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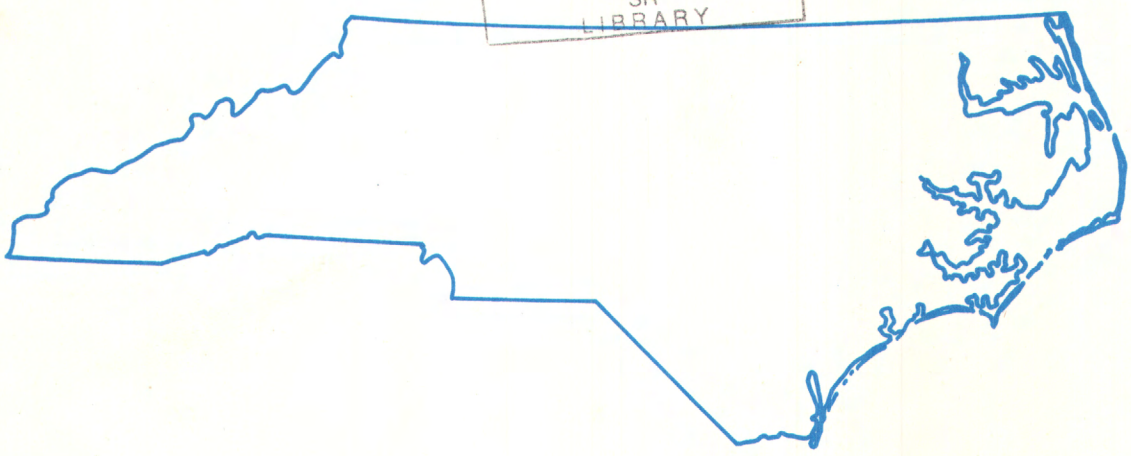
Water Resources Data North Carolina Water Year 1998

Volume 2. Ground-Water Records

Water-Data Report NC-98-2



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 1998

1997

OCTOBER

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1998

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U.S. Department of the Interior
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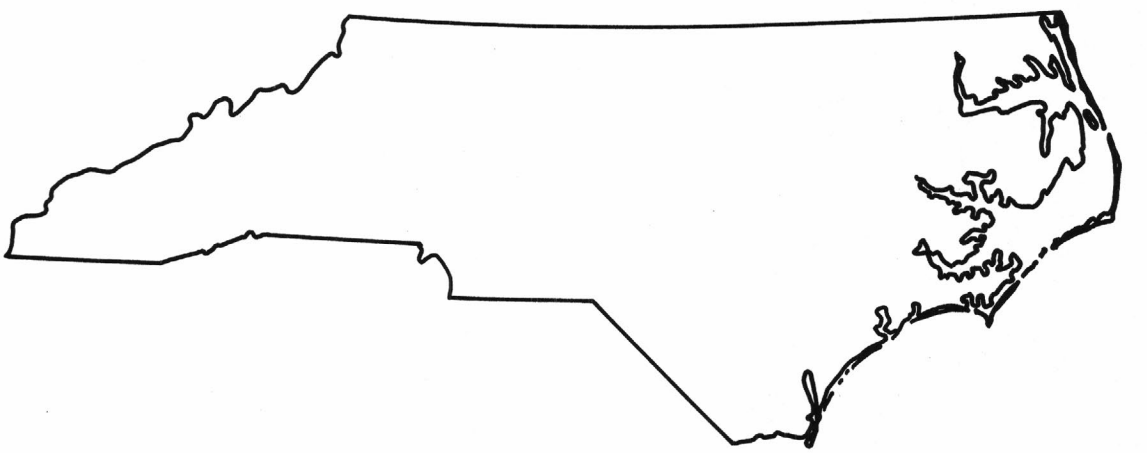
Water Resources Data North Carolina Water Year 1998

Volume 2. Ground-Water Records

By S.S. Howe and P.L. Breton

Water-Data Report NC-98-2



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

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GEOLOGICAL SURVEY

CHARLES G. GROAT, Director

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

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U.S. Geological Survey
3916 Sunset Ridge Road
Raleigh, NC 27607

1999

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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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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Water-resources data for the 1998 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 105 observation wells. 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 1998 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 from105 observation wells. 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-98-2. 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
Mecklenburg County
Lumber River Council of Governments

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

U.S. Marine Corps, Camp Lejeune

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. To define the hydraulic characteristics of aquifers. To define effectiveness of confining beds in separating aquifers.	Maps showing potentiometric-surface depressions. Hydrographs showing changes in water levels with time. 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. To define regional continuity of aquifers.	Regional water-level maps. 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

Total rainfall for the 1998 water year was above average at six National Weather Service index stations across the State (fig. 3). Precipitation totals for the first quarter (October through December) of the 1998 water year varied from 2.63 in. below average (Greensboro) to 1.98 in. above average (Wilmington). Average precipitation amounts are based on data from the 30-year base period 1961-90.

The second quarter (January through March) rainfall totals for the 1998 water year were above average at all six index stations, with some sites reporting monthly totals more than double the average amount. Rainfall recorded at the Raleigh station for January was 7.49 in., the second wettest January on record since 1887. Additionally, rainfall totals for the second quarter at Raleigh were almost 10 in. above normal. Wet conditions observed across the State during this quarter may have been a result of the 1997-98 El Niño weather pattern.

Third quarter (April through June) rainfall totals also were above average at all but one (Elizabeth City) of the index stations. However, monthly totals varied widely during the quarter. Three stations (Asheville, Charlotte, and Elizabeth City) reported individual monthly values more than 2 in. below average, and four stations (Asheville, Charlotte, Greensboro, and Wilmington) reported individual monthly totals more than 2 in. above average.

Rainfall during the last quarter (July through September) was generally near or below normal across the State. However, Hurricane Bonnie brought heavy rains to the eastern part of the State resulting in a monthly recorded total rainfall at Wilmington of 13.48 in. for August, or more than 6 in. above the average for that month. Conversely, dry conditions were observed in the western part of the State where Asheville recorded monthly rainfall deficits in excess of 2 in. for each month of the quarter. This resulted in the activation of the North Carolina Drought Monitoring Council, a multi-agency task force that monitors drought conditions and their impacts.

In summary, while above-average annual precipitation was reported for the year at each index station, both positive and negative monthly departures, often quite large departures, from normal were reported at most locations. Greensboro and Raleigh had the smallest monthly negative departures (monthly rainfall less than normal). Wilmington and Asheville had both the largest positive and negative monthly departures from normal.

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 groundwater 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 average month-end water levels for the period of record and record high and low month-end water levels for each index well during the 1998 water year.

Water levels in the Blue Ridge index well (fig. 4) began and ended the 1998 water year near normal. The water

level in the Blue Ridge index well rose above normal levels in the spring, and remained in the above-average range for most of the remainder of the water year before returning to near-normal levels at the end of the water year, indicating normal ground-water storage. The water level in the Piedmont index well (fig. 4) was in the above-average range for most of the 1998 water year but ended the water year approximately 1 ft lower than it began, indicating some loss in ground-water storage. In the Coastal Plain index well (fig. 4), water levels began the water year about 2 ft below normal. Water-levels rose in the index well and remained near normal despite wide ranges in rainfall. Rain from Hurricane Bonnie increased water levels above average in August. The water level in the Coastal Plain well ended the year nearly 2 ft 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 1998 water year. Water levels in climatic- and terrane-effects wells in the Blue Ridge ended the year lower, indicating losses in aquifer storage. Water levels in climatic- and terrane-effects wells in the Piedmont ended the year slightly lower than beginning levels, indicting some decrease in aquifer storage. Water-levels in climatic- and terrane-effects wells in the Coastal Plain ended the year slightly higher, 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 for 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 activity. 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 mi^2 (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 and NC-156 in Beaufort and Washington Counties, respectively.

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 spikes in 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 fluctuations 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-effects fluctuations. Although well NC-52 is near water-supply wells at U.S. Marine Corps Camp Geiger, no effects of withdrawals from those wells are 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 Mgal/d 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 mi^2 area, which extends generally 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 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), where water-level declines in excess of 3 ft/yr have been recorded. 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 1996, declines in the Peedee aquifer at NC-187 had been nearly 2 ft/yr but were less than 1 ft/yr in 1996. Periods of recovery in 1997 were followed by declines again in 1998. Declines in the Black Creek aquifer at NC-189 were more than 6 ft/yr in the early 1990's, but water-level declines leveled off in 1997 and 1998.

Withdrawals for public and industrial use from the upper Cape Fear aquifer in the Elizabethtown area in central Bladen County have caused water-level declines of about 1.3 ft/yr in well NC-177 (fig. 6), which is in eastern Robeson County. Major withdrawals for industrial use from the same aquifer began in northwestern Bladen County in September 1993; as a result, the rate of water-level decline in well NC-177 increased to about 7 ft per year. The rate of water-level decline in well NC-177 decreased to about 3 ft/yr in 1997 and 1998.

Water-level declines in well NC-155 in the lower Cape Fear aquifer in Hertford County (fig. 6) results primarily from major withdrawals in Virginia that began in the 1940's; these withdrawals resulted in a regional cone of depression in that aquifer which extends several tens of miles into North Carolina (Coble and others, 1989). Records from well NC-155 indicate that the maximum drawdown rate of 3.5 ft/yr occurred in the late 1980's. That drawdown rate decreased to 2 ft/yr in the early 1990's to the present drawdown rate of less than 0.5 ft/yr.

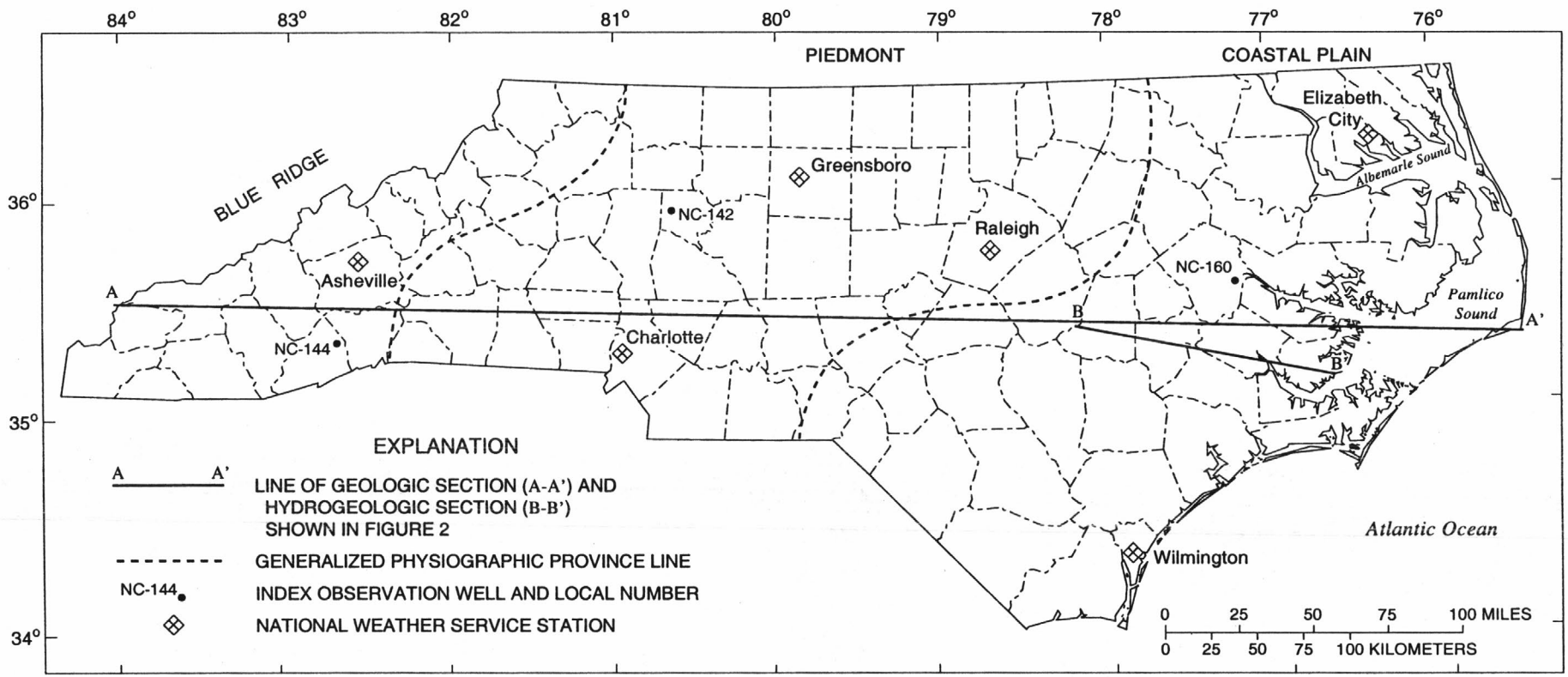

Figure 1.--Locations of weather stations and index wells in North Carolina.

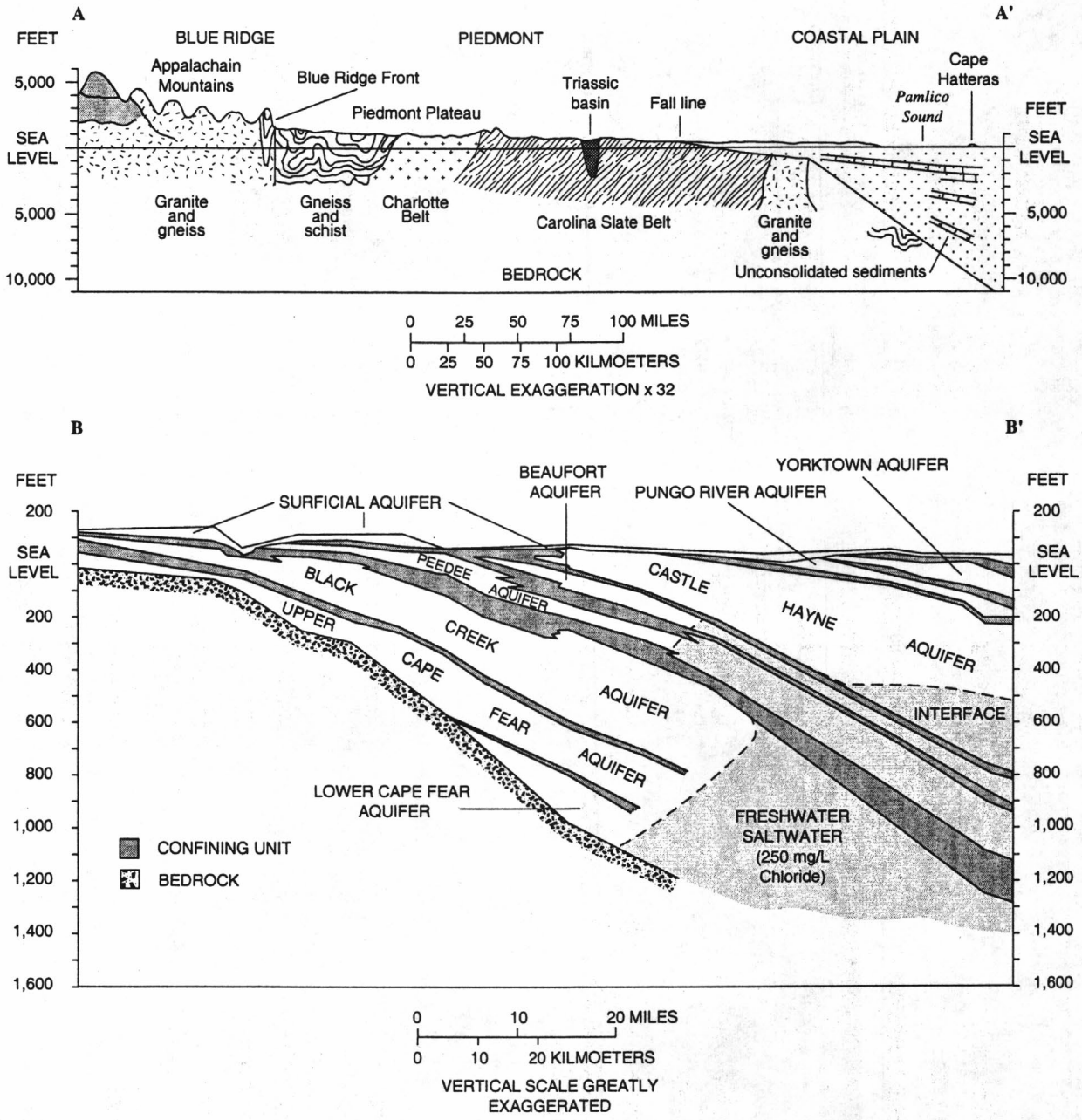

Figure 2.--Geologic section A -A' across North Carolina and hydrogeologic section B - B' in the Coastal Plain of North Carolina (as shown in figure1).

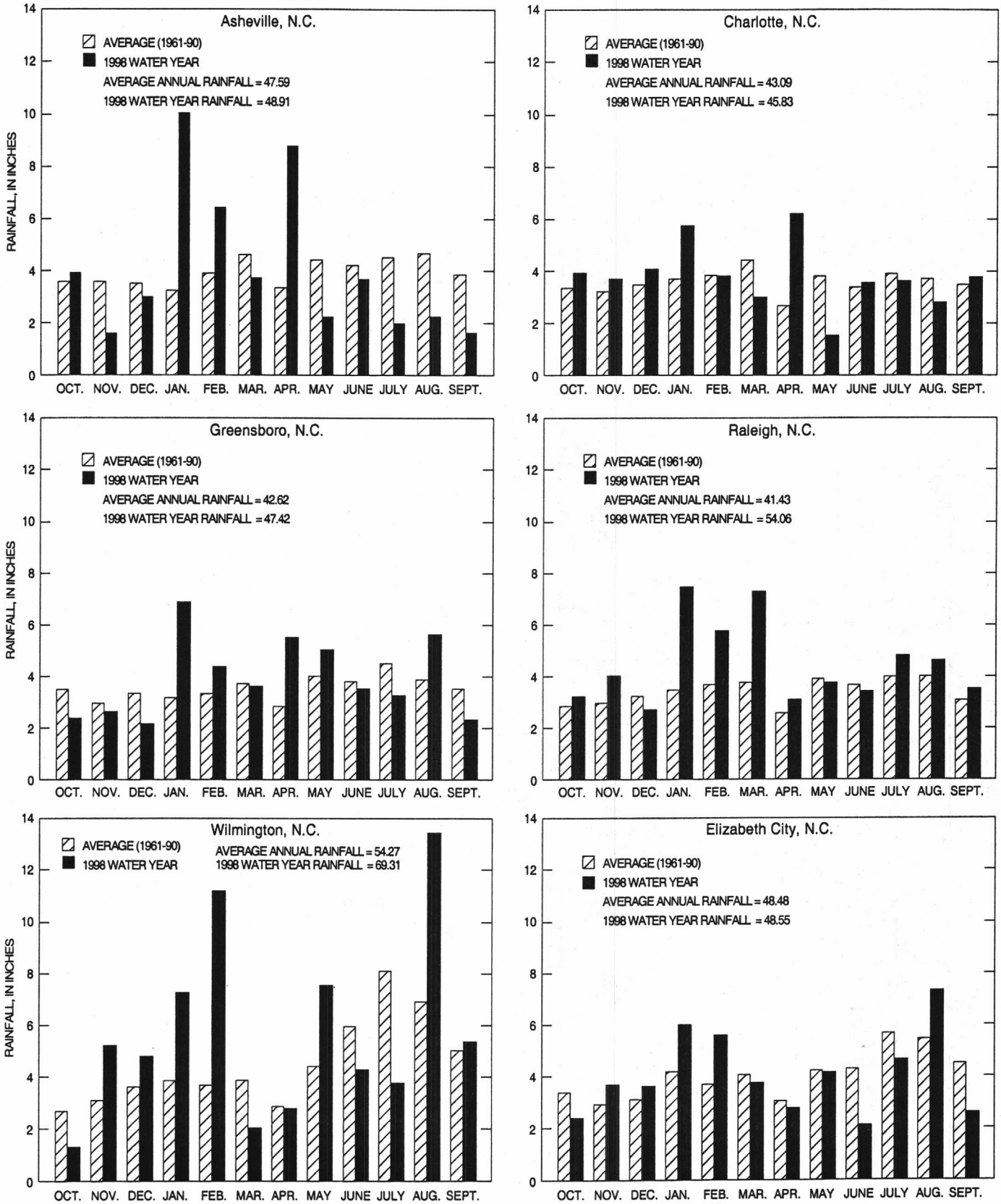

Figure 3.--Monthly rainfall at index stations for 1998 water year and average monthly rainfall for the period 1961-90 (data from National Oceanic and Atmospheric Administration reports).

