 26, 27, 28, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.29	16.77	16.53	15.82	---	14.47	13.61	14.50	15.35	15.31	16.28	17.17
2	17.28	16.78	16.54	15.86	---	14.51	12.94	14.41	15.39	15.39	16.32	17.19
3	17.30	16.78	16.56	15.30	---	14.52	13.03	14.38	15.42	15.47	16.36	17.21
4	17.30	16.78	16.58	14.77	---	14.57	13.19	14.38	15.44	15.55	16.40	17.24
5	17.25	16.78	16.59	14.67	---	14.60	13.36	14.42	15.47	15.62	16.44	17.27
6	17.16	16.78	16.60	14.75	---	14.61	13.52	14.42	15.50	15.68	16.49	17.30
7	17.07	16.78	16.62	14.90	---	14.64	13.63	14.29	15.54	15.73	16.54	17.32
8	16.77	16.78	16.63	15.03	---	14.68	13.71	14.03	15.58	15.78	16.58	17.35
9	16.59	16.78	16.61	15.10	---	14.68	13.75	13.87	15.64	15.83	16.61	17.37
10	16.54	16.78	16.58	15.17	14.28	14.69	13.85	13.87	15.68	15.88	16.64	17.40
11	16.52	16.68	16.55	15.21	14.35	14.72	13.93	13.98	15.71	15.88	16.67	17.43
12	16.50	16.58	16.53	15.25	14.38	14.73	14.00	14.09	15.74	15.71	16.70	17.46
13	16.50	16.53	16.44	15.31	14.45	14.73	14.07	14.17	15.77	15.46	16.73	17.48
14	16.50	16.49	16.26	15.37	14.52	14.70	14.11	14.26	15.81	15.27	16.75	17.51
15	16.52	16.46	16.15	15.38	14.57	14.58	14.13	14.35	15.85	15.22	16.80	17.53
16	16.54	16.43	16.07	15.31	14.61	14.46	14.16	14.44	15.82	15.25	16.83	17.57
17	16.56	16.38	16.03	15.23	14.66	14.38	14.21	14.52	15.72	15.35	16.86	17.60
18	16.57	16.33	16.04	15.15	14.66	14.35	14.26	14.58	15.70	15.43	16.90	17.62
19	16.59	16.29	16.06	14.93	14.51	14.39	14.30	14.63	15.70	15.50	16.94	17.65
20	16.61	16.28	16.09	14.78	14.13	14.44	14.32	14.70	15.70	15.59	16.97	17.66
21	16.62	16.28	16.12	14.78	13.94	14.46	14.37	14.75	15.72	15.65	17.00	17.67
22	16.64	16.30	16.14	14.86	13.95	14.52	14.41	14.80	15.75	15.72	17.03	17.68
23	16.66	16.32	16.17	14.82	14.03	14.55	14.45	14.84	15.77	15.78	17.07	17.70
24	16.67	16.34	16.13	---	14.12	14.56	14.50	14.91	15.77	15.84	17.08	17.71
25	16.68	16.37	15.94	---	14.21	14.59	14.55	15.00	15.70	15.88	17.06	17.72
26	16.70	16.40	15.77	---	14.31	14.62	14.58	15.06	15.62	15.94	17.05	17.74
27	16.71	16.43	15.68	---	14.38	14.60	14.61	15.10	15.51	16.01	17.06	17.75
28	16.72	16.46	15.64	---	14.41	14.52	14.65	15.16	15.35	16.06	17.07	17.72
29	16.74	16.48	15.64	---	---	14.46	14.67	15.22	15.27	16.11	17.09	17.65
30	16.74	16.50	15.70	---	---	14.45	14.65	15.27	15.26	16.17	17.12	17.60
31	16.76	---	15.77	---	---	14.45	---	15.31	---	16.22	17.15	---

WTR YR 1999 MEAN 15.70 HIGH 12.94 LOW 17.75


351709082434101 NC-147
WATER LEVEL, IN FEET BELOW LAND SURFACE
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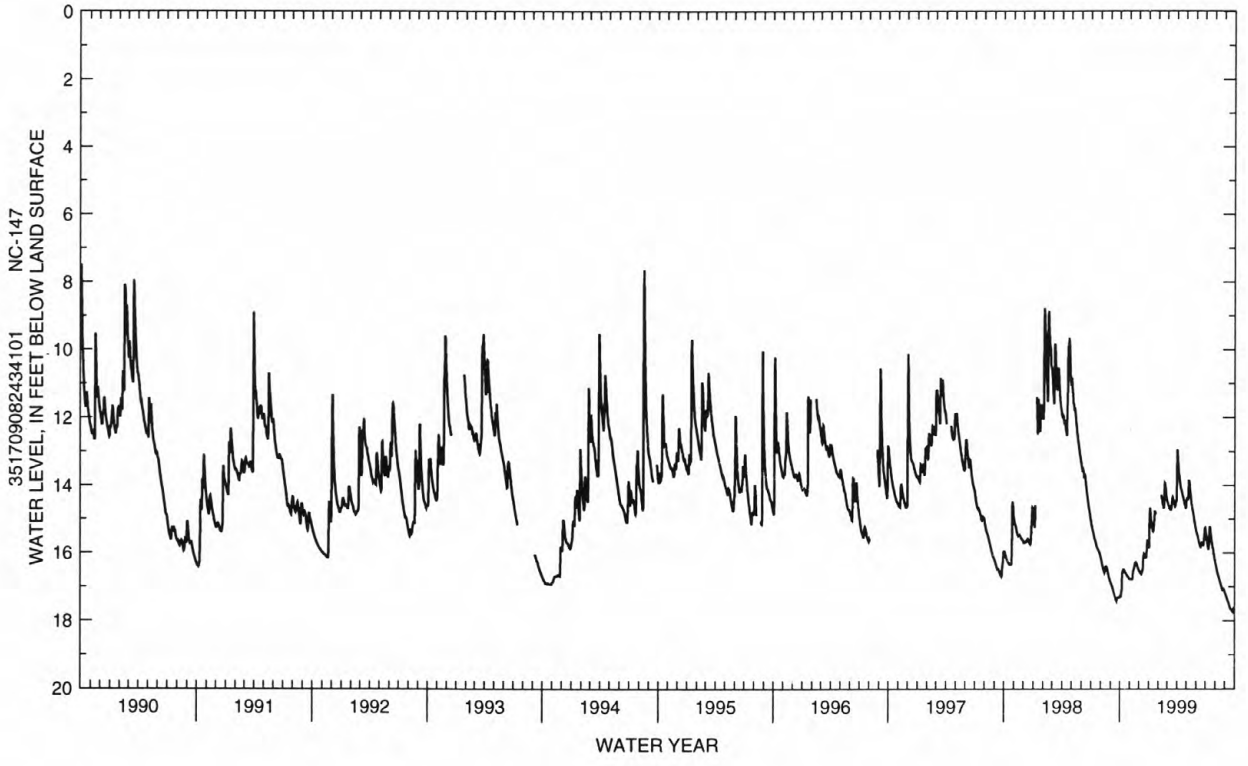
351709082434101 NC-147
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

WASHINGTON COUNTY

354351076260501. Local number, NC-156; DENR Lake Phelps Research Station well L13i1.

LOCATION.--Lat 35°43'51", long 76°26'05", Hydrologic Unit 03010205, on south shore of Lake Phelps, south of Secondary Road 1126 on Secondary Road 1183. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Oligocene and Eocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 510 ft, diameter 6 in. to 175 ft, diameter 2.5 in. from 136 to 390 ft, open hole from 390 to 510 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 16.15 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 2.47 ft above land-surface datum; revised from 2.60 ft above land-surface datum, October 1987.

REMARKS.--Well is part of areal-effects network.

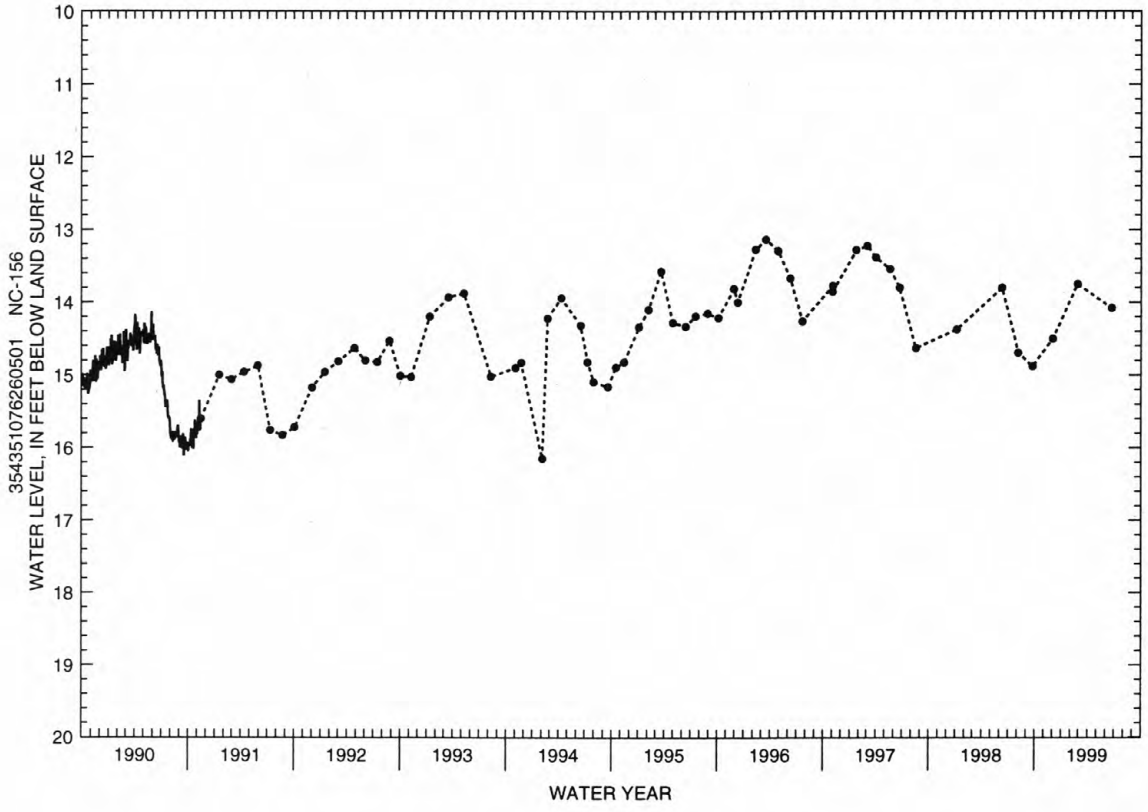
PERIOD OF RECORD.--August 1977 to current year. Continuous record from November 1986 to November 1990. Records from August 1977 to September 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.13 ft below land-surface datum, Mar. 18, 1996; lowest water level recorded, 16.29 ft below land-surface datum, Oct. 14, 1988.

REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-87-1, should be adjusted by +0.13 ft.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 03	14.50	FEB 26	13.75	JUN 23	14.08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WATER LEVEL, IN FEET BELOW LAND SURFACE
354351076260501 NC-156
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WATER YEAR

WASHINGTON COUNTY--Continued

354351076260502. Local number, NC-157; DENR Lake Phelps Research Station well L13i2.

LOCATION.--Lat 35°43'51", long 76°26'05", Hydrologic Unit 03010205, on south shore of Lake Phelps, south of Secondary Road 1126 on Secondary Road 1183. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Yorktown aquifer of Pliocene and Miocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 120 ft, diameter 4 in., screened interval from 110 to 120 ft; measured depth 120.2 ft, October 1986.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 16.35 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 2.84 ft above land-surface datum; revised from 3.20 ft above land-surface datum, October 1987.

REMARKS.--Well is part of areal-effects network.

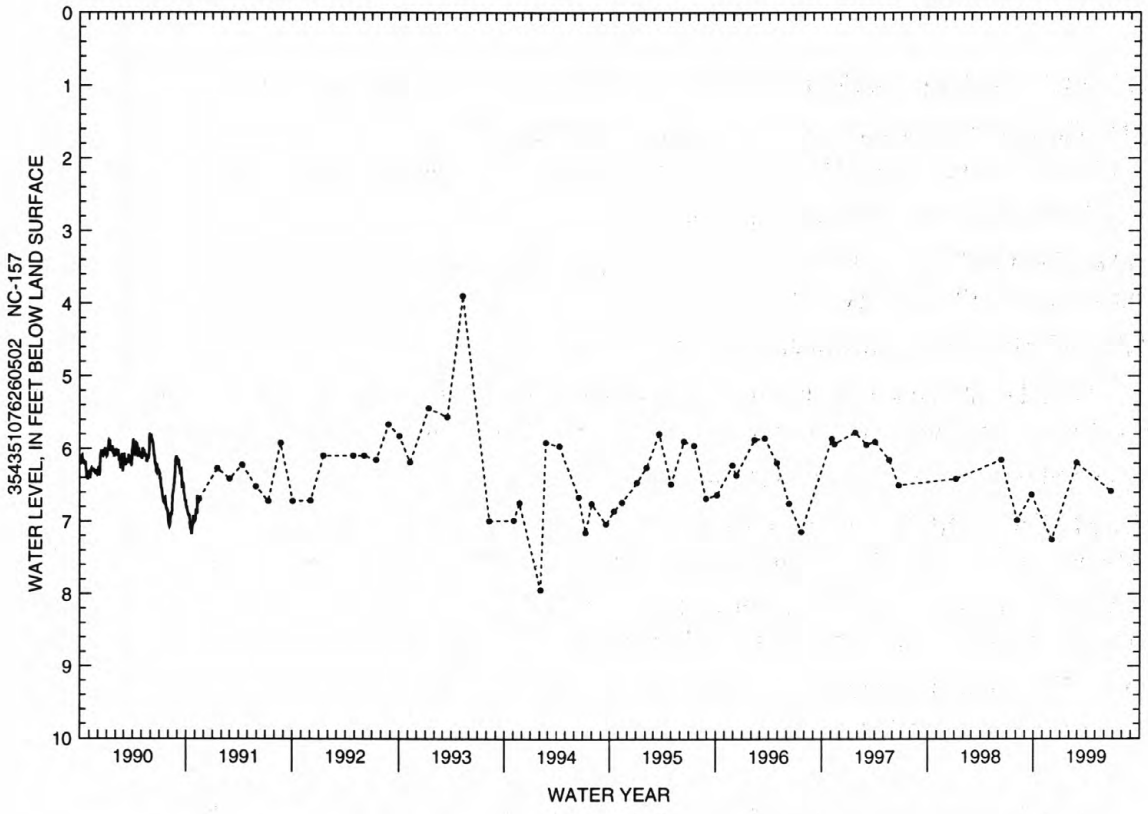
PERIOD OF RECORD.--October 1977 to current year. Continuous record from November 1986 to November 1990. Records from October 1977 to July 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.89 ft below land-surface datum, May 10, 1993; lowest water level measured, 9.35 ft below land-surface datum, Feb. 24, 1981.

REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-87-1, should be adjusted by +0.36 ft.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 3	7.25	FEB 26	6.19	JUN 23	6.58


354351076260502 NC-157
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WATER YEAR

WASHINGTON COUNTY--Continued

354418076463601. Local number, NC-158.

LOCATION.--Lat 35°44'18", long 76°46'36", Hydrologic Unit 03020104, 2.4 mi west of State Highway 32 on Secondary Road 1101. Owner: U.S. Geological Survey.

AQUIFER.--Surficial aquifer of post-Miocene age.

WELL CHARACTERISTICS.--Drilled observation well, depth 15 ft, diameter 4 in., screened interval from 10 to 15 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 35 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 2.49 ft above land-surface datum.

REMARKS.--Well is part of climatic-effects network.

PERIOD OF RECORD.--December 1986 to current year.

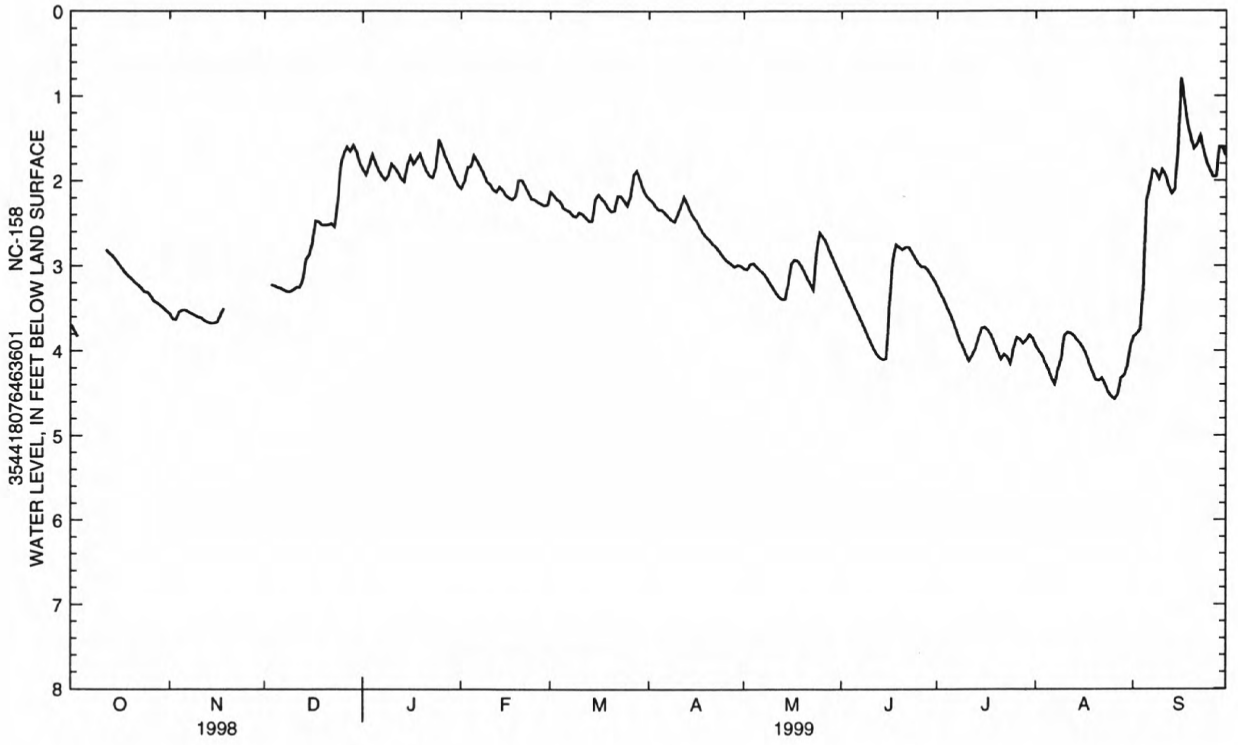
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.50 ft below land-surface datum, Mar. 2, 3, 1994; lowest water level recorded, 6.51 ft below land-surface datum, Sept. 17, 18, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.69	3.56	---	1.86	2.09	2.13	2.21	3.03	3.15	3.24	3.94	3.83
2	3.76	3.62	---	1.93	2.00	2.17	2.24	3.04	3.23	3.32	4.00	3.80
3	3.83	3.63	3.22	1.82	1.84	2.22	2.30	2.98	3.31	3.39	4.05	3.75
4	---	3.54	3.23	1.69	1.83	2.24	2.34	2.97	3.39	3.48	4.14	3.27
5	---	3.52	3.25	1.79	1.70	2.32	2.34	3.01	3.48	3.56	4.22	2.24
6	---	3.52	3.26	1.88	1.77	2.34	2.38	3.05	3.56	3.65	4.32	2.07
7	---	3.54	3.28	1.94	1.84	2.36	2.42	3.08	3.64	3.76	4.39	1.87
8	---	3.56	3.30	1.99	1.92	2.41	2.46	3.13	3.72	3.87	4.22	1.89
9	---	3.58	3.30	1.94	2.01	2.42	2.48	3.19	3.81	3.94	4.10	1.98
10	---	3.60	3.28	1.80	2.04	2.37	2.39	3.25	3.89	4.04	3.82	1.87
11	---	3.61	3.25	1.84	2.10	2.39	2.29	3.31	3.97	4.12	3.78	1.93
12	2.81	3.64	3.25	1.90	2.13	2.43	2.19	3.36	4.04	4.05	3.79	2.06
13	2.85	3.66	3.16	1.97	2.07	2.47	2.27	3.39	4.08	3.97	3.82	2.15
14	2.88	3.67	2.92	2.01	2.11	2.47	2.36	3.39	4.10	3.84	3.87	2.10
15	2.93	3.67	2.87	1.82	2.17	2.21	2.43	3.22	4.09	3.73	3.91	1.59
16	2.98	3.66	2.72	1.71	2.20	2.16	2.47	2.98	3.42	3.72	3.97	.79
17	3.03	3.58	2.47	1.80	2.22	2.21	2.55	2.93	2.93	3.76	4.05	1.06
18	3.08	3.50	2.48	1.74	2.18	2.25	2.61	2.94	2.75	3.82	4.15	1.33
19	3.12	---	2.52	1.68	1.99	2.32	2.66	2.99	2.78	3.91	4.25	1.49
20	3.15	---	2.52	1.79	1.99	2.36	2.69	3.06	2.81	4.01	4.34	1.62
21	3.19	---	2.52	1.88	2.06	2.35	2.74	3.14	2.78	4.10	4.35	1.57
22	3.22	---	2.50	1.94	2.14	2.18	2.77	3.21	2.78	4.04	4.32	1.47
23	3.26	---	2.54	1.96	2.21	2.18	2.82	3.28	2.84	4.07	4.40	1.64
24	3.30	---	2.24	1.84	2.22	2.23	2.87	2.83	2.91	4.15	4.49	1.78
25	3.31	---	1.81	1.51	2.25	2.29	2.92	2.61	2.97	3.96	4.54	1.87
26	3.35	---	1.67	1.61	2.27	2.18	2.95	2.66	3.01	3.84	4.57	1.95
27	3.41	---	1.60	1.72	2.29	1.93	2.98	2.72	3.01	3.86	4.51	1.95
28	3.43	---	1.65	1.80	2.28	1.88	3.01	2.82	3.05	3.91	4.32	1.60
29	3.46	---	1.58	1.89	---	1.98	2.99	2.90	3.11	3.87	4.29	1.60
30	3.49	---	1.66	1.98	---	2.09	3.00	2.99	3.17	3.81	4.18	1.70
31	3.53	---	1.79	2.05	---	2.17	---	3.07	---	3.85	3.95	---

WTR YR 1999 MEAN 2.85 HIGH .79 LOW 4.57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WATER LEVEL, IN FEET BELOW LAND SURFACE
354418076463601 NC-158
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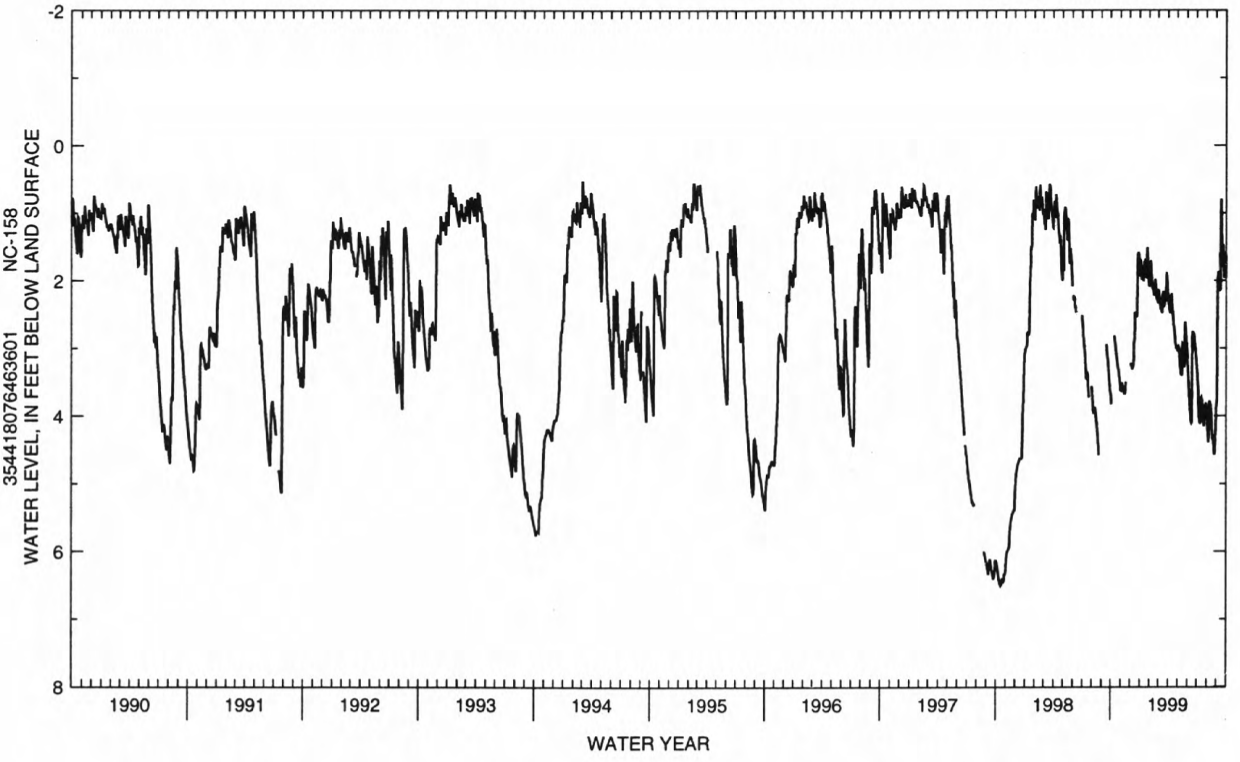
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WATER LEVEL, IN FEET BELOW LAND SURFACE
354418076463601 NC-158
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1999
WATER YEAR

WAYNE COUNTY

351849078163901. Local number, NC-148.

LOCATION.--Lat 35°18'49", long 78°16'39", Hydrologic Unit 03020201, 0.5 mi south of Johnston County line on Secondary Road 1009, and 6 mi west of Grantham. Owner: U.S. Geological Survey.

AQUIFER.--Surficial aquifer of post-Miocene age.

WELL CHARACTERISTICS.--Bored observation well, augered to 10.4 ft, diameter 3 in., cased to 5.4 ft, screened interval from 5.4 to 10.4 ft.

INSTRUMENTATION.--Water-level recorder collecting data at 60-minute intervals.

DATUM.--Land-surface datum is 190 ft above sea level (from topographic map). Measuring point: File cut on top of casing, 1.80 ft above land-surface datum.

REMARKS.--Well is part of climatic-effects network.

PERIOD OF RECORD.--February 1980 to current year. Records for June 17 to Sept. 30, 1987, published in Water Resources Data, North Carolina, NC-87-1, are unreliable and should not be used.

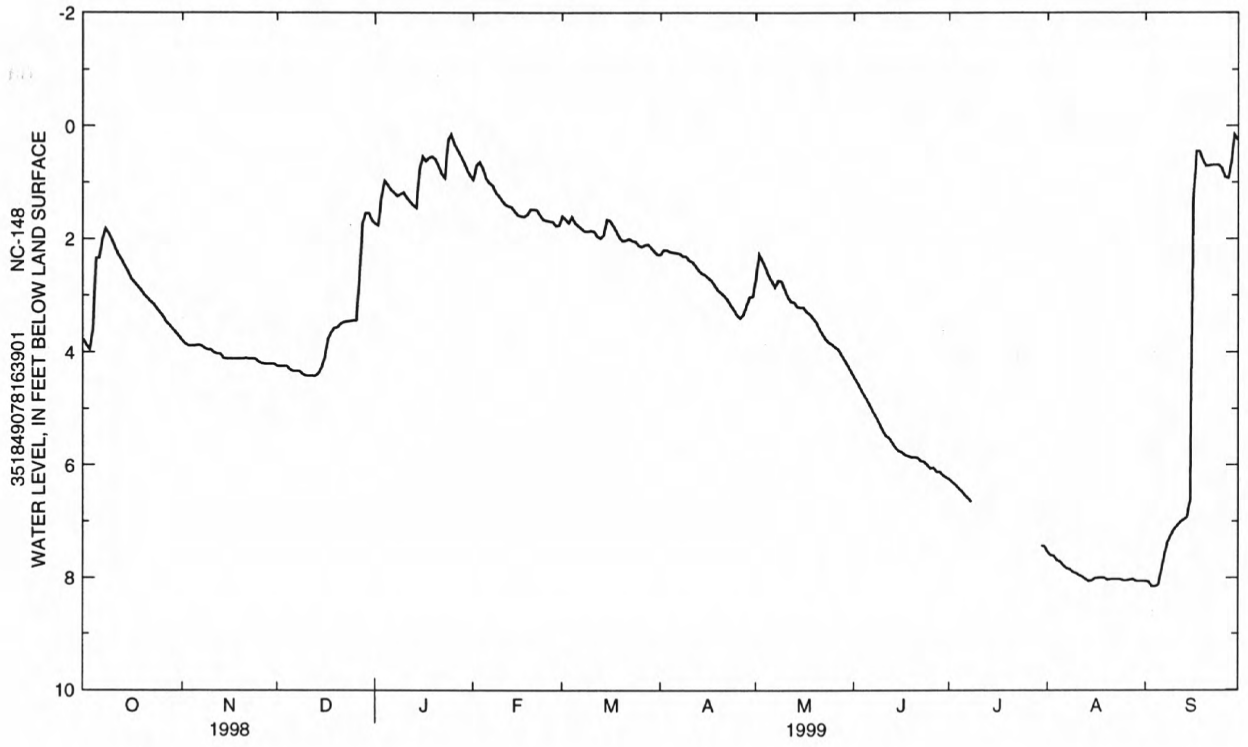
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.04 ft above land-surface datum, May 2, 1989; lowest water level recorded, 8.65 ft below land-surface datum, Oct. 8, 1996, Sept. 24, 25, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.77	3.79	4.24	1.73	.95	1.60	2.28	2.68	4.44	6.25	7.54	8.06
2	3.87	3.85	4.24	1.76	.69	1.65	2.20	2.28	4.53	6.30	7.60	8.07
3	3.95	3.88	4.24	1.26	.64	1.72	2.20	2.38	4.64	6.35	7.61	8.16
4	3.61	3.88	4.24	.97	.76	1.61	2.23	2.51	4.75	6.41	7.69	8.16
5	2.34	3.88	4.30	1.04	.93	1.72	2.24	2.65	4.84	6.46	7.71	8.13
6	2.34	3.87	4.33	1.13	1.01	1.77	2.25	2.75	4.95	6.53	7.78	7.88
7	2.00	3.88	4.33	1.18	1.05	1.82	2.26	2.85	5.06	6.59	7.83	7.58
8	1.82	3.92	4.33	1.24	1.18	1.87	2.31	2.74	5.16	6.65	7.85	7.37
9	1.91	3.95	4.38	1.21	1.24	1.87	2.31	2.75	5.27	---	7.90	7.25
10	2.02	3.95	4.41	1.18	1.32	1.86	2.38	2.89	5.39	---	7.92	7.14
11	2.16	4.00	4.41	1.27	1.39	1.87	2.41	3.02	5.48	---	7.96	7.08
12	2.28	4.02	4.41	1.34	1.42	1.96	2.48	3.11	5.52	---	7.98	7.01
13	2.37	4.02	4.42	1.40	1.44	1.99	2.56	3.12	5.60	---	8.03	6.97
14	2.48	4.10	4.37	1.45	1.51	1.94	2.61	3.20	5.69	---	8.06	6.93
15	2.58	4.11	4.27	.78	1.58	1.66	2.64	3.21	5.75	---	8.05	6.63
16	2.70	4.11	4.09	.54	1.60	1.68	2.69	3.21	5.77	---	8.01	1.35
17	2.77	4.11	3.77	.62	1.61	1.77	2.74	3.29	5.82	---	8.00	.44
18	2.83	4.11	3.65	.56	1.57	1.87	2.82	3.33	5.84	---	8.00	.44
19	2.90	4.11	3.57	.54	1.48	1.98	2.91	3.40	5.86	---	8.00	.60
20	2.98	4.11	3.56	.59	1.48	2.04	2.95	3.47	5.86	---	8.04	.71
21	3.04	4.10	3.50	.71	1.49	2.03	3.01	3.59	5.87	---	8.03	.70
22	3.10	4.11	3.47	.85	1.59	2.00	3.07	3.68	5.93	---	8.03	.69
23	3.15	4.11	3.46	.92	1.66	2.04	3.17	3.77	5.94	---	8.03	.69
24	3.23	4.11	3.45	.25	1.68	2.05	3.25	3.83	6.00	---	8.03	.69
25	3.30	4.16	3.44	.15	1.69	2.12	3.35	3.86	6.06	---	8.05	.75
26	3.37	4.19	3.44	.32	1.70	2.14	3.40	3.91	6.05	---	8.05	.90
27	3.47	4.20	2.72	.42	1.77	2.11	3.34	3.95	6.12	---	8.04	.92
28	3.52	4.20	1.72	.53	1.76	2.10	3.18	4.05	6.12	---	8.03	.66
29	3.59	4.20	1.54	.64	---	2.16	3.03	4.14	6.18	---	8.06	.16
30	3.65	4.20	1.54	.78	---	2.22	3.02	4.24	6.22	7.44	8.06	.25
31	3.72	---	1.67	.88	---	2.28	---	4.34	---	7.44	8.06	---

WTR YR 1999 MEAN 3.59 HIGH .15 LOW 8.16


351849078163901 NC-148
WATER LEVEL, IN FEET BELOW LAND SURFACE
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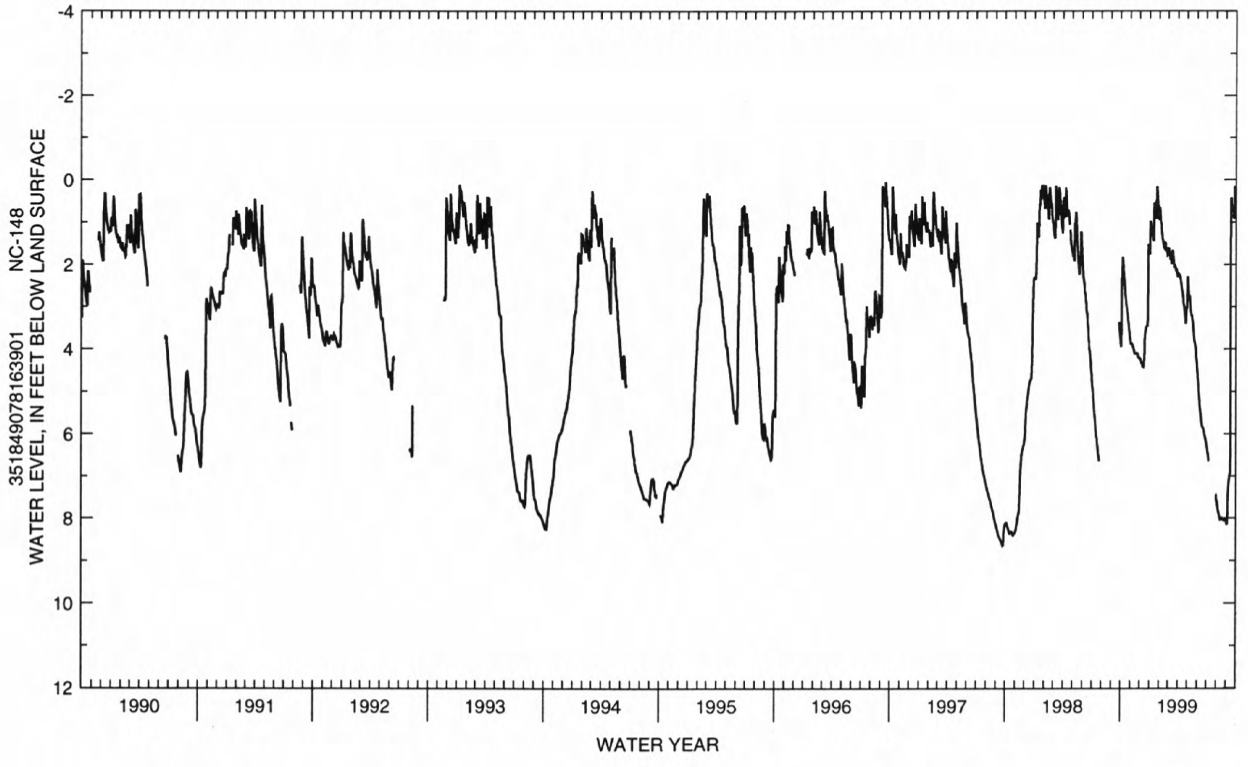
1999


351849078163901 NC-148
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1990
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1998
1999
WATER YEAR

WAYNE COUNTY--Continued

352812077510303. Local number, NC-211; DENR Saulston Research Station well O30j3.

LOCATION.--Lat 35°28'11", long 77°51'00", Hydrologic Unit 03020203, 5 mi north of Goldsboro, 0.5 mi east of Secondary Road 1575 on Secondary Road 1556, 0.7 mi north of road. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear aquifer of Late Cretaceous age..

WELL CHARACTERISTICS.--Drilled observation well, depth 175 ft, diameter 4 in., cased to 165 ft, screened interval from 165 to 175 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 97 ft above sea level. Measuring point: Top of casing, 2.83 ft above land-surface datum.

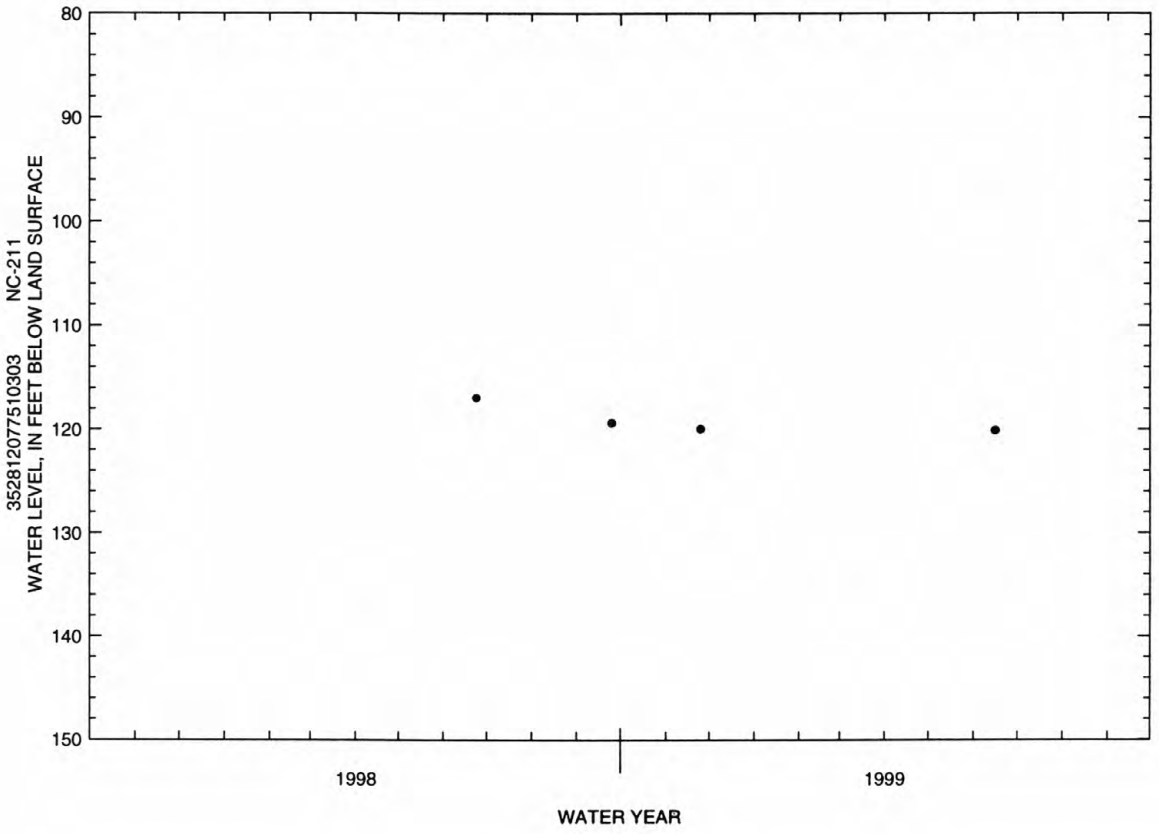
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--September 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 85.73 ft below land-surface datum, Sept. 14, 1982; lowest water level measured, 120.07 ft below land-surface datum, June 16, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25	119.92	JUN 16	120.07


352812077510303 NC-211
WATER LEVEL, IN FEET BELOW LAND SURFACE
80
90
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110
120
130
140
150
1998
1999
WATER YEAR

WATER LEVEL MEASUREMENTS MADE AT MISCELLANEOUS SAMPLING SITES

The following miscellaneous sites were measured during the 1999 water year for the Brunswick County cooperative investigation. Well locations are presented in figure 7. The aquifer designation indicates the unit containing the screened interval of the well.

STATION NUMBER	LOCAL IDENTIFIER	DATE	AQUIFER	WATER LEVEL (BELOW LAND SURFACE)
340345078305001	BR-049 Waccamaw High School	08/03/1999	Black Creek	12.93
340416078084202	BR-078 (NC-180) Bolivia	08/02/1999	Pee Dee	9.31
335629078115407	BR-080 (NC-182) Sunset Harbor	08/03/1999	Surficial	5.81
340416078084201	BR-099 Bolivia FF-33 D-1	08/02/1999	Castle Hayne	5.46
340743078202003	BR-104 Bear Pen EE36 K-3	08/03/1999	Pee Dee	6.96
340743078202004	BR-105 Bear Pen EE36 K-4	08/03/1999	Black Creek	30.81
340743078202002	BR-106 Bear Pen EE36 K-5	08/03/1999	Black Creek	27.32
340743078202006	BR-107 Bear Pen EE36 K-6	08/03/1999	Pee Dee	7.90
340743078202008	BR-109 Bear Pen EE36 K-8	08/03/1999	Castle Hayne	4.04
340743078202009	BR-110 Bear Pen EE36 K-9	08/03/1999	Surficial	2.57
335334078352102	BR-116 Calabash J-3	07/14/1999	Black Creek	42.67
		08/03/1999	Black Creek	42.85
335334078352103	BR-117 Calabash J-4	07/14/1999	Black Creek	44.81
		08/03/1999	Black Creek	45.08
335334078352104	BR-118 Calabash J-5	07/14/1999	Pee Dee	79.86
		08/03/1999	Pee Dee	84.66
335334078352106	BR-123 Calabash J-7	07/14/1999	Surficial	16.69
		08/03/1999	Surficial	22.18
340307078140601	BR-124 Clemmon's Trail FF34 G-1	08/04/1999	Pee Dee	8.41
335706078160301	BR-125 Georgetown Cemetery GG35 L-1	08/03/1999	Castle Hayne	11.42
335450078075802	BR-141 Long Beach C-2	08/03/1999	Castle Hayne	10.49
340003078325701	BR-144 Longwood X-5	08/03/1999	Castle Hayne	8.76
341718078092601	BR-146 Maco Fire Tower O-2	08/04/1999	Surficial	14.45
341718078092602	BR-148 Maco Fire Tower O-5	08/04/1999	Surficial	3.22
335930078262003	BR-153 Shallotte B-5	08/03/1999	Castle Hayne	11.26
335633078160802	BR-170 Stanbury R-3	08/03/1999	Surficial	23.09
335629078115404	BR-174 Sunset Harbor GG34 S-4	08/03/1999	Black Creek	12.62
335629078115408	BR-175 Sunset Harbor GG34 S-5	08/03/1999	Pee Dee	8.55
341018078095501	BR-182 Town Creek Y-1	08/04/1999	Pee Dee	11.80
341018078095503	BR-184 Town Creek Y-3	08/04/1999	Surficial	10.67

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY MISCELLANEOUS SAMPLING SITES

From November 1998 through January 1999, the U.S. Geolgoical Survey (USGS) sampled 51 domestic wells in Orange County, North Carolina, as part of a more comprehensive evaluation of the county's ground-water resources. Wells were selected among wells inspected by county staff during 1996-1998 based on (a) countywide areal distribution, (b) weighted distribution among hydrogeologic units, and (c) permission from the homeowner. Samples were screened for benzene, toluene, ethylbenzene, and xylene (BTEX), and atrazine by using an immunoassay technique and analyzed by USGS laboratories for major ions, nutrients, and radon. Samples from 31 wells also were analyzed for dissolved trace metals. BTEX and atrazine were not detected in water from any wells. Locations for sampling sites are shown in figure 9.

WATER QUALITY DATA, NOVEMBER 1998 TO JANUARY 1999

LOCAL IDENTIFIER	STATION NUMBER	DATE	TIME	GEO-LOGIC UNIT	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)
OR-080	360003079002101	11-02-98	1330	370IMMV	42.12	405.00	360	427	7.6
OR-081	355831079014001	11-04-98	1230	310FCMG	42.11	345.00	490	369	7.2
OR-085	360157079033501	11-04-98	1630	370IMMV	97.88	385.00	530	318	7.6
OR-082	360020079052101	11-05-98	1115	370IMMV	52.33	200.00	555	100	6.6
OR-083	355735079052601	11-05-98	1430	370EPMV	6.02	125.00	490	352	7.7
OR-084	355632079072101	11-09-98	1230	370FCMV	49.28	185.00	480	329	7.1
OR-090	355811079075601	11-09-98	1530	370EPMV	27.63	385.00	580	166	7.4
OR-088	355418079072301	11-12-98	1215	370FCMV	30.58	305.00	475	409	7.8
OR-091	355638079102501	11-12-98	1445	370EPMV	39.43	125.00	550	320	7.0
OR-092	355854079133301	11-18-98	1145	370FCMV	12.30	205.00	570	133	6.5
OR-093	355401079142201	11-18-98	1415	370FCMV	35.54	215.00	500	523	7.0
OR-094	355815079114401	11-18-98	1615	370FCMV	50.32	120.00	545	64	6.2
OR-087	360146079074201	11-19-98	1245	300MFMG	17.49	305.00	735	249	7.0
OR-095	360254079082301	11-19-98	1545	370IMMV	33.84	320.00	610	82	6.4
OR-096	355815079103401	11-30-98	1200	370FCMV	36.51	120.00	620	26	4.7
OR-097	360312079041701	11-30-98	1510	370FCMV	26.49	300.00	612	--	7.6
OR-089	360320079030601	12-01-98	1245	370FCMV	12.49	105.00	660	290	7.3
OR-098	360444079031601	12-01-98	1500	370FCMV	24.81	165.00	565	200	6.8
OR-099	360107079020601	12-02-98	1430	370IMMV	8.09	265.00	505	335	7.5
OR-100	360658079001101	12-03-98	1200	370FCMV	25.18	405.00	505	235	6.9
OR-101	360647079032401	12-03-98	1530	370FCMV	17.03	245.00	582	260	7.5
OR-102	360540079021801	12-07-98	1230	370FCMV	36.87	185.00	620	149	6.5
OR-103	355943079035901	12-07-98	1600	370IMMV	73.23	565.00	540	364	7.1
OR-104	360719079025601	12-10-98	1300	370FCMV	21.36	365.00	525	161	6.9
OR-105	360328079082701	12-10-98	1530	370PLLT	30.15	245.00	565	86	6.1
OR-106	361413078581201	12-14-98	1230	370FCMV	20.36	225.00	648	175	6.7
OR-107	361341079023201	12-14-98	1500	310FCMG	36.78	140.00	655	374	6.2
OR-108	361022078590201	12-15-98	1145	310FCMG	23.20	665.00	625	305	7.3
OR-109	360845079001001	12-15-98	1415	370FCMV	36.46	505.00	530	162	6.4
OR-110	360922079055901	12-16-98	1145	370FCMV	15.31	80.00	665	64	5.8
OR-111	361055079045501	12-22-98	1225	370FCMV	18.40	165.00	660	87	6.2
OR-112	360907079083901	01-04-99	1300	370IMMV	40.76	185.00	640	124	5.9
OR-113	360804079071201	01-04-99	1500	370FCMV	27.17	165.00	708	119	6.5
OR-114	360943079084001	01-05-99	1215	370IMMV	12.77	185.00	625	185	7.2
OR-115	361051079072201	01-05-99	1345	370FCMV	30.23	185.00	683	96	7.3
OR-116	361307079110401	01-06-99	1100	310FCMG	42.18	205.00	735	138	6.6
OR-117	361354079141201	01-06-99	1315	300IMMG	21.22	305.00	690	268	8.1
OR-118	361132079101801	01-07-99	1130	310FCMG	12.99	125.00	735	75	6.1
OR-119	361105079145801	01-07-99	1315	310FCMG	20.00	205.00	675	166	5.8
OR-120	360424079125401	01-07-99	1445	310FCMG	21.01	105.00	690	74	6.0
OR-121	360846079152001	01-12-99	1300	310FCMG	21.44	140.00	620	262	8.2
OR-122	360823079131301	01-12-99	1430	370FCMV	43.01	200.00	690	100	6.6
OR-123	360619079135901	01-13-99	1100	370IMMV	22.68	145.00	680	63	6.4
OR-124	360756079025201	01-13-99	1330	370PLLT	23.51	265.00	595	290	8.3
OR-125	360049079060601	01-13-99	1630	300MFMG	45.27	520.00	610	304	6.9
OR-126	355244079030801	01-14-99	1225	310FCMG	20.47	285.00	480	120	7.0
OR-127	355418079053101	01-14-99	1445	310FCMG	27.98	225.00	420	324	8.2
OR-128	355237079060201	01-20-99	1200	310FCMG	67.65	305.00	505	118	5.4
OR-129	355455079111501	01-20-99	1345	310FCMG	22.00	90.00	580	84	5.3
OR-130	360321078595401	01-20-99	1600	370FCMV	30.00	345.00	480	378	7.2
OR-131	360913079135301	04-08-99	1300	310FCMG	38.83	120.00	670	54	6.0

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY MISCELLANEOUS SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1998 TO JANUARY 1999

LOCAL IDENTIFIER	DATE	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	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)
OR-080	11-02-98	18.4	752	4.1	180	43	18	20	.90
OR-081	11-04-98	15.6	748	.1	170	61	4.4	12	.40
OR-085	11-04-98	15.4	748	5.4	150	41	11	10	.30
OR-082	11-05-98	14.3	748	3.1	37	11	2.2	5.1	.50
OR-083	11-05-98	14.9	748	.0	170	63	3.1	8.1	.20
OR-084	11-09-98	16.7	757	1.5	160	58	3.3	7.5	.90
OR-090	11-09-98	15.8	758	6.1	76	23	4.6	7.7	.20
OR-088	11-12-98	15.1	762	.1	180	64	6.1	9.5	1.7
OR-091	11-12-98	14.6	762	.0	140	48	5.7	9.2	.10
OR-092	11-18-98	15.5	756	5.2	57	17	3.5	7.6	.20
OR-093	11-18-98	15.0	756	.1	190	43	21	26	5.6
OR-094	11-18-98	15.1	756	7.1	22	6.2	1.5	5.2	.30
OR-087	11-19-98	15.0	750	.1	110	31	8.0	10	.20
OR-095	11-19-98	16.0	750	5.0	28	6.3	3.0	6.5	.30
OR-096	11-30-98	15.4	753	.5	6	.80	1.0	2.1	<.10
OR-097	11-30-98	15.2	752	.7	160	48	9.0	13	.60
OR-089	12-01-98	14.6	751	.2	130	41	5.6	8.0	.30
OR-098	12-01-98	14.4	752	1.6	84	27	4.0	8.3	.50
OR-099	12-02-98	15.1	757	.3	160	55	5.1	7.4	.40
OR-100	12-03-98	16.1	754	1.1	98	28	6.9	9.7	.30
OR-101	12-03-98	15.2	752	.3	100	25	10	15	1.5
OR-102	12-07-98	14.9	748	6.7	74	23	3.9	3.6	.30
OR-103	12-07-98	15.4	748	3.2	170	58	6.9	12	.30
OR-104	12-10-98	15.5	757	2.5	65	23	1.8	8.9	.60
OR-105	12-10-98	14.2	758	5.2	36	11	2.1	4.3	.50
OR-106	12-14-98	15.1	751	2.9	70	17	6.6	7.6	.20
OR-107	12-14-98	14.6	750	4.0	140	32	15	15	.20
OR-108	12-15-98	15.1	755	1.2	140	46	6.7	10	.30
OR-109	12-15-98	14.4	750	2.0	63	17	5.0	7.8	.50
OR-110	12-16-98	15.1	745	6.0	20	5.1	1.8	5.7	.40
OR-111	12-22-98	16.4	748	4.7	33	9.0	2.6	6.3	.40
OR-112	01-04-99	13.9	751	2.4	46	11	4.4	7.8	3.1
OR-113	01-04-99	13.7	751	3.3	39	9.6	3.7	7.1	.10
OR-114	01-05-99	12.7	756	2.2	77	20	6.5	6.8	3.5
OR-115	01-05-99	11.0	756	5.2	35	9.4	2.7	6.0	1.8
OR-116	01-06-99	11.7	751	2.8	45	11	4.3	8.6	.90
OR-117	01-06-99	13.4	751	.2	110	34	5.6	15	2.1
OR-118	01-07-99	13.5	751	5.9	23	6.4	1.7	6.5	1.3
OR-119	01-07-99	11.6	751	3.3	49	14	3.3	12	.60
OR-120	01-07-99	13.6	751	5.7	36	8.6	3.6	4.4	.40
OR-121	01-12-99	13.3	751	.2	120	38	5.0	11	2.9
OR-122	01-12-99	14.8	751	9.4	57	19	2.4	5.1	.90
OR-123	01-13-99	14.8	750	6.6	19	4.8	1.6	6.6	.50
OR-124	01-13-99	13.4	750	.3	77	22	5.4	33	1.7
OR-125	01-13-99	15.0	750	1.6	130	34	12	8.8	.60
OR-126	01-14-99	15.6	755	5.6	29	9.0	1.5	10	.40
OR-127	01-14-99	15.8	755	.1	160	47	9.3	11	.60
OR-128	01-20-99	15.4	752	5.8	38	8.9	3.9	9.9	.90
OR-129	01-20-99	14.6	752	2.2	23	6.2	1.8	9.1	.70
OR-130	01-20-99	15.7	752	.2	170	59	5.4	13	.30
OR-131	04-08-99	15.3	754	8.2	15	3.7	1.4	5.9	.60

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY MISCELLANEOUS SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1998 TO JANUARY 1999

LOCAL IDENTIFIER	DATE	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CARBONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	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)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
OR-080	11-02-98	89	60	174	192	27	6.7	.14	<.050
OR-081	11-04-98	183	--	150	171	16	8.6	.28	<.050
OR-085	11-04-98	183	--	150	162	7.8	5.0	.10	<.050
OR-082	11-05-98	55	--	45	45	.30	3.8	<.10	<.050
OR-083	11-05-98	207	--	170	172	8.8	7.0	<.10	<.050
OR-084	11-09-98	183	--	150	161	4.6	6.5	<.10	<.050
OR-090	11-09-98	110	--	90	92	.80	2.5	<.10	<.050
OR-088	11-12-98	226	--	185	190	8.4	9.9	<.10	.070
OR-091	11-12-98	183	--	150	149	13	4.4	.11	<.050
OR-092	11-18-98	80	--	66	63	1.4	5.8	.10	<.050
OR-093	11-18-98	204	--	167	155	.60	81	.25	.50
OR-094	11-18-98	37	--	30	29	.30	2.3	<.10	<.050
OR-087	11-19-98	161	--	130	127	5.2	4.3	<.10	<.050
OR-095	11-19-98	49	--	41	40	.40	2.5	<.10	<.050
OR-096	11-30-98	--	--	--	2.4	9.4	2.4	<.10	<.050
OR-097	11-30-98	198	--	162	167	4.8	13	.21	.060
OR-089	12-01-98	173	--	142	132	5.3	6.1	.20	<.050
OR-098	12-01-98	130	--	106	95	2.8	2.9	.16	<.050
OR-099	12-02-98	204	--	167	167	6.8	4.2	.11	<.050
OR-100	12-03-98	124	--	101	108	1.0	7.0	.11	<.050
OR-101	12-03-98	164	--	135	133	2.4	3.9	.16	<.050
OR-102	12-07-98	80	--	66	77	1.5	2.7	.10	<.050
OR-103	12-07-98	237	--	194	183	3.1	9.5	.12	<.050
OR-104	12-10-98	91	--	75	87	1.1	1.6	.10	<.050
OR-105	12-10-98	47	--	38	39	4.3	2.3	<.10	<.050
OR-106	12-14-98	90	--	74	77	1.3	7.3	.18	<.050
OR-107	12-14-98	91	--	75	75	7.4	60	<.10	.40
OR-108	12-15-98	185	--	152	156	1.2	4.2	<.10	<.050
OR-109	12-15-98	96	--	79	79	1.8	4.0	.12	<.050
OR-110	12-16-98	31	--	26	26	.20	3.4	<.10	<.050
OR-111	12-22-98	48	--	39	42	1.5	2.3	<.10	<.050
OR-112	01-04-99	79	--	65	65	1.6	3.3	.10	<.050
OR-113	01-04-99	46	--	38	40	.90	14	<.10	<.050
OR-114	01-05-99	--	--	--	89	2.0	3.5	<.10	<.050
OR-115	01-05-99	--	--	--	49	1.3	2.0	<.10	<.050
OR-116	01-06-99	57	--	47	53	1.6	3.7	<.10	<.050
OR-117	01-06-99	171	--	140	139	1.8	2.3	<.10	<.050
OR-118	01-07-99	--	--	--	35	.40	2.2	<.10	<.050
OR-119	01-07-99	--	--	--	44	2.6	8.1	<.10	<.050
OR-120	01-07-99	--	--	--	40	.50	3.1	<.10	<.050
OR-121	01-12-99	161	--	132	137	3.4	2.2	<.10	<.050
OR-122	01-12-99	75	--	61	73	3.1	1.8	<.10	<.050
OR-123	01-13-99	30	--	24	32	.70	1.5	<.10	<.050
OR-124	01-13-99	164	--	135	139	3.5	5.8	.60	.050
OR-125	01-13-99	189	--	155	149	6.8	3.8	<.10	<.050
OR-126	01-14-99	59	--	49	51	1.5	2.8	.24	<.050
OR-127	01-14-99	152	--	152	159	7.6	6.9	.12	.070
OR-128	01-20-99	69	--	57	57	.50	3.4	.26	<.050
OR-129	01-20-99	38	--	31	32	.80	6.4	<.10	.060
OR-130	01-20-99	198	--	162	149	20	20	.12	.20
OR-131	04-08-99	30	--	24	24	2.4	1.9	<.10	<.050

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY MISCELLANEOUS SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1998 TO JANUARY 1999

LOCAL IDENTIFIER	DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OR-080	11-02-98	24	256	--	--	<.010	--	<.020	.012
OR-081	11-04-98	33	242	.044	.19	.016	.05	.060	.026
OR-085	11-04-98	21	196	--	--	<.010	--	.160	.028
OR-082	11-05-98	25	78	--	--	<.010	--	.330	.020
OR-083	11-05-98	22	218	--	--	<.010	--	<.020	.020
OR-084	11-09-98	27	210	--	--	<.010	--	1.10	.010
OR-090	11-09-98	29	116	--	--	<.010	--	.020	.031
OR-088	11-12-98	26	250	--	--	<.010	--	.030	<.010
OR-091	11-12-98	25	202	--	--	<.010	--	<.020	<.010
OR-092	11-18-98	30	114	--	--	<.010	--	.730	.011
OR-093	11-18-98	35	324	--	--	<.010	--	<.020	.012
OR-094	11-18-98	28	70	--	--	<.010	--	1.00	.011
OR-087	11-19-98	40	176	--	--	<.010	--	<.020	<.010
OR-095	11-19-98	31	78	--	--	<.010	--	.600	.014
OR-096	11-30-98	10	28	--	--	<.010	--	.040	<.010
OR-097	11-30-98	23	210	--	--	<.010	--	.040	<.010
OR-089	12-01-98	32	183	--	--	<.010	--	<.020	.150
OR-098	12-01-98	25	125	--	--	<.010	--	.210	<.010
OR-099	12-02-98	26	207	--	--	<.010	--	<.020	.013
OR-100	12-03-98	31	154	--	--	<.010	--	.960	<.010
OR-101	12-03-98	22	157	--	--	<.010	--	.400	<.010
OR-102	12-07-98	22	102	--	--	<.010	--	.030	<.010
OR-103	12-07-98	32	233	--	--	<.010	--	.110	<.010
OR-104	12-10-98	30	118	--	--	<.010	--	.500	<.010
OR-105	12-10-98	26	75	--	--	<.010	--	.350	<.010
OR-106	12-14-98	33	124	--	--	<.010	--	.800	<.010
OR-107	12-14-98	40	259	--	--	<.010	--	1.80	<.010
OR-108	12-15-98	29	187	--	--	<.010	--	.610	<.010
OR-109	12-15-98	29	114	--	--	<.010	--	.490	<.010
OR-110	12-16-98	30	66	--	--	<.010	--	1.00	.028
OR-111	12-22-98	38	85	--	--	<.010	--	.800	.028
OR-112	01-04-99	37	104	--	--	<.010	--	.030	.024
OR-113	01-04-99	30	100	--	--	<.010	--	1.10	.040
OR-114	01-05-99	28	123	--	--	<.010	--	.950	.012
OR-115	01-05-99	37	85	--	--	<.010	--	.030	<.010
OR-116	01-06-99	52	127	--	--	<.010	--	2.90	<.010
OR-117	01-06-99	29	164	--	--	<.010	--	.100	<.010
OR-118	01-07-99	44	83	--	--	<.010	--	.610	<.010
OR-119	01-07-99	53	164	--	--	<.010	--	7.20	.014
OR-120	01-07-99	31	82	--	--	<.010	--	1.50	<.010
OR-121	01-12-99	22	160	--	--	<.010	--	<.020	<.010
OR-122	01-12-99	23	89	--	--	<.010	--	.060	<.010
OR-123	01-13-99	36	71	--	--	<.010	--	.030	<.010
OR-124	01-13-99	18	169	--	--	<.010	--	<.020	<.010
OR-125	01-13-99	30	186	--	--	<.010	--	.100	<.010
OR-126	01-14-99	56	119	--	--	<.010	--	.940	<.010
OR-127	01-14-99	36	213	--	--	<.010	--	.710	<.010
OR-128	01-20-99	33	92	.120	.53	.010	.03	.130	.012
OR-129	01-20-99	47	88	.828	3.7	.012	.04	.840	<.010
OR-130	01-20-99	34	255	.040	.18	.010	.03	.050	.054
OR-131	04-08-99	35	65	--	--	<.010	--	.320	<.010

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY MISCELLANEOUS SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1998 TO JANUARY 1999