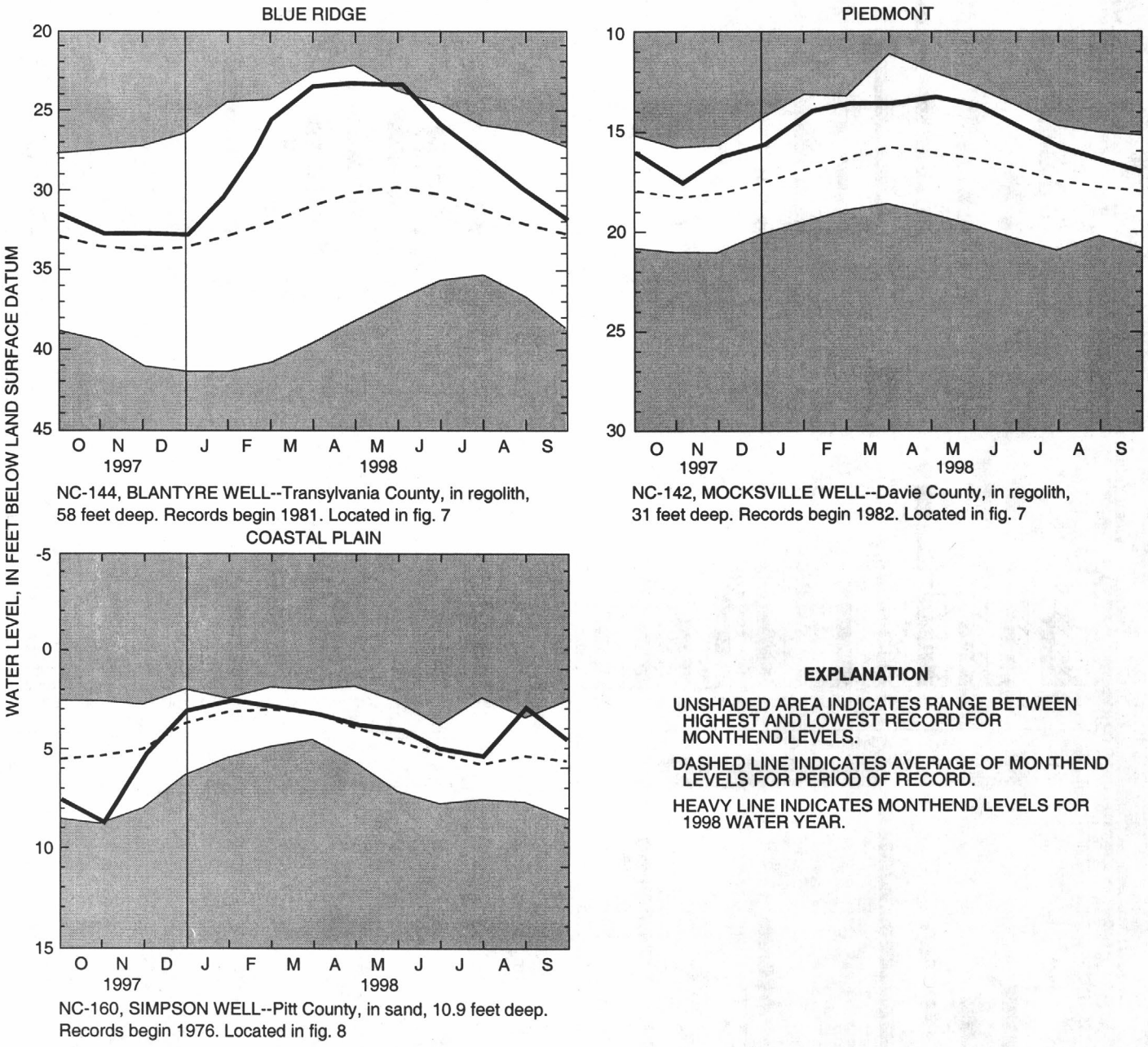

Figure 4.--Water levels in index observation wells in the Blue Ridge, Piedmont, and Coastal Plain Provinces.

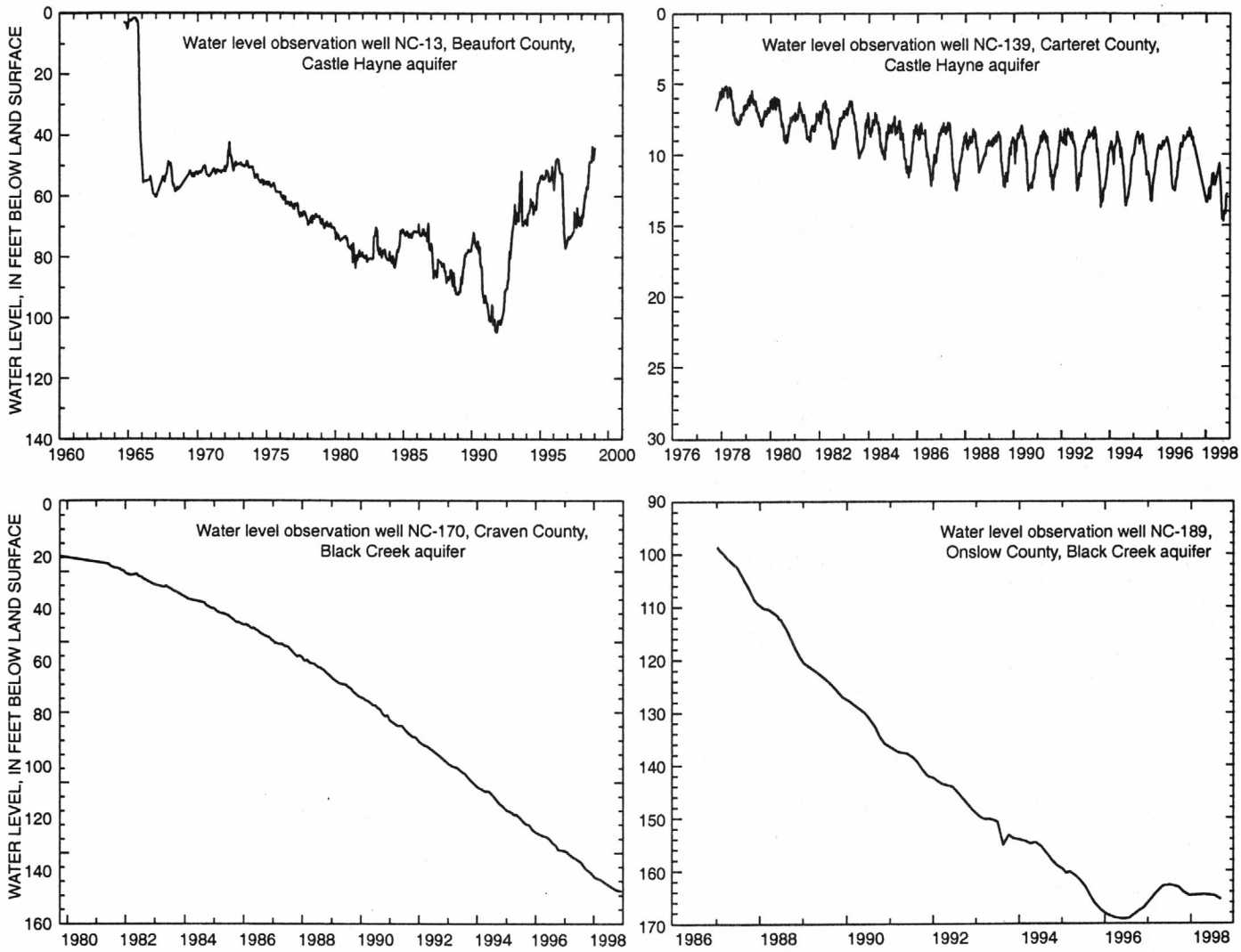

Figure 5.--Hydrographs of selected observation wells in the Castle Hayne, and Black Creek aquifers of the Coastal Plain Province. (Well NC-189 located in Fig. 7 and Wells NC-13, NC-139, and NC-170 located in fig. 9.)

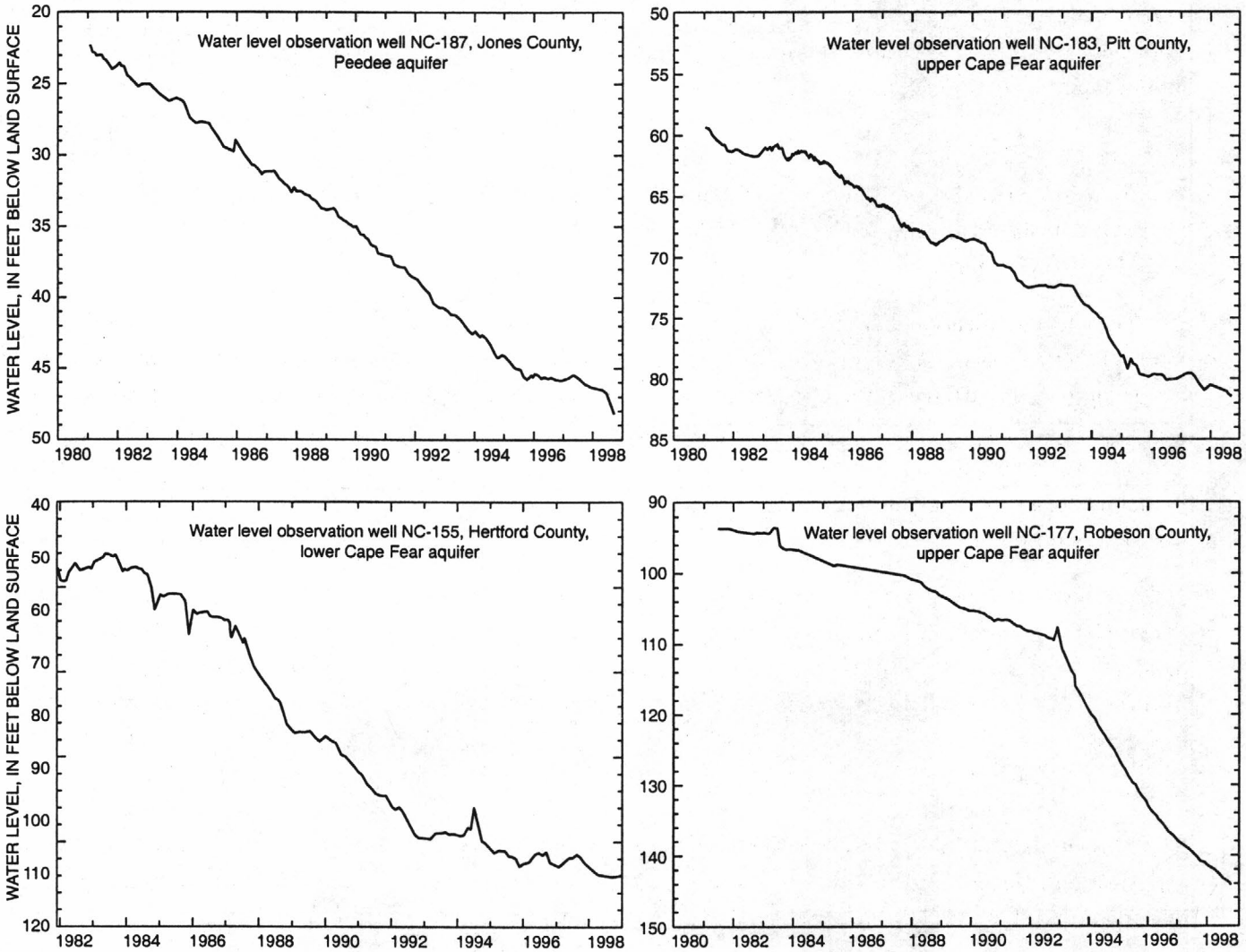

Figure 6.--Hydrographs of selected observation wells in the Peedee, upper Cape Fear, and lower Cape Fear aquifers of the Coastal Plain Province. (Wells located in fig. 9.)

EXPLANATION OF RECORDS

Ground-Water-Level Data

The ground-water data published in this report are for the 1998 water year that began October 1, 1997, and ended September 30, 1998. 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 from the punched tape of 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 either for every day, or for every fifth day and the day at the end of each month (eom).

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 and 8; 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.

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 year, 10-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 or clock 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.

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 Arvada, 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.

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.

Blank Samples--Continued

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

Alluvium is a general term for clay, silt, sand, gravel or similar unconsolidated material deposited during recent geologic time by a stream or other body of running water.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Confined aquifer is one which is completely filled with water and is overlain by a confining unit. Water in confined aquifers occurs at pressures greater than atmospheric pressure.

Unconfined aquifer is one which is only partially filled with water and the upper surface of the saturated zone (the water table) is free to rise and fall.

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 which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C plus or minus 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliters (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 also 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 which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which 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.

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 micro-organisms, such as bacteria.

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.

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.

Confining bed is a layer of rock having very low hydraulic conductivity that hampers the movement of water into and out of the aquifers which lie above and below the confining bed.

DEFINITION OF TERMS--Continued

Dissolved refers to that material in a representative water sample which passes through a 0.45–µm 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.

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

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

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

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

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

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

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

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both 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. This term is no longer used in this series of reports.

Parameter Code is a 5-digit number used in the U.S. Geological Survey's data system, National Water Information System (NWIS), to uniquely identify a specific constituent. The codes used in NWIS are the same as those used in the U.S. Environmental Protection Agency's data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

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.

DEFINITION OF TERMS--Continued

Regolith is a general term for the layer of loose unconsolidated material, either residual or transported, that forms the surface of the land and overlies more coherent bedrock. Collectively, this unconsolidated material is composed of saprolite, alluvium, and soil.

Saprolite is the clay-rich residual material derived from in-place weathering of bedrock.

Sea level in this report 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.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of 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 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 aquifer to aquifer, and it can vary in the same source with changes in the composition of the water.

Total is the total amount of a given constituent in a representative water-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" in this context has double meaning here, indicate both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

> Total, recoverable is the amount of a given constituent that is in solution after a representative water-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.

Water table is the level in the saturated zone of an unconfined aquifer at which the pressure is equal to atmospheric pressure, usually considered to be the top of the saturated zone.

Water year in the U.S. Geological Survey reports dealing with ground water is the 12-month period from 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, 1994, is called the "1994 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).

WSP is used as an abbreviation for "Water-Supply Paper" in reference to a series of 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."

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.

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.

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.

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.

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.

3-A3. *Measurement of peak discharge at culverts by indirect methods,* by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.

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

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

3-A6. *General procedure for gaging streams,* by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. *Stage measurement at gaging stations,* by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.

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

3-A9. *Measurement of time of travel in streams by dye tracing,* by F. A. Kilpatrick and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.

3-Al0. *Discharge ratings at gaging stations,* by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.

3-A11. *Measurement of discharge by the moving-boat method,* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

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. 41 pages.

3-A13. *Computation of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.

3-A14. *Use of flumes in measuring discharge,* by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. *Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.

3-A16. *Measurement of discharge using tracers*, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. *Acoustic velocity meter systems,* by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.

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

3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 31 pages.

3-A20. *Simulation of soluable waste transport and buildup in surface waters using tracers*, by F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A20. 1993. 38 pages.

3-A21 *Stream-gaging cableways,* by C. Russell Wagner: USGS--TWRI Book 3, Chapter A21. 1995. 56 pages.

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.

3-B4. *Regression modeling of ground-water flow,* by R. L. Cooley and R. L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 pages.

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

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

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

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

3-C1. *Fluvial sediment concepts,* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. *Field methods for measurement of fluvial sediment*, by Thomas K. Edwards and G. Douglass Glysson: USGS-TWRI Book 3, Chapter C2, 1988, 80 pages.

3-C3. *Computation of fluvial-sediment discharge,* by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. *Some statistical tools in hydrology,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. *Frequency curves,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

4-B1. *Low-flow investigations,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. *Storage analyses for water supply,* by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

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

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.

5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.

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

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

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.

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

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

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

8-A1. *Methods of measuring water levels in deep wells,* by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.

8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.

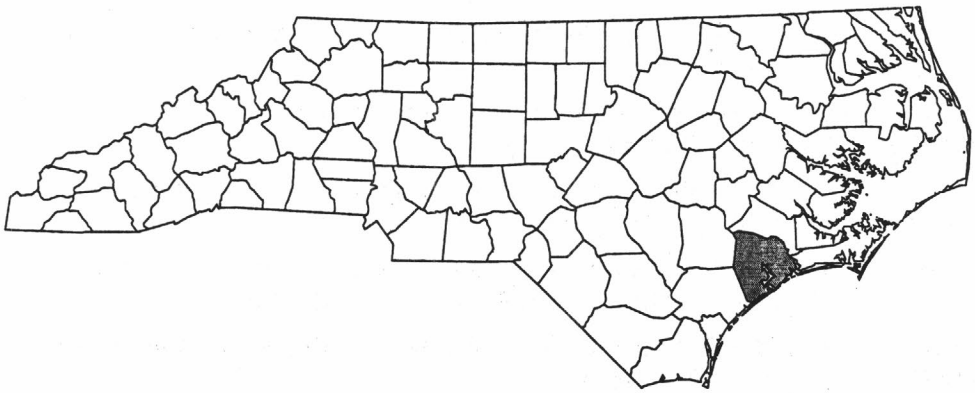
8-B2. *Calibration and maintenance of vertical-axis type current meters,* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

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. 49 pages.

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. 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 ONSLOW COUNTY IN NORTH CAROLINA

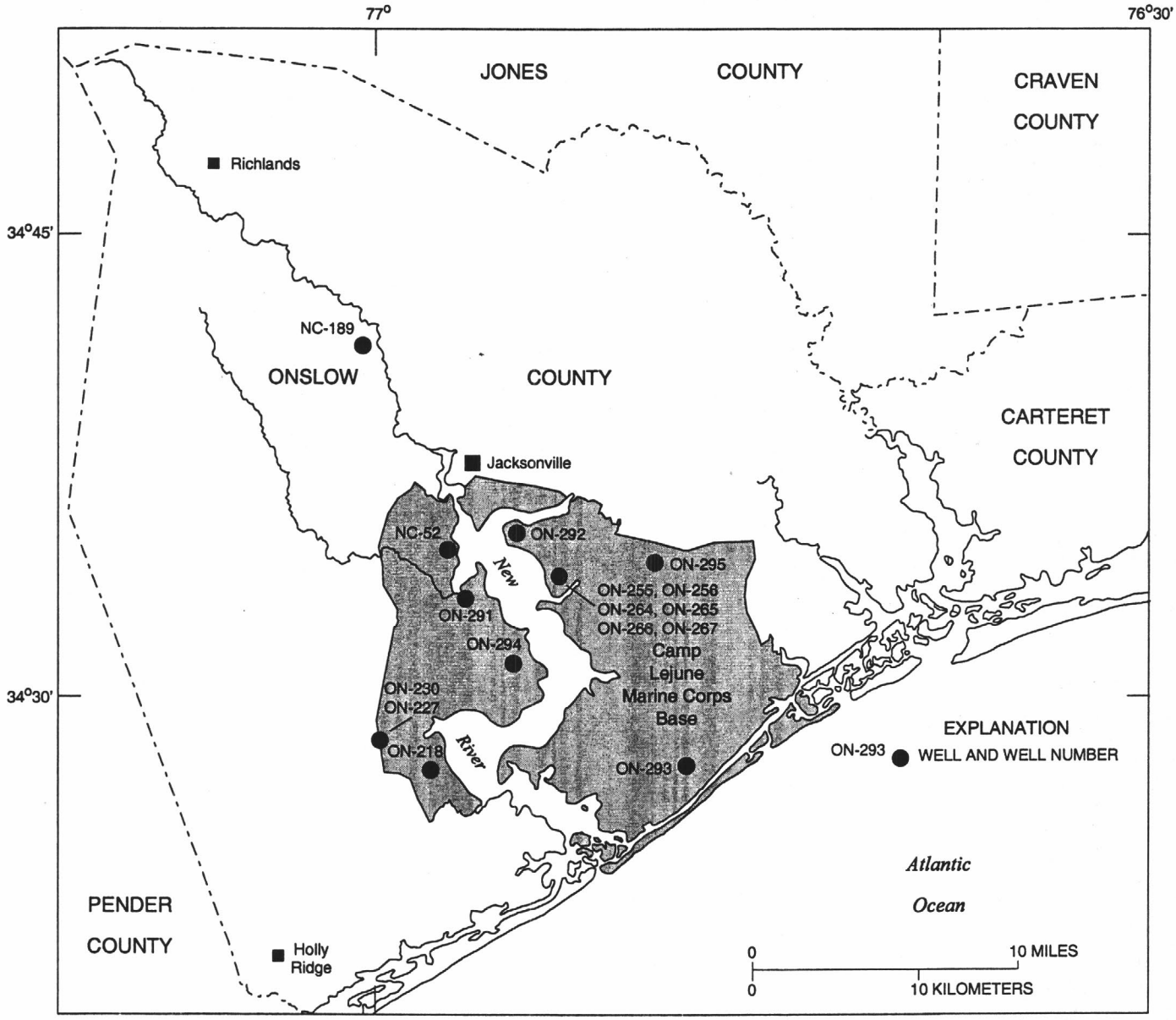


Figure 7.--Location of observation wells in Onslow County.