LOCAL IDENTIFIER	DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)
OR-080	11-02-98	.02	--	<.20	.020	<.010	--	<3.0	<1
OR-081	11-04-98	.03	--	<.20	.020	.050	.15	<3.0	<1
OR-085	11-04-98	.04	--	<.20	<.020	.030	.09	<3.0	4
OR-082	11-05-98	.03	--	<.20	.070	.090	.28	--	--
OR-083	11-05-98	.03	--	<.20	<.020	.020	.06	--	--
OR-084	11-09-98	.01	--	<.20	.150	.060	.18	<3.0	<1
OR-090	11-09-98	.04	--	<.20	.080	.080	.25	<3.0	<1
OR-088	11-12-98	--	--	<.20	<.020	.020	.06	<3.0	<1
OR-091	11-12-98	--	--	<.20	.080	.050	.15	<3.0	4
OR-092	11-18-98	.01	--	<.20	.090	.080	.25	--	--
OR-093	11-18-98	.02	--	<.20	.110	.080	.25	<3.0	<1
OR-094	11-18-98	.01	--	<.20	.060	.040	.12	--	--
OR-087	11-19-98	--	--	<.20	.040	.030	.09	12	<1
OR-095	11-19-98	.02	--	<.20	.080	.060	.18	--	--
OR-096	11-30-98	--	--	<.20	.040	<.010	--	199	<1
OR-097	11-30-98	--	--	<.20	.050	.010	.03	<3.0	<1
OR-089	12-01-98	.19	--	<.20	.140	.020	.06	<3.0	<1
OR-098	12-01-98	--	--	<.20	.090	.060	.18	--	--
OR-099	12-02-98	.02	--	<.20	.040	<.010	--	<3.0	<1
OR-100	12-03-98	--	--	<.20	.060	.030	.09	--	--
OR-101	12-03-98	--	--	<.20	.030	<.010	--	<3.0	<1
OR-102	12-07-98	--	--	<.20	.040	.020	.06	<3.0	<1
OR-103	12-07-98	--	--	<.20	.040	.020	.06	52	<1
OR-104	12-10-98	--	--	<.20	.050	.020	.06	<3.0	<1
OR-105	12-10-98	--	--	<.20	.050	.040	.12	<3.0	<1
OR-106	12-14-98	--	--	<.20	.080	.070	.21	<3.0	<1
OR-107	12-14-98	--	--	<.20	.080	.060	.18	--	--
OR-108	12-15-98	--	--	<.20	.030	.010	.03	<3.0	2
OR-109	12-15-98	--	--	<.20	.030	.010	.03	--	--
OR-110	12-16-98	.04	--	<.20	.060	.070	.21	<3.0	<1
OR-111	12-22-98	.04	.28	.31	.120	.140	.43	--	--
OR-112	01-04-99	.03	--	<.20	.050	.060	.18	<3.0	<1
OR-113	01-04-99	05	--	<.20	.040	.040	.12	--	--
OR-114	01-05-99	.02	--	<.20	<.020	.010	.03	--	--
OR-115	01-05-99	--	--	<.20	<.020	.030	.09	<3.0	<1
OR-116	01-06-99	--	--	<.20	.060	.070	.21	--	--
OR-117	01-06-99	--	--	<.20	<.020	<.010	--	<3.0	<1
OR-118	01-07-99	--	--	<.20	.050	.060	.18	3.1	<1
OR-119	01-07-99	.02	--	<.20	.070	.080	.25	--	--
OR-120	01-07-99	--	--	<.20	.030	.040	.12	<3.0	<1
OR-121	01-12-99	--	--	<.20	<.020	.040	.12	--	--
OR-122	01-12-99	--	--	<.20	<.020	.020	.06	<3.0	<1
OR-123	01-13-99	--	--	<.20	.060	.080	.25	--	--
OR-124	01-13-99	--	--	.23	<.020	.020	.06	<3.0	2
OR-125	01-13-99	--	--	<.20	<.020	.020	.06	--	--
OR-126	01-14-99	--	--	<.20	.260	.260	.80	<3.0	<1
OR-127	01-14-99	--	--	<.20	<.020	.030	.09	--	--
OR-128	01-20-99	.02	--	<.20	.050	.050	.15	--	--
OR-129	01-20-99	--	--	<.20	.060	.060	.18	--	--
OR-130	01-20-99	.07	--	<.20	<.020	<.010	--	<3.0	1
OR-131	04-08-99	--	--	<.20	E.120	.110	.34	<3.0	<1

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY MISCELLANEOUS SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1998 TO JANUARY 1999

LOCAL IDENTIFIER	DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OR-080	11-02-98	19	<.50	<.50	<1.0	<1.0	<1.0	3.8	<1.0
OR-081	11-04-98	77	<.50	<.50	<1.0	<1.0	<1.0	12	<1.0
OR-085	11-04-98	79	<.50	<.50	<1.0	<1.0	1.2	<1.0	<1.0
OR-082	11-05-98	--	--	--	--	--	--	2.4	--
OR-083	11-05-98	--	--	--	--	--	--	1.5	--
OR-084	11-09-98	1.0	<.50	<.50	<1.0	<1.0	3.8	2.3	<1.0
OR-090	11-09-98	4.0	<.50	<.50	<1.0	<1.0	3.1	<1.0	<1.0
OR-088	11-12-98	14	<.50	<.50	<1.0	<1.0	<1.0	43	<1.0
OR-091	11-12-98	.50	<.50	<.50	<1.0	<1.0	1.1	340	<1.0
OR-092	11-18-98	--	--	--	--	--	--	<1.0	--
OR-093	11-18-98	71	<.50	<.50	<1.0	<1.0	<1.0	61	1.2
OR-094	11-18-98	--	--	--	--	--	--	1.4	--
OR-087	11-19-98	3.0	<.50	<.50	<1.0	<1.0	1.1	34	1.4
OR-095	11-19-98	--	--	--	--	--	--	2.6	--
OR-096	11-30-98	.70	<.50	3.5	<1.0	3.0	7.6	320	2.1
OR-097	11-30-98	54	<.50	<.50	<1.0	<1.0	6.7	2.1	<1.0
OR-089	12-01-98	120	<.50	<.50	<1.0	<1.0	<1.0	1100	<1.0
OR-098	12-01-98	--	--	--	--	--	--	<1.0	--
OR-099	12-02-98	120	<.50	<.50	<1.0	<1.0	<1.0	250	<1.0
OR-100	12-03-98	--	--	--	--	--	--	<1.0	--
OR-101	12-03-98	83	<.50	<.50	<1.0	<1.0	<1.0	10	3.7
OR-102	12-07-98	8.0	<.50	<.50	<1.0	<1.0	7.0	<1.0	<1.0
OR-103	12-07-98	8.0	<.50	<.50	<1.0	<1.0	1.1	<1.0	<1.0
OR-104	12-10-98	24	<.50	<.50	<1.0	<1.0	<1.0	2.3	<1.0
OR-105	12-10-98	4.0	<.50	<.50	<1.0	<1.0	<1.0	2.5	<1.0
OR-106	12-14-98	18	<.50	<.50	<1.0	<1.0	24	2.2	2.6
OR-107	12-14-98	--	--	--	--	--	--	9.6	--
OR-108	12-15-98	24	<.50	<.50	<1.0	<1.0	3.8	1.6	3.4
OR-109	12-15-98	--	--	--	--	--	--	2.5	--
OR-110	12-16-98	8.0	<.50	<.50	<1.0	<1.0	3.1	4.1	<1.0
OR-111	12-22-98	--	--	--	--	--	--	<1.0	--
OR-112	01-04-99	35	<.50	<.50	<1.0	<1.0	2.7	1.6	<1.0
OR-113	01-04-99	--	--	--	--	--	--	10	--
OR-114	01-05-99	--	--	--	--	--	--	7.6	--
OR-115	01-05-99	9.0	<.50	<.50	<1.0	<1.0	4.3	1.3	3.5
OR-116	01-06-99	--	--	--	--	--	--	1.4	--
OR-117	01-06-99	6.0	<.50	<.50	<1.0	<1.0	1.9	6.3	<1.0
OR-118	01-07-99	30	<.50	<.50	2.1	<1.0	<1.0	1.9	<1.0
OR-119	01-07-99	--	--	--	--	--	--	3.5	--
OR-120	01-07-99	8.0	<.50	<.50	<1.0	<1.0	3.6	2.7	1.1
OR-121	01-12-99	--	--	--	--	--	--	17	--
OR-122	01-12-99	15	<.50	<.50	1.2	<1.0	8.4	8.7	<1.0
OR-123	01-13-99	--	--	--	--	--	--	<1.0	--
OR-124	01-13-99	23	<.50	<.50	<1.0	<1.0	<1.0	2.9	<1.0
OR-125	01-13-99	--	--	--	--	--	--	2.2	--
OR-126	01-14-99	.90	<.50	<.50	<1.0	<1.0	<1.0	1.9	<1.0
OR-127	01-14-99	--	--	--	--	--	--	<1.0	--
OR-128	01-20-99	--	--	--	--	--	--	1.0	--
OR-129	01-20-99	--	--	--	--	--	--	75	--
OR-130	01-20-99	100	<.50	<.50	<1.0	<1.0	2.0	37	<1.0
OR-131	04-08-99	9.0	<.50	<.50	<1.0	<1.0	4.1	5.1	<1.0

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY MISCELLANEOUS SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1998 TO JANUARY 1999

LOCAL IDENTIFIER	DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L) (76002)	RADON 222 TOTAL (PCI/L) (82303)
OR-080	11-02-98	3.9	<2.0	<1.0	<1	<1.0	4.5	22	444
OR-081	11-04-98	190	2.9	<1.0	5	<1.0	64	42	2021
OR-085	11-04-98	1.3	<2.0	<1.0	7	<1.0	4.7	18	158
OR-082	11-05-98	4.0	--	--	--	--	--	55	3785
OR-083	11-05-98	110	--	--	--	--	--	23	443
OR-084	11-09-98	<.20	<2.0	<1.0	4	<1.0	11	20	279
OR-090	11-09-98	.40	<2.0	<1.0	<1	<1.0	750	20	279
OR-088	11-12-98	410	<2.0	<1.0	<1	<1.0	250	43	2068
OR-091	11-12-98	330	<2.0	<1.0	<1	<1.0	130	23	405
OR-092	11-18-98	4.4	--	--	--	--	--	21	291
OR-093	11-18-98	890	<2.0	<1.0	<1	<1.0	65	27	726
OR-094	11-18-98	.40	--	--	--	--	--	27	752
OR-087	11-19-98	64	<2.0	<1.0	<1	<1.0	1400	23	357
OR-095	11-19-98	6.5	--	--	--	--	--	21	325
OR-096	11-30-98	66	<2.0	1.1	<1	<1.0	860	19	166
OR-097	11-30-98	<.20	<2.0	<1.0	<1	<1.0	48	44	2400
OR-089	12-01-98	490	<2.0	<1.0	<1	<1.0	5.1	21	311
OR-098	12-01-98	6.2	--	--	--	--	--	38	1747
OR-099	12-02-98	220	<2.0	<1.0	<1	<1.0	44	22	401
OR-100	12-03-98	7.8	--	--	--	--	--	21	259
OR-101	12-03-98	15	<2.0	<1.0	<1	<1.0	430	25	584
OR-102	12-07-98	.70	<2.0	<1.0	<1	<1.0	190	18	172
OR-103	12-07-98	5.1	<2.0	<1.0	<1	<1.0	8.8	27	748
OR-104	12-10-98	15	6.4	3.5	<1	<1.0	4400	40	1430
OR-105	12-10-98	1.8	<2.0	<1.0	<1	<1.0	410	45	2017
OR-106	12-14-98	6.1	<2.0	<1.0	<1	<1.0	4500	19	216
OR-107	12-14-98	4.7	--	--	--	--	--	21	313
OR-108	12-15-98	.40	<2.0	<1.0	1	<1.0	190	17	106
OR-109	12-15-98	17	--	--	--	--	--	26	647
OR-110	12-16-98	.50	<2.0	<1.0	<1	<1.0	290	25	546
OR-111	12-22-98	3.8	--	--	--	--	--	42	275
OR-112	01-04-99	19	<2.0	<1.0	<1	<1.0	2600	27	701
OR-113	01-04-99	3.7	--	--	--	--	--	21	317
OR-114	01-05-99	5.1	--	--	--	--	--	20	279
OR-115	01-05-99	9.9	<2.0	<1.0	<1	<1.0	1500	22	409
OR-116	01-06-99	7.2	--	--	--	--	--	22	383
OR-117	01-06-99	1.8	<2.0	<1.0	<1	<1.0	550	20	234
OR-118	01-07-99	1.6	<2.0	<1.0	<1	<1.0	880	25	571
OR-119	01-07-99	1.8	--	--	--	--	--	40	1896
OR-120	01-07-99	3.3	<2.0	<1.0	<1	<1.0	2100	21	380
OR-121	01-12-99	35	--	--	--	--	--	18	159
OR-122	01-12-99	4.0	<2.0	2.1	<1	<1.0	73	16	62
OR-123	01-13-99	<.20	--	--	--	--	--	27	726
OR-124	01-13-99	31	<2.0	<1.0	<1	<1.0	53	18	143
OR-125	01-13-99	61	--	--	--	--	--	15	38
OR-126	01-14-99	31	<2.0	<1.0	<1	<1.0	4900	48	2870
OR-127	01-14-99	60	--	--	--	--	--	29	900
OR-128	01-20-99	2.8	--	--	--	--	--	56	3915
OR-129	01-20-99	17	--	--	--	--	--	60	4462
OR-130	01-20-99	320	<2.0	<1.0	<1	<1.0	97	33	1227
OR-131	04-08-99	2.0	<2.0	<1.0	<1	<1.0	980	19	264

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

Ground-water-quality data presented in these tables were collected from January 1999 to September 1999 and will be used to determine fate and transport of nitrogen in a Coastal Plain stream-aquifer system. The data will be used to develop a model of nitrogen movement through a small Coastal Plain watershed. This is a cooperative project between the U. S. Geological Survey, the U.S. Environmental Protection Agency National Exposure Research Laboratory, and the North Carolina Department of Environment and Natural Resources. Codes for Sample Type (84164) are: 4080 Peristaltic Pump; 4040 Sumersible Positive-Pressure Pump. Locations for sampling sites are shown in figure 10.

WATER QUALITY DATA, JANUARY 1999 TO SEPTEMBER 1999

LOCAL IDENTIFIER	STATION NUMBER	DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT) (72016)	DEPTH TO TOP OF SAMPLE INTERVAL (FT) (72015)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SAMPLER TYPE (CODE) (84164)
GR-087	353103077333404	02-23-99	1000	--	5.50	5.0	2.0	73.3	--
		05-27-99	1530	4.11	5.50	--	--	73.3	4080
GR-088	353103077333402	02-23-99	1100	--	21.00	20	18	73.3	--
		05-20-99	1800	3.76	21.00	--	--	73.3	4080
GR-090	353103077333403	05-20-99	1900	3.52	40.65	--	--	73.3	4080
GR-091	353122077334904	02-22-99	1000	--	8.60	8.0	5.0	60.3	--
		06-11-99	1500	6.88	8.60	--	--	60.3	4080
GR-092	353122077334903	02-22-99	1430	--	12.60	12	10	60.3	--
		06-11-99	1100	7.10	12.60	--	--	60.3	4080
GR-085	353111077334402	01-21-99	1545	2.53	7.00	--	--	69.6	4080
GR-093	353111077334403	05-18-99	1545	.42	28.50	--	--	69.5	4080
GR-094	353111077334404	05-18-99	1900	.32	18.00	--	--	69.5	4080
GR-095	353142077332701	05-21-99	1800	20.88	49.09	--	--	58.0	4080
GR-097	353142077332702	05-21-99	1930	18.46	21.70	--	--	58.2	4080
GR-098	353142077332703	05-21-99	1700	19.20	36.70	--	--	58.2	4080
GR-100	353148077332101	06-02-99	1945	7.10	46.34	--	--	43.4	4080
GR-102	353148077332103	02-23-99	1500	--	8.50	8.0	3.0	43.1	--
		06-02-99	1645	6.15	8.50	--	--	43.1	4080
GR-103	353148077332102	02-23-99	1300	--	23.00	23	21	43.1	--
		06-02-99	1745	6.22	23.00	--	--	43.1	4080
GR-106	353127077333701	05-27-99	1000	26.40	56.60	--	--	69.4	4040
GR-109	353127077333704	05-26-99	1800	6.01	22.70	--	--	69.3	4080
GR-081	353122077334902	06-11-99	1200	15.97	50.00	--	--	60.4	4080
GR-110	353135077332701	06-04-99	0830	29.77	62.36	--	--	68.8	4040
GR-113	353135077332704	06-04-99	1000	12.98	26.50	--	--	68.9	4080
GR-114	353027077340101	06-03-99	1000	10.74	67.68	--	--	76.0	4080
GR-115	353027077340102	06-03-99	1000	7.77	22.70	--	--	75.7	4080
GR-120	353050077333403	06-04-99	1530	28.97	111.00	--	--	72.9	4040
GR-147	353103077333406	05-27-99	1645	18.56	72.60	--	--	73.3	4080
GR-149	353137077334605	06-18-99	1930	--	1.50	1.5	1.4	15.5	4080
GR-148	353137077334604	06-18-99	1330	--	4.00	4.0	3.9	15.0	4080
GR-089	353137077334603	07-09-99	1430	--	5.10	5.1	5.0	15.5	4080
GR-150	353153077333202	09-13-99	1300	--	1.50	1.5	1.4	13.5	4080
GR-151	353153077333203	09-13-99	1000	--	3.00	3.0	2.9	13.5	4080
GR-152	353153077333204	09-13-99	1700	--	2.00	2.0	1.9	13.5	4080

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, JANUARY 1999 TO SEPTEMBER 1999

LOCAL IDENTIFIER	DATE	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN) (72004)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	HYDROGEN SULFIDE TOTAL (MG/L AS H2S) (71875)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)
GR-087	02-23-99	--	--	--	--	--	--	--	--	--
	05-27-99	--	114	5.9	23.5	5.3	63	--	--	--
GR-088	02-23-99	--	--	--	--	--	--	--	--	--
	05-20-99	60	130	5.5	16.6	1.0	11	<.1	18	6.0
GR-090	05-20-99	120	68	5.3	17.5	.1	1	<.1	8	2.4
GR-091	02-22-99	--	--	--	--	--	--	--	--	--
	06-11-99	--	334	4.0	20.4	4.2	47	<.1	96	28
GR-092	02-22-99	--	--	--	--	--	--	--	--	--
	06-11-99	50	313	5.3	18.6	5.8	62	<.1	98	32
GR-085	01-21-99	--	638	4.3	13.1	4.4	42	--	170	44
GR-093	05-18-99	105	605	4.7	19.0	1.0	11	<.1	160	41
GR-094	05-18-99	60	86	4.6	16.5	.5	5	<.1	9	2.5
GR-095	05-21-99	60	191	4.7	16.9	7.8	81	<.1	58	11
GR-097	05-21-99	60	191	4.4	16.0	6.7	68	<.1	55	13
GR-098	05-21-99	120	207	4.5	17.3	1.6	16	<.1	71	18
GR-100	06-02-99	130	240	6.1	18.0	.0	0	E.5	94	35
GR-102	02-23-99	--	--	--	--	--	--	--	--	--
	06-02-99	95	91	5.0	18.1	4.2	45	<.1	27	7.9
GR-103	02-23-99	--	--	--	--	--	--	--	--	--
	06-02-99	105	194	4.4	17.5	4.5	47	<.1	62	16
GR-106	05-27-99	135	291	7.5	17.5	.0	0	<.1	140	52
GR-109	05-26-99	330	249	6.4	16.0	1.2	12	<.1	100	36
GR-081	06-11-99	150	338	7.4	17.0	.1	1	<.1	160	60
GR-110	06-04-99	90	309	7.3	16.9	.0	0	<.1	150	57
GR-113	06-04-99	10	99	5.0	18.2	2.4	25	<.1	--	--
GR-114	06-03-99	115	336	7.5	16.7	.0	0	<.1	170	64
GR-115	06-03-99	100	48	4.7	15.8	.0	0	<.1	9	3.3
GR-120	06-04-99	70	358	7.3	16.6	.0	0	<.1	170	63
GR-147	05-27-99	45	255	7.6	17.8	.0	0	<.1	120	46
GR-149	06-18-99	--	157	5.0	17.6	.3	4	E.1	19	5.6
GR-148	06-18-99	--	141	4.7	18.6	1.0	11	<.1	19	5.6
GR-089	07-09-99	--	134	4.8	22.6	.1	1	<.1	34	9.3
GR-150	09-13-99	--	186	5.7	23.2	.3	4	E.5	49	17
GR-151	09-13-99	--	170	5.9	22.5	.3	3	E5.0	57	21
GR-152	09-13-99	--	443	5.9	23.0	.2	2	E.2	110	38

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, JANUARY 1999 TO SEPTEMBER 1999

LOCAL IDENTIFIER	DATE	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)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	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)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
GR-087	02-23-99	--	--	--	--	--	--	--	--	--
	05-27-99	--	--	--	--	--	--	--	--	--
GR-088	02-23-99	--	--	--	--	--	--	--	--	--
	05-20-99	.80	14	2.3	--	--	13	6.2	21	<.10
GR-090	05-20-99	.40	4.1	1.9	--	--	<1.0	7.3	11	<.10
GR-091	02-22-99	--	--	--	--	--	--	--	--	--
	06-11-99	6.4	5.6	9.3	<1	<1	<1.0	21	33	.65
GR-092	02-22-99	--	--	--	--	--	--	--	--	--
	06-11-99	4.4	6.2	8.8	6	5	3.9	20	36	.44
GR-085	01-21-99	15	26	8.6	--	--	<1.0	17	80	.53
GR-093	05-18-99	14	30	13	7	6	4.2	18	76	.47
GR-094	05-18-99	.70	7.5	1.9	2	2	1.9	16	9.4	<.10
GR-095	05-21-99	7.4	2.5	4.3	1	1	2.0	2.9	18	.58
GR-097	05-21-99	5.5	2.5	4.6	<1	<1	<1.0	6.4	17	.39
GR-098	05-21-99	6.4	2.6	3.9	2	2	1.5	47	17	1.2
GR-100	06-02-99	1.5	4.9	1.6	50	41	38	45	13	.67
GR-102	02-23-99	--	--	--	--	--	--	--	--	--
	06-02-99	1.8	1.5	5.1	6	5	5.2	12	4.1	<.10
GR-103	02-23-99	--	--	--	--	--	--	--	--	--
	06-02-99	5.4	1.8	6.4	<1	<1	<1.0	16	28	<.10
GR-106	05-27-99	1.9	4.3	1.1	156	128	122	16	7.5	.11
GR-109	05-26-99	3.3	4.5	1.7	37	31	35	37	20	.16
GR-081	06-11-99	1.7	7.4	1.9	205	168	171	1.6	3.2	.17
GR-110	06-04-99	1.7	6.0	1.7	184	151	154	3.0	3.6	.19
GR-113	06-04-99	--	--	--	--	--	--	--	--	--
GR-114	06-03-99	1.4	5.0	1.5	206	169	167	1.0	4.2	.18
GR-115	06-03-99	.30	3.5	.50	8	7	7.1	.90	7.2	.20
GR-120	06-04-99	2.4	8.5	2.2	221	181	182	.40	4.4	.19
GR-147	05-27-99	1.5	4.4	2.0	139	115	115	5.0	6.3	.23
GR-149	06-18-99	1.1	8.9	1.7	7	6	<1.0	11	28	<.10
GR-148	06-18-99	1.3	8.7	2.0	4	3	<1.0	11	27	<.10
GR-089	07-09-99	2.5	5.3	3.5	15	12	8.9	2.5	26	.14
GR-150	09-13-99	1.5	6.6	3.4	66	54	50	2.0	13	.37
GR-151	09-13-99	1.2	7.7	1.9	74	61	49	1.2	13	.52
GR-152	09-13-99	4.6	6.7	7.9	238	195	170	<.20	11	.17

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, JANUARY 1999 TO SEPTEMBER 1999

LOCAL IDENTIFIER	DATE	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
GR-087	02-23-99	--	--	--	--	--	--	--	--	--
	05-27-99	--	--	--	<.010	.260	.200	E.46	E.020	.020
GR-088	02-23-99	--	--	--	--	--	--	--	--	--
	05-20-99	<.050	9.6	73	<.010	1.30	.020	<.20	<.020	<.010
GR-090	05-20-99	<.050	18	48	<.010	<.020	.040	<.20	E.140	.140
GR-091	02-22-99	--	--	--	--	--	--	--	--	--
	06-11-99	<.050	5.7	267	<.010	18.0	.050	<.20	E.080	.080
GR-092	02-22-99	--	--	--	--	--	--	--	--	--
	06-11-99	<.050	5.6	257	.020	15.0	.400	E.46	<.020	<.010
GR-085	01-21-99	.050	7.9	497	<.010	39.0	.024	.39	<.020	<.010
GR-093	05-18-99	.080	9.6	456	.010	35.0	.100	E.36	<.020	<.010
GR-094	05-18-99	.10	13	55	<.010	.080	.010	<.20	<.020	<.010
GR-095	05-21-99	<.050	6.6	146	<.010	13.0	.040	<.20	E.430	.440
GR-097	05-21-99	<.050	7.4	136	<.010	12.0	.040	<.20	E.030	.020
GR-098	05-21-99	<.050	6.5	120	.010	3.30	.040	<.20	E.780	.840
GR-100	06-02-99	<.050	12	152	<.010	<.020	.100	<.20	E.540	.460
GR-102	02-23-99	--	--	--	--	--	--	--	--	--
	06-02-99	<.050	3.6	64	<.010	3.50	<.010	<.20	E.030	.030
GR-103	02-23-99	--	--	--	--	--	--	--	--	--
	06-02-99	<.050	3.8	138	<.010	4.30	<.010	<.20	E.050	.060
GR-106	05-27-99	<.050	18	180	<.010	<.020	.030	E.69	E.210	.080
GR-109	05-26-99	.060	11	177	<.010	2.80	<.010	<.20	E.140	.160
GR-081	06-11-99	<.050	40	220	<.010	<.020	.070	<.20	E.060	.060
GR-110	06-04-99	<.050	30	196	<.010	<.020	.040	<.20	E.110	.070
GR-113	06-04-99	--	--	--	.020	1.30	<.010	<.20	E.100	.090
GR-114	06-03-99	<.050	26	207	<.010	<.020	.040	<.20	E.080	.020
GR-115	06-03-99	.060	15	43	<.010	<.020	.010	<.20	E.290	.300
GR-120	06-04-99	<.050	28	217	<.010	<.020	.060	<.20	E.180	.050
GR-147	05-27-99	<.050	23	163	<.010	<.020	.030	E.69	E.200	.080
GR-149	06-18-99	.070	12	85	<.010	<.020	.300	E.39	E.130	.140
GR-148	06-18-99	.070	12	83	<.010	<.020	.300	E.35	E.020	<.010
GR-089	07-09-99	.080	18	109	<.010	1.20	.020	.24	<.020	<.010
GR-150	09-13-99	.10	16	130	<.010	<.020	4.30	3.9	1.00	.950
GR-151	09-13-99	<.050	15	102	<.010	<.020	1.50	1.4	.870	.800
GR-152	09-13-99	.090	30	257	<.010	<.020	15.0	15	3.50	2.00

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, JANUARY 1999 TO SEPTEMBER 1999

LOCAL IDENTIFIER	DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, WATER, FLTRD, REC, FIELD, (MG/L) (99115)	IRON, FERROUS WATER, FLTRD, FIELD, (MG/L) (99114)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, INORG, SED, BM WS,<2MM DW, REC (G/KG) (49270)	CARBON, ORGANIC SED, BM WS,<2MM DW, REC (G/KG) (49271)
GR-087	02-23-99	--	--	--	--	--	--	--	<.200	9.40
	05-27-99	--	--	--	--	--	--	--	--	--
GR-088	02-23-99	--	--	--	--	--	--	--	<.200	.300
	05-20-99	--	1500	2.03	1.62	55	--	.10	--	--
GR-090	05-20-99	--	4800	>3.30	>3.30	11	--	<.10	--	--
GR-091	02-22-99	--	--	--	--	--	--	--	<.200	2.00
	06-11-99	--	29	.070	.010	200	--	1.5	--	--
GR-092	02-22-99	--	--	--	--	--	--	--	<.200	.300
	06-11-99	--	2500	2.31	2.13	170	--	1.4	--	--
GR-085	01-21-99	<1.0	6.3	--	--	200	8.1	.60	--	--
GR-093	05-18-99	--	20	--	--	210	--	2.0	--	--
GR-094	05-18-99	--	770	1.14	.880	24	--	<.10	--	--
GR-095	05-21-99	--	4.8	<.010	<.010	24	--	<.10	--	--
GR-097	05-21-99	--	12	.100	.030	68	--	.20	--	--
GR-098	05-21-99	--	110	.220	.040	110	--	.40	--	--
GR-100	06-02-99	--	1700	1.78	1.72	60	--	<.10	--	--
GR-102	02-23-99	--	--	--	--	--	--	--	<.200	7.10
	06-02-99	--	20	<.010	<.010	31	--	<.10	--	--
GR-103	02-23-99	--	--	--	--	--	--	--	<.200	.400
	06-02-99	--	11	.010	<.010	32	--	<.10	--	--
GR-106	05-27-99	--	1000	1.26	.830	59	--	<.10	--	--
GR-109	05-26-99	--	53	.280	<.010	87	--	<.10	--	--
GR-081	06-11-99	--	340	.370	.350	61	--	.40	--	--
GR-110	06-04-99	--	990	1.20	1.08	99	--	.20	--	--
GR-113	06-04-99	--	--	.170	.040	--	--	<.10	--	--
GR-114	06-03-99	--	1200	1.26	1.25	22	--	.10	--	--
GR-115	06-03-99	--	810	1.11	.800	7.3	--	.50	--	--
GR-120	06-04-99	--	1200	2.20	1.23	75	--	.40	--	--
GR-147	05-27-99	--	1500	1.58	1.37	65	--	<.10	--	--
GR-149	06-18-99	--	9400	>3.30	>3.30	29	--	3.0	--	--
GR-148	06-18-99	--	6100	>3.30	>3.30	22	--	2.6	--	--
GR-089	07-09-99	--	230	--	--	42	--	.80	--	--
GR-150	09-13-99	--	4100	>3.30	>3.30	36	--	25	--	--
GR-151	09-13-99	--	100	.200	.170	28	--	2.2	--	--
GR-152	09-13-99	--	18900	>3.30	>3.30	800	--	18	--	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, JANUARY 1999 TO SEPTEMBER 1999

LOCAL IDENTIFIER	DATE	CARBON, ORG + INORG SED, BM WS,<2MM DW, REC (G/KG) (49272)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	SED. TOTAL, FALL DIAM. % FINER THAN .004 MM (80182)	SED. TOTAL, FALL DIAM. % FINER THAN .062 MM (80186)	SED. TOTAL, FALL DIAM. % FINER THAN .125 MM (80187)	SED. TOTAL, FALL DIAM. % FINER THAN .250 MM (80188)	SED. TOTAL, FALL DIAM. % FINER THAN .500 MM (80189)	SED. TOTAL, SIEVE DIAM. % FINER THAN 1.00 MM (80207)	SED. TOTAL, SIEVE DIAM. % FINER THAN 2.00 MM (80208)
GR-087	02-23-99	9.40	--	8	25	50	70	76	77	--
	05-27-99	--	--	--	--	--	--	--	--	--
GR-088	02-23-99	.300	--	23	32	60	86	91	93	--
	05-20-99	--	--	--	--	--	--	--	--	--
GR-090	05-20-99	--	--	--	--	--	--	--	--	--
GR-091	02-22-99	2.00	--	8	11	17	96	100	--	--
	06-11-99	--	--	--	--	--	--	--	--	--
GR-092	02-22-99	.300	--	5	15	38	76	89	96	99
	06-11-99	--	--	--	--	--	--	--	--	--
GR-085	01-21-99	--	.70	--	--	--	--	--	--	--
GR-093	05-18-99	--	--	--	--	--	--	--	--	--
GR-094	05-18-99	--	--	--	--	--	--	--	--	--
GR-095	05-21-99	--	--	--	--	--	--	--	--	--
GR-097	05-21-99	--	--	--	--	--	--	--	--	--
GR-098	05-21-99	--	--	--	--	--	--	--	--	--
GR-100	06-02-99	--	--	--	--	--	--	--	--	--
GR-102	02-23-99	7.10	--	9	18	54	89	96	99	--
	06-02-99	--	--	--	--	--	--	--	--	--
GR-103	02-23-99	.400	--	3	6	16	57	80	96	100
	06-02-99	--	--	--	--	--	--	--	--	--
GR-106	05-27-99	--	--	--	--	--	--	--	--	--
GR-109	05-26-99	--	--	--	--	--	--	--	--	--
GR-081	06-11-99	--	--	--	--	--	--	--	--	--
GR-110	06-04-99	--	--	--	--	--	--	--	--	--
GR-113	06-04-99	--	--	--	--	--	--	--	--	--
GR-114	06-03-99	--	--	--	--	--	--	--	--	--
GR-115	06-03-99	--	--	--	--	--	--	--	--	--
GR-120	06-04-99	--	--	--	--	--	--	--	--	--
GR-147	05-27-99	--	--	--	--	--	--	--	--	--
GR-149	06-18-99	--	--	--	--	--	--	--	--	--
GR-148	06-18-99	--	--	--	--	--	--	--	--	--
GR-089	07-09-99	--	--	--	--	--	--	--	--	--
GR-150	09-13-99	--	--	--	--	--	--	--	--	--
GR-151	09-13-99	--	--	--	--	--	--	--	--	--
GR-152	09-13-99	--	--	--	--	--	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

From November 1997 through May 1999, ground-water-quality data were collected to determine the effects of riparian buffers on ground water (GW) and baseflow in four selected areas in the Neuse River basin and one area in the Tar River basin. The project was a cooperative effort between the U.S. Geological Survey and the North Carolina Department of Environment and Natural Resources. Samples were also collected at several surface-water (SW) sites and are presented here for continuity. Codes for Analyzing Agency (00028) are: 80020 U.S. Geological Survey National Water Quality Lab; 1028 U.S. Geological Survery Field Analysis; 83741 North Carolina Department of Environment and Natural Resources; 81213 Water Quality Services Unit, Ocala, FL. Codes for Sampler Type (84164) are: 4080 Peristaltic Pump. Geologic Unit codes are: 110QPLC Surficial; 122YRKN Yorktown; 211BKCK Black Creek. Negative numbers in "Depth Below Land Surface" indicate water levels above land surface. Locations for sampling sites are shown in figure 11.

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	STATION NUMBER	SITE TYPE	DATE	TIME	GEO-LOGIC UNIT	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)
JH-145 JC-1	352835078181801	GW	11-18-97	1315	110QPLC	80020	9.94	21.50	155
		GW	01-20-98	1300	110QPLC	83741	5.73	21.50	155
		GW	02-18-98	0930	110QPLC	83741	5.57	21.50	155
		GW	03-24-98	0945	110QPLC	83741	7.87	21.50	155
		GW	05-29-98	1045	110QPLC	83741	10.66	21.50	155
		GW	07-28-98	1400	110QPLC	83741	13.16	21.50	155
		GW	09-15-98	0945	110QPLC	83741	10.64	21.50	155
		GW	10-21-98	1030	110QPLC	83741	12.70	21.50	155
JH-146 JC-2	352835078181802	GW	11-18-97	1300	110QPLC	80020	10.12	16.50	155
		GW	01-20-98	1245	110QPLC	83741	5.83	16.50	155
		GW	02-18-98	0915	110QPLC	83741	5.67	16.50	155
		GW	03-24-98	0930	110QPLC	83741	7.97	16.50	155
		GW	05-29-98	1030	110QPLC	83741	10.78	16.50	155
		GW	07-28-98	1330	110QPLC	83741	13.23	16.50	155
		GW	09-15-98	0930	110QPLC	83741	10.76	16.50	155
		GW	10-21-98	1015	110QPLC	83741	12.90	16.50	155
		GW	12-01-98	1130	110QPLC	83741	13.33	16.50	155
JH-147 JC-3	352836078181401	GW	11-19-97	1215	110QPLC	80020	3.60	18.00	145
		GW	01-20-98	1445	110QPLC	83741	2.19	18.00	145
		GW	02-18-98	1145	110QPLC	83741	2.25	18.00	145
		GW	03-24-98	1145	110QPLC	83741	2.93	18.00	145
		GW	05-29-98	1315	110QPLC	83741	4.16	18.00	145
		GW	07-28-98	1245	110QPLC	83741	6.07	18.00	145
		GW	09-15-98	1145	110QPLC	83741	4.28	18.00	145
		GW	10-21-98	1130	110QPLC	83741	5.80	18.00	145
		GW	12-01-98	1215	110QPLC	83741	5.28	18.00	145
		GW	01-28-99	1630	110QPLC	83741	2.36	18.00	145
JH-148 JC-4	352836078181402	GW	11-19-97	1230	110QPLC	80020	3.79	10.00	145
		GW	01-20-98	1430	110QPLC	83741	2.28	10.00	145
		GW	02-18-98	1115	110QPLC	83741	2.17	10.00	145
		GW	03-24-98	1130	110QPLC	83741	3.07	10.00	145
		GW	05-29-98	1245	110QPLC	83741	4.35	10.00	145
		GW	07-28-98	1230	110QPLC	83741	6.28	10.00	145
		GW	09-15-98	1130	110QPLC	83741	4.48	10.00	145
		GW	10-21-98	1115	110QPLC	83741	5.96	10.00	145
		GW	12-01-98	1200	110QPLC	83741	5.52	10.00	145
		GW	01-28-99	1230	110QPLC	83741	2.47	10.00	145
		GW	01-28-99	1305	110QPLC	81213	2.49	10.00	145
JH-149 JC-5	352833078181601	GW	11-18-97	1530	110QPLC	80020	6.59	16.00	145
		GW	01-20-98	1345	110QPLC	1028	4.76	16.00	145
		GW	02-18-98	1045	110QPLC	83741	4.74	16.00	145
		GW	03-24-98	1100	110QPLC	83741	6.02	16.00	145
		GW	05-29-98	1145	110QPLC	93741	7.22	16.00	145
		GW	07-28-98	1145	110QPLC	83741	9.06	16.00	145
		GW	09-15-98	1015	110QPLC	83741	7.22	16.00	145
		GW	10-21-98	1230	110QPLC	83741	8.65	16.00	145
		GW	12-01-98	1300	110QPLC	83741	8.36	16.00	145
		GW	02-02-99	1130	110QPLC	83741	5.51	16.00	145
JH-150 JC-6	352833078181602	GW	11-18-97	1515	110QPLC	80020	6.10	10.00	145
		GW	01-20-98	1330	110QPLC	83741	4.17	10.00	145
		GW	02-18-98	1030	110QPLC	83741	4.13	10.00	145
		GW	03-24-98	1030	110QPLC	83741	5.50	10.00	145
		GW	05-29-98	1130	110QPLC	83741	6.75	10.00	145
		GW	07-28-98	1100	110QPLC	83741	8.64	10.00	145
		GW	09-15-98	1030	110QPLC	83741	6.75	10.00	145
		GW	10-21-98	1245	110QPLC	83741	8.19	10.00	145
		GW	12-01-98	1245	110QPLC	83741	7.90	10.00	145
		GW	02-02-99	1100	110QPLC	83741	4.99	10.00	145
JH-151 JC-7	352833078181603	GW	11-18-97	1100	110QPLC	80020	1.53	8.90	145
		GW	01-20-98	1145	110QPLC	83741	.69	8.90	145
		GW	02-18-98	1215	110QPLC	83741	.89	8.90	145
		GW	03-24-98	1230	110QPLC	83741	1.41	8.90	145
		GW	05-29-98	1400	110QPLC	83741	1.82	8.90	145
		GW	07-28-98	1445	110QPLC	83741	2.93	8.90	145
		GW	09-15-98	1330	110QPLC	83741	1.95	8.90	145
		GW	10-21-98	1400	110QPLC	83741	3.08	8.90	145
		GW	12-01-98	1400	110QPLC	83741	2.09	8.90	145
		GW	02-02-99	1345	110QPLC	83741	.71	8.90	145

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	SAMPLER TYPE (CODE) (84164)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN) (72004)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
JH-145 JC-1	11-18-97	4080	59	186	4.5	18.7	--	6.8	--	52
	01-20-98	4080	--	178	4.7	16.0	--	7.0	--	--
	02-18-98	4080	--	182	4.6	15.5	--	7.9	--	--
	03-24-98	4080	--	187	4.4	14.5	--	7.8	--	--
	05-29-98	4080	--	184	4.5	16.5	--	7.9	--	--
	07-28-98	4080	--	190	4.2	19.1	--	7.0	--	50
	09-15-98	4080	--	185	4.5	20.1	763	7.8	86	--
	10-21-98	4080	--	187	4.5	19.6	765	7.2	78	63
JH-146 JC-2	11-18-97	4080	20	152	4.5	18.8	--	7.9	--	42
	01-20-98	4080	--	177	4.6	15.4	--	8.5	--	--
	02-18-98	4080	--	160	4.5	14.1	--	8.5	--	--
	03-24-98	4080	--	159	4.4	14.0	--	9.3	--	--
	05-29-98	4080	--	162	4.5	16.7	--	8.2	--	--
	07-28-98	4080	--	127	4.1	19.6	--	7.8	--	32
	09-15-98	4080	--	134	4.6	21.5	--	7.8	--	--
	10-21-98	4080	--	139	4.4	20.2	763	7.3	81	40
	12-01-98	4080	--	182	4.4	20.6	765	7.1	79	38
JH-147 JC-3	11-19-97	4080	10	155	5.5	16.5	762	5.2	53	48
	01-20-98	4080	--	157	4.8	13.7	--	7.7	--	--
	02-18-98	4080	--	164	4.7	13.5	--	8.4	--	--
	03-24-98	4080	--	174	4.5	12.6	--	8.0	--	--
	05-29-98	4080	--	175	4.7	16.3	--	8.2	--	--
	07-28-98	4080	--	176	4.4	19.0	--	7.2	--	52
	09-15-98	4080	--	164	5.5	20.1	763	7.6	83	--
	10-21-98	4080	--	167	5.5	18.9	765	6.9	74	62
	12-01-98	4080	--	170	5.9	17.7	--	5.5	--	56
	01-28-99	4080	--	183	4.7	15.3	--	9.8	--	56
JH-148 JC-4	11-19-97	4080	33	164	4.9	16.6	762	6.8	70	52
	01-20-98	4080	--	216	6.0	12.8	--	5.2	--	--
	02-18-98	4080	--	168	5.3	13.1	--	7.5	--	--
	03-24-98	4080	--	162	5.4	12.2	--	7.1	--	--
	05-29-98	4080	--	158	5.2	16.8	--	4.7	--	--
	07-28-98	4080	--	185	4.4	19.1	--	6.6	--	55
	09-15-98	4080	--	129	4.8	21.5	763	4.7	53	--
	10-21-98	4080	--	185	4.5	19.1	765	5.1	55	54
	12-01-98	4080	--	184	4.5	17.7	--	4.6	--	51
	01-28-99	4080	--	197	4.8	15.1	758	8.0	80	59
	01-28-99	4080	--	222	4.8	15.1	761	8.4	84	56
JH-149 JC-5	11-18-97	4080	50	158	4.5	17.8	--	--	--	44
	01-20-98	4080	--	172	4.4	13.3	--	8.0	--	--
	02-18-98	4080	--	172	4.4	13.0	--	7.8	--	--
	03-24-98	4080	--	178	4.4	13.0	--	7.9	--	--
	05-29-98	4080	--	175	4.3	16.1	--	7.5	--	--
	07-28-98	4080	--	174	4.2	18.6	--	8.4	--	44
	09-15-98	4080	--	166	4.4	19.6	763	8.5	93	--
	10-21-98	4080	--	165	4.3	19.4	765	8.4	91	52
	12-01-98	4080	--	162	4.4	18.5	--	8.1	--	41
	02-02-99	4080	--	163	4.4	15.1	--	9.0	--	49
JH-150 JC-6	11-18-97	4080	19	188	5.2	16.4	--	3.4	--	38
	01-20-98	4080	--	103	5.3	11.9	--	7.4	--	--
	02-18-98	4080	--	140	5.0	11.3	--	7.0	--	--
	03-24-98	4080	--	121	4.8	11.4	--	6.9	--	--
	05-29-98	4080	--	145	4.6	16.5	--	5.2	--	--
	07-28-98	4080	--	164	4.2	21.5	--	4.8	--	47
	09-15-98	4080	--	173	4.8	20.8	--	2.9	--	--
	10-21-98	4080	--	165	4.4	19.4	763	3.9	43	50
	12-01-98	4080	--	158	4.3	18.1	765	2.8	29	39
	02-02-99	4080	--	141	5.1	13.8	--	2.0	--	33
JH-151 JC-7	11-18-97	4080	35	106	5.3	15.3	--	.7	--	16
	01-20-98	4080	--	117	5.2	11.9	--	.5	--	--
	02-18-98	4080	--	93	5.0	12.5	--	.0	--	--
	03-24-98	4080	--	83	5.0	11.7	--	.3	--	--
	05-29-98	4080	--	70	5.1	17.8	--	.0	--	--
	07-28-98	4080	--	88	5.2	21.4	--	.3	--	13
	09-15-98	4080	--	80	5.1	21.7	763	.4	5	--
	10-21-98	4080	--	80	5.2	20.0	765	.2	3	12
	12-01-98	4080	--	84	5.1	17.1	--	.2	--	10
	02-02-99	4080	--	119	4.9	13.5	--	.0	--	19

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	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)	ALKA-LINITY WAT.DIS FET LAB CACO3 (MG/L) (29801)	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)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
JH-145 JC-1	11-18-97	11	5.8	4.5	4.9	--	<1.0	4.0	14	<.10
	01-20-98	--	--	--	--	--	--	--	12	--
	02-18-98	--	--	--	--	--	--	--	16	--
	03-24-98	--	--	--	--	--	--	--	14	--
	05-29-98	--	--	--	--	--	--	--	14	--
	07-28-98	10	6.1	4.4	4.0	<1.0	--	--	14	--
	09-15-98	--	--	--	--	<1.0	--	--	14	--
	10-21-98	14	6.9	5.2	5.2	<1.0	--	<5.0	14	--
JH-146 JC-2	11-18-97	7.6	5.5	3.1	4.6	--	<1.0	5.6	10	<.10
	01-20-98	--	--	--	--	--	--	--	8.0	--
	02-18-98	--	--	--	--	--	--	--	11	--
	03-24-98	--	--	--	--	--	--	--	10	--
	05-29-98	--	--	--	--	--	--	--	9.0	--
	07-28-98	5.3	4.5	2.7	3.3	<1.0	--	--	8.0	--
	09-15-98	--	--	--	--	<1.0	--	--	9.0	--
	10-21-98	7.3	5.3	3.4	3.6	<1.0	--	<5.0	9.0	--
	12-01-98	6.7	5.1	2.3	3.6	<1.0	--	<5.0	10	--
JH-147 JC-3	11-19-97	8.1	6.8	3.2	3.3	--	2.6	.62	12	<.10
	01-20-98	--	--	--	--	--	--	--	12	--
	02-18-98	--	--	--	--	--	--	--	16	--
	03-24-98	--	--	--	--	--	--	--	14	--
	05-29-98	--	--	--	--	--	--	--	14	--
	07-28-98	8.3	7.6	3.3	3.2	<1.0	--	<5.0	13	--
	09-15-98	--	--	--	--	2.0	--	--	13	--
	10-21-98	11	8.3	5.1	3.1	1.0	--	<5.0	15	--
	12-01-98	12	6.4	4.1	2.9	10	--	<5.0	14	--
	01-28-99	9.2	8.0	4.1	2.9	<1.0	--	<5.0	14	--
JH-148 JC-4	11-19-97	9.3	7.1	3.4	3.7	--	1.9	1.1	13	<.10
	01-20-98	--	--	--	--	--	--	--	11	--
	02-18-98	--	--	--	--	--	--	--	15	--
	03-24-98	--	--	--	--	--	--	--	14	--
	05-29-98	--	--	--	--	--	--	--	13	--
	07-28-98	8.4	8.3	3.5	3.8	<1.0	--	<5.0	13	--
	09-15-98	--	--	--	--	<1.0	--	--	13	--
	10-21-98	7.8	8.5	5.4	3.4	<1.0	--	<5.0	14	--
	12-01-98	7.7	7.7	4.0	3.6	<1.0	--	<5.0	13	--
	01-28-99	8.4	9.2	6.1	3.5	2.0	--	<5.0	11	--
	01-28-99	8.8	8.3	6.1	3.8	--	2.5	1.2	15	.10
JH-149 JC-5	11-18-97	8.3	5.7	3.6	3.7	--	<1.0	.44	12	<.10
	01-20-98	--	--	--	--	--	--	--	11	--
	02-18-98	--	--	--	--	--	--	--	13	--
	03-24-98	--	--	--	--	--	--	--	14	--
	05-29-98	--	--	--	--	--	--	--	13	--
	07-28-98	8.0	5.9	3.5	3.4	<1.0	--	<5.0	13	--
	09-15-98	--	--	--	--	<1.0	--	--	13	--
	10-21-98	10	6.6	4.0	3.3	<1.0	--	<5.0	13	--
	12-01-98	7.9	5.2	2.8	3.1	<1.0	--	<5.0	12	--
	02-02-99	9.1	6.4	3.0	3.1	<1.0	--	<5.0	12	--
JH-150 JC-6	11-18-97	6.5	5.3	11	3.3	--	4.7	8.7	14	<.10
	01-20-98	--	--	--	--	--	--	--	6.0	--
	02-18-98	--	--	--	--	--	--	--	6.0	--
	03-24-98	--	--	--	--	--	--	--	10	--
	05-29-98	--	--	--	--	--	--	--	10	--
	07-28-98	6.2	7.6	2.6	2.6	<1.0	--	<5.0	12	--
	09-15-98	--	--	--	--	<1.0	--	--	14	--
	10-21-98	8.1	7.3	3.6	3.1	<1.0	--	<5.0	13	--
	12-01-98	6.0	5.8	2.4	2.8	<1.0	--	<5.0	12	--
	02-02-99	3.5	5.9	11	1.4	2.0	--	7.0	10	--
JH-151 JC-7	11-18-97	3.1	1.9	6.4	2.5	--	2.0	13	12	<.10
	01-20-98	--	--	--	--	--	--	--	14	--
	02-18-98	--	--	--	--	--	--	--	13	--
	03-24-98	--	--	--	--	--	--	--	12	--
	05-29-98	--	--	--	--	--	--	--	12	--
	07-28-98	2.3	1.7	5.1	2.4	8.0	--	<5.0	16	--
	09-15-98	--	--	--	--	14	--	--	13	--
	10-21-98	2.0	1.8	6.8	2.3	10	--	<5.0	15	--
	12-01-98	1.6	1.5	4.6	2.2	6.0	--	<5.0	16	--
	02-02-99	3.0	2.9	6.0	3.0	6.0	--	7.0	14	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)
JH-145 JC-1	11-18-97	.015	8.0	104	<.010	13.8	<.020	<.10	.011
	01-20-98	--	6.0	--	--	12.0	<.010	.10	<.010
	02-18-98	--	8.0	--	--	13.0	<.010	.20	<.010
	03-24-98	--	7.0	--	--	13.0	<.010	.10	<.010
	05-29-98	--	11	--	--	12.0	<.010	.10	.020
	07-28-98	--	7.0	130	--	14.0	<.010	.10	.040
	09-15-98	--	7.0	--	--	13.0	<.010	.20	<.010
	10-21-98	--	4.0	120	--	.110	.090	.20	<.010
JH-146 JC-2	11-18-97	.028	6.9	89	<.010	11.4	<.020	<.10	<.010
	01-20-98	--	5.0	--	--	13.0	<.010	.20	<.010
	02-18-98	--	6.0	--	--	11.0	<.010	.10	<.010
	03-24-98	--	5.0	--	--	10.0	<.010	.20	<.010
	05-29-98	--	7.0	--	--	11.0	.090	.20	.010
	07-28-98	--	6.0	70	--	8.30	<.010	.20	.040
	09-15-98	--	5.0	--	--	9.40	<.010	.20	.010
	10-21-98	--	4.0	65	--	7.70	<.010	.20	<.010
	12-01-98	--	4.0	74	--	11.0	.060	.20	<.010
JH-147 JC-3	11-19-97	.024	7.7	88	<.010	4.50	<.020	<.10	<.010
	01-20-98	--	5.0	--	--	11.0	<.010	.10	<.010
	02-18-98	--	8.0	--	--	12.0	<.010	.10	<.010
	03-24-98	--	6.0	--	--	12.0	<.010	.20	<.010
	05-29-98	--	12	--	--	12.0	<.010	.10	.010
	07-28-98	--	7.0	110	--	14.0	<.010	.10	<.040
	09-15-98	--	7.0	--	--	12.0	<.010	.20	<.010
	10-21-98	--	3.0	110	--	11.0	.150	.20	<.010
	12-01-98	--	5.0	160	--	11.0	.040	.20	<.010
	01-28-99	--	11	130	--	14.0	.080	.30	.040
JH-148 JC-4	11-19-97	.026	7.8	87	<.010	12.8	.052	<.10	<.010
	01-20-98	--	7.0	--	--	8.40	<.010	.10	.010
	02-18-98	--	7.0	--	--	12.0	<.010	.20	<.010
	03-24-98	--	6.0	--	--	12.0	<.010	.30	<.010
	05-29-98	--	8.0	--	--	10.0	<.010	.40	.040
	07-28-98	--	7.0	100	--	15.0	<.010	.10	.040
	09-15-98	--	7.0	--	--	12.0	<.010	.20	.010
	10-21-98	--	7.0	120	--	12.0	<.010	.20	<.010
	12-01-98	--	4.0	120	--	14.0	.060	.20	.020
	01-28-99	--	5.0	140	--	12.0	<.010	.10	<.010
	01-28-99	.40	7.1	130	<.010	16.0	.020	<.20	<.020
JH-149 JC-5	11-18-97	.026	7.6	92	<.010	12.5	<.020	<.10	<.010
	01-20-98	--	5.0	--	--	12.0	<.010	.10	.020
	02-18-98	--	7.0	--	--	13.0	<.010	.20	<.010
	03-24-98	--	5.0	--	--	13.0	<.010	.20	<.010
	05-29-98	--	9.0	--	--	13.0	<.010	.20	.020
	07-28-98	--	6.0	100	--	13.0	<.010	.10	.020
	09-15-98	--	7.0	--	--	12.0	<.010	.10	<.010
	10-21-98	--	6.0	94	--	12.0	.020	.20	<.010
	12-01-98	--	5.0	68	--	12.0	.050	.10	.010
	02-02-99	--	11	88	--	13.0	<.010	.20	.020
JH-150 JC-6	11-18-97	.027	8.8	116	<.010	12.3	<.020	<.10	<.010
	01-20-98	--	7.0	--	--	8.10	<.010	.20	<.010
	02-18-98	--	9.0	--	--	9.20	<.010	.10	<.010
	03-24-98	--	8.0	--	--	9.30	<.010	.20	<.010
	05-29-98	--	10	--	--	11.0	<.010	.10	.020
	07-28-98	--	8.0	99	--	13.0	<.010	.10	.060
	09-15-98	--	7.0	--	--	8.40	.210	.40	.010
	10-21-98	--	5.0	98	--	12.0	<.010	.20	<.010
	12-01-98	--	3.0	93	--	12.0	.050	.20	.010
	02-02-99	--	11	81	--	6.60	<.010	.10	.010
JH-151 JC-7	11-18-97	.10	9.2	78	<.010	<.050	<.020	.41	<.010
	01-20-98	--	7.0	--	--	.020	.090	.30	.010
	02-18-98	--	10	--	--	.020	.110	.30	.010
	03-24-98	--	8.0	--	--	.010	.070	.20	<.010
	05-29-98	--	14	--	--	.020	.120	.20	.030
	07-28-98	--	9.0	65	--	.030	.150	.40	.060
	09-15-98	--	8.0	--	--	.020	.140	.50	.020
	10-21-98	--	7.0	64	--	.030	.210	.40	.010
	12-01-98	--	6.0	37	--	.020	.210	.30	.010
	02-02-99	--	13	72	--	.030	.150	.30	<.010

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L) (38260)
JH-145 JC-1	11-18-97	.017	--	--	<3.0	245	--	.30	--
	01-20-98	--	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--	--
	03-24-98	--	--	--	--	--	--	--	--
	05-29-98	--	--	--	--	--	--	--	--
	07-28-98	--	--	--	<50	120	37	.40	--
	09-15-98	--	--	--	55	150	--	.40	--
	10-21-98	<.010	--	--	<50	180	<10	.40	--
JH-146 JC-2	11-18-97	<.010	--	--	<10	37	--	.40	--
	01-20-98	--	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--	--
	03-24-98	--	--	--	--	--	--	--	--
	05-29-98	--	--	--	--	--	--	--	--
	07-28-98	--	--	--	<50	10	42	.40	--
	09-15-98	--	--	--	110	12	--	.30	--
	10-21-98	<.010	--	--	<50	14	<10	.30	--
	12-01-98	<.010	--	--	<50	13	10	<.10	--
JH-147 JC-3	11-19-97	.019	--	--	<3.0	115	--	.20	--
	01-20-98	--	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--	--
	03-24-98	--	--	--	--	--	--	--	--
	05-29-98	--	--	--	--	--	--	--	--
	07-28-98	--	--	--	<50	69	62	.30	--
	09-15-98	--	--	--	<50	150	--	.20	--
	10-21-98	<.010	--	--	<50	110	<10	.60	--
	12-01-98	<.010	--	--	<50	500	<10	<.10	--
	01-28-99	<.010	480	--	<50	65	<10	.30	--
JH-148 JC-4	11-19-97	.016	--	--	<3.0	99	--	.30	--
	01-20-98	--	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--	--
	03-24-98	--	--	--	--	--	--	--	--
	05-29-98	--	--	--	--	--	--	--	--
	07-28-98	--	--	--	<50	46	42	.30	--
	09-15-98	--	--	--	<50	55	--	.40	--
	10-21-98	<.010	--	--	<50	100	<10	.40	--
	12-01-98	<.010	--	--	<50	57	<10	<.10	--
	01-28-99	<.010	510	--	<50	47	<10	--	--
	01-28-99	<.010	--	<1.0	4.1	53	3.2	<.10	.20
JH-149 JC-5	11-18-97	<.010	--	--	<10	62	--	.30	--
	01-20-98	--	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--	--
	03-24-98	--	--	--	--	--	--	--	--
	05-29-98	--	--	--	--	--	--	--	--
	07-28-98	--	--	--	<50	32	39	.30	--
	09-15-98	--	--	--	62	37	--	.30	--
	10-21-98	<.010	--	--	<50	33	<10	.20	--
	12-01-98	<.010	--	--	<50	34	10	<.10	--
	02-02-99	<.020	350	--	<50	38	<10	.30	--
JH-150 JC-6	11-18-97	<.010	--	--	<10	82	--	.70	--
	01-20-98	--	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--	--
	03-24-98	--	--	--	--	--	--	--	--
	05-29-98	--	--	--	--	--	--	--	--
	07-28-98	--	--	--	<50	42	56	.50	--
	09-15-98	--	--	--	2000	90	--	18	--
	10-21-98	<.010	--	--	360	45	<10	--	--
	12-01-98	<.010	--	--	<50	41	11	<.10	--
	02-02-99	<.010	89	--	68	19	<10	1.5	--
JH-151 JC-7	11-18-97	<.010	--	--	6900	83	--	8.5	--
	01-20-98	--	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--	--
	03-24-98	--	--	--	--	--	--	--	--
	05-29-98	--	--	--	--	--	--	--	--
	07-28-98	--	--	--	4500	48	62	7.0	--
	09-15-98	--	--	--	4500	30	--	9.0	--
	10-21-98	<.010	--	--	4200	30	<10	9.5	--
	12-01-98	<.010	--	--	5000	30	13	--	--
	02-02-99	<.010	63	--	5800	45	<10	5.6	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	STATION NUMBER	SITE TYPE	DATE	TIME	GEO-LOGIC UNIT	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT) (72016)
JH-152 JC-BEDWELL	352833078181604	GW	11-19-97	1501	110QPLC	80020	--	--	1.0
		GW	01-20-98	1531	110QPLC	83741	--	--	2.0
		GW	02-18-98	1245	110QPLC	83741	--	--	2.2
		GW	05-29-98	1430	110QPLC	83741	--	--	2.0
JH-153 JC-8	352834078181401	GW	07-28-98	1900	110QPLC	83741	--	8.80	--
		GW	09-15-98	1300	110QPLC	83741	3.44	8.80	--
		GW	10-21-98	1300	110QPLC	83741	4.72	8.80	--
		GW	12-01-98	1345	110QPLC	83741	3.98	8.80	--
		GW	02-02-99	1245	110QPLC	83741	2.39	8.80	--
JH-154 JC-TEMP	352834078181402	GW	07-28-98	1800	110QPLC	83741	--	7.00	--
JC-SWFP	352833078181605	SW	11-19-97	1500	--	80020	--	--	--
		SW	01-20-98	1530	--	83741	--	--	--
		SW	02-18-98	1300	--	83741	--	--	--
		SW	03-24-98	1400	--	83741	--	--	--
		SW	05-29-98	1500	--	83741	--	--	--
		SW	09-15-98	1230	--	83741	--	--	--
		SW	12-01-98	1445	--	83741	--	--	--
		SW	02-02-99	1530	--	83741	--	--	--

LOCAL IDENTIFIER	DATE	DEPTH TO TOP OF SAMPLE INTERVAL (FT) (72015)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SAMPLER TYPE (CODE) (84164)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)
JH-152 JC-BEDWELL	11-19-97	.80	--	4080	--	99	5.1	10.9	762	1.3
	01-20-98	1.8	--	4080	--	88	5.6	8.0	--	8.3
	02-18-98	2.0	--	4080	--	69	5.7	12.9	--	1.6
	05-29-98	1.8	--	4080	--	54	5.4	23.2	--	3.9
JH-153 JC-8	07-28-98	--	140	4080	--	163	4.3	19.0	--	8.4
	09-15-98	--	140	4080	--	155	4.7	19.8	763	8.5
	10-21-98	--	140	4080	--	153	4.6	18.4	765	5.2
	12-01-98	--	140	4080	--	157	4.6	17.1	--	8.0
	02-02-99	--	140	4080	--	98	4.3	13.3	--	8.8
JH-154 JC-TEMP	07-28-98	--	140	4080	--	151	4.9	24.5	--	7.6
JC-SWFP	11-19-97	--	--	4080	--	116	6.4	8.5	762	8.8
	01-20-98	--	--	4080	--	68	6.4	7.5	--	10.8
	02-18-98	--	--	4080	--	54	6.0	15.2	--	5.1
	03-24-98	--	--	4080	--	75	5.4	12.1	--	6.8
	05-29-98	--	--	4080	.20	82	5.9	24.4	--	3.2
	09-15-98	--	--	4080	--	86	5.8	24.1	763	3.8
	12-01-98	--	--	4080	--	134	5.4	17.5	--	.6
	02-02-99	--	--	4080	3.4	87	5.6	15.5	--	6.8