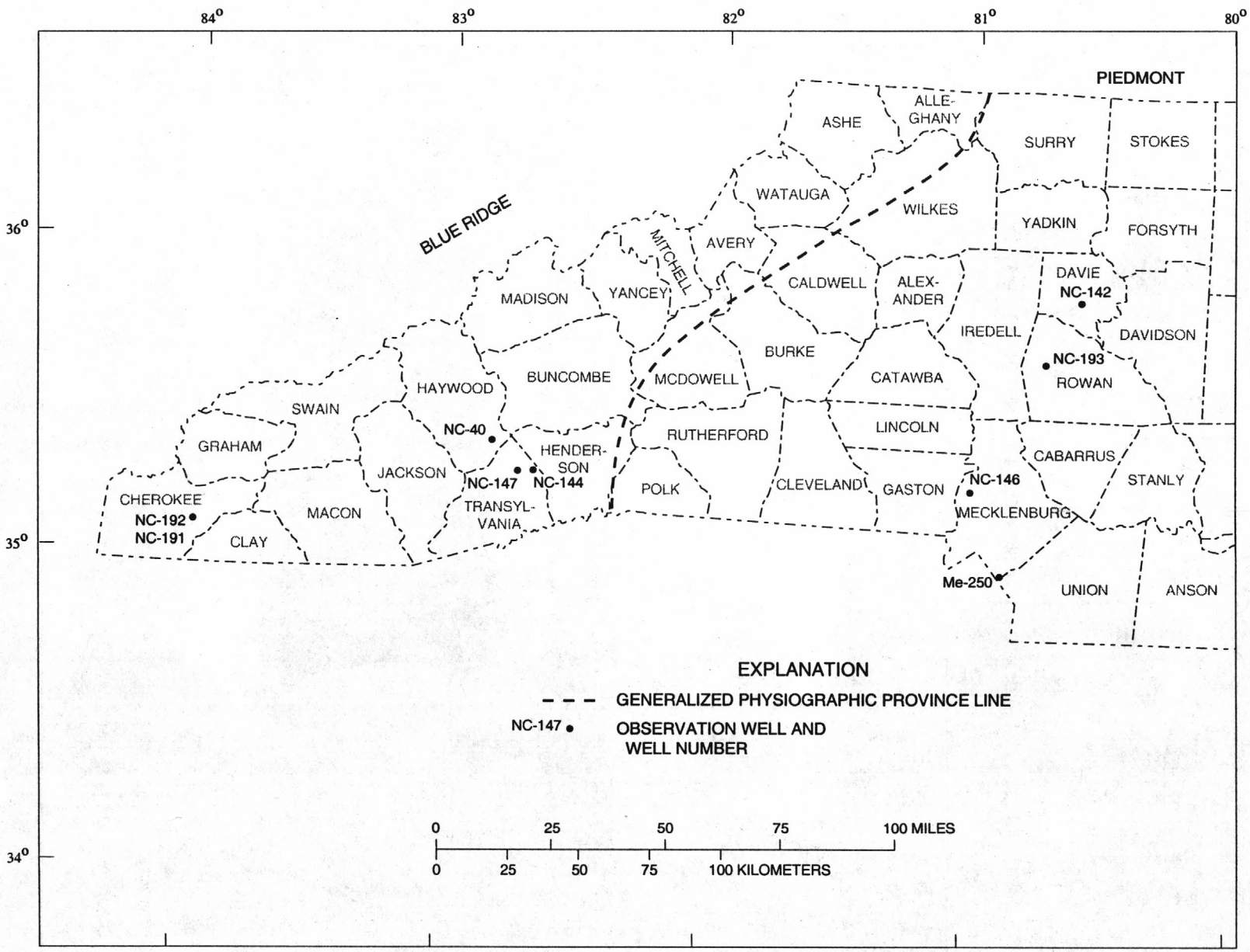


Figure 8.--Locations of observation wells in western North Carolina.

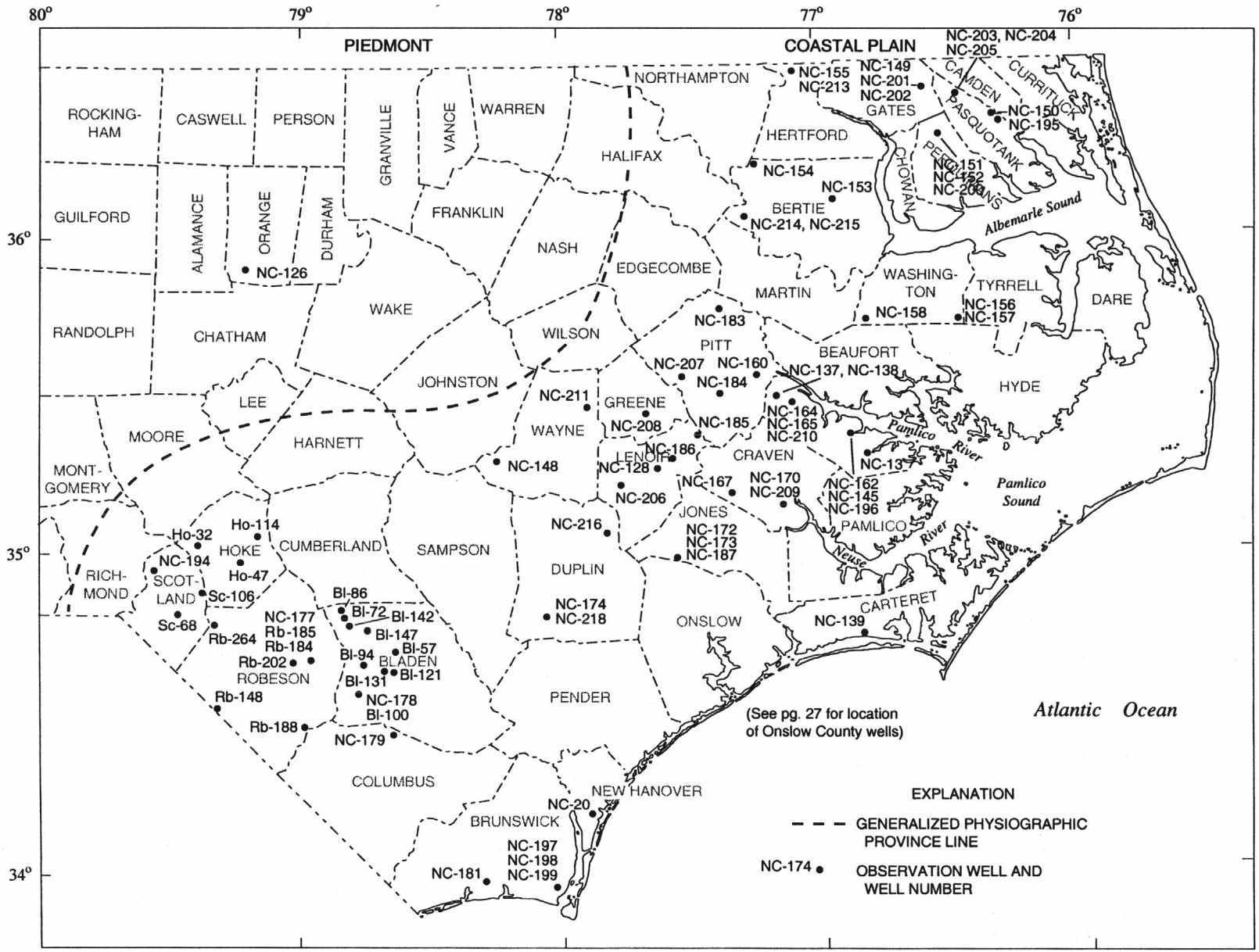


Figure 9.--Locations of observation wells in eastern North Carolina.

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.

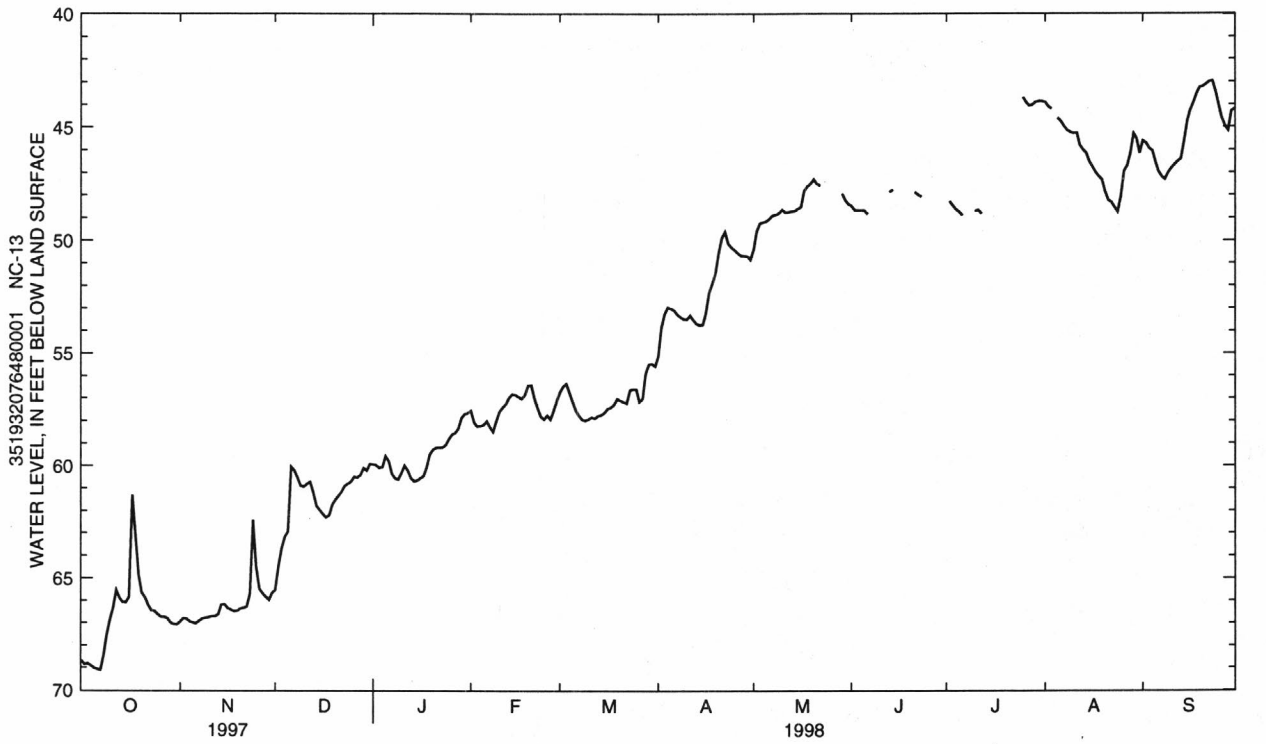
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.38 ft below land-surface datum, Apr. 9, 1965; lowest water level recorded, 107.25 ft below land-surface datum, July 11, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68.68	66.96	65.54	59.95	57.55	56.72	55.13	50.38	48.48	---	43.90	45.60
2	68.84	66.80	64.49	59.98	58.09	56.47	53.84	49.58	48.66	48.27	44.09	45.70
3	68.82	66.82	63.70	60.10	58.25	56.35	53.24	49.24	48.67	48.46	44.18	45.95
4	68.90	66.94	63.17	60.06	58.23	56.74	52.97	49.20	48.67	48.62	---	46.04
5	69.01	66.99	62.95	59.58	58.18	57.16	53.02	49.15	48.67	48.75	44.61	46.58
6	69.07	67.03	60.05	59.81	58.02	57.54	53.09	49.03	48.84	48.90	44.75	46.96
7	69.11	66.91	60.20	60.36	58.29	57.78	53.29	48.89	---	---	44.98	47.21
8	68.48	66.82	60.53	60.56	58.49	57.95	53.39	48.86	---	---	45.15	47.30
9	67.53	66.78	60.90	60.61	58.03	57.99	53.48	48.79	---	---	45.24	47.02
10	66.88	66.76	60.94	60.32	57.60	57.93	53.49	48.64	---	48.70	45.27	46.81
11	66.33	66.71	60.82	60.00	57.42	57.85	53.32	48.76	---	48.66	45.25	46.66
12	65.54	66.72	60.73	60.22	57.26	57.90	53.52	48.74	---	48.81	45.79	46.52
13	65.89	66.63	61.20	60.55	56.98	57.78	53.69	48.71	47.84	---	46.00	46.40
14	66.08	66.19	61.80	60.70	56.82	57.74	53.75	48.70	47.77	---	46.15	45.63
15	66.09	66.18	61.97	60.66	56.84	57.64	53.73	48.60	---	---	46.54	44.73
16	65.86	66.35	62.16	60.55	56.94	57.47	53.20	48.52	---	---	46.76	44.27
17	61.31	66.42	62.30	60.47	57.02	57.41	52.30	47.81	---	---	47.00	43.91
18	63.03	66.49	62.22	60.06	56.84	57.29	51.91	47.60	---	---	47.17	43.53
19	64.88	66.47	61.75	59.49	56.43	57.02	51.44	47.49	---	---	47.32	43.26
20	65.66	66.37	61.51	59.29	56.41	57.10	50.57	47.29	---	---	47.82	43.22
21	65.87	66.33	61.34	59.20	57.01	57.17	49.88	47.49	47.87	---	48.23	43.12
22	66.21	66.29	61.16	59.20	57.44	57.22	49.62	47.57	47.98	---	48.30	43.00
23	66.45	65.69	60.91	59.19	57.81	56.63	50.15	---	48.07	---	48.54	42.97
24	66.48	62.43	60.80	59.08	57.93	56.59	50.31	---	---	---	48.74	43.45
25	66.63	64.54	60.72	58.82	57.76	56.60	50.43	---	---	43.69	48.05	44.10
26	66.73	65.49	60.49	58.61	57.94	57.16	50.56	---	---	43.90	46.94	44.61
27	66.74	65.69	60.53	58.55	57.56	57.02	50.68	---	---	44.06	46.70	45.00
28	66.79	65.84	60.42	58.34	57.10	55.92	50.69	---	---	44.01	46.15	45.17
29	67.00	65.98	60.11	57.87	---	55.49	50.70	47.94	---	43.89	45.29	44.31
30	67.07	65.66	60.22	57.70	---	55.46	50.85	48.23	---	43.87	45.51	44.21
31	67.08	---	59.93	57.66	---	55.57	---	48.39	---	43.86	46.16	---

WTR YR 1998 MEAN 55.53 HIGH 42.97 LOW 69.11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WATER LEVEL, IN FEET BELOW LAND SURFACE
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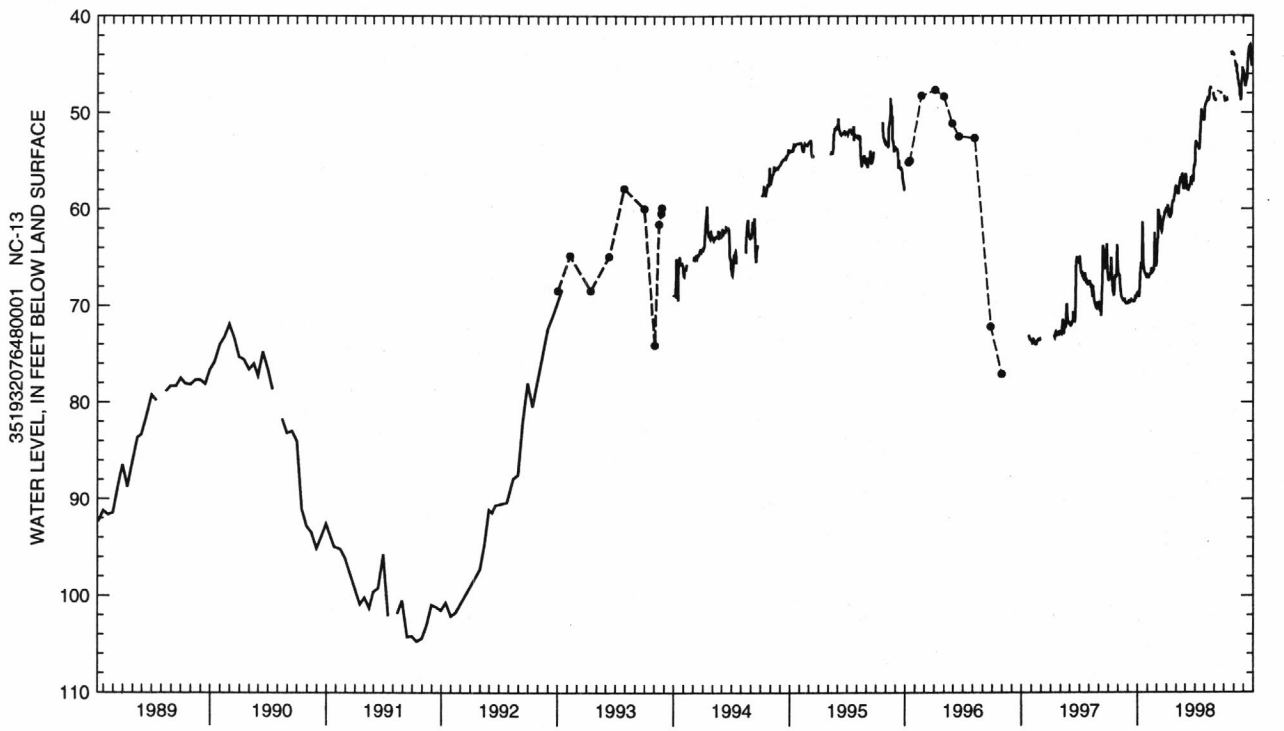
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WATER LEVEL, IN FEET BELOW LAND SURFACE
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BEAUFORT COUNTY--Continued

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.

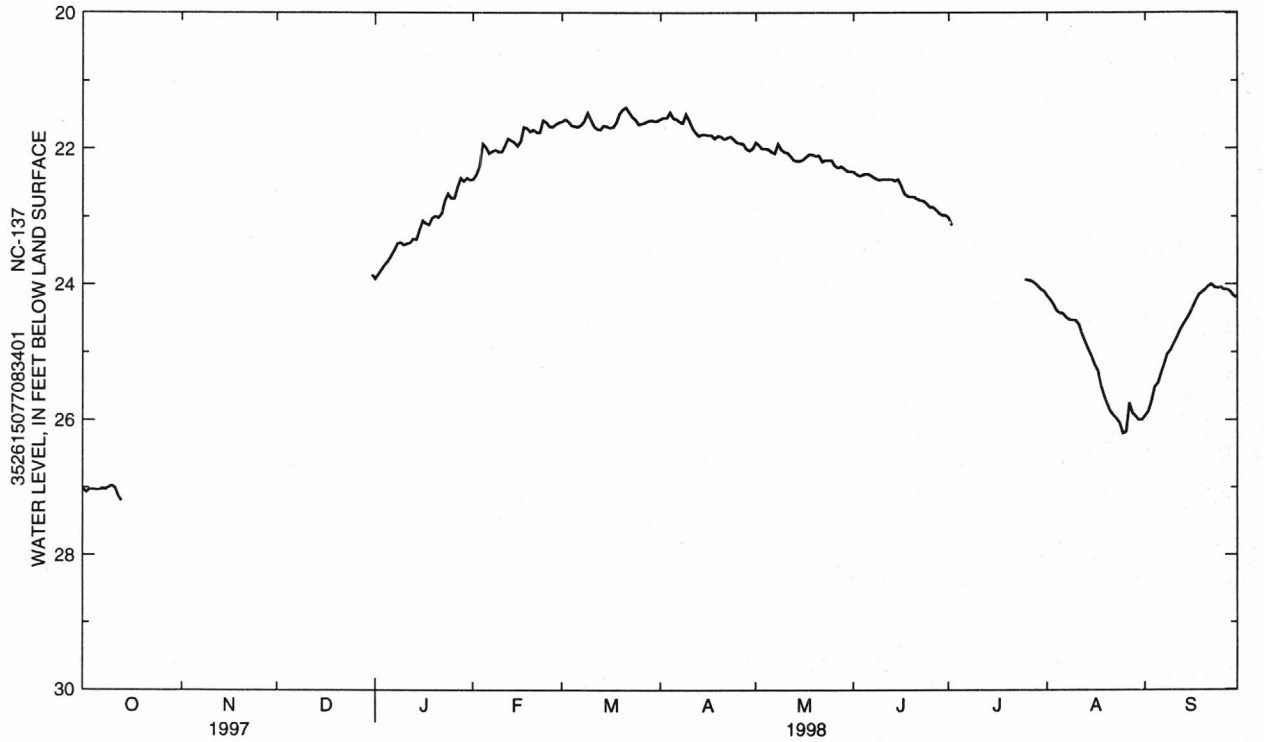
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 19.90 ft below land-surface datum, Feb. 3, 1972; lowest water level recorded, 27.47 ft below land-surface datum, Sept. 24, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.03	---	---	23.92	22.45	21.60	21.56	21.91	22.34	23.02	24.17	25.94
2	27.07	---	---	23.85	22.38	21.57	21.54	21.95	22.38	23.13	24.22	25.88
3	27.03	---	---	23.78	22.26	21.60	21.54	22.00	22.40	---	24.29	25.72
4	27.03	---	---	23.71	21.93	21.66	21.46	22.00	22.38	---	24.38	25.51
5	27.04	---	---	23.66	21.98	21.67	21.55	22.01	22.37	---	24.42	25.46
6	27.04	---	---	23.58	22.07	21.68	21.56	22.05	22.38	---	24.43	25.32
7	27.02	---	---	23.50	22.04	21.65	21.60	22.07	22.41	---	24.49	25.17
8	27.03	---	---	23.40	22.02	21.59	21.62	21.93	22.44	---	24.52	25.03
9	27.00	---	---	23.38	22.05	21.47	21.49	22.01	22.46	---	24.53	24.97
10	26.98	---	---	23.42	22.05	21.57	21.58	22.05	22.45	---	24.53	24.88
11	27.01	---	---	23.40	21.96	21.67	21.69	22.06	22.45	---	24.59	24.78
12	27.13	---	---	23.39	21.85	21.71	21.76	22.11	22.45	---	24.73	24.68
13	27.20	---	---	23.33	21.88	21.72	21.81	22.17	22.45	---	24.84	24.59
14	---	---	---	23.34	21.91	21.66	21.79	22.18	22.47	---	24.96	24.52
15	---	---	---	23.20	21.96	21.67	21.79	22.18	22.45	---	25.06	24.44
16	---	---	---	23.06	21.89	21.69	21.80	22.16	22.55	---	25.19	24.35
17	---	---	---	23.10	21.68	21.68	21.80	22.12	22.66	---	25.27	24.24
18	---	---	---	23.12	21.70	21.61	21.85	22.08	22.70	---	25.49	24.16
19	---	---	---	23.02	21.75	21.48	21.81	22.09	22.71	---	25.64	24.12
20	---	---	---	22.99	21.72	21.42	21.82	22.11	22.71	---	25.76	24.08
21	---	---	---	23.01	21.76	21.39	21.86	22.10	22.74	---	25.88	24.03
22	---	---	---	22.95	21.76	21.46	21.84	22.19	22.76	---	25.93	24.00
23	---	---	---	22.77	21.58	21.53	21.82	22.17	22.77	---	25.98	24.05
24	---	---	---	22.66	21.61	21.57	21.86	22.17	22.81	---	26.05	24.06
25	---	---	---	22.73	21.67	21.64	21.91	22.17	22.86	23.93	26.20	24.05
26	---	---	---	22.73	21.68	21.63	21.92	22.25	22.86	23.94	26.18	24.08
27	---	---	---	22.57	21.64	21.61	21.93	22.28	22.90	23.95	25.75	24.08
28	---	---	---	22.43	21.61	21.59	22.00	22.26	22.95	23.98	25.90	24.11
29	---	---	---	22.48	---	21.58	22.03	22.29	22.98	24.02	25.95	24.17
30	---	---	---	22.43	---	21.59	22.00	22.33	22.98	24.07	26.00	24.20
31	---	---	23.86	22.46	---	21.59	---	22.33	---	24.10	26.00	---

WTR YR 1998 MEAN 23.12 HIGH 21.39 LOW 27.20


352615077083401 NC-137
WATER LEVEL, IN FEET BELOW LAND SURFACE
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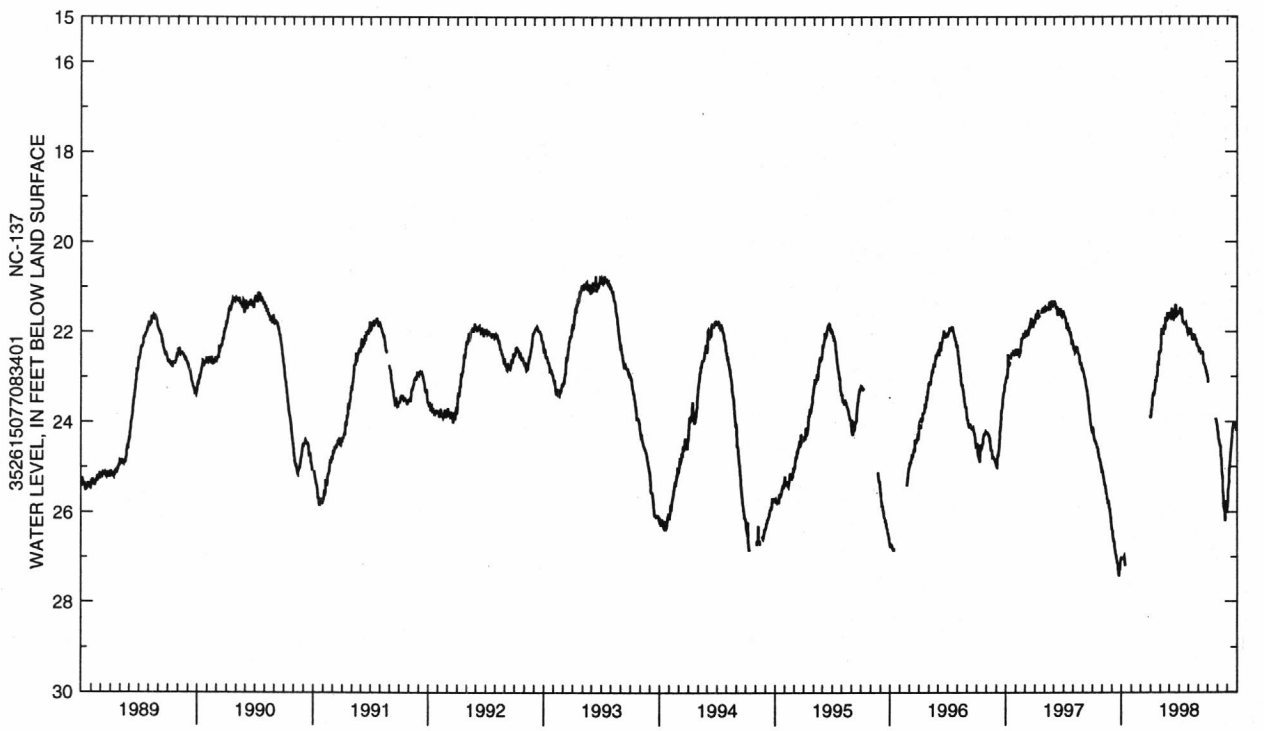
352615077083401 NC-137
WATER LEVEL, IN FEET BELOW LAND SURFACE
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BEAUFORT COUNTY--Continued

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.

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

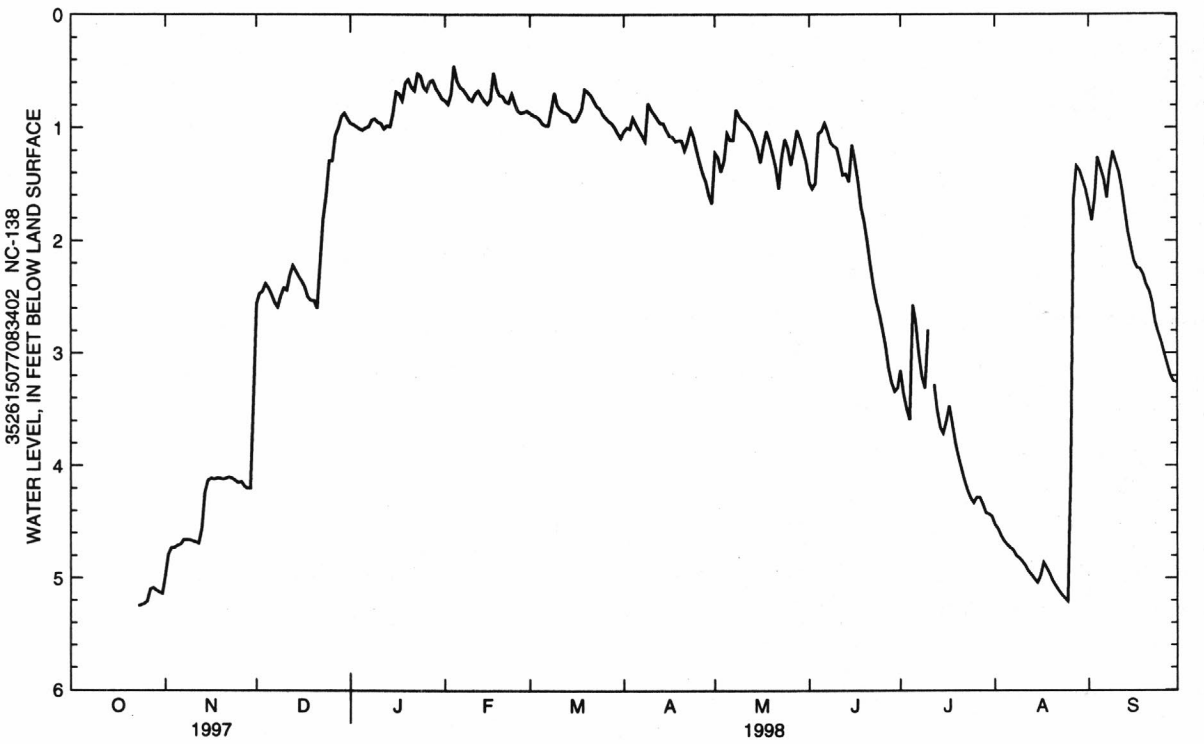
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.05 ft above land-surface datum, Apr. 26, 27, 1979; lowest water level recorded, 6.40 ft below land-surface datum, Nov. 24-27, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	4.97	2.56	.96	.76	.87	1.03	1.22	1.49	3.15	4.52	1.67
2	---	4.79	2.47	.97	.79	.89	1.00	1.26	1.54	3.36	4.56	1.82
3	---	4.73	2.45	.99	.70	.90	1.01	1.39	1.49	3.49	4.62	1.63
4	---	4.73	2.38	1.01	.45	.92	.91	1.30	1.05	3.59	4.67	1.26
5	---	4.71	2.42	1.02	.58	.96	.97	1.05	1.03	2.57	4.70	1.36
6	---	4.70	2.48	1.00	.64	.98	1.02	1.11	.96	2.72	4.73	1.46
7	---	4.66	2.55	.99	.66	.98	1.07	1.11	1.03	3.00	4.75	1.62
8	---	4.66	2.59	.93	.70	.84	1.12	.84	1.13	3.21	4.80	1.38
9	---	4.66	2.49	.92	.74	.69	.78	.90	1.16	3.31	4.82	1.21
10	---	4.67	2.42	.95	.76	.80	.84	.94	1.18	2.79	4.85	1.30
11	---	4.68	2.44	.96	.70	.84	.88	.96	1.29	---	4.89	1.39
12	---	4.69	2.31	1.01	.67	.86	.92	1.00	1.42	3.28	4.94	1.55
13	---	4.56	2.22	.98	.72	.87	.96	1.03	1.41	3.50	4.97	1.74
14	---	4.24	2.27	.99	.76	.89	.96	1.10	1.48	3.66	5.01	1.92
15	---	4.13	2.32	.87	.79	.94	1.02	1.18	1.15	3.71	5.04	2.06
16	---	4.11	2.36	.68	.75	.94	1.07	1.31	1.30	3.61	4.98	2.18
17	---	4.12	2.41	.70	.51	.89	1.08	1.15	1.47	3.47	4.86	2.24
18	---	4.11	2.50	.76	.65	.83	1.12	1.03	1.70	3.64	4.91	2.25
19	---	4.11	2.53	.60	.71	.66	1.11	1.12	1.83	3.80	4.96	2.30
20	---	4.12	2.53	.57	.72	.68	1.11	1.23	2.01	3.93	5.02	2.39
21	---	4.11	2.60	.64	.77	.71	1.20	1.35	2.22	4.03	5.07	2.45
22	---	4.10	2.21	.67	.78	.76	1.12	1.54	2.39	4.13	5.11	2.55
23	5.25	4.11	1.81	.52	.70	.81	1.01	1.26	2.54	4.22	5.15	2.72
24	5.24	4.13	1.60	.54	.78	.83	1.08	1.10	2.65	4.29	5.18	2.82
25	5.23	4.15	1.29	.64	.85	.88	1.20	1.18	2.79	4.33	5.21	2.91
26	5.21	4.14	1.29	.67	.87	.91	1.31	1.33	2.94	4.28	4.07	3.01
27	5.10	4.18	1.07	.59	.86	.94	1.41	1.18	3.13	4.28	1.62	3.11
28	5.09	4.20	1.00	.58	.85	.96	1.48	1.02	3.26	4.34	1.34	3.20
29	5.11	4.20	.90	.65	---	1.00	1.59	1.10	3.34	4.42	1.38	3.25
30	5.13	3.39	.87	.69	---	1.05	1.67	1.20	3.31	4.43	1.46	3.26
31	5.14	---	.92	.74	---	1.09	---	1.31	---	4.45	1.55	---

WTR YR 1998 MEAN 2.18 HIGH .45 LOW 5.25


352615077083402 NC-138
WATER LEVEL, IN FEET BELOW LAND SURFACE
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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, drilled to 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. Measured periodically with steel tape October 1992 to September 1994.

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.--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 began July 1984. 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.

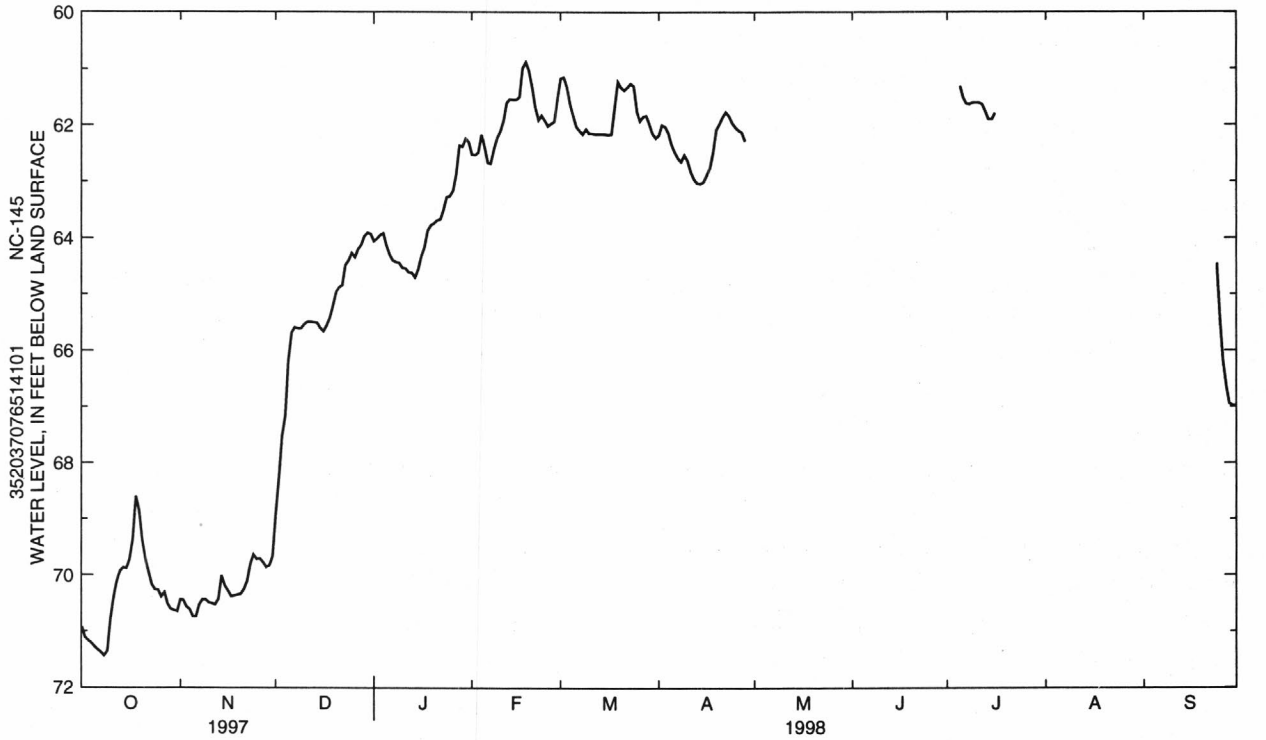
REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-85-1, NC-86-1, and NC-87-1, should be adjusted by -0.23 ft.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70.93	70.44	68.93	64.06	62.52	61.17	62.18	---	---	---	---	---
2	71.11	70.45	68.27	64.01	62.53	61.15	62.00	---	---	---	---	---
3	71.17	70.57	67.53	63.95	62.49	61.33	62.03	---	---	---	---	---
4	71.21	70.61	67.16	63.92	62.17	61.63	62.14	---	---	---	---	---
5	71.28	70.74	66.17	64.13	62.38	61.84	62.35	---	---	61.31	---	---
6	71.33	70.74	65.68	64.30	62.67	62.03	62.48	---	---	61.51	---	---
7	71.38	70.53	65.59	64.40	62.68	62.10	62.59	---	61.25	61.62	---	---
8	71.44	70.44	65.61	64.43	62.42	62.16	62.65	---	---	61.63	---	---
9	71.36	70.44	65.61	64.44	62.23	62.07	62.53	---	---	61.60	---	---
10	70.79	70.49	65.53	64.53	62.11	62.15	62.63	---	---	61.60	---	---
11	70.39	70.51	65.49	64.54	61.93	62.15	62.83	---	---	61.60	---	---
12	70.11	70.53	65.49	64.61	61.60	62.16	62.96	---	---	61.64	---	---
13	69.93	70.43	65.50	64.62	61.54	62.16	63.03	---	---	61.77	---	---
14	69.87	70.01	65.51	64.70	61.55	62.16	63.04	---	---	61.90	---	---
15	69.88	70.19	65.60	64.56	61.55	62.16	63.01	---	---	61.90	---	---
16	69.73	70.28	65.66	64.32	61.50	62.17	62.89	---	---	61.79	---	---
17	69.37	70.38	65.56	64.17	60.99	62.16	62.76	---	---	---	---	---
18	68.60	70.37	65.42	63.87	60.88	61.70	62.49	---	---	---	---	---
19	68.85	70.35	65.21	63.78	61.03	61.23	62.08	---	---	---	---	---
20	69.37	70.34	64.96	63.74	61.33	61.33	61.98	---	---	---	---	---
21	69.72	70.25	64.88	63.69	61.68	61.38	61.86	---	---	---	---	---
22	69.94	70.11	64.84	63.67	61.91	61.33	61.77	---	---	---	---	---
23	70.17	69.81	64.48	63.50	61.83	61.26	61.84	---	---	---	---	---
24	70.26	69.64	64.40	63.27	61.92	61.31	61.96	---	---	---	---	64.46
25	70.27	69.72	64.27	63.26	62.02	61.76	62.04	---	---	---	---	65.48
26	70.39	69.71	64.34	63.16	61.97	61.93	62.09	---	---	---	---	66.19
27	70.31	69.78	64.20	62.87	61.94	61.85	62.13	---	---	---	---	66.66
28	70.52	69.86	64.12	62.36	61.52	61.83	62.28	---	---	---	---	66.95
29	70.61	69.83	63.97	62.38	---	61.99	---	---	---	---	---	66.98
30	70.63	69.67	63.91	62.24	---	62.15	---	---	---	---	---	66.99
31	70.65	---	63.93	62.30	---	62.23	---	---	---	---	---	---

WTR YR 1998 MEAN 65.02 HIGH 60.88 LOW 71.44


352037076514101 NC-145
WATER LEVEL, IN FEET BELOW LAND SURFACE
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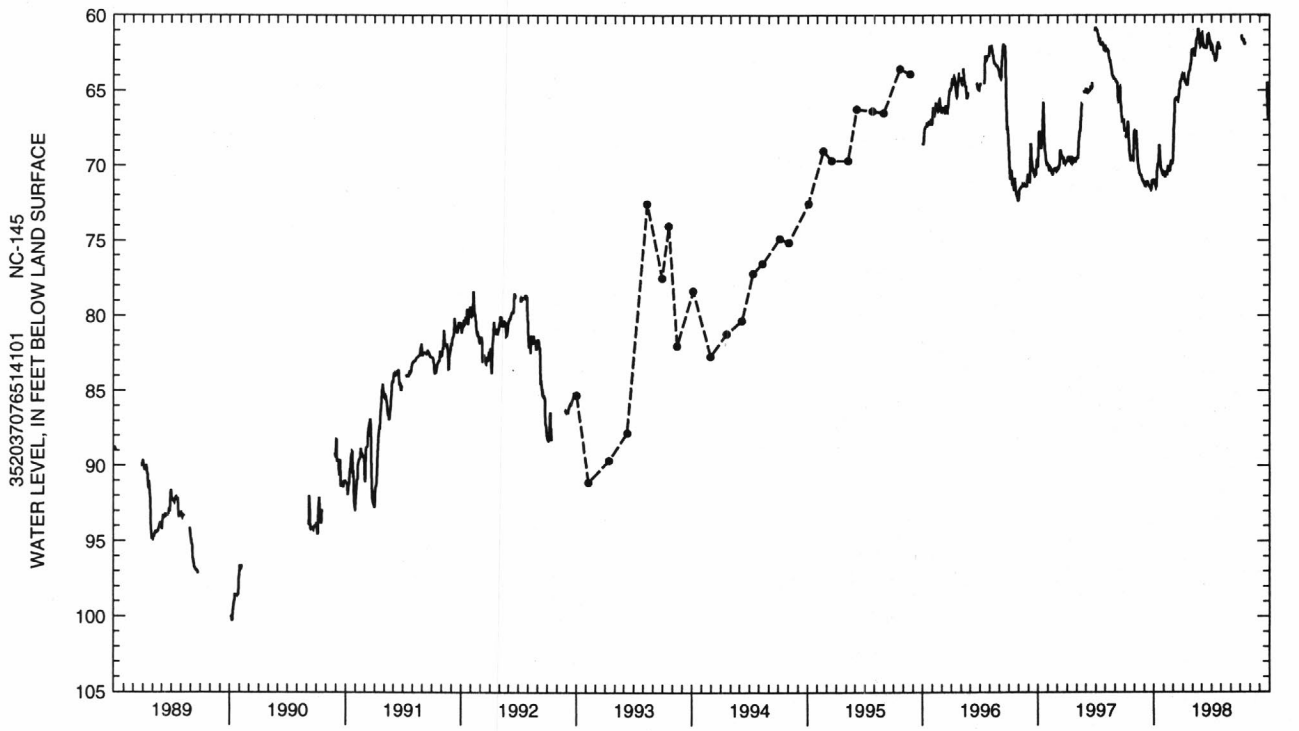
352037076514101 NC-145
WATER LEVEL, IN FEET BELOW LAND SURFACE
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BEAUFORT COUNTY--Continued

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., cased to 76 ft, 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 instrument shelf, 2.35 ft above land-surface datum; revised from 3.07 ft above land-surface datum, August 25, 1993.