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	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)	ALKA-LINITY WAT.DIS FET LAB CACO3 (MG/L) (29801)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
JH-152 JC-BEDWELL	11-19-97	12	13	1.9	2.0	6.0	4.3	--	--	11
	01-20-98	--	--	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--	--	--
	05-29-98	--	--	--	--	--	--	--	--	--
JH-153 JC-8	07-28-98	--	45	8.3	5.9	4.1	3.5	8.0	--	<5.0
	09-15-98	93	--	--	--	--	--	<1.0	--	--
	10-21-98	55	47	8.9	6.0	4.7	3.4	<1.0	--	<5.0
	12-01-98	--	43	8.2	5.5	3.3	3.1	2.0	--	<5.0
	02-02-99	--	20	2.2	3.6	2.9	3.0	<1.0	--	<5.0
JH-154 JC-TEMP	07-28-98	--	42	7.8	5.5	4.3	3.0	<1.0	--	<5.0
JC-SWFP	11-19-97	76	26	4.8	3.3	6.0	6.9	--	8.1	10
	01-20-98	--	--	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--	--	--
	03-24-98	--	--	--	--	--	--	--	--	--
	05-29-98	--	--	--	--	--	--	--	--	--
	09-15-98	45	--	--	--	--	--	20	--	--
	12-01-98	--	29	6.2	3.4	5.0	5.2	16	--	11
	02-02-99	--	19	3.8	2.4	4.8	5.2	4.0	--	<5.0

LOCAL IDENTIFIER	DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
JH-152 JC-BEDWELL	11-19-97	16	<.10	.034	8.1	60	<.010	<.050	<.020
	01-20-98	14	--	--	8.0	--	--	.250	<.010
	02-18-98	15	--	--	9.0	--	--	.040	.060
	05-29-98	11	--	--	12	--	--	.010	.130
JH-153 JC-8	07-28-98	11	--	--	7.0	120	--	13.0	<.010
	09-15-98	12	--	--	8.0	--	--	12.0	<.010
	10-21-98	11	--	--	6.0	100	--	11.0	.070
	12-01-98	11	--	--	3.0	82	--	12.0	.050
	02-02-99	8.0	--	--	11	40	--	6.00	<.010
JH-154 JC-TEMP	07-28-98	11	--	--	8.0	110	--	11.0	<.010
JC-SWFP	11-19-97	17	<.10	.018	6.8	89	<.010	.676	<.020
	01-20-98	9.0	--	--	4.0	--	--	.750	.020
	02-18-98	10	--	--	5.0	--	--	.630	.030
	03-24-98	12	--	--	2.0	--	--	1.10	.040
	05-29-98	13	--	--	5.0	--	--	.450	.080
	09-15-98	13	--	--	10	--	--	.010	.100
	12-01-98	18	--	--	6.0	84	--	.020	.090
	02-02-99	11	--	--	11	77	--	.880	<.010

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
JH-152 JC-BEDWELL	11-19-97	.33	.011	<.010	--	3900	24	--	8.3
	01-20-98	.20	<.010	--	--	--	--	--	--
	02-18-98	.30	<.010	--	--	--	--	--	--
	05-29-98	.20	.030	--	--	--	--	--	--
JH-153 JC-8	07-28-98	.20	.040	--	--	<50	35	56	.40
	09-15-98	.10	.010	--	--	<50	41	--	.20
	10-21-98	.20	.010	<.010	--	<50	30	<10	.30
	12-01-98	.10	.010	<.010	--	82	38	<10	<.10
	02-02-99	.20	<.010	<.010	<130	<10	16	<10	2.6
JH-154 JC-TEMP	07-28-98	.10	.040	--	--	74	22	49	.50
JC-SWFP	11-19-97	.41	.014	<.010	--	270	17	--	11
	01-20-98	.60	.060	--	--	--	--	--	--
	02-18-98	.40	.050	--	--	--	--	--	--
	03-24-98	.20	.010	--	--	--	--	--	--
	05-29-98	.50	.050	--	--	--	--	--	--
	09-15-98	.60	.130	--	--	5400	92	--	19
	12-01-98	.20	.120	.040	--	4100	67	10	8.6
	02-02-99	.60	.030	.010	66	300	40	14	18

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	STATION NUMBER	SITE TYPE	DATE	TIME	GEO-LOGIC UNIT	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)
PI-588 PM-1	354603077293301	GW	07-30-98	1445	110QPLC	83741	10.02	17.40
		GW	09-22-98	1300	110QPLC	83741	9.58	17.40
		GW	10-29-98	1245	110QPLC	83741	9.91	17.40
		GW	12-10-98	1100	110QPLC	83741	10.06	17.40
		GW	02-09-99	1030	110QPLC	83741	8.70	17.40
		GW	05-11-99	1530	110QPLC	83741	9.40	17.40
PI-589 PM-2	354603077293302	GW	07-30-98	1430	110QPLC	83741	9.88	13.30
		GW	09-22-98	1315	110QPLC	83741	9.40	13.30
		GW	10-29-98	1220	110QPLC	83741	9.76	13.30
		GW	12-10-98	1045	110QPLC	83741	9.92	13.30
		GW	02-09-99	1130	110QPLC	83741	8.28	13.30
		GW	05-11-99	1620	110QPLC	83741	9.00	13.30
PI-590 PM-3	354602077293401	GW	07-30-98	1545	110QPLC	83741	6.41	10.00
		GW	09-22-98	1100	110QPLC	83741	5.82	10.00
		GW	10-29-98	1430	110QPLC	83741	3.06	10.00
		GW	12-10-98	1200	110QPLC	83741	6.10	10.00
		GW	02-09-99	1500	110QPLC	83741	4.95	10.00
PI-592 PM-1S	354601077293601	GW	05-15-98	1100	110QPLC	1028	--	--
		GW	06-30-98	1100	110QPLC	83741	--	--
		GW	09-22-98	1200	110QPLC	83741	--	--
		GW	02-11-99	1300	110QPLC	83741	--	--
PI-593 PM-1I	354601077293602	GW	05-15-98	1115	110QPLC	1028	--	--
		GW	06-30-98	1115	110QPLC	83741	--	--
		GW	02-11-99	1530	110QPLC	83741	--	--
		GW	02-22-99	1500	110QPLC	83741	--	--
PI-594 PM-2S	354601077293603	GW	05-15-98	1200	110QPLC	1028	--	--
		GW	06-30-98	1300	110QPLC	83741	--	--
		GW	10-29-98	1600	110QPLC	83741	--	--
		GW	12-10-98	1300	110QPLC	81213	--	--
		GW	12-10-98	1305	110QPLC	83741	--	--
		GW	02-11-99	1700	110QPLC	83741	--	--
		GW	02-22-99	1715	110QPLC	1028	--	--
		GW	02-25-99	1515	110QPLC	83741	--	--
PI-595 PM-2I	354601077293604	GW	05-15-98	1215	110QPLC	1028	--	--
		GW	06-30-98	1315	110QPLC	83741	--	--
PI-596 PM-2D	354601077293605	GW	04-08-98	1245	110QPLC	1028	--	--
		GW	05-15-98	1230	110QPLC	1028	--	--
		GW	06-30-98	1330	110QPLC	83741	--	--
PI-597 PM-3S	354601077293606	GW	05-15-98	1300	110QPLC	1028	--	--
		GW	06-30-98	1500	110QPLC	83741	--	--
PI-598 PM-3I	354601077293607	GW	05-15-98	1330	110QPLC	1028	--	--
		GW	06-30-98	1515	110QPLC	83741	--	--
PI-599 PM-LB S	354601077293611	GW	04-08-98	1516	110QPLC	1028	--	--
		GW	07-01-98	1145	110QPLC	83741	--	--
PI-600 PM-LB I	354601077293612	GW	04-08-98	1515	110QPLC	1028	--	--
		GW	07-01-98	1245	110QPLC	83741	--	--
PI-601 PM-RB S	354601077293613	GW	05-15-98	1350	110QPLC	1028	--	--
		GW	07-01-98	1400	110QPLC	83741	--	--
PI-602 PM-RB I	354601077293614	GW	07-01-98	1445	110QPLC	83741	--	--
PI-603 PM-SEEPAGE 1	354601077293608	GW	04-08-98	1530	--	1028	--	--
		GW	05-15-98	1545	--	1028	--	--
		GW	06-30-98	1145	--	83741	--	--
PI-604 PM-SEEPAGE 2	354601077293609	GW	04-08-98	1400	--	1028	--	--
		GW	05-15-98	1610	--	1028	--	--
		GW	06-30-98	1345	--	83741	--	--
PI-605 PM-SEEPAGE 3	354601077293610	GW	05-15-98	1655	--	1028	--	--
		GW	06-30-98	1545	--	83741	--	--
PI-606 PM-4	354602077293402	GW	07-30-98	1530	110QPLC	83741	6.27	12.70
		GW	09-22-98	1115	110QPLC	83741	5.73	12.70
		GW	10-29-98	1400	110QPLC	83741	2.96	12.70
		GW	12-10-98	1215	110QPLC	83741	6.02	12.70
		GW	02-09-99	1300	110QPLC	83741	4.98	12.70
PI-607 PM-5 TEMP	354605077291701	GW	10-29-98	1100	110QPLC	80020	7.00	10.00
PI-608 PM-1D	354601077293615	GW	05-15-98	1130	110QPLC	1028	--	--
PI-609 PM-3D	354601077293616	GW	05-15-98	1315	110QPLC	1028	--	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT) (72016)	DEPTH TO TOP OF SAMPLE INTERVAL (FT) (72015)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SAMPLER TYPE (CODE) (84164)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN) (72004)	FLOW RATE (G/M) (00059)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)
PI-588 PM-1	07-30-98	--	--	--	4080	20	--	285	4.7
	09-22-98	--	--	--	4080	5	--	285	5.7
	10-29-98	--	--	--	4080	15	--	263	5.2
	12-10-98	--	--	--	4080	--	--	238	5.0
	02-09-99	--	--	--	4080	50	--	234	4.8
	05-11-99	--	--	--	4080	35	--	243	4.9
PI-589 PM-2	07-30-98	--	--	--	4080	10	--	315	5.2
	09-22-98	--	--	--	4080	--	--	296	4.7
	10-29-98	--	--	--	4080	15	--	282	5.3
	12-10-98	--	--	--	4080	--	--	264	5.3
	02-09-99	--	--	--	4080	20	--	295	5.2
	05-11-99	--	--	--	4080	45	--	262	5.1
PI-590 PM-3	07-30-98	--	--	--	4080	10	--	215	4.4
	09-22-98	--	--	--	4080	--	--	209	5.0
	10-29-98	--	--	--	4080	--	--	226	5.1
	12-10-98	--	--	--	4080	--	--	232	5.1
	02-09-99	--	--	--	4080	15	--	225	4.9
PI-592 PM-1S	05-15-98	1.7	1.5	26.0	4080	--	--	249	6.1
	06-30-98	2.0	1.8	26.0	4080	--	--	275	6.1
	09-22-98	1.5	1.3	26.0	4080	--	--	222	6.2
	02-11-99	--	--	26.0	4080	--	--	257	6.3
PI-593 PM-1I	05-15-98	2.4	2.2	26.0	4080	--	--	297	5.8
	06-30-98	5.5	5.4	26.0	4080	--	--	270	6.1
	02-11-99	2.0	1.8	26.0	4080	--	--	234	5.6
	02-22-99	3.5	3.3	26.0	4080	--	--	208	5.9
PI-594 PM-2S	05-15-98	1.5	1.3	26.0	4080	--	--	246	6.3
	06-30-98	2.2	2.0	26.0	4080	--	--	286	6.1
	10-29-98	1.5	1.3	26.0	4080	--	--	279	6.1
	12-10-98	2.2	2.0	26.0	4080	--	--	229	6.0
	12-10-98	2.2	2.0	26.0	4080	--	--	229	6.0
	02-11-99	--	--	26.0	4080	--	--	245	6.0
	02-22-99	1.8	1.6	26.0	4080	--	--	247	6.1
	02-25-99	--	--	26.0	4080	--	--	244	5.9
PI-595 PM-2I	05-15-98	2.4	2.2	26.0	4080	--	--	226	6.3
	06-30-98	5.8	5.6	26.0	4080	--	--	231	6.1
PI-596 PM-2D	04-08-98	--	--	26.0	4080	--	--	258	5.9
	05-15-98	4.6	4.4	26.0	4080	--	--	305	6.1
	06-30-98	8.9	8.7	26.0	4080	--	--	234	5.2
PI-597 PM-3S	05-15-98	1.3	1.1	26.0	4080	--	--	252	6.3
	06-30-98	2.1	1.9	26.0	4080	--	--	297	6.0
PI-598 PM-3I	05-15-98	3.4	3.2	26.0	4080	--	--	214	6.3
	06-30-98	5.6	5.4	26.0	4080	--	--	277	5.7
PI-599 PM-LB S	04-08-98	1.5	1.3	26.0	4080	--	--	227	--
	07-01-98	2.7	2.5	26.0	4080	--	--	236	4.3
PI-600 PM-LB I	04-08-98	3.5	3.3	26.0	4080	--	--	232	5.6
	07-01-98	4.2	4.0	26.0	4080	--	--	336	4.4
PI-601 PM-RB S	05-15-98	2.6	2.4	26.0	4080	--	--	330	5.7
	07-01-98	2.6	2.4	26.0	4080	--	--	325	5.6
PI-602 PM-RB I	07-01-98	4.6	4.4	26.0	4080	--	--	260	5.8
PI-603 PM-SEEPAGE	04-08-98	--	--	26.0	4080	--	.1	222	--
	05-15-98	--	--	26.0	4080	--	--	204	6.4
	06-30-98	--	--	26.0	4080	--	--	271	6.3
PI-604 PM-SEEPAGE	04-08-98	--	--	26.0	4080	--	.1	193	6.0
	05-15-98	--	--	26.0	4080	--	--	190	6.5
	06-30-98	--	--	26.0	4080	--	--	265	6.2
PI-605 PM-SEEPAGE	05-15-98	--	--	26.0	4080	--	<.1	--	--
	06-30-98	--	--	26.0	4080	--	--	280	6.1
PI-606 PM-4	07-30-98	--	--	--	4080	10	--	351	5.3
	09-22-98	--	--	--	4080	--	--	328	5.4
	10-29-98	--	--	--	4080	--	--	345	6.2
	12-10-98	--	--	--	4080	--	--	348	5.6
	02-09-99	--	--	--	4080	20	--	378	5.9
PI-607 PM-5 TEMP	10-29-98	--	--	--	4080	--	--	313	4.3
PI-608 PM-1D	05-15-98	4.4	4.2	--	4080	--	--	269	5.2
PI-609 PM-3D	05-15-98	--	--	--	4080	--	--	274	6.2

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	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)
PI-588 PM-1	07-30-98	18.5	--	.2	--	81	23	5.8	8.0
	09-22-98	20.1	756	.3	3	--	--	--	--
	10-29-98	20.5	762	.1	1	78	23	5.0	5.6
	12-10-98	18.1	776	1.3	13	71	20	5.0	6.1
	02-09-99	15.3	765	.1	1	69	19	5.2	6.5
	05-11-99	15.6	765	1.7	17	70	20	4.9	5.3
PI-589 PM-2	07-30-98	19.5	--	.4	--	98	30	5.5	4.4
	09-22-98	21.7	756	5.7	65	--	--	--	--
	10-29-98	20.5	762	.6	7	91	28	5.0	3.8
	12-10-98	17.8	776	.2	2	84	26	4.7	3.5
	02-09-99	14.5	765	6.6	64	--	26	--	6.3
	05-11-99	15.7	765	3.5	36	76	23	4.5	3.6
PI-590 PM-3	07-30-98	18.6	--	1.0	--	49	14	3.5	6.4
	09-22-98	20.8	756	.4	5	--	--	--	--
	10-29-98	19.2	762	.0	0	60	17	4.3	6.8
	12-10-98	17.5	776	.0	0	61	17	4.5	6.6
	02-09-99	14.6	765	.0	0	69	19	5.1	4.5
PI-592 PM-1S	05-15-98	17.3	765	.8	9	--	--	--	--
	06-30-98	21.4	756	.4	4	96	27	6.9	3.2
	09-22-98	23.0	756	.5	6	--	--	--	--
	02-11-99	14.7	756	.0	0	85	23	6.7	3.9
PI-593 PM-1I	05-15-98	16.9	765	.6	7	--	--	--	--
	06-30-98	19.2	756	.2	2	83	22	6.7	5.2
	02-11-99	16.3	756	2.8	29	68	17	6.2	9.1
	02-22-99	12.6	760	.2	2	75	20	6.0	6.0
PI-594 PM-2S	05-15-98	18.2	765	.4	4	--	--	--	--
	06-30-98	22.7	756	.4	4	100	29	7.1	3.2
	10-29-98	17.1	762	.0	0	110	31	7.7	3.8
	12-10-98	15.3	776	.0	0	91	26	6.3	3.1
	12-10-98	15.3	776	.0	0	91	26	6.3	3.3
	02-11-99	14.4	756	.0	0	90	25	6.6	3.2
	02-22-99	11.4	760	.0	0	--	--	--	--
	02-25-99	12.4	760	.2	2	99	28	7.1	4.1
PI-595 PM-2I	05-15-98	18.5	765	.4	4	--	--	--	--
	06-30-98	19.7	756	.0	0	86	24	6.4	4.1
PI-596 PM-2D	04-08-98	17.1	--	.5	--	--	--	--	--
	05-15-98	22.1	765	.8	9	--	--	--	--
	06-30-98	19.2	760	.0	0	69	17	6.5	6.1
PI-597 PM-3S	05-15-98	17.7	765	.3	3	--	--	--	--
	06-30-98	20.5	760	.3	3	100	30	6.9	3.0
PI-598 PM-3I	05-15-98	17.4	765	.3	3	--	--	--	--
	06-30-98	18.4	760	.0	0	90	24	7.4	4.0
PI-599 PM-LB S	04-08-98	17.1	--	.7	--	--	--	--	--
	07-01-98	20.1	756	.0	0	66	19	4.4	5.3
PI-600 PM-LB I	04-08-98	18.2	--	.3	--	--	--	--	--
	07-01-98	18.6	756	1.3	14	97	28	6.6	7.8
PI-601 PM-RB S	05-15-98	16.4	765	.8	8	--	--	--	--
	07-01-98	19.5	756	.8	9	110	32	8.0	3.2
PI-602 PM-RB I	07-01-98	19.2	756	.1	1	87	24	6.6	3.4
PI-603 PM-SEEPAGE	04-08-98	20.3	--	1.8	--	--	--	--	--
	05-15-98	17.3	765	3.6	38	--	--	--	--
	06-30-98	22.5	756	1.5	17	96	27	6.9	3.6
PI-604 PM-SEEPAGE	04-08-98	18.0	--	4.5	--	--	--	--	--
	05-15-98	19.3	765	6.7	72	--	--	--	--
	06-30-98	23.4	760	1.3	15	93	26	6.9	4.0
PI-605 PM-SEEPAGE	05-15-98	--	765	5.9	--	--	--	--	--
	06-30-98	23.3	760	2.0	24	97	27	7.1	3.8
PI-606 PM-4	07-30-98	17.5	--	3.7	--	110	32	6.1	8.4
	09-22-98	19.4	756	2.0	21	--	--	--	--
	10-29-98	19.1	762	1.1	12	110	35	6.3	7.8
	12-10-98	17.5	776	1.4	15	120	37	6.8	7.6
	02-09-99	16.0	765	1.3	13	120	36	7.0	7.7
PI-607 PM-5 TEMP	10-29-98	22.2	762	.0	0	97	26	8.1	4.6
PI-608 PM-1D	05-15-98	16.7	765	.3	3	--	--	--	--
PI-609 PM-3D	05-15-98	16.9	765	.3	3	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT.DIS FET LAB CACO3 (MG/L) (29801)	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)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	BROMIDE DISSOLVED (MG/L AS BR) (71870)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)
PI-588 PM-1	07-30-98	6.2	3.0	--	48	19	--	--	16
	09-22-98	--	12	--	--	18	--	--	14
	10-29-98	6.7	4.0	--	36	16	--	--	11
	12-10-98	5.3	14	--	8.0	16	--	--	18
	02-09-99	6.3	<1.0	--	25	15	--	--	18
	05-11-99	5.3	<1.0	--	33	16	--	--	22
PI-589 PM-2	07-30-98	8.7	4.0	--	49	20	--	--	11
	09-22-98	--	<1.0	--	--	18	--	--	9.0
	10-29-98	7.4	4.0	--	34	17	--	--	15
	12-10-98	6.8	2.0	--	9.0	16	--	--	12
	02-09-99	10	4.0	--	21	16	--	--	9.0
	05-11-99	7.1	<1.0	--	46	16	--	--	16
PI-590 PM-3	07-30-98	10	2.0	--	37	19	--	--	14
	09-22-98	--	10	--	--	17	--	--	7.0
	10-29-98	9.6	6.0	--	66	19	--	--	6.0
	12-10-98	10	2.0	--	17	19	--	--	9.0
	02-09-99	9.1	2.0	--	17	15	--	--	9.0
PI-592 PM-1S	05-15-98	--	--	--	--	--	--	--	--
	06-30-98	6.6	14	--	27	17	--	--	8.0
	09-22-98	--	50	--	--	14	--	--	13
	02-11-99	7.4	80	--	<5.0	16	--	--	17
PI-593 PM-1I	05-15-98	--	--	--	--	--	--	--	--
	06-30-98	6.4	32	--	31	16	--	--	10
	02-11-99	5.8	12	--	22	14	--	--	11
	02-22-99	5.7	42	--	10	14	--	--	15
PI-594 PM-2S	05-15-98	--	--	--	--	--	--	--	--
	06-30-98	6.9	16	--	26	20	--	--	8.0
	10-29-98	6.3	20	--	50	13	--	--	3.0
	12-10-98	6.1	--	23	52	12	<.10	<.050	8.3
	12-10-98	5.2	16	--	16	12	--	--	7.0
	02-11-99	6.6	38	--	17	14	--	--	10
	02-22-99	--	--	--	--	--	--	--	--
	02-25-99	6.1	30	--	46	14	--	--	12
PI-595 PM-2I	05-15-98	--	--	--	--	--	--	--	--
	06-30-98	5.7	46	--	22	16	--	--	11
PI-596 PM-2D	04-08-98	--	--	--	--	--	--	--	--
	05-15-98	--	--	--	--	--	--	--	--
	06-30-98	5.4	6.0	--	42	17	--	--	8.0
PI-597 PM-3S	05-15-98	--	--	--	--	--	--	--	--
	06-30-98	6.7	12	--	26	18	--	--	8.0
PI-598 PM-3I	05-15-98	--	--	--	--	--	--	--	--
	06-30-98	6.2	12	--	50	17	--	--	7.0
PI-599 PM-LB S	04-08-98	--	--	--	--	--	--	--	--
	07-01-98	6.8	<1.0	--	40	14	--	--	8.0
PI-600 PM-LB I	04-08-98	--	--	--	--	--	--	--	--
	07-01-98	7.8	<1.0	--	73	16	--	--	10
PI-601 PM-RB S	05-15-98	--	--	--	--	--	--	--	--
	07-01-98	7.6	8.0	--	23	18	--	--	8.0
PI-602 PM-RB I	07-01-98	6.8	10	--	24	19	--	--	9.0
PI-603 PM-SEEPAGE	04-08-98	--	--	--	--	--	--	--	--
	05-15-98	--	--	--	--	--	--	--	--
	06-30-98	7.0	38	--	22	18	--	--	8.0
PI-604 PM-SEEPAGE	04-08-98	--	--	--	--	--	--	--	--
	05-15-98	--	--	--	--	--	--	--	--
	06-30-98	7.0	22	--	32	18	--	--	7.0
PI-605 PM-SEEPAGE	05-15-98	--	--	--	--	--	--	--	--
	06-30-98	7.3	16	--	30	19	--	--	7.0
PI-606 PM-4	07-30-98	11	8.0	--	69	19	--	--	9.0
	09-22-98	--	6.0	--	--	19	--	--	9.0
	10-29-98	9.4	6.0	--	65	19	--	--	7.0
	12-10-98	9.8	8.0	--	16	20	--	--	9.0
	02-09-99	9.4	6.0	--	48	20	--	--	11
PI-607 PM-5 TEMP	10-29-98	6.6	--	--	98	7.6	.48	<.010	12
PI-608 PM-1D	05-15-98	--	--	--	--	--	--	--	--
PI-609 PM-3D	05-15-98	--	--	--	--	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NO2+NO3 FLTRD FIELD, (MG/L AS N) (99889)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)
PI-588 PM-1	07-30-98	180	--	7.80	--	.060	.30	<.010
	09-22-98	--	--	2.30	--	.190	.40	<.010
	10-29-98	210	--	6.40	--	<.010	.30	<.010
	12-10-98	150	--	5.40	--	<.010	.30	.020
	02-09-99	140	--	4.20	--	<.010	.30	<.010
	05-11-99	140	--	5.60	--	<.010	.20	<.010
PI-589 PM-2	07-30-98	210	--	10.0	--	.040	.40	<.010
	09-22-98	--	--	10.0	--	<.010	.20	<.010
	10-29-98	230	--	8.80	--	<.010	.30	<.010
	12-10-98	170	--	7.70	--	<.010	.50	.010
	02-09-99	180	--	11.0	--	<.010	.40	<.010
	05-11-99	150	--	8.20	--	<.010	.30	<.010
PI-590 PM-3	07-30-98	140	--	.050	--	.240	.50	<.010
	09-22-98	--	--	.030	--	<.010	.40	<.010
	10-29-98	230	--	.020	--	.090	.40	.010
	12-10-98	170	--	.010	--	.100	.50	.020
	02-09-99	140	--	4.90	--	<.010	.40	<.010
PI-592 PM-1S	05-15-98	--	--	--	--	--	--	--
	06-30-98	180	--	7.20	--	<.010	.20	.020
	09-22-98	--	--	<.010	--	2.90	4.1	.240
	02-11-99	100	--	.010	--	5.30	5.5	.190
PI-593 PM-1I	05-15-98	--	--	--	--	--	--	--
	06-30-98	160	--	<.010	--	1.60	1.7	.080
	02-11-99	120	--	.020	--	.470	.70	.030
	02-22-99	120	--	<.010	--	2.40	4.0	.080
PI-594 PM-2S	05-15-98	--	--	--	--	--	--	--
	06-30-98	210	--	8.10	--	.020	.30	.030
	10-29-98	290	--	7.30	--	<.010	.30	<.010
	12-10-98	144	.027	2.10	--	<.010	.21	.020
	12-10-98	150	--	1.90	--	<.010	.20	.040
	02-11-99	120	--	.010	--	.120	.20	.040
	02-22-99	--	--	--	--	--	--	--
	02-25-99	140	--	.560	--	.160	3.0	.050
PI-595 PM-2I	05-15-98	--	--	--	--	--	--	--
	06-30-98	160	--	<.010	--	3.20	3.5	.250
PI-596 PM-2D	04-08-98	--	--	--	.02	--	--	--
	05-15-98	--	--	--	--	--	--	--
	06-30-98	150	--	.020	--	.130	.30	.020
PI-597 PM-3S	05-15-98	--	--	--	--	--	--	--
	06-30-98	230	--	11.0	--	.040	.30	.040
PI-598 PM-3I	05-15-98	--	--	--	--	--	--	--
	06-30-98	170	--	.380	--	.200	.20	.030
PI-599 PM-LB S	04-08-98	--	--	--	--	--	--	--
	07-01-98	140	--	4.00	--	<.010	.30	.040
PI-600 PM-LB I	04-08-98	--	--	--	3.8	--	--	--
	07-01-98	200	--	5.80	--	<.010	.20	.040
PI-601 PM-RB S	05-15-98	--	--	--	--	--	--	--
	07-01-98	260	--	16.0	--	.030	.20	.040
PI-602 PM-RB I	07-01-98	160	--	7.10	--	<.010	.20	.050
PI-603 PM-SEEPAGE	04-08-98	--	--	--	--	--	--	--
	05-15-98	--	--	--	--	--	--	--
	06-30-98	160	--	2.00	--	.440	.60	.040
PI-604 PM-SEEPAGE	04-08-98	--	--	--	--	--	--	--
	05-15-98	--	--	--	--	--	--	--
	06-30-98	170	--	2.00	--	.090	.20	.040
PI-605 PM-SEEPAGE	05-15-98	--	--	--	--	--	--	--
	06-30-98	170	--	5.80	--	.020	.40	.050
PI-606 PM-4	07-30-98	210	--	9.00	--	.040	.20	<.010
	09-22-98	--	--	7.10	--	<.010	.40	<.010
	10-29-98	270	--	6.80	--	.010	.30	<.010
	12-10-98	220	--	6.40	--	<.010	.50	.010
	02-09-99	230	--	6.00	--	<.010	.30	<.010
PI-607 PM-5 TEMP	10-29-98	194	<.010	6.36	--	<.020	<.10	.625
PI-608 PM-1D	05-15-98	--	--	--	--	--	--	--
PI-609 PM-3D	05-15-98	--	--	--	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
PI-588 PM-1	07-30-98	<.010	--	<2.0	820	140	4600	1.5
	09-22-98	--	--	--	400	130	--	1.7
	10-29-98	<.010	--	--	120	140	4200	1.6
	12-10-98	<.010	--	--	<50	140	2400	.60
	02-09-99	<.010	94	--	<50	140	1800	.50
	05-11-99	.010	--	--	54	150	1900	--
PI-589 PM-2	07-30-98	<.010	--	<2.0	140	130	5200	1.8
	09-22-98	--	--	--	<50	93	--	1.8
	10-29-98	<.010	--	--	<50	130	5000	1.7
	12-10-98	<.010	--	--	<50	110	4800	.70
	02-09-99	<.010	140	--	<50	75	3600	1.0
	05-11-99	<.010	--	--	<50	120	3100	--
PI-590 PM-3	07-30-98	<.010	--	<2.0	3600	27	80	7.3
	09-22-98	--	--	--	5100	19	--	18
	10-29-98	<.010	--	--	7000	21	35	19
	12-10-98	<.010	--	--	6400	19	40	15
	02-09-99	<.010	140	--	220	--	29	4.9
PI-592 PM-1S	05-15-98	--	--	--	--	--	--	--
	06-30-98	<.010	--	--	<50	<10	<10	2.2
	09-22-98	--	--	--	250	73	--	4.2
	02-11-99	.130	130	--	--	32	<10	5.2
PI-593 PM-1I	05-15-98	--	--	--	--	--	--	--
	06-30-98	.060	--	--	<50	140	<10	2.8
	02-11-99	.010	--	--	1500	77	11	.90
	02-22-99	.060	98	--	<50	58	<10	--
PI-594 PM-2S	05-15-98	--	--	--	--	--	--	--
	06-30-98	.010	--	--	<50	<10	<10	2.2
	10-29-98	<.010	--	--	<50	<10	21	1.9
	12-10-98	.010	--	--	100	<5.0	--	1.3
	12-10-98	<.010	--	--	110	<10	11	--
	02-11-99	.010	140	--	190	26	<10	2.1
	02-22-99	--	--	--	--	--	--	--
	02-25-99	.010	150	--	670	12	<10	--
PI-595 PM-2I	05-15-98	--	--	--	--	--	--	--
	06-30-98	.210	--	--	230	42	<10	3.6
PI-596 PM-2D	04-08-98	--	--	--	--	--	--	--
	05-15-98	--	--	--	--	--	--	--
	06-30-98	<.010	--	--	2400	77	<10	1.6
PI-597 PM-3S	05-15-98	--	--	--	--	--	--	--
	06-30-98	<.010	--	--	<50	<10	<10	2.0
PI-598 PM-3I	05-15-98	--	--	--	--	--	--	--
	06-30-98	<.010	--	--	1000	50	<10	1.7
PI-599 PM-LB S	04-08-98	--	--	--	--	--	--	--
	07-01-98	<.010	--	--	200	54	50	1.9
PI-600 PM-LB I	04-08-98	--	--	--	--	--	--	--
	07-01-98	<.010	--	--	<50	100	19	1.3
PI-601 PM-RB S	05-15-98	--	--	--	--	--	--	--
	07-01-98	<.010	--	--	<50	<10	<10	1.7
PI-602 PM-RB I	07-01-98	<.010	--	--	<50	<10	<10	2.0
PI-603 PM-SEEPAGE	04-08-98	--	--	--	--	--	--	--
	05-15-98	--	--	--	--	--	--	--
	06-30-98	<.010	--	--	990	68	<10	4.0
PI-604 PM-SEEPAGE	04-08-98	--	--	--	--	--	--	--
	05-15-98	--	--	--	--	--	--	--
	06-30-98	<.010	--	--	110	57	<10	4.0
PI-605 PM-SEEPAGE	05-15-98	--	--	--	--	--	--	--
	06-30-98	<.010	--	--	<50	55	<10	2.6
PI-606 PM-4	07-30-98	<.010	--	14	260	73	3500	1.3
	09-22-98	--	--	--	270	64	--	1.4
	10-29-98	<.010	--	--	73	74	5600	1.2
	12-10-98	<.010	--	--	120	74	5200	.60
	02-09-99	<.010	61	--	250	88	7900	.40
PI-607 PM-5 TEMP	10-29-98	.015	--	--	31	50	--	--
PI-608 PM-1D	05-15-98	--	--	--	--	--	--	--
PI-609 PM-3D	05-15-98	--	--	--	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTFIER	STATION NUMBER	SITE TYPE	DATE	TIME	DRAIN-AGE AREA (SQ. MI.) (81024)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SAMPLER TYPE (CODE) (84164)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	FLOW RATE (G/M) (00059)
PM-CANAL	354606077293501	SW	04-21-98	1200	--	1028	--	11	--
		SW	07-28-98	1645	--	83741	4080	--	--
PM-SWFP	02083833	SW	04-08-98	1415	11.0	1028	4080	--	--
		SW	04-21-98	1200	11.0	1028	--	11	--
		SW	05-15-98	1200	11.0	1028	4080	--	--
		SW	06-30-98	1230	11.0	83741	4080	--	--
		SW	07-28-98	1500	11.0	83741	4080	--	--
		SW	09-22-98	1130	11.0	83741	4080	--	--
		SW	09-25-98	1200	11.0	1028	--	4.1	--
		SW	10-29-98	1515	11.0	83741	4080	3.8	--
		SW	12-10-98	1330	11.0	83741	4080	--	--
		SW	02-09-99	1630	11.0	83741	4080	25	--
PM-LB PIPE	354611077293101	SW	07-28-98	1630	--	83741	--	--	.2