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

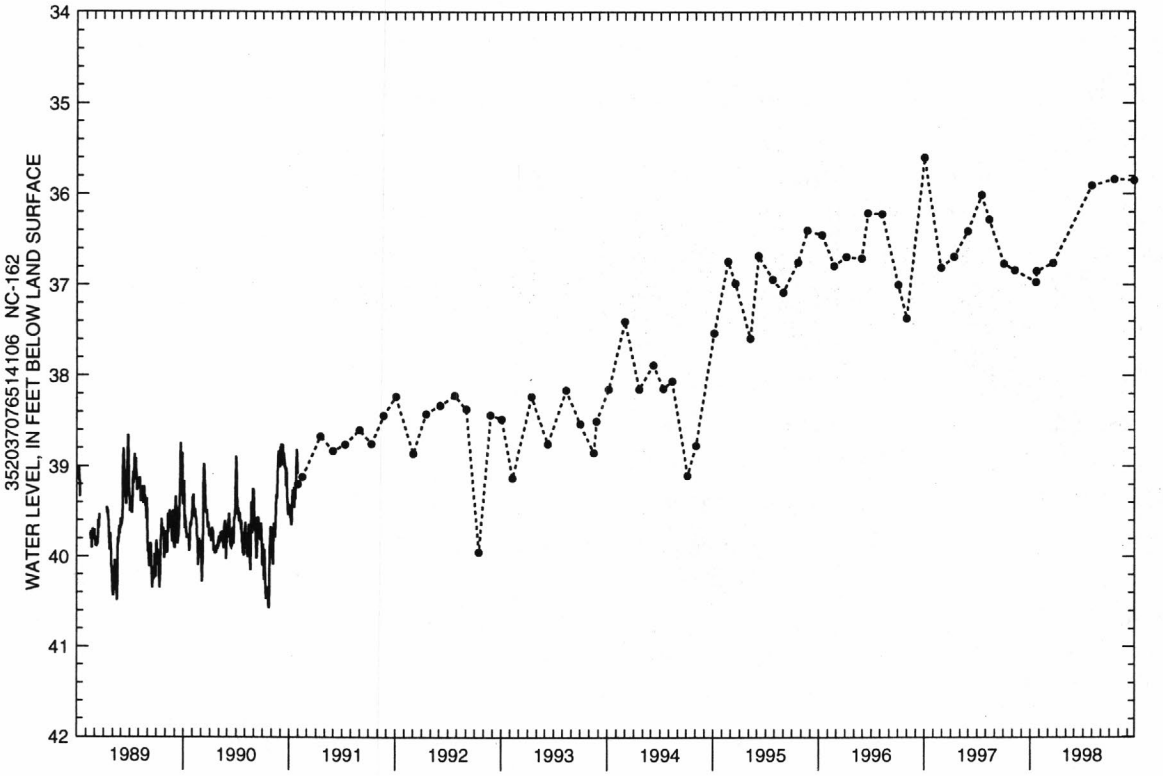
PERIOD OF RECORD.--June 1980 to current year. Continuous record December 1986 to November 1990. Records from June 1980 to July 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 35.60 ft below land-surface datum, Oct. 10, 1996; lowest water level recorded, 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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	36.97	OCT 23	36.85	DEC 18	36.76	APR 30	35.91	JUL 17	35.84	SEP 23	35.85


352037076514106 NC-162
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1989
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1995
1996
1997
1998

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.

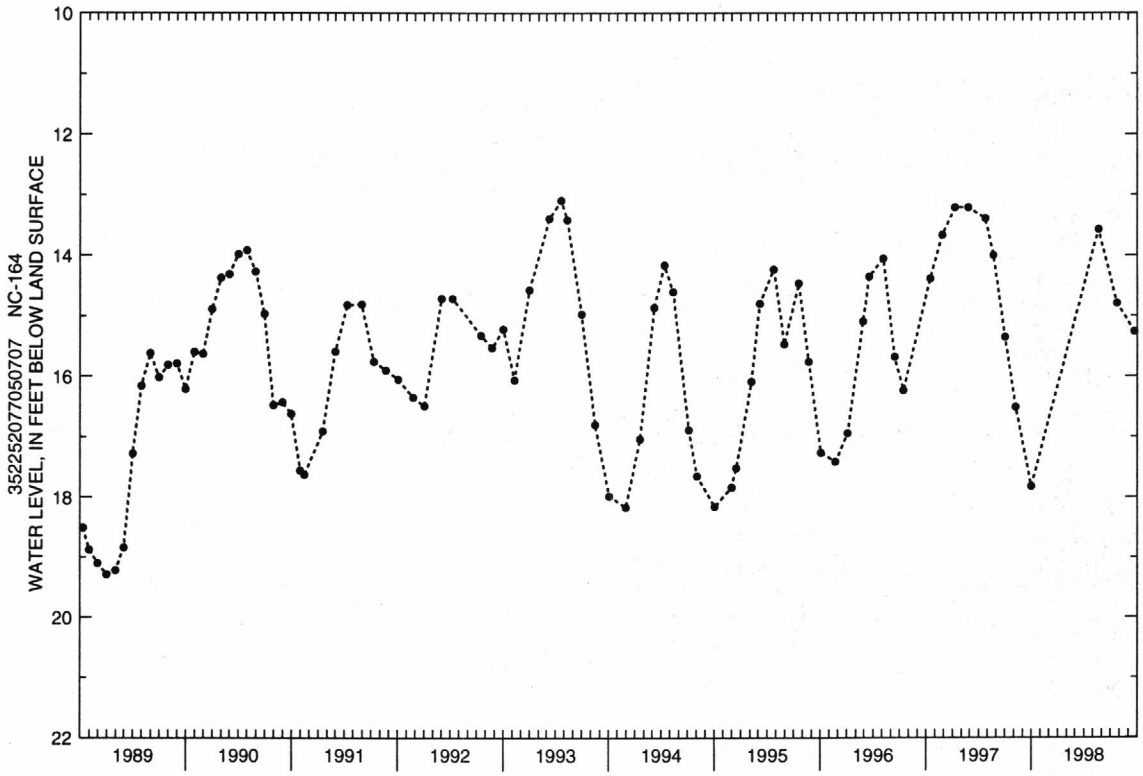
REMARKS.--Well is part of areal-effects network.

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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	17.82	MAY 22	13.57	JUL 24	14.79	SEP 23	15.26


352520770507 NC-164
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1997
1998

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.

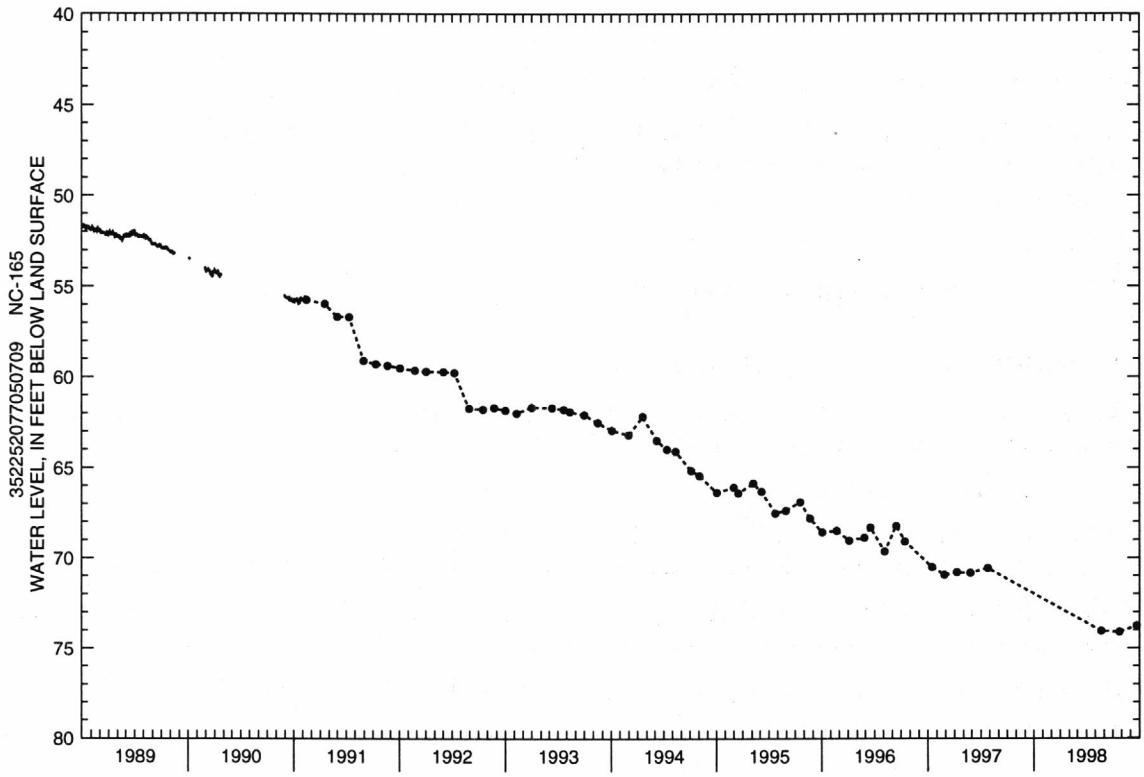
PERIOD OF RECORD.--March 1969 to current year. Continuous record December 1986 to November 1990. Records from March 1969 to July 1986 are unpublished and available in the files of the Groundwater Section, DENR.

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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 22	74.06	JUL 24	74.11	SEP 23	73.77


352252077050709 NC-165
WATER LEVEL, IN FEET BELOW LAND SURFACE
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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.--Water level is affected by nearby pumping associated with mining operations. Well is part of local-effects network.

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

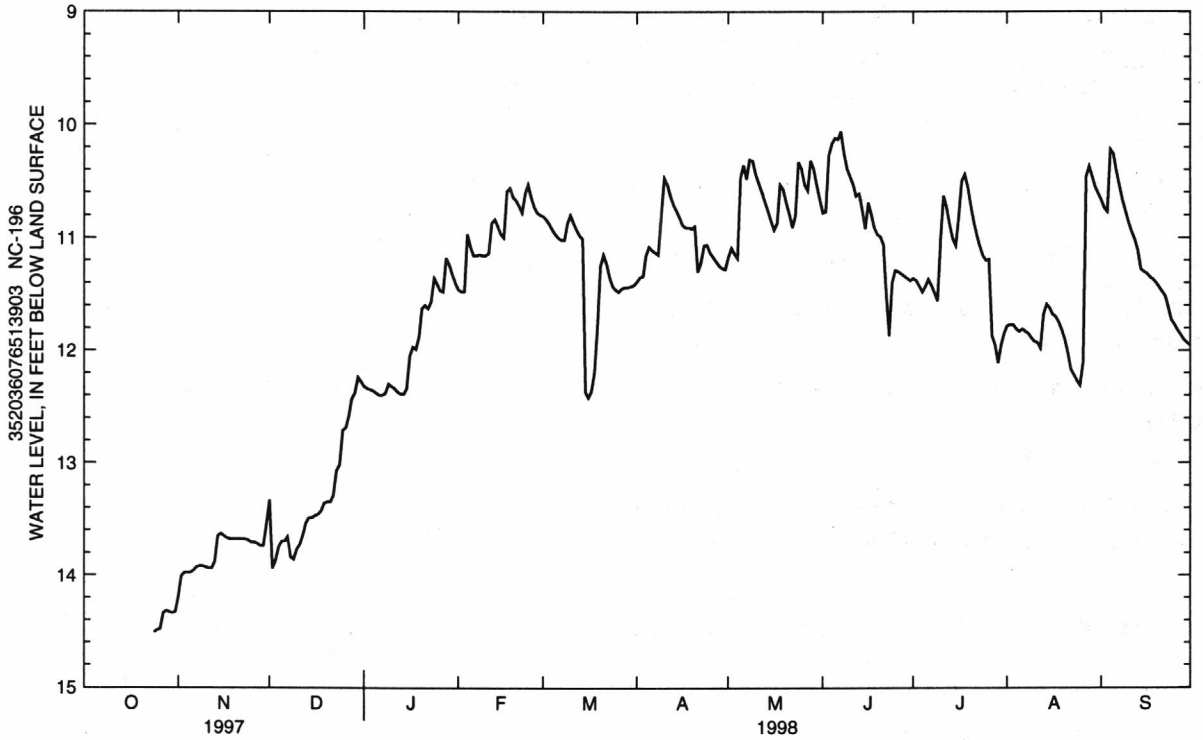
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 10.01 ft below land-surface datum, June 7, 1998; lowest water level recorded 14.51 ft below land-surface datum, Oct. 24, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	14.19	13.33	12.32	11.46	10.81	11.39	11.17	10.78	11.36	11.78	10.67
2	---	14.01	13.94	12.34	11.48	10.84	11.35	11.09	10.77	11.38	11.77	10.74
3	---	13.98	13.87	12.35	11.48	10.88	11.34	11.14	10.27	11.43	11.77	10.77
4	---	13.98	13.75	12.36	10.97	10.93	11.16	11.18	10.17	11.48	11.81	10.22
5	---	13.98	13.70	12.38	11.08	10.97	11.08	10.47	10.12	11.43	11.83	10.26
6	---	13.96	13.70	12.40	11.16	11.00	11.11	10.36	10.13	11.37	11.81	10.42
7	---	13.93	13.66	12.40	11.16	11.02	11.13	10.48	10.06	11.42	11.83	10.55
8	---	13.92	13.84	12.38	11.15	11.02	11.15	10.31	10.25	11.49	11.85	10.67
9	---	13.92	13.86	12.30	11.16	10.87	10.80	10.32	10.39	11.56	11.89	10.77
10	---	13.93	13.77	12.32	11.16	10.80	10.47	10.44	10.46	11.01	11.92	10.87
11	---	13.94	13.73	12.34	11.14	10.87	10.53	10.52	10.53	10.63	11.93	10.95
12	---	13.94	13.65	12.37	10.87	10.93	10.63	10.60	10.63	10.73	11.98	11.02
13	---	13.88	13.54	12.39	10.84	10.98	10.71	10.68	10.61	10.88	11.68	11.11
14	---	13.65	13.49	12.39	10.90	11.01	10.76	10.76	10.75	11.01	11.59	11.28
15	---	13.63	13.49	12.34	10.97	12.37	10.82	10.85	10.92	11.07	11.62	11.30
16	---	13.65	13.47	12.05	11.00	12.42	10.89	10.93	10.69	10.82	11.68	11.32
17	---	13.67	13.46	11.97	10.59	12.36	10.91	10.87	10.79	10.50	11.70	11.35
18	---	13.68	13.43	11.99	10.56	12.19	10.91	10.53	10.91	10.44	11.75	11.37
19	---	13.68	13.36	11.88	10.64	11.77	10.92	10.57	10.97	10.55	11.82	11.40
20	---	13.68	13.35	11.63	10.67	11.25	10.90	10.69	10.99	10.72	11.90	11.44
21	---	13.68	13.35	11.60	10.72	11.15	11.30	10.79	11.06	10.86	12.02	11.48
22	---	13.68	13.29	11.63	10.78	11.23	11.22	10.91	11.50	10.98	12.17	11.52
23	---	13.68	13.07	11.57	10.61	11.35	11.07	10.81	11.87	11.08	12.22	11.62
24	14.51	13.69	13.02	11.36	10.53	11.43	11.06	10.33	11.40	11.16	12.27	11.73
25	14.49	13.71	12.71	11.41	10.64	11.46	11.13	10.39	11.29	11.20	12.31	11.77
26	14.48	13.71	12.69	11.47	10.73	11.48	11.17	10.53	11.30	11.19	12.11	11.82
27	14.34	13.72	12.59	11.48	10.78	11.45	11.21	10.58	11.32	11.87	10.46	11.86
28	14.32	13.74	12.43	11.18	10.80	11.44	11.25	10.32	11.34	11.95	10.37	11.90
29	14.33	13.74	12.38	11.24	---	11.44	11.27	10.39	11.36	12.11	10.46	11.93
30	14.34	13.55	12.24	11.32	---	11.43	11.28	10.53	11.38	11.95	10.55	11.95
31	14.33	---	12.28	11.40	---	11.42	---	10.66	---	11.85	10.61	---

WTR YR 1998 MEAN 11.70 HIGH 10.06 LOW 14.51


352036076513903 NC-196
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1997
1998

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.

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, 1.00 ft above land-surface datum.

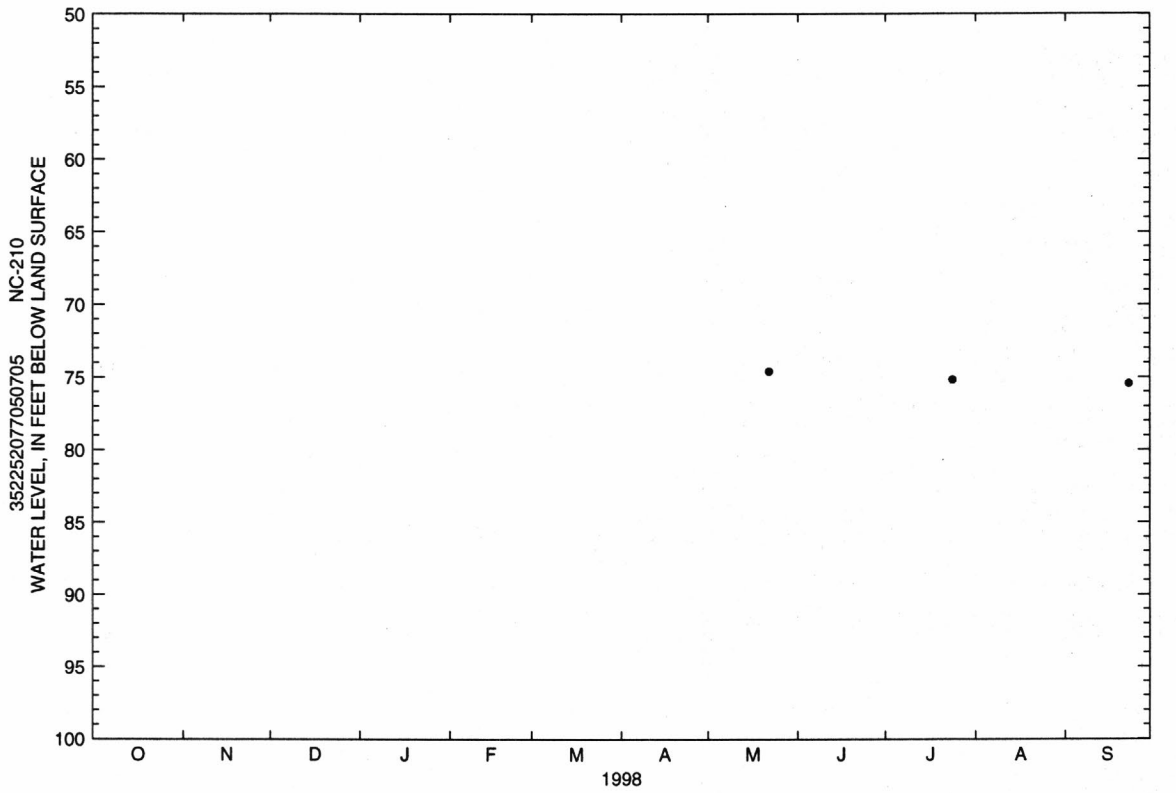
REMARKS.--Well is part of induced-effects network.

PERIOD OF RECORD.--June 1969 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, 75.44 ft below land-surface datum, Sept. 23, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 22	74.59	JUL 24	75.17	SEP 23	75.44


352252077050705 NC-210
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1998

BERTIE COUNTY

361420077111403. Local number, Be-107; DENR Roxobel Research Station well F22b3.

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.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 33.5 ft, diameter 4 in., cased to 22.5 ft, screened interval from 22.5 to 32.5 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 74 ft above sea level. Measuring point: Top of casing, 2.05 ft above land-surface datum.

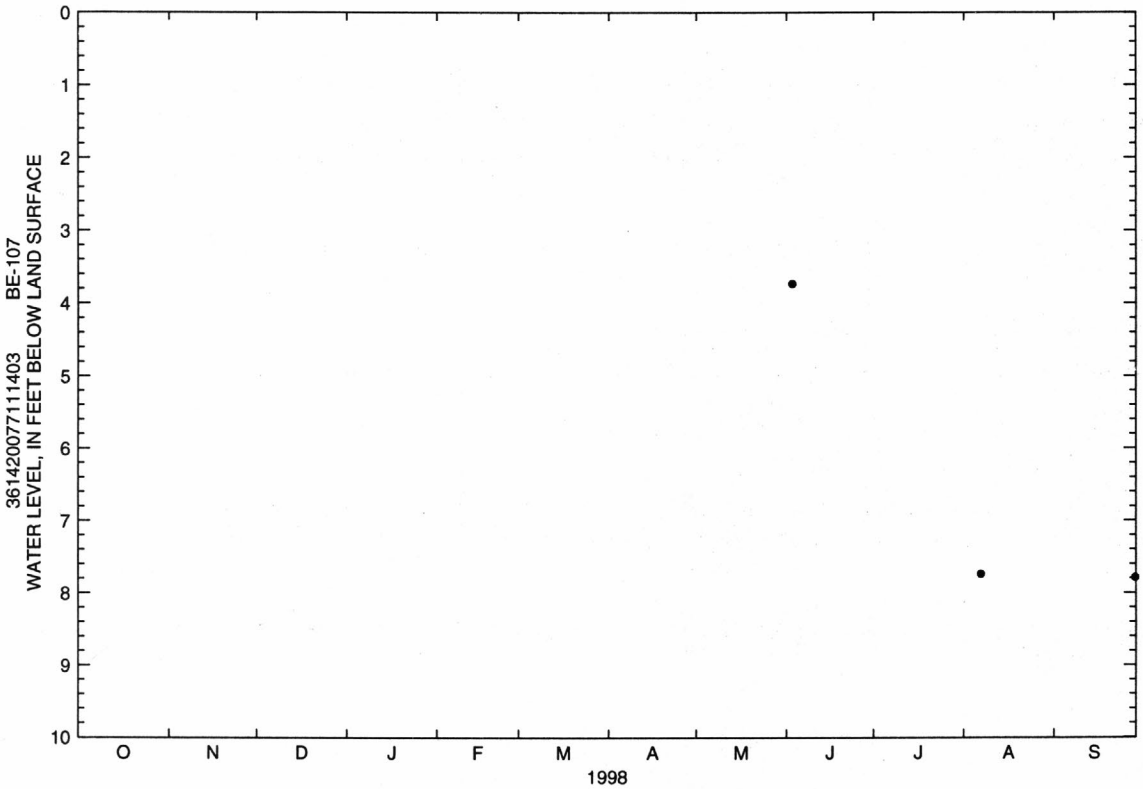
REMARKS.--Well is part of areal-effects network.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.40 ft below land-surface datum, Dec. 6, 1989; lowest water level measured, 8.74 ft below land-surface datum, Nov. 3, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 3	3.73	AUG 7	7.74	SEP 29	7.79


BE-107
361420077111403
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1998

BERTIE COUNTY--Continued

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, drilled to 431 ft, diameter 6 in., cased to 400 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 casing, 1.25 ft above land-surface datum; revised from 3.01 ft above land-surface datum July 2, 1994.

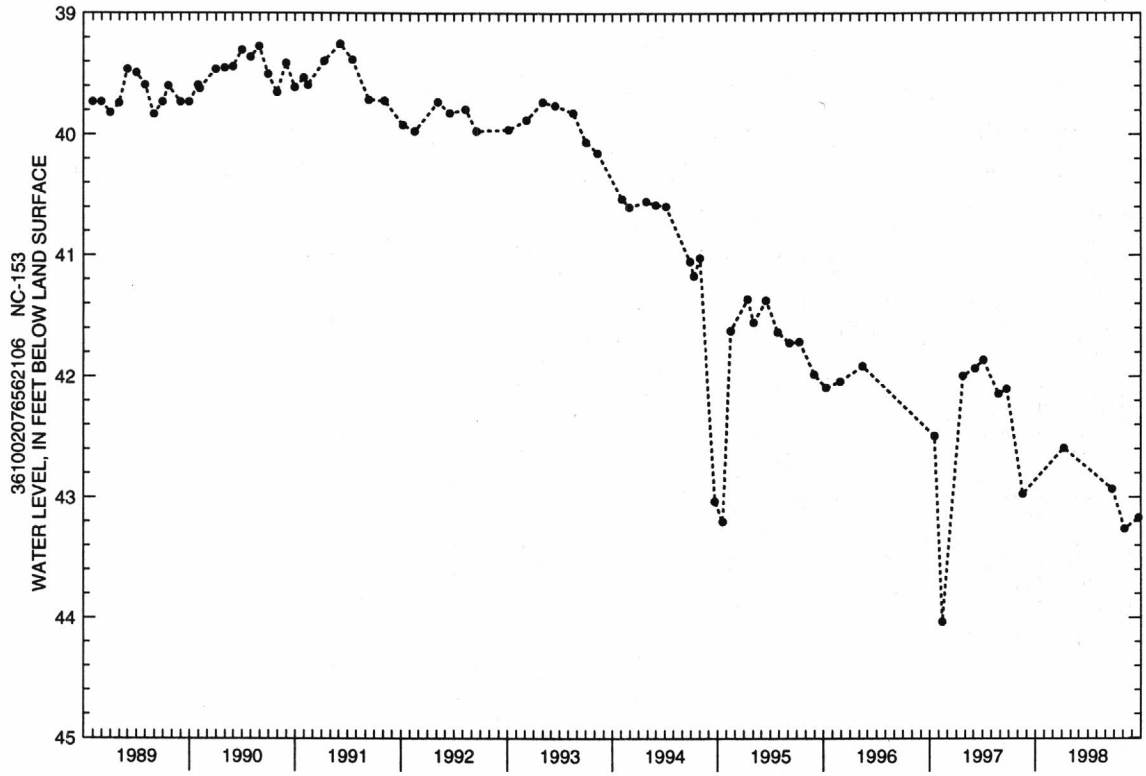
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--August 1974 to current year. Continuous record 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 recorded, 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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 8	42.59	JUN 25	42.93	AUG 7	43.26	SEP 24	43.17


361002076562106 NC-153
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1997
1998

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.

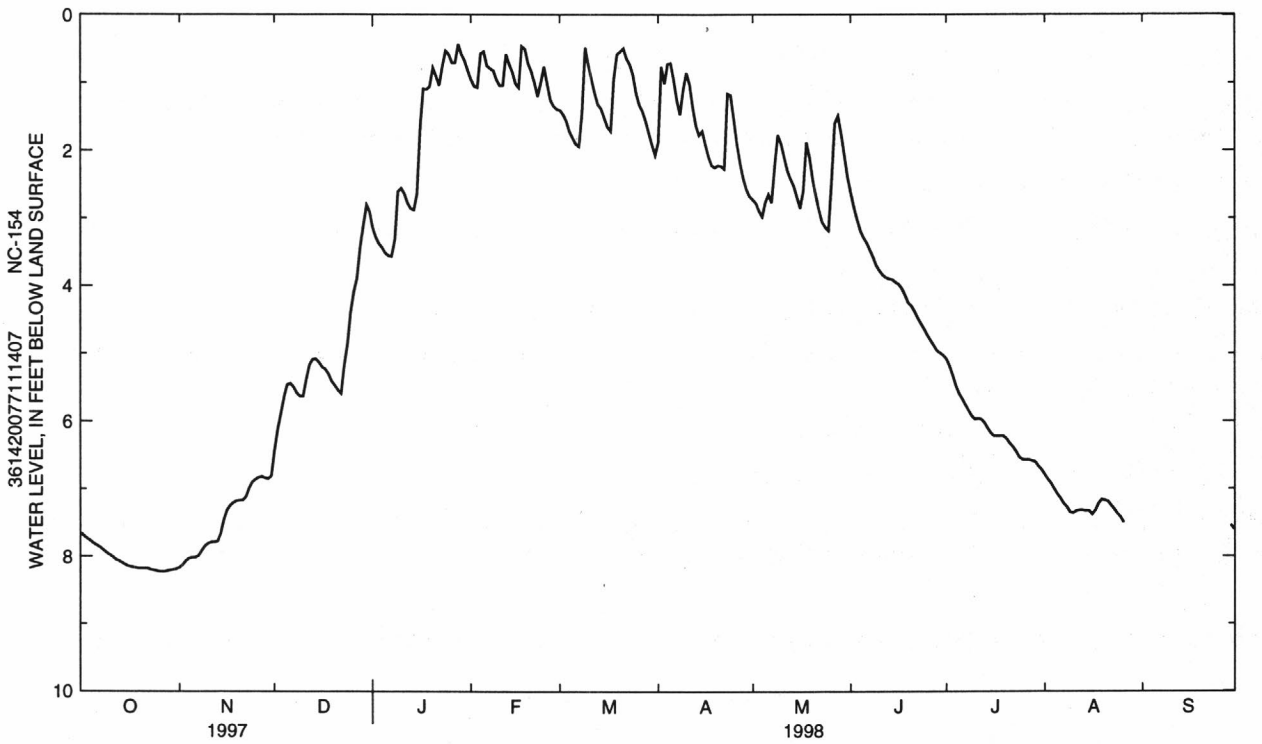
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.31 ft below land-surface datum, Feb. 15, 1997; lowest water level recorded, 9.31 ft below land-surface datum, Sept. 5, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.66	8.17	6.44	3.14	.95	1.40	1.88	2.73	2.62	5.08	6.79	---
2	7.70	8.13	6.12	3.29	1.05	1.46	.76	2.78	2.84	5.18	6.86	---
3	7.74	8.07	5.89	3.38	1.07	1.56	1.01	2.89	3.02	5.32	6.92	---
4	7.77	8.03	5.64	3.44	.57	1.71	.72	2.98	3.19	5.47	7.00	---
5	7.81	8.02	5.46	3.52	.54	1.81	.71	2.77	3.29	5.59	7.08	---
6	7.84	8.02	5.44	3.56	.75	1.90	.95	2.65	3.37	5.67	7.14	---
7	7.87	7.99	5.49	3.57	.79	1.94	1.26	2.77	3.47	5.76	7.22	---
8	7.91	7.92	5.58	3.32	.82	1.45	1.47	2.21	3.58	5.84	7.27	---
9	7.95	7.85	5.63	2.61	.95	.48	1.10	1.77	3.70	5.92	7.35	---
10	7.98	7.81	5.63	2.56	1.04	.73	.85	1.90	3.78	5.97	7.36	---
11	8.01	7.79	5.39	2.64	1.04	.95	1.02	2.10	3.84	5.96	7.33	---
12	8.05	7.79	5.17	2.78	.58	1.15	1.35	2.30	3.88	5.97	7.32	---
13	8.07	7.78	5.09	2.86	.72	1.32	1.63	2.42	3.90	6.02	7.32	---
14	8.10	7.67	5.08	2.88	.84	1.38	1.77	2.53	3.91	6.10	7.33	---
15	8.13	7.46	5.13	2.65	1.01	1.52	1.71	2.69	3.95	6.17	7.33	---
16	8.15	7.32	5.20	1.65	1.07	1.65	1.91	2.85	3.98	6.22	7.38	---
17	8.16	7.25	5.23	1.09	.46	1.71	2.10	2.60	4.04	6.22	7.32	---
18	8.17	7.21	5.30	1.10	.50	.94	2.22	1.88	4.14	6.22	7.22	---
19	8.18	7.18	5.41	1.06	.71	.58	2.25	2.10	4.25	6.22	7.16	---
20	8.18	7.17	5.47	.78	.83	.54	2.22	2.44	4.30	6.26	7.17	---
21	8.18	7.17	5.54	.90	.99	.49	2.23	2.68	4.38	6.33	7.19	---
22	8.18	7.12	5.59	1.04	1.20	.64	2.27	2.89	4.48	6.38	7.25	---
23	8.20	6.99	5.18	.77	1.00	.73	1.16	3.06	4.56	6.45	7.31	---
24	8.21	6.90	4.86	.53	.76	.88	1.18	3.14	4.64	6.53	7.37	---
25	8.22	6.86	4.40	.58	1.00	1.15	1.54	3.19	4.73	6.57	7.42	---
26	8.23	6.83	4.09	.71	1.25	1.32	1.90	2.42	4.81	6.57	7.50	---
27	8.23	6.82	3.90	.71	1.34	1.42	2.19	1.60	4.88	6.57	---	---
28	8.22	6.84	3.43	.43	1.39	1.56	2.41	1.49	4.96	6.59	---	---
29	8.21	6.85	3.12	.58	---	1.74	2.58	1.75	4.99	6.60	---	7.54
30	8.20	6.81	2.81	.68	---	1.91	2.68	2.08	5.03	6.67	---	7.61
31	8.19	---	2.90	.82	---	2.07	---	2.39	---	6.72	---	---

WTR YR 1998 MEAN 4.19 HIGH .43 LOW 8.23


361420077111407 NC-154
WATER LEVEL, IN FEET BELOW LAND SURFACE
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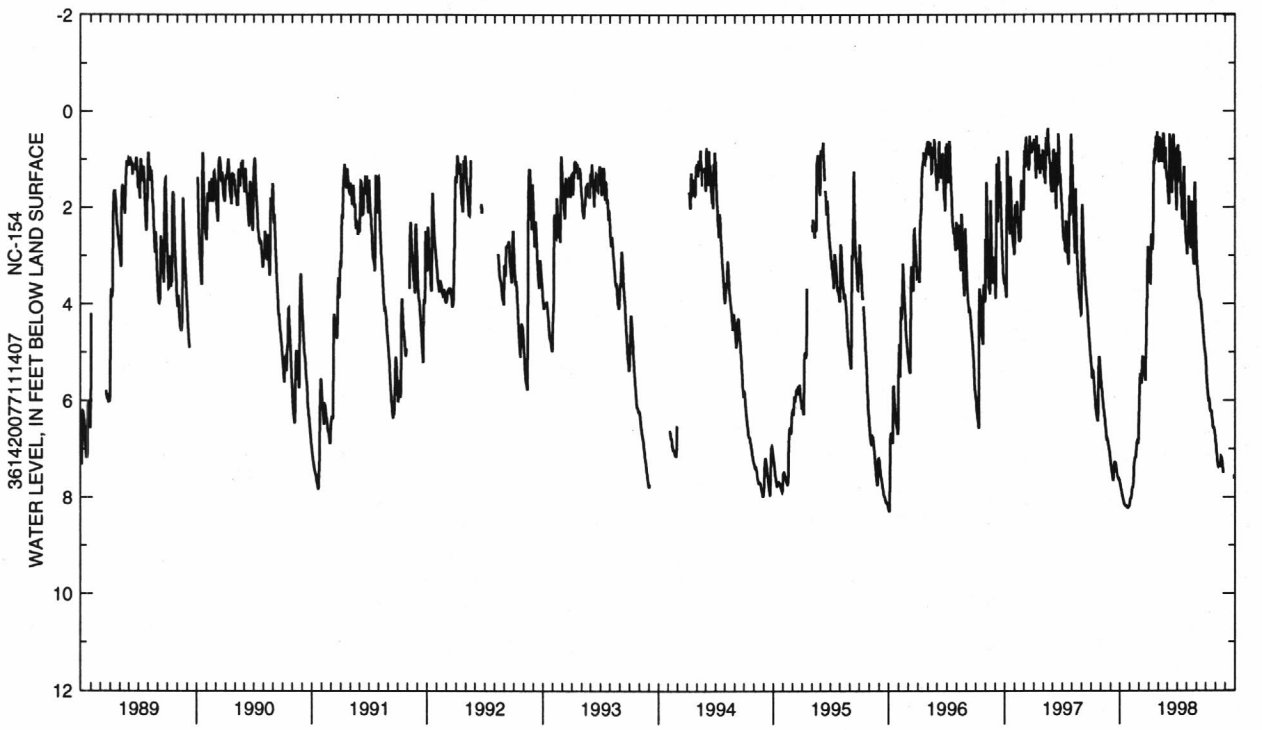
361420077111407 NC-154
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1996
1997
1998

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 Route 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, 2.33 ft above land-surface datum (since July 21, 1981).

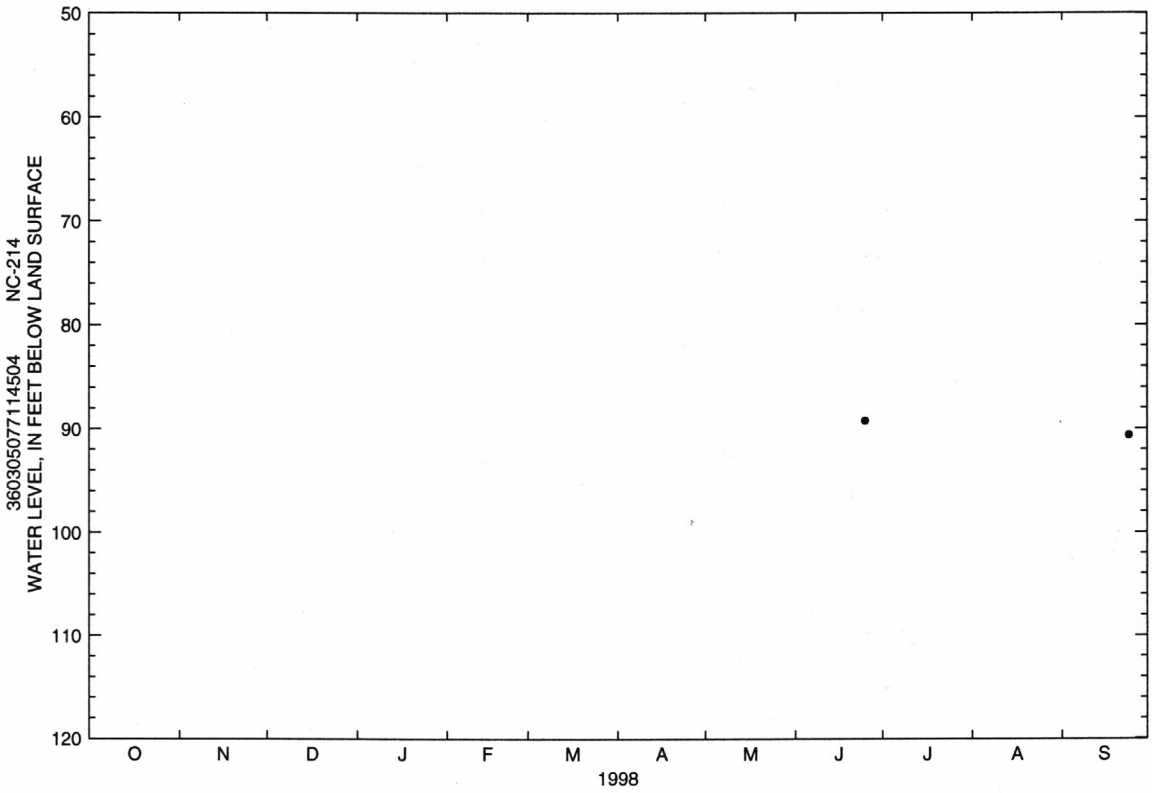
REMARKS.-- Well is part of areal-effects network.

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, 90.63 ft below land-surface datum, Sept. 24, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 25	89.21	SEP 24	90.63


360305077114504 NC-214
WATER LEVEL, IN FEET BELOW LAND SURFACE
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110
120
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1998

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 Route 42 and 11. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear.

WELL CHARACTERISTICS.--Dug 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, 2.55 ft above land-surface datum.

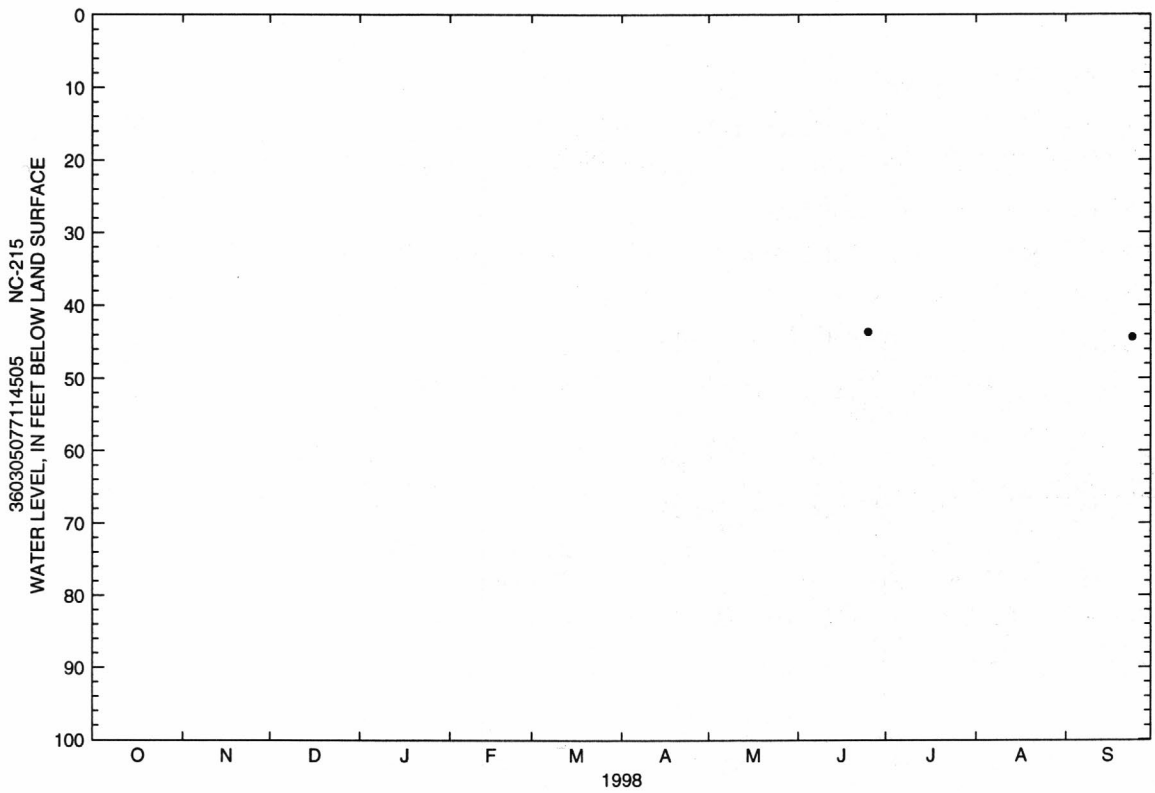
REMARKS.-- Well is part of areal-effects network.

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, 44.33 ft below land-surface datum, Sept. 24, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 25	43.61	SEP 24	44.33


360305077114505 NC-215
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1998

BLADEN COUNTY

344119078354201. Local number, Bl-57.

LOCATION.--Lat 34°41'20", long 78°35'42", Hydrologic Unit 03030005, 4.2 mi north of Elizabethtown on State Road 242 at Bladen Lakes State Forest Headquarters. Owner: North Carolina Division of Forest Resources.

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

WELL CHARACTERISTICS.--Drilled domestic well, depth 334 ft, diameter 6 in., cased to 327 ft, screened interval from 327 to 334 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 73 ft above sea level (from topographic map). Measuring point: Vent hole in top of sanitary seal, 0.7 ft above land-surface datum.