LOCAL IDENTIFIER	DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	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)
PM-CANAL	04-21-98	--	--	--	--	--	--	--	--	--
	07-28-98	293	6.3	23.5	--	10.6	--	100	29	7.5
PM-SWFP	04-08-98	194	--	17.9	--	8.7	--	--	--	--
	04-21-98	190	--	--	--	--	--	--	--	--
	05-15-98	198	6.5	17.8	765	9.7	102	--	--	--
	06-30-98	274	6.3	23.0	760	6.9	81	90	25	6.7
	07-28-98	292	5.5	22.7	--	8.5	--	100	29	7.3
	09-22-98	254	6.4	24.0	756	5.6	67	--	--	--
	09-25-98	--	--	--	--	--	--	--	--	--
	10-29-98	214	6.7	16.7	762	9.7	100	86	24	6.3
	12-10-98	216	6.4	12.6	776	10.0	93	79	22	5.8
	02-09-99	197	5.9	13.9	765	10.5	101	65	18	4.8
PM-LB PIPE	07-28-98	208	6.9	--	--	--	--	70	18	6.2

LOCAL IDENTIFIER	DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT.DIS FET LAB CACO3 (MG/L) (29801)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
PM-CANAL	04-21-98	--	--	--	--	--	--	--	--	--
	07-28-98	5.0	8.0	10	--	--	10	190	4.50	.020
PM-SWFP	04-08-98	--	--	--	--	--	--	--	--	--
	04-21-98	--	--	--	--	--	--	--	--	--
	05-15-98	--	--	--	--	--	--	--	--	--
	06-30-98	4.5	7.2	12	37	25	7.0	160	5.00	.020
	07-28-98	5.1	8.4	10	--	--	10	190	5.40	.020
	09-22-98	--	--	14	--	19	5.0	--	3.20	<.010
	09-25-98	--	--	--	--	--	--	--	--	--
	10-29-98	5.4	6.7	8.0	40	16	2.0	190	3.70	<.010
	12-10-98	4.8	5.2	10	9.0	16	4.0	140	2.30	<.010
	02-09-99	4.6	4.9	8.0	10	14	13	130	3.90	<.010
PM-LB PIPE	07-28-98	4.1	7.0	12	--	--	7.0	140	.220	.020

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	IRON, DISSOLVED (UG/L AS FE) (01046)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)
PM-CANAL	04-21-98	--	--	--	--	--	--	--	--
	07-28-98	.20	<.010	<.010	--	<50	23	53	2.5
PM-SWFP	04-08-98	--	--	--	--	--	--	--	--
	04-21-98	--	--	--	--	--	--	--	--
	05-15-98	--	--	--	--	--	--	--	--
	06-30-98	.20	.040	<.010	--	<50	33	<10	2.7
	07-28-98	.30	<.010	<.010	--	<50	22	49	2.3
	09-22-98	.30	<.010	--	--	230	20	--	3.6
	09-25-98	--	--	--	--	--	--	--	--
	10-29-98	.30	<.010	<.010	--	<50	17	<10	3.6
	12-10-98	.20	.020	<.010	--	<50	11	<10	2.7
	02-09-99	.30	<.010	<.010	130	<50	41	19	3.3
PM-LB PIPE	07-28-98	.20	.010	<.010	--	<50	13	48	5.4

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	STATION NUMBER	SITE TYPE	DATE	TIME	GEO-LOGIC UNIT	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)
WA-273 CF-1	352231078021201	GW	11-20-97	1630	211BKCK	80020	3.69	38.00
WA-275 CF-3	352234078021802	GW	11-20-97	1300	211BKCK	80020	2.84	38.00
		GW	01-29-98	1055	211BKCK	83741	-.71	38.00
		GW	02-19-98	1700	211BKCK	83741	-1.36	38.00
		GW	03-25-98	1745	211BKCK	83741	-1.36	38.00
		GW	05-28-98	1400	211BKCK	83741	1.14	38.00
		GW	07-29-98	1330	211BKCK	83741	2.72	38.00
		GW	10-22-98	1030	211BKCK	83741	2.70	38.00
		GW	12-08-98	1030	211BKCK	83741	3.18	38.00
		GW	03-02-99	1130	211BKCK	83741	2.11	38.00
WA-277 CF-5	352239078021601	GW	11-20-97	1445	211BKCK	80020	8.06	40.00
		GW	01-29-98	1230	211BKCK	83741	4.64	40.00
		GW	02-18-98	1900	211BKCK	83741	3.95	40.00
		GW	03-26-98	1115	211BKCK	83741	3.51	40.00
		GW	05-28-98	1200	211BKCK	83741	6.25	40.00
		GW	10-22-98	1315	211BKCK	83741	7.87	40.00
		GW	12-08-98	1315	211BKCK	83741	8.34	40.00
		GW	03-02-99	1515	211BKCK	83741	7.10	40.00
WA-278 CF-6	352239078021602	GW	11-20-97	1430	110QPLC	80020	10.39	14.00
		GW	01-29-98	1200	110QPLC	83741	7.34	14.00
		GW	02-19-98	1830	110QPLC	83741	5.13	14.00
		GW	03-26-98	1045	110QPLC	83741	4.62	14.00
		GW	03-26-98	1050	110QPLC	80020	--	14.00
		GW	05-28-98	1130	110QPLC	83741	7.93	14.00
		GW	10-22-98	1300	110QPLC	83741	9.65	14.00
		GW	12-08-98	1300	110QPLC	83741	10.04	14.00
		GW	12-08-98	1305	110QPLC	81213	--	14.00
		GW	03-02-99	1430	110QPLC	83741	8.67	14.00
WA-279 CF-7	352236078021701	GW	11-20-97	1545	110QPLC	80020	9.61	15.00
		GW	01-29-98	1115	110QPLC	83741	6.02	15.00
		GW	02-19-98	1800	110QPLC	83741	4.39	15.00
		GW	03-25-98	1830	110QPLC	83741	3.67	15.00
		GW	05-28-98	1245	110QPLC	83741	7.59	15.00
		GW	10-22-98	1215	110QPLC	83741	8.87	15.00
		GW	12-08-98	1215	110QPLC	83741	9.12	15.00
		GW	12-08-98	1220	110QPLC	81213	--	15.00
		GW	03-02-99	1615	110QPLC	83741	8.19	15.00
WA-280 TB-1	353056077551801	GW	11-25-97	1205	110QPLC	80020	4.49	12.00
		GW	01-22-98	1115	110QPLC	83741	2.81	12.00
		GW	02-24-98	1300	110QPLC	83741	1.82	12.00
		GW	02-24-98	1305	110QPLC	80020	--	12.00
		GW	03-26-98	1400	110QPLC	83741	2.04	12.00
		GW	06-01-98	1745	110QPLC	83741	3.13	12.00
		GW	07-27-98	1145	110QPLC	83741	4.61	12.00
		GW	09-17-98	1100	110QPLC	83741	3.36	12.00
		GW	10-14-98	1015	110QPLC	83741	4.01	12.00
		GW	12-03-98	1115	110QPLC	83741	4.43	12.00
		GW	03-04-99	1130	110QPLC	83741	3.69	12.00
WA-281 TB-2	353056077551802	GW	11-25-97	1115	122YRKN	80020	4.67	48.00
		GW	01-22-98	1200	122YRKN	83741	3.05	48.00
		GW	02-24-98	1400	122YRKN	83741	2.06	48.00
		GW	03-26-98	1430	122YRKN	83741	2.29	48.00
		GW	06-01-98	1900	122YRKN	83741	3.32	48.00
		GW	07-27-98	1315	122YRKN	83741	4.82	48.00
		GW	09-17-98	1115	122YRKN	83741	3.57	48.00
		GW	10-14-98	1100	122YRKN	83741	4.26	48.00
		GW	12-03-98	1500	122YRKN	83741	4.65	48.00
		GW	03-04-99	1215	122YRKN	83741	3.90	48.00

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SAMPLER TYPE (CODE) (84164)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN) (72004)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)
WA-273 CF-1	11-20-97	69.0	4080	40	122	6.9	16.1	766	.8
WA-275 CF-3	11-20-97	69.0	4080	40	49	6.1	17.6	766	1.1
	01-29-98	69.0	4080	--	52	5.5	15.4	758	4.2
	02-19-98	69.0	4080	--	40	5.3	16.4	760	.0
	03-25-98	69.0	4080	--	47	5.8	15.8	765	1.4
	05-28-98	69.0	4080	--	48	5.6	17.7	--	.0
	07-29-98	69.0	4080	--	46	5.4	18.5	760	.2
	10-22-98	69.0	4080	--	46	5.6	19.7	767	.1
	12-08-98	69.0	4080	--	44	5.6	17.8	766	--
	03-02-99	69.0	4080	--	41	5.8	17.1	760	5.9
WA-277 CF-5	11-20-97	77.0	4080	45	56	5.6	17.5	766	1.6
	01-29-98	77.0	4080	--	60	5.6	16.8	758	1.2
	02-18-98	77.0	4080	--	51	5.2	16.8	--	.1
	03-26-98	77.0	4080	--	52	5.1	17.3	--	.2
	05-28-98	77.0	4080	--	55	5.4	17.8	--	.3
	10-22-98	77.0	4080	--	86	5.7	18.6	767	.3
	12-08-98	77.0	4080	--	59	5.6	18.4	766	.1
	03-02-99	77.0	4080	--	56	5.9	17.3	760	3.8
WA-278 CF-6	11-20-97	77.0	4080	30	185	4.9	18.6	766	5.0
	01-29-98	77.0	4080	--	195	4.5	14.5	758	6.2
	02-19-98	77.0	4080	--	210	4.6	13.3	760	7.2
	03-26-98	77.0	4080	--	181	4.2	14.3	--	7.0
	03-26-98	77.0	4080	--	181	4.2	14.3	--	7.0
	05-28-98	77.0	4080	--	138	5.0	17.6	--	7.9
	10-22-98	77.0	4080	--	174	4.5	20.4	767	5.9
	12-08-98	77.0	4080	--	190	4.5	19.0	766	5.4
	12-08-98	77.0	--	--	190	4.5	19.0	--	5.4
	03-02-99	77.0	4080	--	191	4.7	15.2	760	7.8
WA-279 CF-7	11-20-97	75.0	4080	35	150	5.4	18.7	766	7.5
	01-29-98	75.0	4080	--	170	5.3	15.3	758	6.8
	02-19-98	75.0	4080	--	164	5.3	13.8	760	6.9
	03-25-98	75.0	4080	--	165	5.3	13.8	765	8.0
	05-28-98	75.0	4080	--	134	5.3	16.7	--	8.8
	10-22-98	75.0	4080	--	134	5.2	20.0	767	6.3
	12-08-98	75.0	4080	--	126	5.2	19.4	766	7.5
	12-08-98	75.0	--	--	126	5.2	19.4	--	7.5
	03-02-99	75.0	4080	--	172	5.3	15.3	760	8.7
WA-280 TB-1	11-25-97	100	4080	10	233	4.8	16.6	770	1.9
	01-22-98	100	4080	30	251	4.9	12.6	--	2.1
	02-24-98	100	4080	--	221	5.0	13.1	--	1.8
	02-24-98	100	4080	--	221	5.0	13.1	--	1.8
	03-26-98	100	4080	20	217	4.7	13.6	--	2.0
	06-01-98	100	4080	20	213	4.7	18.7	760	.8
	07-27-98	100	4080	25	221	4.6	22.1	760	1.5
	09-17-98	100	4080	--	216	4.9	23.1	761	1.7
	10-14-98	100	4080	--	211	4.9	21.6	761	1.3
	12-03-98	100	4080	15	224	5.1	17.7	765	2.7
	03-04-99	100	4080	60	163	4.6	14.7	759	1.3
WA-281 TB-2	11-25-97	100	4080	20	313	5.7	17.0	770	.6
	01-22-98	100	4080	40	413	6.5	15.2	--	.9
	02-24-98	100	4080	10	333	6.9	16.8	761	7.4
	03-26-98	100	4080	20	380	6.6	17.5	--	.7
	06-01-98	100	4080	10	382	6.8	17.3	760	4.8
	07-27-98	100	4080	--	365	6.8	18.0	760	.3
	09-17-98	100	4080	--	370	6.9	19.4	761	.4
	10-14-98	100	4080	--	300	7.1	15.3	761	.2
	12-03-98	100	4080	30	425	6.9	18.6	765	8.0
	03-04-99	100	4080	10	372	6.8	16.3	759	2.9

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	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)	ALKA-LINITY WAT.DIS FET LAB CACO3 (MG/L) (29801)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
WA-273 CF-1	11-20-97	8	31	8.3	2.5	5.0	4.0	--	42
WA-275 CF-3	11-20-97	12	7	2.0	.50	3.8	1.9	--	11
	01-29-98	42	--	--	--	--	--	--	--
	02-19-98	0	--	--	--	--	--	--	--
	03-25-98	14	--	--	--	--	--	--	--
	05-28-98	--	--	--	--	--	--	--	--
	07-29-98	2	6	1.6	.48	4.1	1.8	12	--
	10-22-98	2	6	1.7	.50	4.1	1.7	12	--
	12-08-98	--	6	1.7	.49	3.8	1.6	12	--
	03-02-99	61	8	2.1	.59	4.4	1.7	8.0	--
WA-277 CF-5	11-20-97	17	11	3.1	.77	8.6	2.1	--	14
	01-29-98	12	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--	--
	05-28-98	--	--	--	--	--	--	--	--
	10-22-98	4	10	2.9	.75	9.3	1.9	14	--
	12-08-98	1	8	2.2	.60	5.6	1.6	10	--
	03-02-99	39	13	3.6	1.0	6.7	2.0	12	--
WA-278 CF-6	11-20-97	53	50	13	4.3	5.6	6.6	--	1.4
	01-29-98	61	--	--	--	--	--	--	--
	02-19-98	69	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--	--
	03-26-98	69	--	--	--	--	--	--	--
	05-28-98	--	--	--	--	--	--	--	--
	10-22-98	65	48	13	3.7	2.6	9.9	<1.0	--
	12-08-98	58	56	15	4.4	2.6	7.2	<1.0	--
	12-08-98	--	56	15	4.6	2.6	8.7	--	1.2
	03-02-99	78	60	16	4.8	4.9	8.7	2.0	--
WA-279 CF-7	11-20-97	80	42	12	2.8	2.7	7.1	--	4.2
	01-29-98	68	--	--	--	--	--	--	--
	02-19-98	67	--	--	--	--	--	--	--
	03-25-98	77	--	--	--	--	--	--	--
	05-28-98	--	--	--	--	--	--	--	--
	10-22-98	69	40	12	2.4	2.0	6.3	4.0	--
	12-08-98	81	37	11	2.3	1.9	5.3	4.0	--
	12-08-98	--	37	11	2.4	1.9	6.4	--	5.2
	03-02-99	87	61	18	3.9	2.3	6.4	2.0	--
WA-280 TB-1	11-25-97	20	53	12	5.5	14	4.3	--	1.3
	01-22-98	--	--	--	--	--	--	--	--
	02-24-98	--	--	--	--	--	--	--	--
	02-24-98	18	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--	--
	06-01-98	9	--	--	--	--	--	--	--
	07-27-98	17	--	--	4.9	14	5.4	4.0	--
	09-17-98	20	--	--	--	--	--	12	--
	10-14-98	15	56	12	6.2	16	5.0	8.0	--
	12-03-98	28	47	11	4.7	13	5.0	4.0	--
	03-04-99	12	35	7.5	4.0	11	2.4	2.0	--
WA-281 TB-2	11-25-97	6	120	41	4.4	14	2.9	--	129
	01-22-98	--	--	--	--	--	--	--	--
	02-24-98	76	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--	--
	06-01-98	50	--	--	--	--	--	--	--
	07-27-98	3	--	--	4.5	18	2.8	130	--
	09-17-98	5	--	--	--	--	--	180	--
	10-14-98	2	150	50	4.9	9.9	2.4	140	--
	12-03-98	86	120	41	3.9	33	3.1	120	--
	03-04-99	30	130	44	4.5	20	2.8	110	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
WA-273 CF-1	11-20-97	.39	5.3	.11	.083	21	72	<.010	<.050
WA-275 CF-3	11-20-97	.88	5.7	<.10	.018	20	46	<.010	<.050
	01-29-98	--	5.0	--	--	20	--	--	.030
	02-19-98	--	6.0	--	--	23	--	--	.010
	03-25-98	--	5.0	--	--	8.0	--	--	<.010
	05-28-98	--	5.0	--	--	28	--	--	<.010
	07-29-98	<5.0	6.0	--	--	24	31	--	.020
	10-22-98	<5.0	5.0	--	--	14	39	--	.010
	12-08-98	<5.0	4.0	--	--	25	66	--	<.010
	03-02-99	<5.0	5.0	--	--	24	37	--	.010
WA-277 CF-5	11-20-97	9.5	6.7	<.10	.030	20	65	<.010	<.050
	01-29-98	--	20	--	--	20	--	--	.010
	02-18-98	--	7.0	--	--	23	--	--	.010
	03-26-98	--	6.0	--	--	19	--	--	<.010
	05-28-98	--	6.0	--	--	26	--	--	<.010
	10-22-98	8.0	6.0	--	--	17	61	--	<.010
	12-08-98	<5.0	5.0	--	--	24	71	--	.020
	03-02-99	<5.0	6.0	--	--	24	53	--	.010
WA-278 CF-6	11-20-97	38	15	<.10	.042	11	110	<.010	3.76
	01-29-98	--	10	--	--	8.0	--	--	7.70
	02-19-98	--	12	--	--	9.0	--	--	7.00
	03-26-98	--	12	--	--	2.0	--	--	6.70
	03-26-98	--	12	--	--	5.9	--	<.010	6.84
	05-28-98	--	10	--	--	10	--	--	5.00
	10-22-98	--	20	--	--	5.0	92	--	4.30
	12-08-98	<5.0	20	--	--	9.0	120	--	6.60
	12-08-98	21	19	<.10	<.050	7.7	137	<.010	6.30
	03-02-99	7.0	11	--	--	9.0	110	--	9.50
WA-279 CF-7	11-20-97	15	14	<.10	.028	5.6	86	<.010	4.37
	01-29-98	--	15	--	--	6.0	--	--	5.00
	02-19-98	--	17	--	--	6.0	--	--	5.00
	03-25-98	--	13	--	--	1.0	--	--	6.40
	05-28-98	--	12	--	--	10	--	--	5.30
	10-22-98	9.0	11	--	--	5.0	91	--	5.20
	12-08-98	<5.0	12	--	--	7.0	73	--	4.90
	12-08-98	12	12	<.10	<.050	5.6	87	<.010	4.40
	03-02-99	9.0	18	--	--	8.0	100	--	7.50
WA-280 TB-1	11-25-97	18	39	<.10	.41	5.8	126	.011	4.82
	01-22-98	--	33	--	--	6.0	--	--	4.70
	02-24-98	--	32	--	--	5.0	--	--	4.40
	02-24-98	--	32	--	--	5.4	--	.022	4.28
	03-26-98	--	31	--	--	2.0	--	--	4.40
	06-01-98	--	31	--	--	7.0	--	--	4.30
	07-27-98	11	36	--	--	1.0	120	--	4.60
	09-17-98	--	31	--	--	12	--	--	3.90
	10-14-98	14	32	--	--	3.0	130	--	4.00
	12-03-98	<5.0	31	--	--	2.0	110	--	4.20
	03-04-99	7.0	24	--	--	9.0	72	--	4.90
WA-281 TB-2	11-25-97	26	6.8	<.10	<.010	1.9	172	<.010	.110
	01-22-98	--	7.0	--	--	2.0	--	--	1.30
	02-24-98	--	4.0	--	--	4.0	--	--	<.010
	03-26-98	--	6.0	--	--	<1.0	--	--	.850
	06-01-98	--	5.0	--	--	6.0	--	--	.630
	07-27-98	28	4.0	--	--	<1.0	210	--	.360
	09-17-98	--	4.0	--	--	10	--	--	<.010
	10-14-98	14	4.0	--	--	4.0	180	--	.020
	12-03-98	19	8.0	--	--	2.0	230	--	1.60
	03-04-99	31	4.0	--	--	7.0	160	--	.970

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
WA-273 CF-1	11-20-97	.077	--	.11	--	.058	.020	.042
WA-275 CF-3	11-20-97	<.020	--	<.10	--	.012	.020	.015
	01-29-98	.020	--	.10	--	.010	--	--
	02-19-98	.070	--	.10	--	.050	--	--
	03-25-98	.100	--	.20	--	<.010	--	--
	05-28-98	.080	--	.10	--	.090	--	--
	07-29-98	.080	--	.10	--	.050	--	.030
	10-22-98	.090	--	.20	--	.020	--	<.010
	12-08-98	.040	--	.10	--	.050	--	.010
	03-02-99	.030	--	.10	--	.010	--	<.010
WA-277 CF-5	11-20-97	<.020	--	.12	--	<.010	.020	.012
	01-29-98	.050	--	.10	--	.020	--	--
	02-18-98	.070	--	.10	--	.060	--	--
	03-26-98	.070	--	.10	--	.020	--	--
	05-28-98	.080	--	.20	--	.050	--	--
	10-22-98	.080	--	.10	--	.040	--	.030
	12-08-98	.030	--	.20	--	.050	--	<.010
	03-02-99	.060	--	.10	--	.030	--	<.010
WA-278 CF-6	11-20-97	<.020	--	<.10	--	<.010	.020	<.010
	01-29-98	<.010	--	.10	--	<.010	--	--
	02-19-98	<.010	--	.10	--	.030	--	--
	03-26-98	<.010	--	.10	--	<.010	--	--
	03-26-98	<.020	--	<.10	--	.014	--	.012
	05-28-98	.010	--	.10	--	.010	--	--
	10-22-98	<.010	--	<.10	--	<.010	--	<.010
	12-08-98	<.010	--	.30	--	<.010	--	<.010
	12-08-98	<.010	--	<.20	--	.020	--	<.010
	03-02-99	.010	--	.20	--	<.010	--	<.010
WA-279 CF-7	11-20-97	<.020	--	<.10	--	<.010	.020	<.010
	01-29-98	<.010	--	<.10	--	<.010	--	--
	02-19-98	<.010	--	.10	--	.020	--	--
	03-25-98	<.010	--	<.10	--	<.010	--	--
	05-28-98	.010	--	.20	--	.010	--	--
	10-22-98	.040	--	.10	--	<.010	--	<.010
	12-08-98	<.010	--	.20	--	<.010	--	<.010
	12-08-98	<.010	--	<.20	--	.020	--	<.010
	03-02-99	.010	--	.70	--	<.010	--	<.010
WA-280 TB-1	11-25-97	<.020	--	.11	--	<.010	.020	<.010
	01-22-98	<.010	--	.20	--	<.010	--	--
	02-24-98	.060	--	.10	--	.030	--	--
	02-24-98	<.020	.26	--	.116	--	--	.012
	03-26-98	<.010	--	.20	--	<.010	--	--
	06-01-98	<.010	--	.10	--	.020	--	--
	07-27-98	<.010	--	.20	--	.050	--	--
	09-17-98	<.010	--	.20	--	.070	--	--
	10-14-98	<.010	--	.30	--	.040	--	.040
	12-03-98	<.010	--	.10	--	.060	--	.040
	03-04-99	<.010	--	.30	--	.090	--	.050
WA-281 TB-2	11-25-97	.043	--	.17	--	.031	.040	.056
	01-22-98	.040	--	.30	--	.020	--	--
	02-24-98	.070	--	.20	--	.050	--	--
	03-26-98	.010	--	.10	--	<.010	--	--
	06-01-98	.040	--	.10	--	.050	--	--
	07-27-98	<.010	--	.10	--	.070	--	--
	09-17-98	<.010	--	.10	--	.060	--	--
	10-14-98	.030	--	.20	--	.040	--	.030
	12-03-98	.020	--	.20	--	.060	--	.020
	03-04-99	.030	--	.20	--	.050	--	.020

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, FERROUS WATER, FLTRD, FIELD, (MG/L) (99114)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
WA-273 CF-1	11-20-97	--	--	6700	--	269	--	1.5
WA-275 CF-3	11-20-97	--	--	810	--	35	--	1.7
	01-29-98	--	--	--	--	--	--	--
	02-19-98	--	--	--	--	--	--	--
	03-25-98	--	--	--	--	--	--	--
	05-28-98	--	--	--	--	--	--	--
	07-29-98	--	--	1500	--	26	57	1.8
	10-22-98	--	--	1400	--	30	<10	1.7
	12-08-98	--	--	1200	--	27	<10	.60
	03-02-99	30	--	510	--	15	10	.90
WA-277 CF-5	11-20-97	--	--	1700	--	78	--	1.8
	01-29-98	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--
	05-28-98	--	--	--	--	--	--	--
	10-22-98	--	--	2700	--	68	<10	1.7
	12-08-98	--	--	1900	--	48	<10	.60
	03-02-99	47	--	3700	--	90	<10	1.0
WA-278 CF-6	11-20-97	--	--	420	--	439	--	.50
	01-29-98	--	--	--	--	--	--	--
	02-19-98	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--
	05-28-98	--	--	--	--	--	--	--
	10-22-98	--	--	<50	--	40	<10	.40
	12-08-98	--	--	<50	--	46	<10	<.10
	12-08-98	--	--	4.1	--	55	--	--
	03-02-99	95	--	<50	--	30	<10	<.10
WA-279 CF-7	11-20-97	--	--	7.6	--	23	--	.40
	01-29-98	--	--	--	--	--	--	--
	02-19-98	--	--	--	--	--	--	--
	03-25-98	--	--	--	--	--	--	--
	05-28-98	--	--	--	--	--	--	--
	10-22-98	--	--	<50	--	30	<10	.40
	12-08-98	--	--	<50	--	18	<10	<.10
	12-08-98	--	--	1.4	--	17	--	<.10
	03-02-99	150	--	<50	--	19	<10	<.10
WA-280 TB-1	11-25-97	--	--	<10	<.040	44	--	1.2
	01-22-98	--	--	--	--	--	--	--
	02-24-98	--	--	--	--	--	--	--
	02-24-98	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--
	06-01-98	--	--	--	--	--	--	--
	07-27-98	--	<2.0	56	--	39	49	1.3
	09-17-98	--	--	82	--	28	--	1.8
	10-14-98	--	--	77	--	35	<10	1.7
	12-03-98	--	--	<50	--	40	<10	.50
	03-04-99	85	--	<50	--	39	<10	<.10
WA-281 TB-2	11-25-97	--	--	77	--	386	--	.70
	01-22-98	--	--	--	--	--	--	--
	02-24-98	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--
	06-01-98	--	--	--	--	--	--	--
	07-27-98	--	<2.0	<50	--	140	81	.70
	09-17-98	--	--	<50	--	130	--	.60
	10-14-98	--	--	<50	--	120	<10	.60
	12-03-98	--	--	<50	--	110	<10	<.10
	03-04-99	41	--	<50	--	120	<10	<.10

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	STATION NUMBER	SITE TYPE	DATE	TIME	GEO-LOGIC UNIT	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)
WA-282 TB-3	353049077551601	GW	11-25-97	1345	122YRKN	80020	1.52	35.00	85
		GW	01-22-98	1400	122YRKN	83741	1.52	35.00	85
		GW	02-24-98	1645	122YRKN	83741	1.67	35.00	85
		GW	03-26-98	1630	122YRKN	83741	1.85	35.00	85
		GW	06-01-98	1445	122YRKN	83741	2.14	35.00	85
		GW	07-30-98	1130	122YRKN	83741	2.80	35.00	85
		GW	09-17-98	1400	122YRKN	83741	2.45	35.00	85
		GW	10-14-98	1330	122YRKN	83741	2.32	35.00	85
		GW	12-03-98	1430	122YRKN	83741	1.44	35.00	85
		GW	03-04-99	1630	122YRKN	83741	.70	35.00	85
WA-283 TB-4	353049077551701	GW	11-25-97	1430	110QPLC	80020	3.69	14.00	85
WA-284 TB-5	353053077551702	GW	01-22-98	1330	122YRKN	83741	7.55	40.00	95
		GW	02-24-98	1615	122YRKN	83741	7.60	40.00	95
		GW	03-26-98	1800	122YRKN	83741	7.88	40.00	95
		GW	06-01-98	1915	122YRKN	83741	8.39	40.00	95
		GW	07-30-98	1030	122YRKN	83741	10.14	40.00	95
		GW	09-17-98	1430	122YRKN	83741	8.83	40.00	95
		GW	10-14-98	1400	122YRKN	83741	8.66	40.00	95
		GW	12-03-98	1445	122YRKN	83741	7.65	40.00	95
		GW	03-04-99	1500	122YRKN	83741	6.45	40.00	95
WA-285 TB-6	353053077551703	GW	01-22-98	1300	110QPLC	83741	2.71	13.00	95
		GW	03-04-99	1330	110QPLC	83741	3.67	13.00	95
WA-288 TB-9	353056077551803	GW	11-25-97	1235	110QPLC	80020	4.34	10.30	100
		GW	01-22-98	1130	110QPLC	83741	2.69	10.30	100
WA-289 JP-1	352439077531001	GW	12-02-97	1300	211BKCK	80020	10.71	46.00	125
		GW	01-21-98	1230	211BKCK	83741	6.71	46.00	125
		GW	02-18-98	1830	211BKCK	83741	5.35	46.00	125
		GW	03-25-98	1315	211BKCK	83741	6.05	46.00	125
		GW	05-27-98	1145	211BKCK	83741	8.24	46.00	125
		GW	07-29-98	1900	211BKCK	83741	--	46.00	125
		GW	09-24-98	1230	211BKCK	83741	11.95	46.00	125
		GW	09-24-98	1235	211BKCK	80020	11.95	46.00	125
		GW	10-27-98	1230	211BKCK	83741	12.60	46.00	125
		GW	12-15-98	1245	211BKCK	83741	12.76	46.00	125
		GW	02-24-99	1215	211BKCK	83741	7.78	46.00	125
WA-290 JP-2	352439077531002	GW	12-02-97	1315	110QPLC	80020	11.47	18.00	125
		GW	01-21-98	1200	110QPLC	83741	6.91	18.00	125
		GW	02-18-98	1800	110QPLC	83741	5.55	18.00	125
		GW	03-25-98	1300	110QPLC	83741	7.26	18.00	125
		GW	05-27-98	1115	110QPLC	83741	9.18	18.00	125
		GW	05-27-98	1120	110QPLC	80020	9.18	18.00	125
		GW	07-29-98	1845	110QPLC	83741	11.56	18.00	125
		GW	09-24-98	1200	110QPLC	83741	12.24	18.00	125
		GW	09-24-98	1205	110QPLC	80020	12.24	18.00	125
		GW	10-27-98	1215	110QPLC	83741	12.73	18.00	125
		GW	12-15-98	1300	110QPLC	83741	12.86	18.00	125
		GW	02-24-99	1100	110QPLC	83741	8.44	18.00	125
WA-291 JP-3	352434077525801	GW	12-02-97	1230	110QPLC	80020	5.66	33.00	125
WA-292 JP-4	352436077525501	GW	12-02-97	1445	211BKCK	80020	-.75	28.00	105
		GW	01-21-98	1430	211BKCK	83741	-1.72	28.00	105
		GW	02-19-98	1330	211BKCK	83741	-1.72	28.00	105
		GW	03-24-98	1815	211BKCK	83741	-1.72	28.00	105
		GW	05-27-98	1030	211BKCK	83741	-.72	28.00	105
		GW	07-29-98	1730	211BKCK	83741	1.39	28.00	105
		GW	09-24-98	1100	211BKCK	83741	1.28	28.00	105
		GW	10-27-98	1115	211BKCK	83741	1.43	28.00	105
		GW	10-27-98	1125	211BKCK	80020	1.43	28.00	105
		GW	12-15-98	1130	211BKCK	83741	.86	28.00	105
		GW	12-15-98	1150	211BKCK	83741	.86	28.00	105
		GW	02-24-99	1515	211BKCK	83741	-.94	28.00	105

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	SAMPLER TYPE (CODE) (84164)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN) (72004)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
WA-282 TB-3	11-25-97	4080	20	315	7.5	16.2	770	.3	3	120
	01-22-98	4080	10	327	7.5	14.3	--	1.1	--	--
	02-24-98	4080	10	315	7.9	16.0	761	.3	3	--
	03-26-98	4080	15	328	7.4	16.9	--	.5	--	--
	06-01-98	4080	15	331	7.4	17.5	760	.1	1	--
	07-30-98	4080	10	333	7.5	19.9	--	1.1	--	120
	09-17-98	4080	--	328	7.7	21.9	761	1.3	15	--
	10-14-98	4080	--	323	7.7	18.6	761	.5	5	130
	12-03-98	4080	--	322	7.6	18.1	765	.6	6	110
	03-04-99	4080	10	328	7.7	16.3	759	.3	3	120
WA-283 TB-4	11-25-97	--	15	188	5.8	16.2	770	.3	3	47
WA-284 TB-5	01-22-98	4080	10	387	7.4	16.2	--	.6	--	--
	02-24-98	4080	15	338	7.7	16.5	--	.7	--	--
	03-26-98	4080	10	306	8.0	15.7	--	3.2	--	--
	06-01-98	4080	10	346	7.5	16.8	760	3.6	38	--
	07-30-98	4080	5	353	7.1	19.6	--	1.3	--	140
	09-17-98	4080	--	347	7.6	22.2	761	3.3	38	--
	10-14-98	4080	--	316	7.7	20.2	761	1.9	21	130
	12-03-98	4080	25	336	7.5	17.9	765	.3	3	130
	03-04-99	4080	10	330	7.5	15.4	759	4.0	40	140
WA-285 TB-6	01-22-98	4080	20	113	5.1	13.7	--	4.4	--	--
	03-04-99	4080	20	114	4.8	13.9	759	4.5	44	27
WA-288 TB-9	11-25-97	4080	10	152	4.3	17.5	770	.9	10	28
	01-22-98	4080	40	140	4.7	14.5	--	2.0	--	--
WA-289 JP-1	12-02-97	4080	20	171	6.6	17.5	763	3.0	31	75
	01-21-98	4080	40	180	6.8	16.3	--	.5	--	--
	02-18-98	4080	10	179	6.4	16.1	--	.1	--	--
	03-25-98	4080	10	184	6.4	16.2	765	.5	5	--
	05-27-98	4080	10	188	6.6	17.9	761	.3	3	--
	07-29-98	4080	10	183	6.3	18.0	760	.4	4	80
	09-24-98	4080	--	173	6.7	19.0	767	.3	3	--
	09-24-98	4080	--	173	6.7	19.0	767	.3	3	75
	10-27-98	4080	25	176	6.7	18.3	769	.2	2	80
	12-15-98	4080	15	172	6.8	17.3	770	.3	3	78
	02-24-99	4080	120	166	6.6	15.6	764	3.7	37	83
WA-290 JP-2	12-02-97	4080	30	156	4.5	17.5	763	7.5	79	21
	01-21-98	4080	13	191	4.6	14.3	--	8.4	--	--
	02-18-98	4080	15	179	4.3	13.1	--	8.5	--	--
	03-25-98	4080	10	176	4.2	13.7	765	6.7	64	--
	05-27-98	4080	15	172	4.2	16.8	761	7.4	76	--
	05-27-98	4080	15	172	4.2	16.8	761	7.4	75	--
	07-29-98	4080	15	162	4.1	20.5	760	6.5	72	26
	09-24-98	4080	--	153	4.3	21.5	767	6.7	76	--
	09-24-98	4080	--	153	4.3	21.5	767	6.7	76	21
	10-27-98	4080	12	153	4.2	20.9	769	6.9	77	20
	12-15-98	4080	--	152	4.3	17.6	770	6.7	69	21
	02-24-99	4080	45	171	4.2	13.9	764	8.1	78	33
WA-291 JP-3	12-02-97	4080	35	109	6.1	16.0	763	2.3	24	23
WA-292 JP-4	12-02-97	4080	20	232	7.4	16.8	763	.6	6	100
	01-21-98	4080	23	221	7.5	16.3	--	.2	--	--
	02-19-98	4080	10	229	6.9	16.8	760	.0	0	--
	03-24-98	4080	15	238	7.2	15.8	--	.2	--	--
	05-27-98	4080	10	233	7.3	16.6	761	.1	1	--
	07-29-98	4080	10	233	6.9	16.9	760	.2	2	100
	09-24-98	4080	--	219	7.4	17.6	767	.0	0	--
	10-27-98	4080	--	218	7.4	17.4	769	.3	3	100
	10-27-98	4080	--	218	7.4	17.4	--	.3	--	98
	12-15-98	4080	--	231	7.5	16.6	770	--	--	110
	12-15-98	--	--	--	--	--	--	--	--	110
	02-24-99	4080	25	228	6.9	15.9	764	7.1	71	100

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	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)	ALKA-LINITY WAT.DIS FET LAB CACO3 (MG/L) (29801)	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)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
WA-282 TB-3	11-25-97	41	4.4	20	3.5	--	150	6.4	8.1	.35
	01-22-98	--	--	--	--	--	--	--	7.0	--
	02-24-98	--	--	--	--	--	--	--	7.0	--
	03-26-98	--	--	--	--	--	--	--	6.0	--
	06-01-98	--	--	--	--	--	--	--	5.0	--
	07-30-98	39	4.6	20	3.5	140	--	5.0	9.0	--
	09-17-98	--	--	--	--	170	--	--	8.0	--
	10-14-98	44	5.1	21	3.4	170	--	6.0	7.0	--
	12-03-98	38	4.1	18	3.3	140	--	<5.0	7.0	--
	03-04-99	41	5.0	19	3.5	140	--	7.0	8.0	--
WA-283 TB-4	11-25-97	16	2.0	8.1	1.6	--	18	17	23	<.10
WA-284 TB-5	01-22-98	--	--	--	--	--	--	--	7.0	--
	02-24-98	--	--	--	--	--	--	--	6.0	--
	03-26-98	--	--	--	--	--	--	--	5.0	--
	06-01-98	--	--	--	--	--	--	--	4.0	--
	07-30-98	48	4.9	15	3.9	150	--	9.0	6.0	--
	09-17-98	--	--	--	--	180	--	--	5.0	--
	10-14-98	46	4.8	17	3.4	150	--	5.0	5.0	--
	12-03-98	45	4.3	13	3.5	150	--	5.0	4.0	--
	03-04-99	47	4.9	14	3.5	140	--	8.0	5.0	--
WA-285 TB-6	01-22-98	--	--	--	--	--	--	--	15	--
	03-04-99	5.9	3.0	6.9	1.6	2.0	--	<5.0	15	--
WA-288 TB-9	11-25-97	4.9	3.9	11	2.2	--	2.1	1.7	25	<.10
	01-22-98	--	--	--	--	--	--	--	21	--
WA-289 JP-1	12-02-97	26	2.3	4.1	1.9	--	79	4.6	3.3	.36
	01-21-98	--	--	--	--	--	--	--	3.0	--
	02-18-98	--	--	--	--	--	--	--	6.0	--
	03-25-98	--	--	--	--	--	--	--	3.0	--
	05-27-98	--	--	--	--	--	--	--	3.0	--
	07-29-98	28	2.5	4.2	1.5	72	--	<5.0	6.0	--
	09-24-98	--	--	--	--	86	--	--	3.0	--
	09-24-98	26	2.3	4.1	1.6	--	77	4.8	3.0	.39
	10-27-98	28	2.4	4.3	1.4	82	--	<5.0	4.0	--
	12-15-98	27	2.5	4.1	1.2	74	--	<5.0	2.0	--
	02-24-99	29	2.6	4.0	1.4	66	--	<5.0	4.0	--
WA-290 JP-2	12-02-97	2.3	3.6	12	4.3	--	--	3.6	19	<.10
	01-21-98	--	--	--	--	--	--	--	21	--
	02-18-98	--	--	--	--	--	--	--	24	--
	03-25-98	--	--	--	--	--	--	--	24	--
	05-27-98	--	--	--	--	--	--	--	22	--
	05-27-98	--	--	--	--	--	--	--	20	--
	07-29-98	4.2	3.8	10	2.2	4.0	--	<5.0	19	--
	09-24-98	--	--	--	--	<1.0	--	--	19	--
	09-24-98	2.3	3.7	10	4.8	--	--	1.8	19	<.10
	10-27-98	2.2	3.6	11	4.4	--	--	<5.0	18	--
	12-15-98	2.2	3.8	11	4.2	<1.0	--	<5.0	18	--
	02-24-99	4.0	5.6	8.8	3.9	<1.0	--	<5.0	22	--
WA-291 JP-3	12-02-97	8.1	.74	8.0	1.4	--	24	11	4.8	.39
WA-292 JP-4	12-02-97	39	1.2	4.6	1.9	--	114	4.5	3.6	.11
	01-21-98	--	--	--	--	--	--	--	4.0	--
	02-19-98	--	--	--	--	--	--	--	4.0	--
	03-24-98	--	--	--	--	--	--	--	4.0	--
	05-27-98	--	--	--	--	--	--	--	3.0	--
	07-29-98	39	1.2	4.9	1.7	98	--	<5.0	3.0	--
	09-24-98	--	--	--	--	110	--	--	3.0	--
	10-27-98	40	1.1	4.9	1.5	100	--	<5.0	3.0	--
	10-27-98	38	1.1	4.5	1.7	--	104	4.6	3.3	.19
	12-15-98	43	1.3	4.7	1.5	--	--	<5.0	3.0	--
	12-15-98	41	1.3	--	1.5	92	--	--	2.0	--
	02-24-99	40	1.2	4.6	1.6	100	--	<5.0	4.0	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)
WA-282 TB-3	11-25-97	.045	9.6	170	<.010	<.050	<.020	<.10	<.010	.020
	01-22-98	--	9.0	--	--	<.010	.030	.10	.030	--
	02-24-98	--	10	--	--	<.010	.050	.10	.050	--
	03-26-98	--	8.0	--	--	.020	.020	.10	.010	--
	06-01-98	--	7.0	--	--	<.010	.050	.20	.100	--
	07-30-98	--	14	220	--	.030	.060	.10	.040	--
	09-17-98	--	15	--	--	.030	.010	.20	.050	--
	10-14-98	--	10	180	--	<.010	.040	.30	.070	--
	12-03-98	--	7.0	150	--	.050	.050	.10	.070	--
	03-04-99	--	15	180	--	.020	.070	.70	.080	--
WA-283 TB-4	11-25-97	.069	12	112	<.010	<.050	.290	.51	.203	.430
WA-284 TB-5	01-22-98	--	9.0	--	--	<.010	.060	.10	.020	--
	02-24-98	--	11	--	--	.010	.050	.20	.040	--
	03-26-98	--	7.0	--	--	<.010	.010	.20	<.010	--
	06-01-98	--	11	--	--	<.010	.030	.10	.040	--
	07-30-98	--	12	310	--	.040	.060	.20	.020	--
	09-17-98	--	14	--	--	<.010	<.010	.10	.050	--
	10-14-98	--	10	180	--	<.010	.030	.20	.030	--
	12-03-98	--	8.0	170	--	<.010	.020	.10	.030	--
	03-04-99	--	15	180	--	<.010	.020	.10	.050	--
WA-285 TB-6	01-22-98	--	6.0	--	--	5.30	.030	.10	.010	--
	03-04-99	--	10	64	--	5.60	<.010	.50	.060	--
WA-288 TB-9	11-25-97	<.010	6.7	78	.011	4.91	<.020	<.10	.106	.280
	01-22-98	--	6.0	--	--	4.70	.010	.10	.070	--
WA-289 JP-1	12-02-97	.14	21	113	<.010	<.050	<.020	.11	.813	1.65
	01-21-98	--	E18	--	--	.010	.010	<.10	.990	--
	02-18-98	--	23	--	--	.010	<.010	.10	1.00	--
	03-25-98	--	21	--	--	<.010	.040	<.10	.980	--
	05-27-98	--	28	--	--	<.010	.050	.20	.930	--
	07-29-98	--	22	120	--	.020	.010	<.10	1.00	--
	09-24-98	--	22	--	--	<.010	<.010	.10	1.00	--
	09-24-98	.14	22	121	<.010	.055	<.020	--	.969	--
	10-27-98	--	23	140	--	<.010	.010	.10	1.00	--
	12-15-98	--	25	99	--	<.010	<.010	.10	.860	--
	02-24-99	--	27	110	--	.020	.010	.10	.580	--
WA-290 JP-2	12-02-97	.043	7.3	79	<.010	5.30	<.020	<.10	<.010	.020
	01-21-98	--	E6.0	--	--	7.70	<.010	.20	<.010	--
	02-18-98	--	8.0	--	--	8.00	<.010	.20	.010	--
	03-25-98	--	2.0	--	--	8.20	<.010	.20	<.010	--
	05-27-98	--	5.0	--	--	8.10	.020	.30	<.010	--
	05-27-98	--	6.5	--	.018	7.85	.063	.15	.010	--
	07-29-98	--	9.0	96	--	5.20	.180	.30	.060	--
	09-24-98	--	5.0	--	--	7.60	<.010	.10	.010	--
	09-24-98	.044	7.3	82	<.010	7.59	<.020	<.10	.023	--
	10-27-98	--	8.0	120	--	7.30	<.010	.20	<.010	--
	12-15-98	--	11	66	--	7.40	<.010	.20	.030	--
	02-24-99	--	10	110	--	8.00	<.010	.10	.010	--
WA-291 JP-3	12-02-97	.022	22	73	<.010	<.050	<.020	<.10	1.41	3.03
WA-292 JP-4	12-02-97	.027	57	182	<.010	<.050	<.020	<.10	.379	1.06
	01-21-98	--	E56	--	--	.010	.070	.10	.630	--
	02-19-98	--	64	--	--	<.010	.030	.10	.650	--
	03-24-98	--	61	--	--	.030	<.010	.10	.520	--
	05-27-98	--	65	--	--	.010	.050	.10	.600	--
	07-29-98	--	64	180	--	.010	.030	<.10	.630	--
	09-24-98	--	61	--	--	<.010	<.010	.20	.550	--
	10-27-98	--	60	210	--	.010	.050	.10	.640	--
	10-27-98	.031	57	183	<.010	<.050	.027	<.10	.665	--
	12-15-98	--	61	170	--	.010	<.010	.10	.530	--
	12-15-98	--	63	180	--	.030	<.010	.10	.580	--
	02-24-99	--	72	160	--	<.010	.040	.10	.600	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	IRON, WATER, FLTRD, REC, FIELD, (MG/L) (99115)	IRON, FERROUS WATER, FLTRD, FIELD, (MG/L) (99114)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)
WA-282 TB-3	11-25-97	.040	--	--	1100	--	--	93	--	.40
	01-22-98	--	--	--	--	--	--	--	--	--
	02-24-98	--	--	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--	--	--
	06-01-98	--	--	--	--	--	--	--	--	--
	07-30-98	<.010	--	<2.0	370	--	--	72	62	.90
	09-17-98	--	--	--	240	--	--	78	--	--
	10-14-98	.010	--	--	800	--	--	77	<10	.40
	12-03-98	<.010	--	--	660	--	--	81	<10	<.10
	03-04-99	<.010	65	--	850	--	--	81	<10	<.10
WA-283 TB-4	11-25-97	.277	--	--	8500	--	--	36	--	2.0
WA-284 TB-5	01-22-98	--	--	--	--	--	--	--	--	--
	02-24-98	--	--	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--	--	--
	06-01-98	--	--	--	--	--	--	--	--	--
	07-30-98	<.010	--	<2.0	<50	--	--	22	65	1.3
	09-17-98	--	--	--	55	--	--	63	--	.80
	10-14-98	.030	--	--	<50	--	--	23	<10	.60
	12-03-98	.010	--	--	<50	--	--	16	<10	<.10
	03-04-99	.040	49	--	<50	--	--	75	<10	<.10
WA-285 TB-6	01-22-98	--	--	--	--	--	--	--	--	--
	03-04-99	.040	65	--	<50	--	--	17	<10	<.10
WA-288 TB-9	11-25-97	.118	--	--	<10	<.040	<.040	21	--	.60
	01-22-98	--	--	--	--	--	--	--	--	--
WA-289 JP-1	12-02-97	.820	--	--	1900	--	--	60	--	.40
	01-21-98	--	--	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--	--	--
	03-25-98	--	--	--	--	--	--	--	--	--
	05-27-98	--	--	--	--	--	--	--	--	--
	07-29-98	.780	--	--	2100	--	--	44	50	.40
	09-24-98	--	--	--	2100	--	--	49	--	.30
	09-24-98	.916	--	--	2100	--	--	49	--	.30
	10-27-98	.800	--	--	2100	--	--	49	<10	.30
	12-15-98	.620	--	--	1700	--	--	44	14	<.10
	02-24-99	.490	<10	--	520	--	--	41	<10	<.10
WA-290 JP-2	12-02-97	<.010	--	--	<10	--	--	9.3	--	.40
	01-21-98	--	--	--	--	--	--	--	--	--
	02-18-98	--	--	--	--	--	--	--	--	--
	03-25-98	--	--	--	--	--	--	--	--	--
	05-27-98	--	--	--	--	--	--	--	--	--
	05-27-98	.019	--	--	--	--	--	--	--	--
	07-29-98	--	--	--	1900	--	--	21	55	.60
	09-24-98	--	--	--	72	--	--	14	--	.60
	09-24-98	<.010	--	--	<10	--	--	8.7	--	.60
	10-27-98	<.010	--	--	<50	--	--	<10	<10	.50
	12-15-98	<.010	--	--	<50	--	--	<10	<10	<.10
	02-24-99	<.010	90	--	<50	--	--	<10	<10	.30
WA-291 JP-3	12-02-97	1.31	--	--	960	--	--	88	--	.30
WA-292 JP-4	12-02-97	.323	--	--	810	--	--	64	--	.50
	01-21-98	--	--	--	--	--	--	--	--	--
	02-19-98	--	--	--	--	--	--	--	--	--
	03-24-98	--	--	--	--	--	--	--	--	--
	05-27-98	--	--	--	--	--	--	--	--	--
	07-29-98	.400	--	--	650	--	--	51	38	.40
	09-24-98	--	--	--	940	--	--	54	--	.30
	10-27-98	.360	--	--	670	--	--	58	<10	.30
	10-27-98	.675	--	--	700	--	--	62	--	.30
	12-15-98	.300	--	--	700	--	--	58	<10	<.10
	12-15-98	.360	--	--	690	--	--	58	<10	--
	02-24-99	.450	22	--	530	--	--	60	<10	<.10

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	STATION NUMBER	SITE TYPE	DATE	TIME	GEO-LOGIC UNIT	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)
WA-293 JP-5	352436077525502	GW	12-02-97	1430	110QPLC	80020	1.14	7.00
		GW	01-21-98	1330	110QPLC	83741	1.04	7.00
		GW	02-19-98	1300	110QPLC	83741	1.20	7.00
		GW	03-24-98	1745	110QPLC	83741	1.29	7.00
		GW	05-27-98	1000	110QPLC	83741	2.15	7.00
		GW	07-29-98	1200	110QPLC	83741	5.62	7.00
		GW	09-24-98	1030	110QPLC	83741	5.20	7.00
		GW	12-15-98	1415	110QPLC	83741	3.71	7.00
		GW	02-24-99	1400	110QPLC	83741	1.71	7.00
WA-294 JP-6	352438077525801	GW	12-02-97	1345	110QPLC	80020	.89	7.50
		GW	01-22-98	1600	110QPLC	83741	.29	7.50
		GW	02-19-98	1200	110QPLC	83741	.14	7.50
		GW	03-25-98	1230	110QPLC	83741	.21	7.50
		GW	05-27-98	1230	110QPLC	83741	.84	7.50
		GW	07-29-98	1930	110QPLC	83741	3.73	7.50
		GW	09-24-98	1300	110QPLC	83741	3.58	7.50
		GW	10-27-98	1400	110QPLC	83741	3.71	7.50
		GW	12-15-98	1200	110QPLC	83741	2.53	7.50
		GW	02-24-99	1630	110QPLC	83741	.32	7.50
WA-295 CF-BEDWELL	352234078021804	GW	11-20-97	1616	--	80020	--	--
		GW	01-29-98	1331	--	83741	--	--
		GW	02-19-98	1530	--	83741	--	--
		GW	03-25-98	1545	--	83741	--	--
		GW	05-28-98	1445	--	83741	--	--
		GW	10-22-98	1130	--	83741	--	--
		GW	12-08-98	1115	--	83741	--	--
		GW	03-01-99	1130	--	83741	--	--
WA-296 TB-10	353053077551701	GW	01-22-98	1230	110QPLC	83741	2.47	--
		GW	02-24-98	1500	110QPLC	83741	2.76	--
		GW	03-26-98	1500	110QPLC	83741	2.93	--
		GW	06-01-98	1700	110QPLC	83741	3.20	--
		GW	07-27-98	1445	110QPLC	83741	4.41	--
		GW	09-17-98	1215	110QPLC	83741	3.16	--
		GW	10-14-98	1415	110QPLC	83741	3.48	--
		GW	12-03-98	1145	110QPLC	83741	3.57	--
		GW	03-10-99	1145	110QPLC	83741	3.45	--
WA-297 TB-P2	353049077551901	GW	11-26-97	1130	110QPLC	80020	3.56	--
		GW	01-23-98	1430	110QPLC	83741	2.05	--
		GW	02-24-98	1830	110QPLC	83741	2.59	--
		GW	03-26-98	1600	110QPLC	83741	2.94	--
		GW	06-01-98	1415	110QPLC	83741	3.72	--
		GW	07-30-98	1215	110QPLC	83741	3.88	--
		GW	09-17-98	1300	110QPLC	83741	2.85	--
		GW	10-14-98	1230	110QPLC	83741	2.29	--
		GW	12-03-98	1300	110QPLC	83741	7.57	--
		GW	03-04-99	1800	110QPLC	83741	3.85	--
WA-298 TB-BEDWELL	353049077551602	GW	11-26-97	1201	--	80020	--	--
		GW	01-23-98	1216	--	83741	--	--
		GW	02-24-98	1700	--	83741	--	--
		GW	03-26-98	1645	--	83741	--	--
		GW	06-01-98	1500	--	83741	--	--
		GW	09-17-98	1330	--	83741	--	--
		GW	10-14-98	1300	--	83741	--	--
		GW	12-03-98	1345	--	83741	--	--
		GW	03-10-99	1330	--	83741	--	--
		GW	03-10-99	1800	--	83741	--	--
WA-300 JP-BEDWELL	352434077525301	GW	12-02-97	1530	--	80020	--	--
		GW	01-21-98	1301	--	83741	--	--
		GW	02-18-98	1515	--	83741	--	--
		GW	03-24-98	1530	--	83741	--	--
		GW	05-27-98	1330	--	83741	--	--
		GW	09-24-98	1330	--	83741	--	--
		GW	10-27-98	1315	--	83741	--	--
		GW	12-15-98	1345	--	83741	--	--
		GW	02-24-99	1830	--	83741	--	--
		GW	02-26-99	1430	--	83741	--	--
WA-301 JP-CG	352432077525301	GW	08-12-98	1030	--	83741	--	2.00
WA-302 JP-CD	352432077525302	GW	08-12-98	1045	--	83741	--	5.00
WA-303 JP-RBS	352432077525303	GW	08-12-98	1130	--	83741	--	2.00
WA-304 JP-RBD	352432077525304	GW	08-12-98	1145	--	83741	--	4.50

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT) (72016)	DEPTH TO TOP OF SAMPLE INTERVAL (FT) (72015)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SAMPLER TYPE (CODE) (84164)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN) (72004)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)
WA-293 JP-5	12-02-97	--	--	105	4080	20	150	5.6	14.0
	01-21-98	--	--	105	4080	12	129	5.3	11.2
	02-19-98	--	--	105	4080	20	123	5.0	12.3
	03-24-98	--	--	105	4080	10	127	5.2	12.2
	05-27-98	--	--	105	4080	15	127	5.4	20.9
	07-29-98	--	--	105	4080	--	161	5.7	--
	09-24-98	--	--	105	4080	--	222	5.4	22.9
	12-15-98	--	--	105	4080	5	153	6.2	14.5
	02-24-99	--	--	105	4080	20	140	5.1	11.7
WA-294 JP-6	12-02-97	--	--	121	4080	15	134	5.7	13.9
	01-22-98	--	--	121	4080	20	143	5.4	9.9
	02-19-98	--	--	121	4080	20	154	5.0	12.2
	03-25-98	--	--	121	4080	15	151	5.0	13.2
	05-27-98	--	--	121	4080	20	133	5.1	19.1
	07-29-98	--	--	121	4080	20	123	5.4	21.8
	09-24-98	--	--	121	4080	--	128	4.8	21.3
	10-27-98	--	--	121	4080	--	126	4.8	--
	12-15-98	--	--	121	4080	8	121	5.3	15.6
	02-24-99	--	--	121	4080	40	160	5.2	11.0
WA-295 CF-BEDWELL	11-20-97	1.5	1.3	--	4080	--	182	4.4	16.0
	01-29-98	2.5	2.3	--	4080	--	123	5.2	11.9
	02-19-98	2.5	2.3	--	4080	--	156	5.7	15.0
	03-25-98	2.0	1.8	--	4080	--	117	6.3	15.2
	05-28-98	2.9	2.7	--	4080	--	184	5.0	20.0
	10-22-98	1.7	1.5	--	4080	--	173	4.7	18.5
	12-08-98	2.0	1.8	--	4080	--	173	4.5	17.7
	03-01-99	--	--	--	4080	--	165	4.7	13.5
WA-296 TB-10	01-22-98	--	--	95.0	4080	10	113	4.8	15.1
	02-24-98	--	--	95.0	4080	10	125	4.8	13.3
	03-26-98	--	--	95.0	4080	15	120	4.6	14.4
	06-01-98	--	--	95.0	4080	20	112	4.4	20.0
	07-27-98	--	--	95.0	4080	15	123	4.4	23.1
	09-17-98	--	--	95.0	4080	--	119	4.6	22.7
	10-14-98	--	--	95.0	4080	--	112	4.5	22.1
	12-03-98	--	--	95.0	4080	--	112	4.6	18.2
	03-10-99	--	--	95.0	4080	20	115	4.6	12.9
WA-297 TB-P2	11-26-97	--	--	85.0	4080	25	132	4.6	14.6
	01-23-98	--	--	85.0	4080	--	193	4.5	9.4
	02-24-98	--	--	85.0	4080	10	167	4.6	10.8
	03-26-98	--	--	85.0	4080	15	142	4.4	12.4
	06-01-98	--	--	85.0	4080	15	112	4.5	19.2
	07-30-98	--	--	85.0	4080	15	118	5.0	25.9
	09-17-98	--	--	85.0	4080	--	106	4.5	22.0
	10-14-98	--	--	85.0	4080	--	103	4.5	20.0
	12-03-98	--	--	85.0	4080	--	107	4.7	16.7
	03-04-99	--	--	85.0	4080	10	115	4.8	10.7
WA-298 TB-BEDWELL	11-26-97	1.7	1.5	--	4080	--	185	5.9	14.0
	01-23-98	3.0	2.8	--	4080	--	236	5.8	12.4
	02-24-98	2.0	1.8	--	4080	--	205	6.3	12.0
	03-26-98	5.0	4.8	--	4080	--	241	6.2	16.5
	06-01-98	2.1	1.9	--	4080	--	81	5.8	23.2
	09-17-98	2.0	1.8	--	4080	--	232	5.7	23.1
	10-14-98	2.0	1.8	--	4080	--	250	5.8	20.0
	12-03-98	4.0	3.8	--	4080	--	57	5.5	16.7
	03-10-99	1.5	1.3	--	4080	--	204	6.0	10.1
	03-10-99	4.0	3.8	--	4080	--	166	6.2	10.7
WA-300 JP-BEDWELL	12-02-97	1.8	1.6	--	4080	--	356	6.7	14.0
	01-21-98	--	--	--	4080	--	227	6.1	9.3
	02-18-98	--	--	--	4080	--	304	6.4	14.7
	03-24-98	--	--	--	4080	--	251	6.3	13.4
	05-27-98	2.0	1.8	--	4080	--	447	7.8	30.0
	09-24-98	1.5	1.3	--	4080	--	355	7.3	23.4
	10-27-98	1.5	1.3	--	4080	--	367	7.4	19.6
	12-15-98	1.0	.80	--	4080	--	347	7.1	12.6
	02-24-99	1.5	1.3	--	4080	--	395	6.3	9.5
	02-26-99	1.5	1.3	--	4080	--	415	6.2	10.1
WA-301 JP-CG	08-12-98	--	--	--	4080	--	311	6.2	26.6
WA-302 JP-CD	08-12-98	5.0	4.8	--	4080	--	463	7.0	24.1
WA-303 JP-RBS	08-12-98	--	--	--	4080	--	210	5.9	25.7
WA-304 JP-RBD	08-12-98	4.5	4.3	--	4080	--	370	7.2	24.0