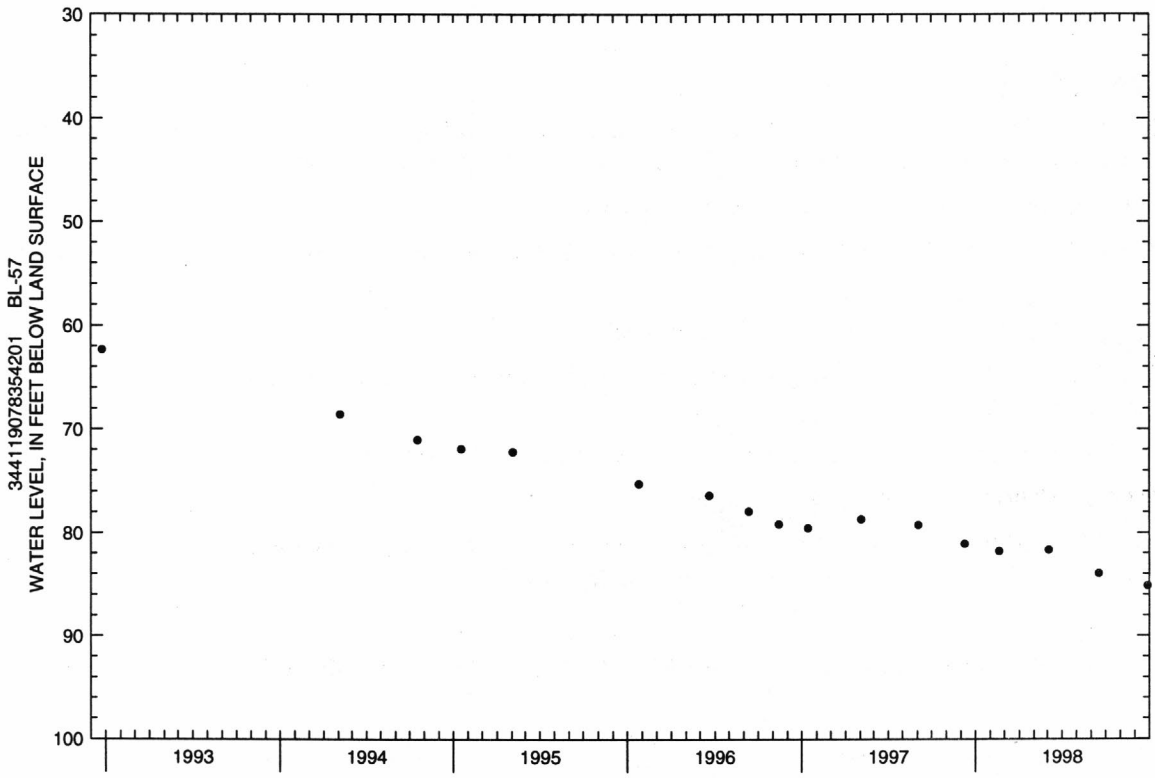
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 62.34 ft below land-surface datum, Sept. 23, 1992; lowest measured, 85.16 ft below land-surface datum, Sept. 28, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	81.81	MAR 4	81.70	JUN 17	83.96	SEP 28	85.16


344119078354201 BL-57
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1993
1994
1995
1996
1997
1998

BLADEN COUNTY--Continued

345005078493601. Local number, Bl-72.

LOCATION.--Lat 34°50'05", long 78°49'33", Hydrologic Unit 03030005, at William O. Huske Lock, 100 ft east of Secondary Road 1355 and about 675 ft west of Cape Fear River. Owner: U.S. Army Corps of Engineers.

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

WELL CHARACTERISTICS.--Drilled domestic well, depth 265 ft, diameter 6 in., screen depth unknown.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 74 ft above sea level (from topographic map). Measuring point: Vent hole in top of sanitary seal, 0.9 ft above land-surface datum.

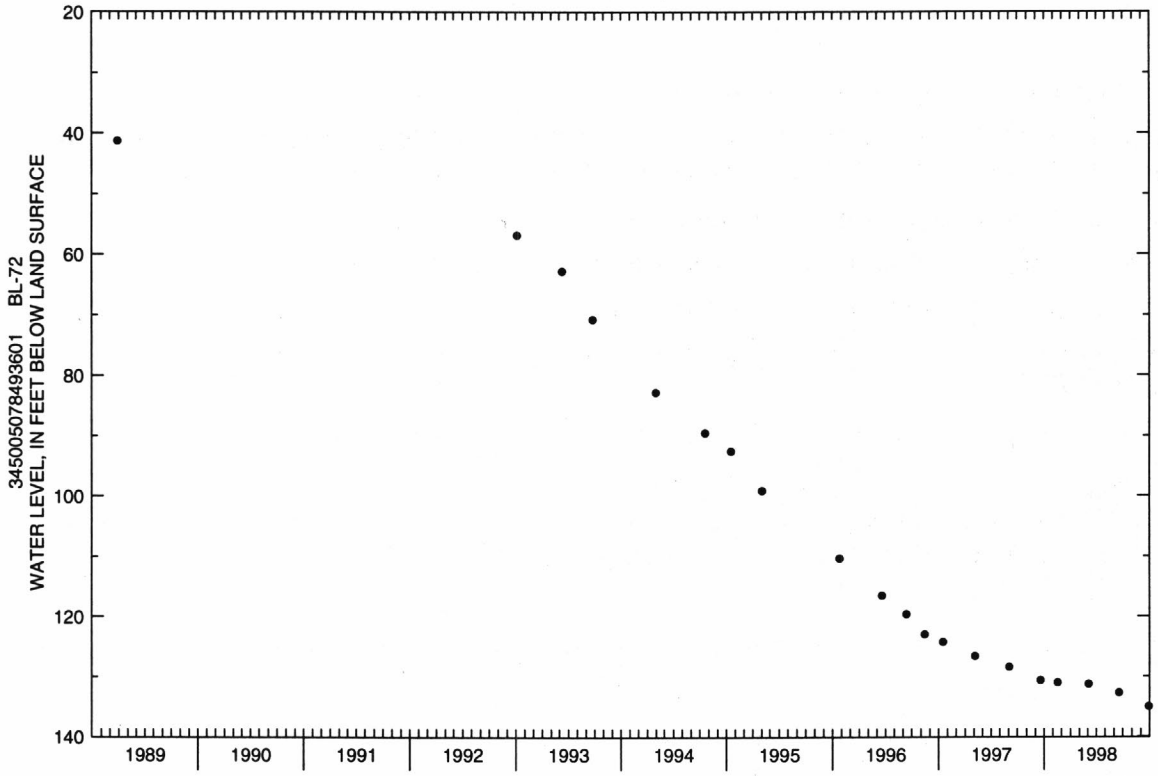
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.85 ft below land-surface datum, Sept. 8, 1981; lowest measured, 135.05 ft below land-surface datum, Sept. 29, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	131.04	MAR 5	131.27	JUN 18	132.7	SEP 29	135.05


345005078493601 BL-72
WATER LEVEL, IN FEET BELOW LAND SURFACE
20
40
60
80
100
120
140
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

BLADEN COUNTY--Continued

345037078501807. Local number, Bl-86; E.I. du Pont de Nemours observation well P-5.

LOCATION.--Lat 34°50'39", long 78°50'13", Hydrologic Unit 03030005, at E.I. du Pont de Nemours and Company, Inc., Fayetteville Works plant, 1.1 miles east of State Highway 87. Owner: E.I. du Pont de Nemours and Company, Inc.

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

WELL CHARACTERISTICS.--Drilled observation well, depth 330 ft, diameter 4 in., cased to 325 ft, screened interval from 325 to 330 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 147.3 ft above sea level. Measuring point: Top of 4-inch casing, 2.35 ft above land-surface datum.

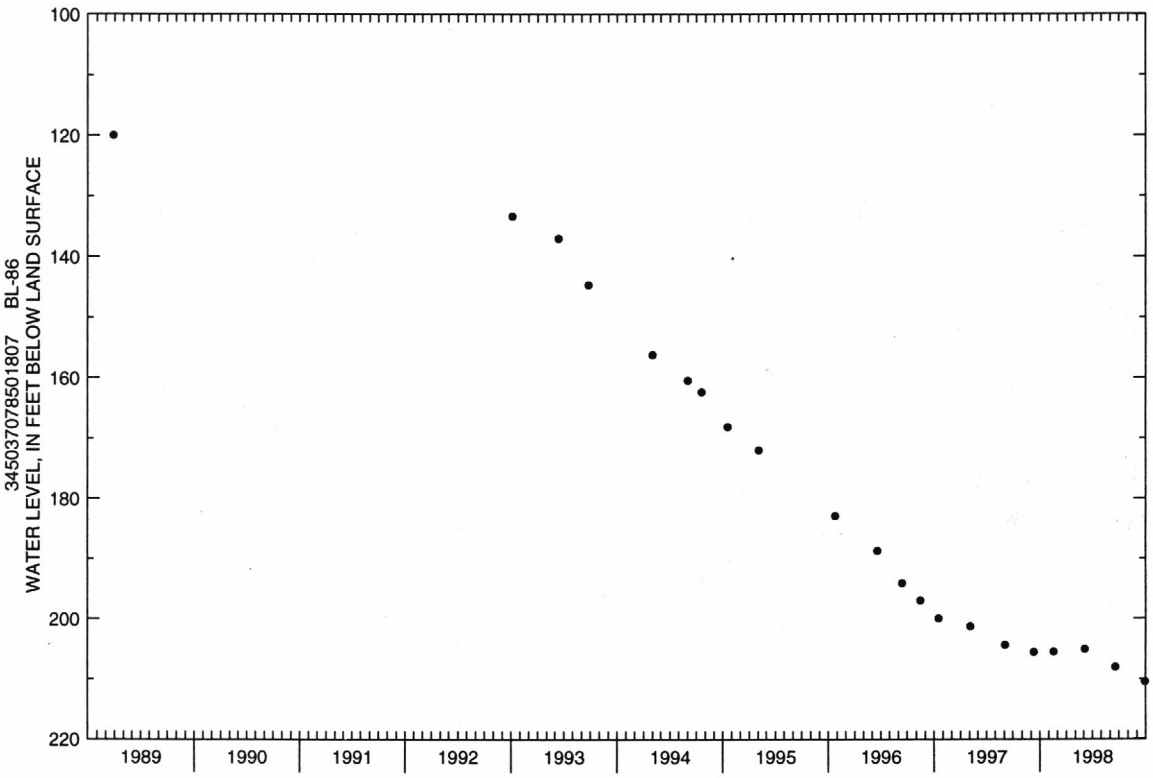
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--December 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 120.0 ft below land-surface datum, Dec. 27, 1988; lowest measured, 210.5 ft below land-surface datum, Sept. 29, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	205.5	MAR 5	205.1	JUN 18	208.1	SEP 29	210.5


345037078501807 BL-86
WATER LEVEL, IN FEET BELOW LAND SURFACE
100
120
140
160
180
200
220
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

BLADEN COUNTY--Continued

343908078432003. Local number, Bl-94; Dublin well 3.

LOCATION.--Lat 34°39'05", long 78°43'28", Hydrologic Unit 03030005, 0.4 mi southeast of Dublin on Secondary Road 1003. Owner: Town of Dublin.

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

WELL CHARACTERISTICS.--Drilled supply well, depth 460 ft (reported by owner), screened intervals unknown.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 144 ft above sea level (from topographic map). Measuring point: Top of 1.5-inch vent pipe in pump pedestal, 1.55 ft above land-surface datum.

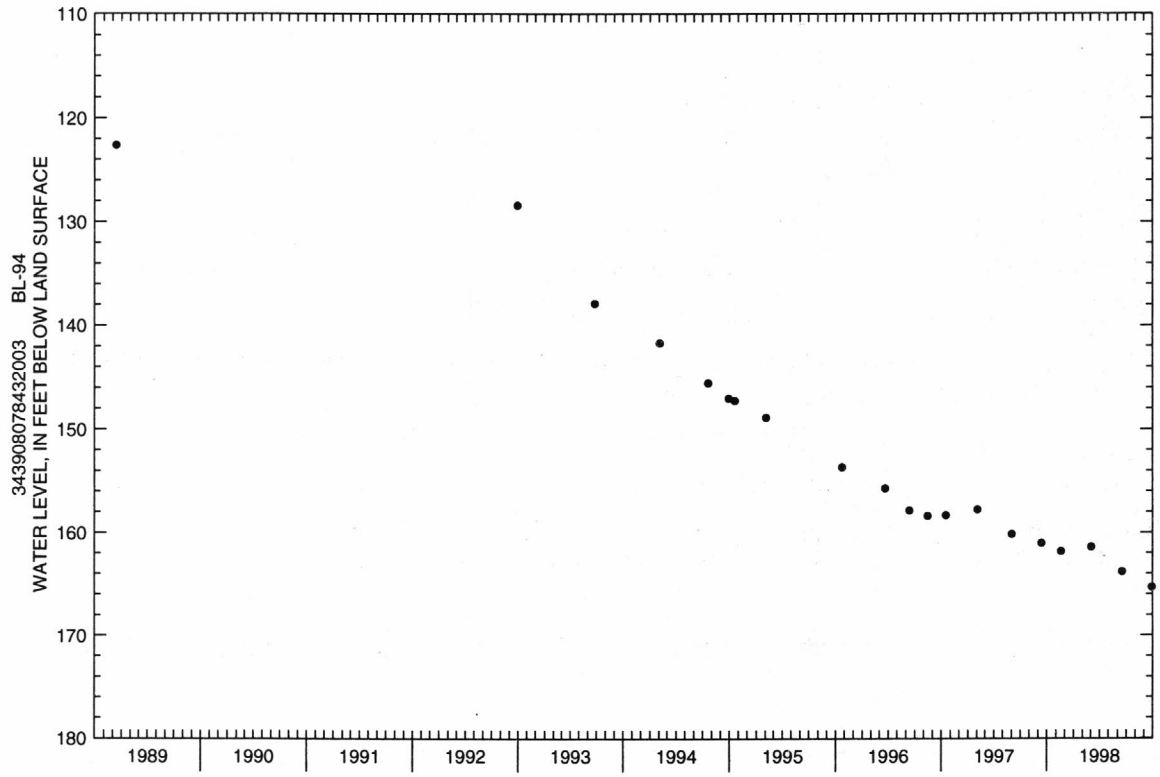
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 113.5 ft below land-surface datum, Nov. 26, 1984 (reported by driller); lowest measured, 165.32 ft below land-surface datum, Sept. 28, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 19	161.84	MAR 3	161.43	JUN 17	163.79	SEP 28	165.32


343908078432003 BL-94
WATER LEVEL, IN FEET BELOW LAND SURFACE
110
120
130
140
150
160
170
180
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

BLADEN COUNTY--Continued

343027078451902. Local number, Bl-100; DENR Bladenboro Research Station well Z41u2.

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

WELL CHARACTERISTICS.--Drilled observation well, depth 480 ft, diameter 4 in. to 147 ft and 2.5 in. from 147 to 480 ft, cased to 470 ft, screened interval from 470 to 480 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 106 ft above sea level (from topographic map). Measuring point: Top of lower plug in 4-inch casing collar, 1.36 ft above land-surface datum.

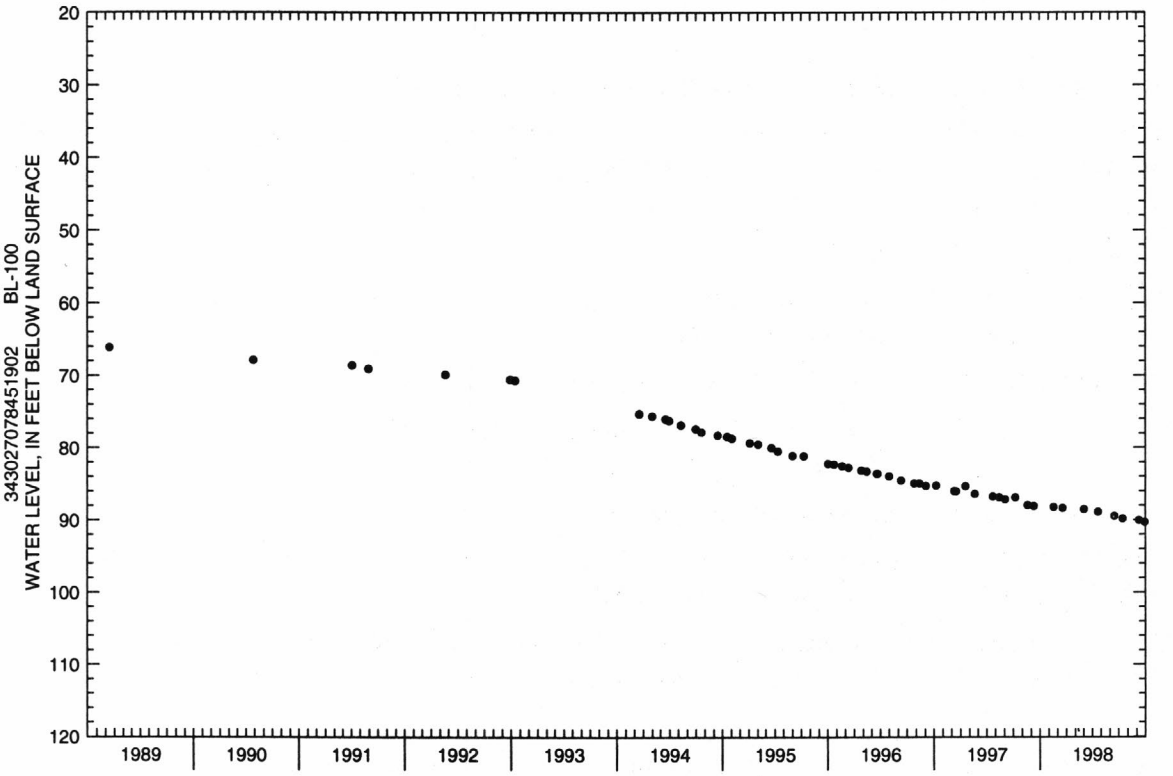
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.32 ft below land-surface datum, Nov. 14, 1975; lowest measured, 90.29 ft below land-surface datum, Sept. 29, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	88.18	MAR 3	88.54	JUN 16	89.44	JUL 15	89.78	SEP 9	90.02	SEP 29	90.29
DEC 19	88.32	APR 21	88.85								


343027078451902 BL-100
WATER LEVEL, IN FEET BELOW LAND SURFACE
20
30
40
50
60
70
80
90
100
110
120
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

BLADEN COUNTY--Continued

343726078360201. Local number, Bl-121; Elizabethtown well 1.

LOCATION.--Lat 34°37'26", long 78°36'02", Hydrologic Unit 03030005, 0.4 mi east of U.S. Highway 701 on East Swanzy Street. Owner: Town of Elizabethtown.

AQUIFER.--Black Creek, upper Cape Fear, and lower Cape Fear aquifers of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled supply well, depth 495 ft (reported by driller), diameter 10 in., screened at various intervals between 149 and 485 ft (reported by driller).

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 120 ft above sea level (from topographic map). Measuring point: One-inch hole in base of pump mount, 1.2 ft above land-surface datum.

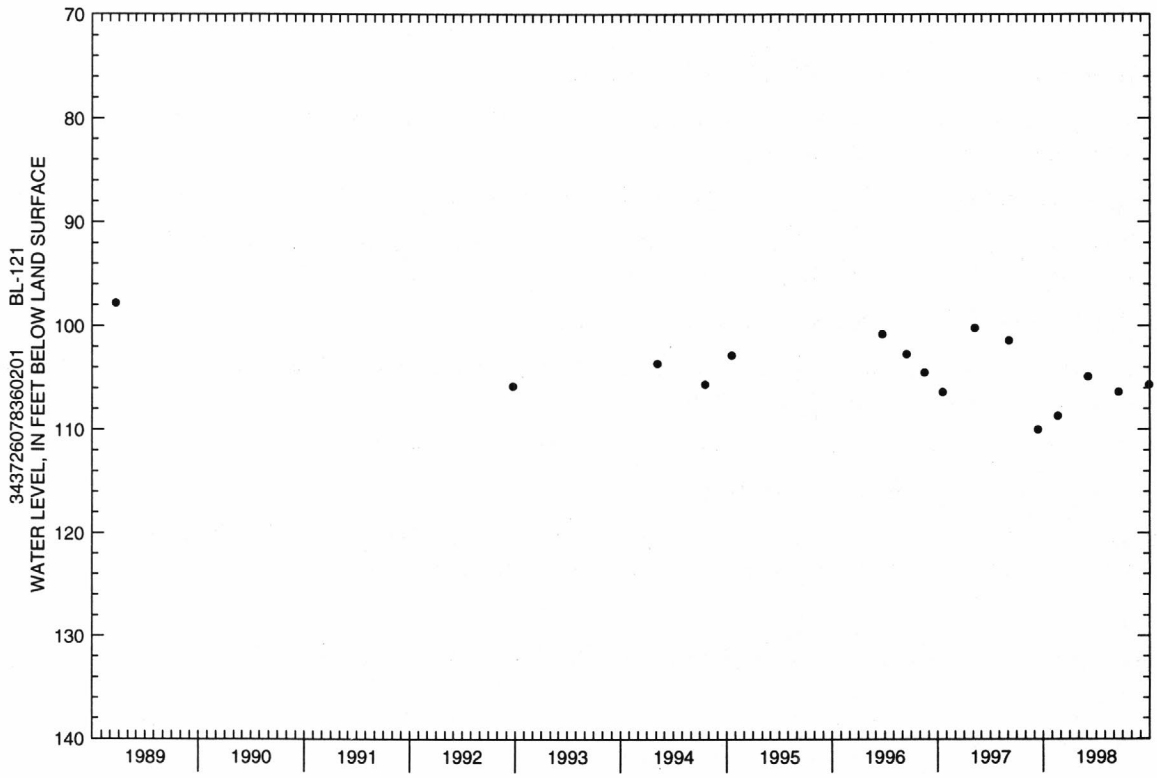
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 94.5 ft below land-surface datum, Apr. 3, 1984 (reported by driller); lowest measured, 110.0 ft below land-surface datum, Sept. 12, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	108.7	MAR 3	104.9	JUN 17	106.4	SEP 30	105.7


BL-121
343726078360201
WATER LEVEL, IN FEET BELOW LAND SURFACE
70
80
90
100
110
120
130
140
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

BLADEN COUNTY--Continued

343900078383205. Local number, Bl-131.

LOCATION.--Lat 34°39'00", long 78°38'36", Hydrologic Unit 03030005, north of Elizabethtown on State Highway 41 and 87 at Alamac Knits Fabrics, Inc. Owner: Alamac Knits Fabrics, Inc.