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	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)
WA-293 JP-5	12-02-97	763	.9	9	35	13	.77	11	<.10
	01-21-98	--	.9	--	--	--	--	--	--
	02-19-98	760	.0	0	--	--	--	--	--
	03-24-98	--	.9	--	--	--	--	--	--
	05-27-98	761	3.0	34	--	--	--	--	--
	07-29-98	760	1.2	--	--	--	--	--	--
	09-24-98	767	1.8	21	--	--	--	--	--
	12-15-98	770	--	--	44	16	.92	11	.14
	02-24-99	764	9.0	83	39	14	.92	10	.10
WA-294 JP-6	12-02-97	763	1.2	12	32	5.9	4.2	8.3	2.0
	01-22-98	--	.7	--	--	--	--	--	--
	02-19-98	760	3.0	28	--	--	--	--	--
	03-25-98	765	.7	7	--	--	--	--	--
	05-27-98	761	.4	5	--	--	--	--	--
	07-29-98	760	2.6	30	24	2.7	4.2	9.3	4.0
	09-24-98	767	2.3	26	--	--	--	--	--
	10-27-98	769	--	--	24	3.8	3.5	9.8	1.9
	12-15-98	770	1.1	11	28	4.8	4.0	9.2	1.7
	02-24-99	764	.5	5	49	10	5.8	7.8	2.2
WA-295 CF-BEDWELL	11-20-97	766	.8	8	50	12	4.7	4.2	4.6
	01-29-98	758	3.4	31	--	--	--	--	--
	02-19-98	760	1.2	12	--	--	--	--	--
	03-25-98	765	1.7	17	--	--	--	--	--
	05-28-98	--	3.1	--	--	--	--	--	--
	10-22-98	767	1.6	17	53	14	4.3	3.0	6.1
	12-08-98	766	.4	4	49	13	4.0	2.9	5.5
	03-01-99	751	6.9	67	54	14	4.5	3.0	5.3
WA-296 TB-10	01-22-98	--	4.8	--	--	--	--	--	--
	02-24-98	761	5.5	53	--	--	--	--	--
	03-26-98	--	5.0	--	--	--	--	--	--
	06-01-98	760	4.5	50	--	--	--	--	--
	07-27-98	760	3.0	35	--	--	3.1	7.5	1.9
	09-17-98	761	4.6	53	--	--	--	--	--
	10-14-98	761	4.7	54	28	5.2	3.7	8.1	1.7
	12-03-98	765	4.4	46	21	3.6	2.8	6.6	1.5
	03-10-99	754	5.0	48	27	4.7	3.7	6.7	1.6
WA-297 TB-P2	11-26-97	--	4.8	--	27	7.6	1.9	7.9	2.6
	01-23-98	--	2.6	--	--	--	--	--	--
	02-24-98	761	1.2	11	--	--	--	--	--
	03-26-98	--	.5	--	--	--	--	--	--
	06-01-98	760	.6	6	--	--	--	--	--
	07-30-98	--	.7	--	22	6.3	1.4	7.4	2.5
	09-17-98	761	.5	6	--	--	--	--	--
	10-14-98	761	.3	3	19	5.1	1.5	7.6	2.6
	12-03-98	765	5.7	58	19	5.6	1.3	6.2	2.0
	03-04-99	759	5.1	46	24	6.6	1.9	6.8	2.2
WA-298 TB-BEDWELL	11-26-97	--	.7	--	51	16	2.7	7.6	2.2
	01-23-98	--	.4	--	--	--	--	--	--
	02-24-98	761	2.8	26	--	--	--	--	--
	03-26-98	--	1.5	--	--	--	--	--	--
	06-01-98	760	.9	11	--	--	--	--	--
	09-17-98	761	1.1	13	--	--	--	--	--
	10-14-98	761	.0	0	66	19	4.6	14	4.1
	12-03-98	765	1.0	10	14	4.8	.53	2.8	.81
	03-10-99	754	--	--	65	20	3.6	5.2	1.8
	03-10-99	754	--	--	55	19	1.9	5.4	.80
WA-300 JP-BEDWELL	12-02-97	763	.4	4	160	61	1.5	6.2	2.0
	01-21-98	--	1.6	--	--	--	--	--	--
	02-18-98	--	3.0	--	--	--	--	--	--
	03-24-98	--	1.7	--	--	--	--	--	--
	05-27-98	761	3.7	49	--	--	--	--	--
	09-24-98	767	.2	3	--	--	--	--	--
	10-27-98	769	.1	1	190	72	1.5	5.4	1.8
	12-15-98	770	.0	0	170	64	1.6	5.8	1.5
	02-24-99	764	.0	0	170	67	1.8	7.4	1.8
	02-26-99	762	.2	2	--	--	--	--	--
WA-301 JP-CG	08-12-98	761	.1	2	120	45	1.5	13	2.4
WA-302 JP-CD	08-12-98	761	.0	0	220	84	1.6	8.6	2.2
WA-303 JP-RBS	08-12-98	761	.1	1	43	15	1.4	17	2.2
WA-304 JP-RBD	08-12-98	761	.0	0	170	66	1.5	8.3	2.2

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	ALKALINITY WAT.DIS FET LAB CACO3 (MG/L) (29801)	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)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	BROMIDE DISSOLVED (MG/L AS BR) (71870)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)
WA-293 JP-5	12-02-97	--	11	13	25	.20	.013	12	90
	01-21-98	--	--	--	33	--	--	E13	--
	02-19-98	--	--	--	21	--	--	15	--
	03-24-98	--	--	--	18	--	--	13	--
	05-27-98	--	--	--	19	--	--	17	--
	07-29-98	--	--	--	--	--	--	--	--
	09-24-98	--	--	--	--	--	--	--	--
	12-15-98	--	--	<5.0	--	--	--	21	130
	02-24-99	8.0	--	8.0	22	--	--	17	78
WA-294 JP-6	12-02-97	--	15	7.3	23	<.10	.018	9.5	69
	01-22-98	--	--	--	22	--	--	E9.0	--
	02-19-98	--	--	--	25	--	--	10	--
	03-25-98	--	--	--	23	--	--	5.0	--
	05-27-98	--	--	--	22	--	--	12	--
	07-29-98	--	--	<5.0	20	--	--	10	93
	09-24-98	2.0	--	--	18	--	--	7.0	--
	10-27-98	2.0	--	<5.0	18	--	--	5.0	110
	12-15-98	4.0	--	<5.0	20	--	--	13	60
	02-24-99	12	--	5.0	24	--	--	12	86
WA-295 CF-BEDWELL	11-20-97	--	--	35	14	<.10	.034	14	94
	01-29-98	--	--	--	12	--	--	8.0	--
	02-19-98	--	--	--	14	--	--	9.0	--
	03-25-98	--	--	--	11	--	--	3.0	--
	05-28-98	--	--	--	15	--	--	12	--
	10-22-98	2.0	--	20	12	--	--	8.0	120
	12-08-98	<1.0	--	<5.0	12	--	--	12	115
	03-01-99	2.0	--	16	12	--	--	12	77
WA-296 TB-10	01-22-98	--	--	--	15	--	--	6.0	--
	02-24-98	--	--	--	16	--	--	7.0	--
	03-26-98	--	--	--	15	--	--	3.0	--
	06-01-98	--	--	--	14	--	--	10	--
	07-27-98	<1.0	--	<5.0	16	--	--	5.0	75
	09-17-98	<1.0	--	--	16	--	--	11	--
	10-14-98	1.0	--	<5.0	16	--	--	8.0	78
	12-03-98	2.0	--	<5.0	15	--	--	4.0	70
	03-10-99	2.0	--	<5.0	16	--	--	4.0	46
WA-297 TB-P2	11-26-97	--	1.4	20	15	<.10	.011	28	93
	01-23-98	--	--	--	22	--	--	25	--
	02-24-98	--	--	--	22	--	--	25	--
	03-26-98	--	--	--	15	--	--	20	--
	06-01-98	--	--	--	11	--	--	33	--
	07-30-98	4.0	--	11	15	--	--	37	160
	09-17-98	<1.0	--	--	11	--	--	34	--
	10-14-98	1.0	--	11	12	--	--	34	100
	12-03-98	2.0	--	7.0	10	--	--	8.0	84
	03-04-99	2.0	--	11	16	--	--	38	87
WA-298 TB-BEDWELL	11-26-97	--	21	23	22	.12	.077	11	105
	01-23-98	--	--	--	22	--	--	20	--
	02-24-98	--	--	--	18	--	--	26	--
	03-26-98	--	--	--	12	--	--	4.0	--
	06-01-98	--	--	--	7.0	--	--	21	--
	09-17-98	16	--	--	31	--	--	13	--
	10-14-98	40	--	<5.0	35	--	--	16	160
	12-03-98	10	--	<5.0	7.0	--	--	10	63
	03-10-99	52	--	<5.0	17	--	--	45	88
	03-10-99	30	--	<5.0	16	--	--	44	130
WA-300 JP-BEDWELL	12-02-97	--	166	1.9	12	.14	.064	50	244
	01-21-98	--	--	--	21	--	--	E30	--
	02-18-98	--	--	--	30	--	--	30	--
	03-24-98	--	--	--	22	--	--	22	--
	05-27-98	--	--	--	30	--	--	60	--
	09-24-98	180	--	--	11	--	--	58	--
	10-27-98	170	--	<5.0	10	--	--	48	300
	12-15-98	120	--	<5.0	10	--	--	45	240
	02-24-99	160	--	<5.0	17	--	--	53	210
	02-26-99	--	--	--	--	--	--	--	--
WA-301 JP-CG	08-12-98	100	--	<5.0	23	--	--	31	300
WA-302 JP-CD	08-12-98	200	--	<5.0	12	--	--	55	300
WA-303 JP-RBS	08-12-98	52	--	<5.0	26	--	--	18	130
WA-304 JP-RBD	08-12-98	150	--	<5.0	12	--	--	49	240

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)
WA-293 JP-5	12-02-97	<.010	<.050	<.020	<.10	.063	.180	.072	--
	01-21-98	--	.090	<.010	.10	.100	--	--	--
	02-19-98	--	.010	<.010	.20	.120	--	--	--
	03-24-98	--	<.010	<.010	.20	.080	--	--	--
	05-27-98	--	.020	.060	.10	.280	--	--	--
	07-29-98	--	--	--	--	--	--	--	--
	09-24-98	--	--	--	--	--	--	--	--
	12-15-98	--	.510	<.010	.10	.110	--	--	--
	02-24-99	--	.220	.010	.10	.080	--	.060	61
WA-294 JP-6	12-02-97	<.010	.424	<.020	<.10	<.010	.020	<.010	--
	01-22-98	--	1.90	.040	.10	<.010	--	--	--
	02-19-98	--	3.10	<.010	.10	.020	--	--	--
	03-25-98	--	2.80	<.010	.30	<.010	--	--	--
	05-27-98	--	1.40	.010	.30	<.010	--	--	--
	07-29-98	--	7.90	<.010	.20	.030	--	<.010	--
	09-24-98	--	5.60	<.010	.20	.010	--	--	--
	10-27-98	--	4.70	<.010	.10	<.010	--	<.010	--
	12-15-98	--	1.40	<.010	.20	.030	--	<.010	--
	02-24-99	--	3.20	.020	.20	.020	--	<.010	100
WA-295 CF-BEDWELL	11-20-97	<.010	3.08	<.020	<.10	<.010	.020	<.010	--
	01-29-98	--	2.00	<.010	.30	.040	--	--	--
	02-19-98	--	2.90	<.010	.20	.060	--	--	--
	03-25-98	--	.570	<.010	.20	.030	--	--	--
	05-28-98	--	6.50	.010	.20	.010	--	--	--
	10-22-98	--	6.50	.040	.10	<.010	--	<.010	--
	12-08-98	--	4.80	<.010	.30	.010	--	<.010	--
	03-01-99	--	2.90	.040	.10	<.010	--	<.011	71
WA-296 TB-10	01-22-98	--	5.30	.030	.20	.010	--	--	--
	02-24-98	--	5.40	.010	.20	.020	--	--	--
	03-26-98	--	5.70	<.010	.10	<.010	--	--	--
	06-01-98	--	5.10	<.010	.10	.060	--	--	--
	07-27-98	--	5.00	<.010	.10	.070	--	--	--
	09-17-98	--	5.60	<.010	.10	.050	--	--	--
	10-14-98	--	5.20	<.010	.20	.020	--	.010	--
	12-03-98	--	5.60	<.010	.10	.040	--	<.010	--
	03-10-99	--	5.80	.030	.40	.020	--	<.010	86
WA-297 TB-P2	11-26-97	<.010	1.39	<.020	.22	<.010	.020	.020	--
	01-23-98	--	6.80	.020	.30	<.010	--	--	--
	02-24-98	--	4.80	<.010	.40	.030	--	--	--
	03-26-98	--	2.50	<.010	.30	<.010	--	--	--
	06-01-98	--	.450	.320	.60	.090	--	--	--
	07-30-98	--	.020	14.0	14	1.50	--	.060	--
	09-17-98	--	.770	.060	.40	.040	--	--	--
	10-14-98	--	.180	.070	.40	.010	--	.010	--
	12-03-98	--	.600	.010	.20	.020	--	<.010	--
	03-04-99	--	.850	<.010	.20	.040	--	<.010	99
WA-298 TB-BEDWELL	11-26-97	<.010	.169	<.020	<.10	.226	.580	.263	--
	01-23-98	--	.040	.990	1.1	.650	--	--	--
	02-24-98	--	.030	4.60	4.6	.580	--	--	--
	03-26-98	--	1.70	.090	.40	<.010	--	--	--
	06-01-98	--	<.010	.320	.40	.950	--	--	--
	09-17-98	--	5.50	.280	.80	.110	--	--	--
	10-14-98	--	.350	1.60	1.8	.370	--	.020	--
	12-03-98	--	.030	.130	.20	.380	--	.360	--
	03-10-99	--	.040	1.90	2.0	.660	--	<.010	110
	03-10-99	--	.010	.740	.70	.610	--	.120	60
WA-300 JP-BEDWELL	12-02-97	<.010	<.050	.197	.18	.374	1.42	.309	--
	01-21-98	--	.040	.930	1.1	1.70	--	--	--
	02-18-98	--	.010	1.60	1.7	1.10	--	--	--
	03-24-98	--	<.010	1.90	2.7	.920	--	--	--
	05-27-98	--	<.010	.190	.20	.190	--	--	--
	09-24-98	--	<.010	.070	.10	.130	--	--	--
	10-27-98	--	<.010	.100	.10	.130	--	.030	--
	12-15-98	--	.030	.140	.30	.750	--	.040	--
	02-24-99	--	.030	.570	.60	.890	--	.560	55
	02-26-99	--	--	--	--	--	--	--	--
WA-301 JP-CG	08-12-98	--	<.010	2.00	4.3	2.30	--	.660	--
WA-302 JP-CD	08-12-98	--	<.010	.140	.20	1.20	--	1.10	--
WA-303 JP-RBS	08-12-98	--	.010	1.90	3.2	.730	--	.300	--
WA-304 JP-RBD	08-12-98	--	<.010	.130	.20	1.00	--	.950	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, WATER, FLTRD, REC, FIELD, (MG/L) (99115)	IRON, FERROUS WATER, FLTRD, FIELD, (MG/L) (99114)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
WA-293 JP-5	12-02-97	--	590	--	--	61	--	3.1
	01-21-98	--	--	--	--	--	--	--
	02-19-98	--	--	--	--	--	--	--
	03-24-98	--	--	--	--	--	--	--
	05-27-98	--	--	--	--	--	--	--
	07-29-98	--	--	--	--	--	--	--
	09-24-98	--	--	--	--	--	--	--
	12-15-98	--	<50	--	--	25	19	1.8
	02-24-99	--	<50	--	--	31	<10	1.6
WA-294 JP-6	12-02-97	--	50	--	--	17	--	1.5
	01-22-98	--	--	--	--	--	--	--
	02-19-98	--	--	--	--	--	--	--
	03-25-98	--	--	--	--	--	--	--
	05-27-98	--	--	--	--	--	--	--
	07-29-98	--	<50	--	--	<10	41	1.0
	09-24-98	--	<50	--	--	11	--	.50
	10-27-98	--	<50	--	--	11	55	.60
	12-15-98	--	<50	--	--	<10	<10	<.10
	02-24-99	--	<50	--	--	11	<10	.60
WA-295 CF-BEDWELL	11-20-97	--	520	--	--	120	--	.70
	01-29-98	--	--	--	--	--	--	--
	02-19-98	--	--	--	--	--	--	--
	03-25-98	--	--	--	--	--	--	--
	05-28-98	--	--	--	--	--	--	--
	10-22-98	--	<50	--	--	37	<10	.60
	12-08-98	--	<50	--	--	41	<10	<.10
	03-01-99	--	<50	--	--	39	<10	<.10
WA-296 TB-10	01-22-98	--	--	--	--	--	--	--
	02-24-98	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--
	06-01-98	--	--	--	--	--	--	--
	07-27-98	<2.0	<50	--	--	<10	54	.30
	09-17-98	--	62	--	--	10	--	.40
	10-14-98	--	<50	--	--	<10	<10	.30
	12-03-98	--	<50	--	--	2.8	<10	<.10
	03-10-99	--	<50	--	--	<10	<10	<.10
WA-297 TB-P2	11-26-97	--	39	--	--	45	--	4.5
	01-23-98	--	--	--	--	--	--	--
	02-24-98	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--
	06-01-98	--	--	--	--	--	--	--
	07-30-98	<2.0	2000	--	--	34	56	9.4
	09-17-98	--	380	--	--	28	--	7.0
	10-14-98	--	280	--	--	29	<10	6.8
	12-03-98	--	56	--	--	29	<10	4.9
	03-04-99	--	52	--	--	39	<10	3.6
WA-298 TB-BEDWELL	11-26-97	--	2500	--	--	42	--	1.1
	01-23-98	--	--	--	--	--	--	--
	02-24-98	--	--	--	--	--	--	--
	03-26-98	--	--	--	--	--	--	--
	06-01-98	--	--	--	--	--	--	--
	09-17-98	--	3600	--	--	35	--	1.8
	10-14-98	--	12000	--	--	76	<10	5.2
	12-03-98	--	1300	--	--	11	<10	3.2
	03-10-99	--	15000	--	--	280	<10	8.6
	03-10-99	--	6800	--	--	46	<10	4.2
WA-300 JP-BEDWELL	12-02-97	--	1200	--	--	77	--	1.6
	01-21-98	--	--	6.20	--	--	--	--
	02-18-98	--	--	>13.0	>13.0	--	--	--
	03-24-98	--	--	9.35	8.28	--	--	--
	05-27-98	--	--	--	--	--	--	--
	09-24-98	--	440	--	--	74	--	.50
	10-27-98	--	660	--	--	83	<10	.50
	12-15-98	--	2900	--	--	82	<10	<.10
	02-24-99	--	2100	--	--	100	<10	2.9
	02-26-99	--	--	--	--	--	--	--
WA-301 JP-CG	08-12-98	--	9200	--	--	150	--	7.5
WA-302 JP-CD	08-12-98	--	380	--	--	110	--	2.9
WA-303 JP-RBS	08-12-98	--	9000	--	--	100	--	7.6
WA-304 JP-RBD	08-12-98	--	220	--	--	93	--	1.9

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	STATION NUMBER	SITE TYPE	DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SAMPLER TYPE (CODE) (84164)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	FLOW RATE (G/M) (00059)	SPECIFIC CONDUCTANCE (US/CM) (00095)
CF-SWFP	352234078021805	SW	11-20-97	1615	80020	4080	--	--	250
		SW	01-29-98	1330	83741	4080	--	--	135
		SW	02-19-98	1545	83741	4080	--	--	145
		SW	03-25-98	1600	83741	4080	--	--	155
		SW	05-28-98	1500	83741	4080	--	--	124
		SW	10-22-98	1145	83741	4080	--	--	208
		SW	12-08-98	1130	83741	4080	--	--	208
		SW	03-01-99	1230	83741	4080	--	--	205
JP-LB	352434077525304	SW	05-27-98	1415	83741	--	--	--	213
		SW	07-28-98	0930	83741	--	.12	--	229
JP-Q	352440077525301	SW	07-28-98	1000	83741	--	--	2.6	272
JP-SWFP	352434077525302	SW	12-02-97	1600	80020	4080	--	--	105
		SW	01-21-98	1300	83741	4080	--	--	100
		SW	02-18-98	1530	83741	4080	--	--	72
		SW	03-24-98	1600	83741	4080	--	--	69
		SW	05-27-98	1400	83741	4080	--	--	199
		SW	07-28-98	0945	83741	4080	--	--	191
		SW	09-24-98	1315	83741	4080	.06	--	220
		SW	10-27-98	1330	83741	4080	--	--	228
		SW	12-15-98	1400	83741	4080	--	--	219
		SW	02-24-99	1900	83741	4080	1.4	--	103
JP-SWFP-UP	352434077525303	SW	05-27-98	1430	83741	--	--	--	191
		SW	07-28-98	1015	83741	--	--	--	145
TB-DITCH	353049077551604	SW	06-01-98	1545	83741	--	--	--	1050
TB-PIPE	353049077551605	SW	06-01-98	1515	83741	--	--	--	202
TB-SWFP	353049077551603	SW	11-26-97	1200	80020	4080	--	--	130
		SW	01-23-98	1215	83741	4080	--	--	95
		SW	02-24-98	1730	83741	4080	--	--	88
		SW	03-26-98	1700	83741	4080	--	--	92
		SW	06-01-98	1530	83741	4080	--	--	103
		SW	07-28-98	1230	83741	4080	--	--	103
		SW	09-17-98	1345	83741	4080	--	--	116
		SW	10-14-98	1315	83741	4080	--	--	118
		SW	12-03-98	1400	83741	4080	--	--	124
		SW	03-10-99	1500	83741	4080	18	--	104

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	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)
CF-SWFP	11-20-97	6.0	10.5	766	7.6	68	65	15	6.6
	01-29-98	5.6	10.8	--	3.8	--	--	--	--
	02-19-98	5.7	14.5	760	3.5	34	--	--	--
	03-25-98	6.7	18.0	765	5.7	60	--	--	--
	05-28-98	6.1	24.8	--	3.8	--	--	--	--
	10-22-98	6.2	15.0	767	5.8	57	59	14	5.9
	12-08-98	6.2	17.6	766	3.6	38	61	15	5.8
	03-01-99	6.4	14.4	--	12.6	--	70	16	7.2
JP-LB	05-27-98	7.2	27.9	761	4.4	56	--	--	--
	07-28-98	7.2	24.1	760	5.5	66	92	33	2.3
JP-Q	07-28-98	6.2	19.3	760	2.1	23	66	24	1.5
JP-SWFP	12-02-97	6.9	12.4	763	9.1	85	27	7.0	2.2
	01-21-98	6.7	6.6	--	11.4	--	--	--	--
	02-18-98	6.4	13.3	--	6.2	--	--	--	--
	03-24-98	6.7	14.3	--	5.2	--	--	--	--
	05-27-98	7.8	29.0	761	5.2	67	--	--	--
	07-28-98	6.9	26.9	760	4.7	59	74	26	2.3
	09-24-98	7.3	22.4	767	6.4	73	--	--	--
	10-27-98	7.6	19.0	769	9.9	106	100	37	1.9
	12-15-98	7.6	8.8	770	12.9	110	89	32	2.2
	02-24-99	6.7	7.6	764	12.1	101	34	10	2.3
JP-SWFP-UP	05-27-98	7.3	32.0	761	4.7	65	--	--	--
	07-28-98	6.8	25.8	760	5.7	70	48	16	2.0
TB-DITCH	06-01-98	8.9	20.2	760	1.8	20	--	--	--
TB-PIPE	06-01-98	5.0	21.4	760	4.6	52	--	--	--
TB-SWFP	11-26-97	6.7	7.3	--	7.3	--	31	8.3	2.4
	01-23-98	5.9	5.5	--	11.6	--	--	--	--
	02-24-98	6.8	10.8	761	6.1	55	--	--	--
	03-26-98	7.0	16.0	--	5.4	--	--	--	--
	06-01-98	6.4	26.6	760	3.0	38	--	--	--
	07-28-98	6.3	24.7	--	4.0	--	30	8.1	2.4
	09-17-98	6.3	24.0	761	3.3	40	--	--	--
	10-14-98	6.6	17.6	761	4.5	48	33	8.9	2.5
	12-03-98	6.4	12.7	765	7.1	67	29	8.0	2.2
	03-10-99	6.6	8.4	754	--	--	29	7.5	2.5

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT.DIS FET LAB CACO3 (MG/L) (29801)	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)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
CF-SWFP	11-20-97	5.8	20	20	--	27	24	<.10	<.010
	01-29-98	--	--	--	--	--	13	--	--
	02-19-98	--	--	--	--	--	15	--	--
	03-25-98	--	--	--	--	--	15	--	--
	05-28-98	--	--	--	--	--	11	--	--
	10-22-98	5.1	12	16	--	19	18	--	--
	12-08-98	4.5	13	18	--	<5.0	19	--	--
	03-01-99	6.3	13	14	--	13	18	--	--
JP-LB	05-27-98	--	--	--	--	--	20	--	--
	07-28-98	7.5	1.3	74	--	--	--	--	--
JP-Q	07-28-98	6.9	2.6	84	--	--	--	--	--
JP-SWFP	12-02-97	5.4	6.6	--	24	6.1	11	.15	<.010
	01-21-98	--	--	--	--	--	9.0	--	--
	02-18-98	--	--	--	--	--	11	--	--
	03-24-98	--	--	--	--	--	8.0	--	--
	05-27-98	--	--	--	--	--	16	--	--
	07-28-98	6.5	2.8	40	--	--	--	--	--
	09-24-98	--	--	100	--	--	12	--	--
	10-27-98	7.0	3.1	110	--	<5.0	10	--	--
	12-15-98	7.4	3.4	70	--	<5.0	12	--	--
	02-24-99	5.6	4.5	14	--	6.0	12	--	--
JP-SWFP-UP	05-27-98	--	--	--	--	--	--	--	--
	07-28-98	5.4	4.1	44	--	--	--	--	--
TB-DITCH	06-01-98	--	--	--	--	--	66	--	--
TB-PIPE	06-01-98	--	--	--	--	--	27	--	--
TB-SWFP	11-26-97	7.1	5.3	--	19	8.0	16	<.10	.029
	01-23-98	--	--	--	--	--	10	--	--
	02-24-98	--	--	--	--	--	12	--	--
	03-26-98	--	--	--	--	--	21	--	--
	06-01-98	--	--	--	--	--	12	--	--
	07-28-98	6.4	2.4	22	--	--	--	--	--
	09-17-98	--	--	20	--	--	13	--	--
	10-14-98	7.3	3.3	26	--	<5.0	14	--	--
	12-03-98	5.8	4.6	20	--	<5.0	16	--	--
	03-10-99	5.5	2.6	10	--	<5.0	13	--	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
CF-SWFP	11-20-97	6.8	155	.094	5.89	.515	--	1.2	--
	01-29-98	9.0	--	--	2.10	.730	--	.90	--
	02-19-98	10	--	--	2.40	.720	--	.90	--
	03-25-98	6.0	--	--	3.00	.800	--	1.1	--
	05-28-98	9.0	--	--	.860	.350	--	.80	--
	10-22-98	5.0	130	--	3.80	.170	--	.50	--
	12-08-98	10	142	--	4.80	.110	--	.70	--
	03-01-99	12	110	--	1400	.820	--	1.3	--
JP-LB	05-27-98	11	--	--	2.80	.050	--	.50	--
	07-28-98	7.0	120	--	.420	.050	--	.10	--
JP-Q	07-28-98	22	--	--	.030	4.30	--	4.7	--
JP-SWFP	12-02-97	3.0	66	<.010	.134	<.020	--	.61	--
	01-21-98	E3.0	--	--	1.70	.190	--	.60	--
	02-18-98	5.0	--	--	1.10	.230	--	.50	--
	03-24-98	1.0	--	--	.850	.310	--	.60	--
	05-27-98	10	--	--	1.60	1.00	--	1.3	--
	07-28-98	9.0	120	--	.180	.350	--	.70	--
	09-24-98	8.0	--	--	.100	.140	--	.50	--
	10-27-98	10	180	--	.180	<.010	--	.30	--
	12-15-98	11	130	--	.560	.110	--	.50	--
	02-24-99	4.0	80	--	.840	.080	--	.30	--
JP-SWFP-UP	05-27-98	--	--	--	--	--	--	--	--
	07-28-98	7.0	98	--	.020	.190	--	.70	--
TB-DITCH	06-01-98	6.0	--	--	2.50	63.0	--	64	.580
TB-PIPE	06-01-98	--	--	--	--	--	.20	--	.050
TB-SWFP	11-26-97	8.2	84	<.010	.369	.261	--	.76	--
	01-23-98	8.0	--	--	1.60	.090	--	.30	--
	02-24-98	5.0	--	--	1.70	.040	--	.60	--
	03-26-98	16	--	--	.010	2.90	--	3.1	--
	06-01-98	12	--	--	1.20	.420	--	.50	--
	07-28-98	9.0	74	--	.460	.470	--	.70	--
	09-17-98	14	--	--	.760	.760	--	1.1	--
	10-14-98	9.0	75	--	.980	.840	--	1.1	--
	12-03-98	4.0	73	--	.500	.600	--	.80	--
	03-10-99	4.0	66	--	1.40	.240	--	.50	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS WATER-QUALITY SAMPLING SITES

WATER QUALITY DATA, NOVEMBER 1997 TO MAY 1999

LOCAL IDENTIFIER	DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
CF-SWFP	11-20-97	.407	1.10	.419	--	50	10	--	5.8
	01-29-98	.340	--	--	--	--	--	--	--
	02-19-98	.330	--	--	--	--	--	--	--
	03-25-98	.310	--	--	--	--	--	--	--
	05-28-98	.610	--	--	--	--	--	--	--
	10-22-98	.040	--	.040	--	<50	46	<10	3.2
	12-08-98	.020	--	<.010	--	51	99	<10	1.8
	03-01-99	.410	--	.360	77	<50	45	<10	3.0
JP-LB	05-27-98	.110	--	--	--	--	--	--	--
	07-28-98	.030	--	.010	--	97	<10	39	1.7
JP-Q	07-28-98	.870	--	<.010	--	23000	260	64	2.1
JP-SWFP	12-02-97	.146	.200	.150	--	770	18	--	9.0
	01-21-98	.130	--	--	--	--	--	--	--
	02-18-98	.200	--	--	--	--	--	--	--
	03-24-98	.230	--	--	--	--	--	--	--
	05-27-98	.110	--	--	--	--	--	--	--
	07-28-98	.140	--	.010	--	870	91	47	6.6
	09-24-98	.060	--	--	--	200	27	--	6.6
	10-27-98	.050	--	.010	--	240	12	<10	6.9
	12-15-98	.080	--	.010	--	280	17	<10	4.7
	02-24-99	.110	--	.020	13	350	<10	56	9.4
JP-SWFP-UP	05-27-98	--	--	--	--	--	--	--	--
	07-28-98	.170	--	.030	--	1300	80	46	11
TB-PIPE	06-01-98	--	--	--	--	--	--	--	--
TB-SWFP	11-26-97	.018	.020	.034	--	830	74	--	10
	01-23-98	.010	--	--	--	--	--	--	--
	02-24-98	.040	--	--	--	--	--	--	--
	03-26-98	.470	--	--	--	--	--	--	--
	06-01-98	.100	--	--	--	--	--	--	--
	07-28-98	.040	--	--	--	1100	45	47	8.8
	09-17-98	.070	--	--	--	920	74	--	9.2
	10-14-98	.050	--	.010	--	920	35	<10	7.3
	12-03-98	.050	--	<.010	--	980	46	<10	7.4
	03-10-99	.010	--	<.010	61	490	24	<10	6.3

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^{0}	kilometer
	Area	
acre	4.047×10^{3}	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi^2)	2.590×10^{0}	square kilometer
	Volume	
gallon (gal)	3.785×10^{0}	liter
	3.785×10^{0}	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^{3}	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft^3)	2.832×10^{1}	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft^3/s) d]	2.447×10^{3}	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^{3}	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
	Flow	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter per second
	2.832×10^{1}	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^{1}	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
	Mass	
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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