AQUIFER.--Black Creek, upper Cape Fear, and lower Cape Fear aquifers of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled unused supply well, depth 482 ft (reported), screened at various intervals between 200 and 482 ft (reported).

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 115 ft above sea level (from topographic map). Measuring point: Top of well access pipe in pump pedestal, 2.8 ft above land-surface datum.

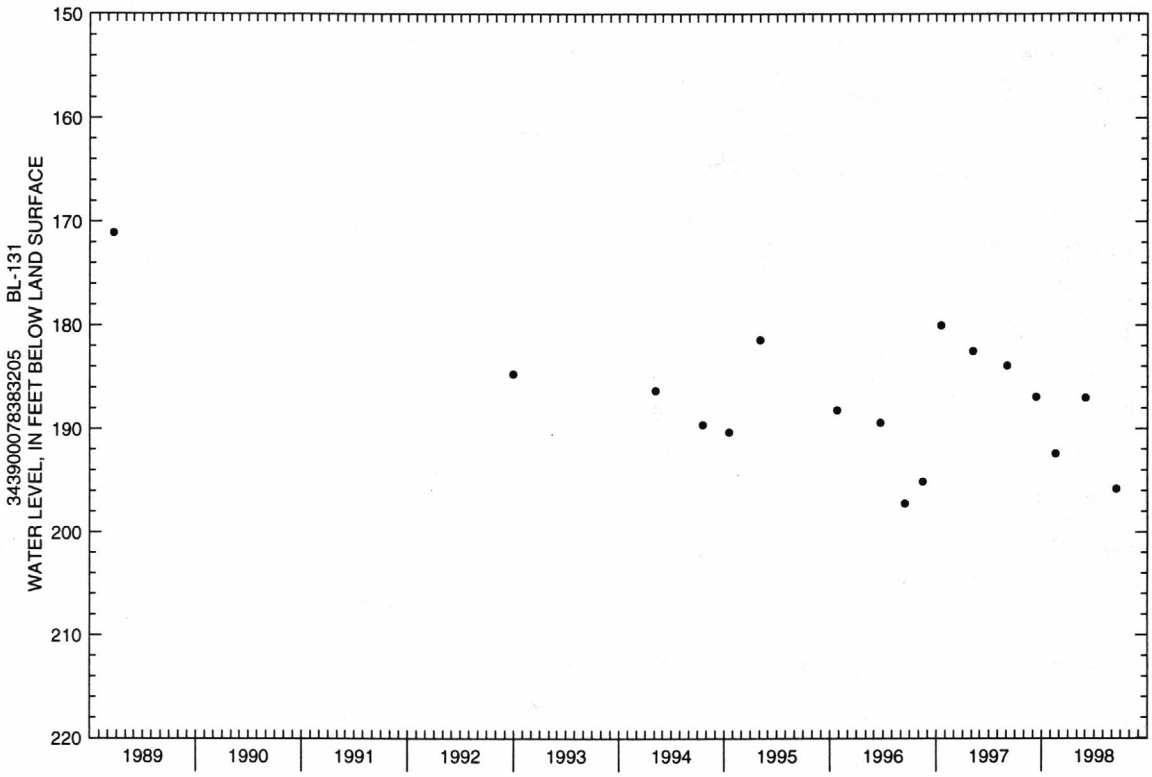
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--December 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 171.1 ft below land-surface datum, Dec. 20, 1988; lowest measured, 197.2 ft below land-surface datum, June 14, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 19	192.4	MAR 3	187.0	JUN 17	195.8


343900078383205 BL-131
WATER LEVEL, IN FEET BELOW LAND SURFACE
150
160
170
180
190
200
210
220
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

BLADEN COUNTY--Continued

344441078482402. Local number, Bl-142.

LOCATION.--Lat 34°44'42", long 78°48'24", Hydrologic Unit 03040203, 1 mi northwest of Tar Heel on State Highway 87 at Smithfield Packing Co., Inc., Tar Heel Division. Owner: Smithfield Packing Co., Inc.

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

WELL CHARACTERISTICS.--Drilled observation well, depth 375 ft, diameter 2 in, cased to 210 ft and from 220 to 245 ft, 250 to 315 ft, 320 to 345 ft, and 350 to 370 ft, screened intervals from 210 to 220 ft, 245 to 250 ft, 315 to 320 ft, 345 to 350 ft, and 370 to 375 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 130 ft above sea level (from topographic map). Measuring point: Top of 6-inch steel protective casing, 2.3 ft above land-surface datum.

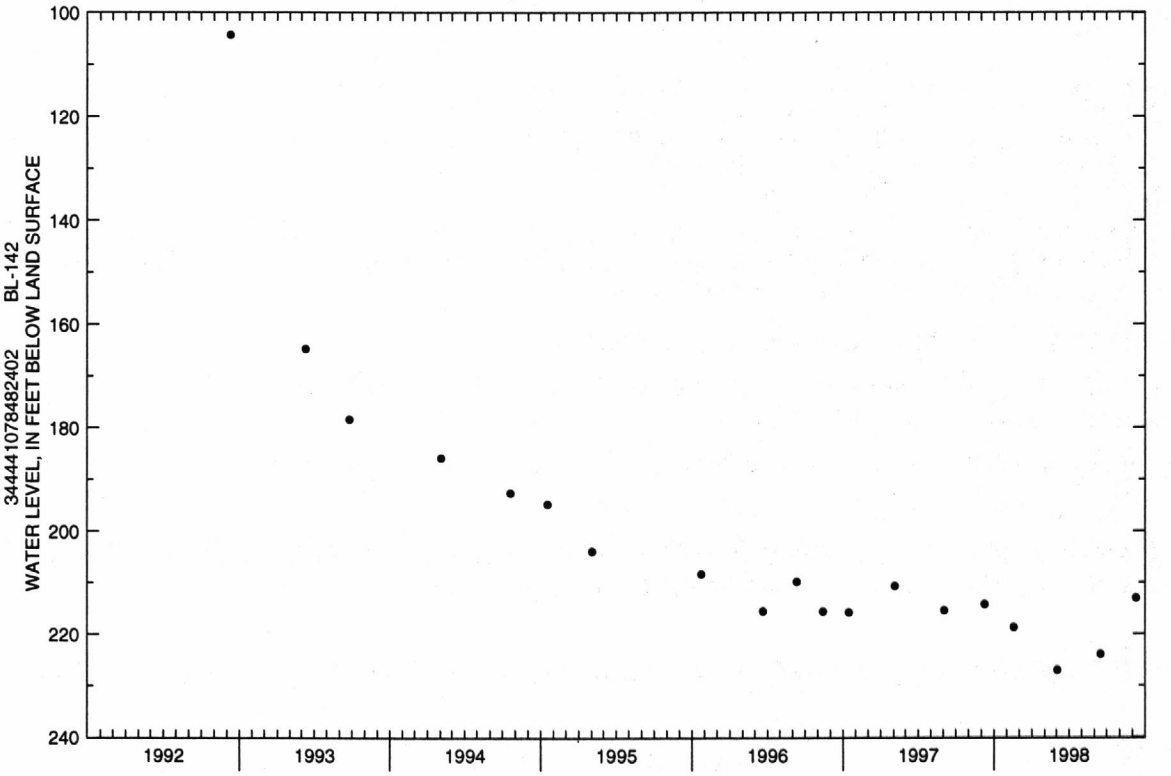
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 104.23 ft below land-surface datum, Sept. 10, 1992; lowest measured, 231.04 ft below land-surface datum, Sept. 29, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	218.66	MAR 3	227.01	JUN 16	223.9	SEP 29	231.04


344411078482402 BL-142
WATER LEVEL, IN FEET BELOW LAND SURFACE
100
120
140
160
180
200
220
240
1992
1993
1994
1995
1996
1997
1998

BLADEN COUNTY--Continued

344434078423201. Local number, Bl-147; Bladen County Water District White Oak well 1.

LOCATION.--Lat 34°44'35", long 78°42'31", Hydrologic Unit 03030005, in White Oak, 0.3 mi south of Secondary Road 1318 on State Highway 53. Owner: Bladen County Water District.

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

WELL CHARACTERISTICS.--Drilled unused supply well, depth 311 ft, diameter 6 in., cased to 290 ft and from 295 to 306 ft, screened intervals from 290 to 295 ft and 306 to 311 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 60 ft above sea level (from topographic map). Measuring point: Hole in top of sanitary seal, 0.8 ft above land-surface datum.

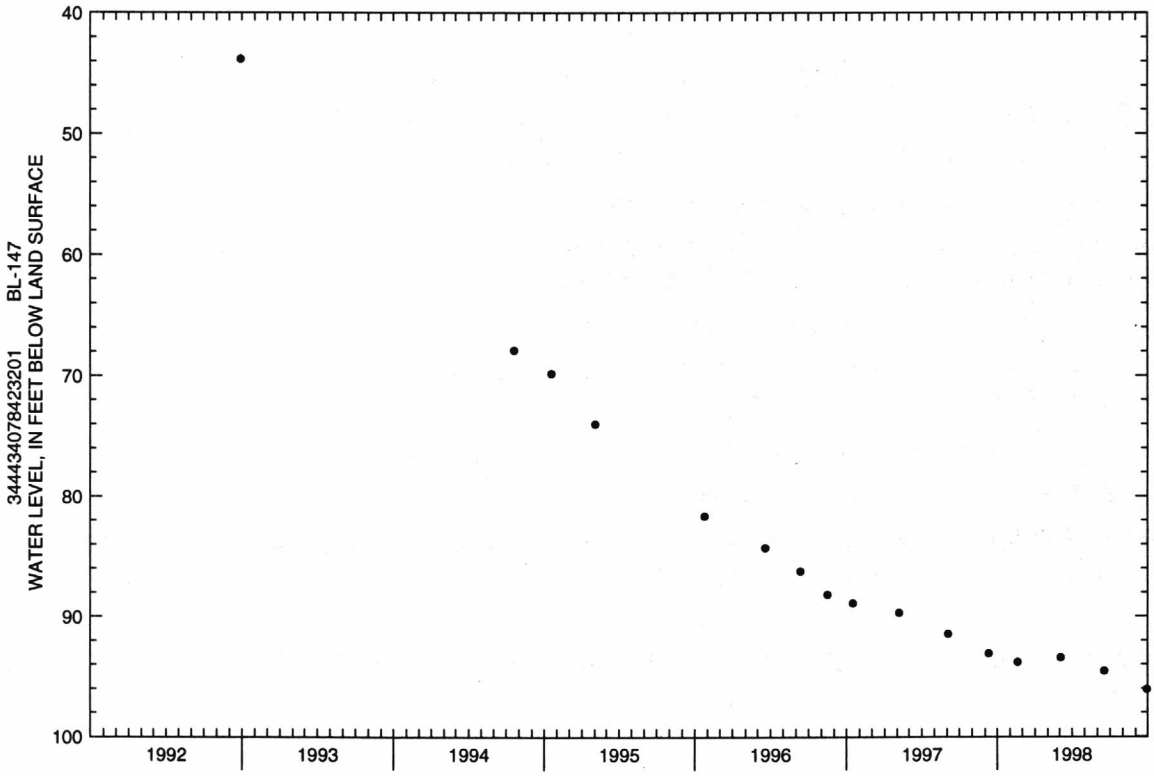
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.80 ft below land-surface datum, Sept. 28, 1992; lowest measured, 96.07 ft below land-surface datum, Sept. 28, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 19	93.80	MAR 4	93.42	JUN 17	94.56	SEP 28	96.07


344434078423201 BL-147
WATER LEVEL, IN FEET BELOW LAND SURFACE
40
50
60
70
80
90
100
1992
1993
1994
1995
1996
1997
1998

BLADEN COUNTY--Continued

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, drilled to 110 ft, diameter 6 in., cased to 100 ft, screened interval from 100 to 110 ft.

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

DATUM.--Land-surface datum is 116.45 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 2.78 ft above land-surface datum; revised from 2.89 ft above land-surface datum, October 1987.

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 recorded, 2.73 ft below land-surface datum, Apr. 19, 1978; lowest water level recorded, 9.25 ft below land-surface datum, Aug. 18, 1997.

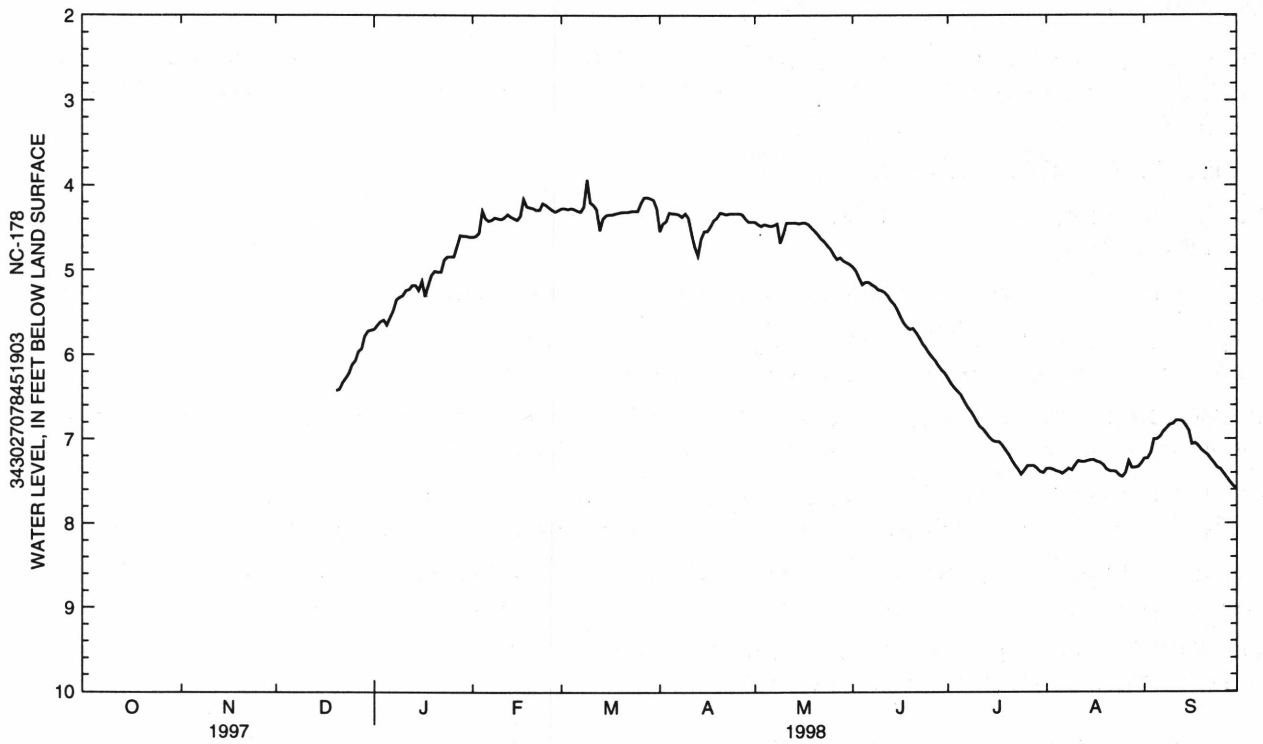
REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-87-1, should be adjusted by +0.11 ft.

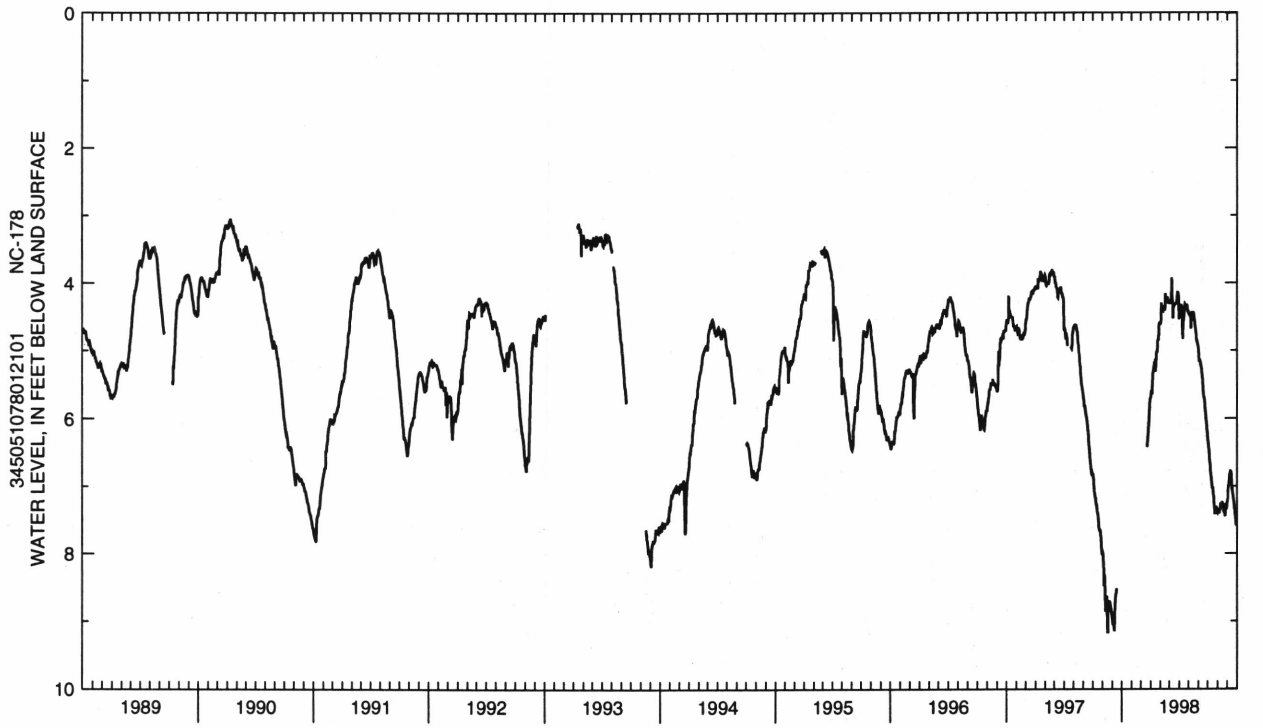
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	5.70	4.61	4.27	4.54	4.43	4.96	6.28	7.35	7.23
2	---	---	---	5.65	4.60	4.27	4.45	4.46	5.01	6.34	7.35	7.23
3	---	---	---	5.61	4.56	4.28	4.42	4.48	5.09	6.39	7.36	7.16
4	---	---	---	5.59	4.30	4.27	4.32	4.46	5.17	6.43	7.38	7.00
5	---	---	---	5.65	4.39	4.28	4.33	4.47	5.14	6.47	7.39	7.00
6	---	---	---	5.56	4.42	4.30	4.33	4.48	5.14	6.54	7.41	6.97
7	---	---	---	5.48	4.41	4.31	4.34	4.47	5.17	6.61	7.38	6.91
8	---	---	---	5.35	4.38	4.25	4.37	4.45	5.19	6.66	7.35	6.87
9	---	---	---	5.32	4.39	3.93	4.33	4.68	5.23	6.72	7.37	6.83
10	---	---	---	5.30	4.40	4.20	4.38	4.57	5.24	6.79	7.31	6.82
11	---	---	---	5.24	4.38	4.23	4.57	4.44	5.26	6.85	7.26	6.78
12	---	---	---	5.23	4.34	4.28	4.72	4.44	5.30	6.88	7.27	6.78
13	---	---	---	5.18	4.37	4.53	4.83	4.44	5.36	6.93	7.27	6.79
14	---	---	---	5.18	4.39	4.39	4.63	4.44	5.40	6.98	7.26	6.84
15	---	---	---	5.24	4.41	4.35	4.54	4.45	5.46	7.02	7.25	6.90
16	---	---	---	5.13	4.36	4.34	4.54	4.44	5.55	7.03	7.25	7.06
17	---	---	---	5.31	4.16	4.34	4.48	4.44	5.62	7.03	7.27	7.05
18	---	---	---	5.18	4.25	4.33	4.41	4.46	5.67	7.07	7.28	7.08
19	---	---	---	5.06	4.26	4.32	4.38	4.50	5.70	7.13	7.31	7.13
20	---	---	6.42	5.01	4.27	4.31	4.32	4.54	5.69	7.18	7.36	7.16
21	---	---	6.41	5.02	4.29	4.31	4.33	4.58	5.74	7.25	7.38	7.19
22	---	---	6.33	5.02	4.29	4.31	4.34	4.63	5.80	7.31	7.38	7.24
23	---	---	6.28	4.88	4.21	4.30	4.33	4.66	5.87	7.36	7.39	7.29
24	---	---	6.22	4.84	4.23	4.30	4.33	4.71	5.92	7.42	7.43	7.34
25	---	---	6.12	4.84	4.26	4.30	4.33	4.75	5.98	7.37	7.45	7.36
26	---	---	6.07	4.84	4.29	4.21	4.33	4.82	6.03	7.32	7.40	7.41
27	---	---	5.96	4.72	4.31	4.14	4.34	4.87	6.07	7.32	7.26	7.46
28	---	---	5.93	4.59	4.29	4.14	4.39	4.85	6.13	7.32	7.34	7.51
29	---	---	5.78	4.60	---	4.15	4.43	4.89	6.18	7.35	7.34	7.56
30	---	---	5.72	4.60	---	4.17	4.43	4.91	6.22	7.39	7.33	7.59
31	---	---	5.71	4.61	---	4.27	---	4.93	---	7.40	7.29	---

WTR YR 1998 MEAN 5.56 HIGH 3.93 LOW 7.59


343027078451903 NC-178
WATER LEVEL, IN FEET BELOW LAND SURFACE
2
3
4
5
6
7
8
9
10
O
N
D
J
F
M
A
M
J
J
A
S
1997
1998


345051078012101 NC-178
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
2
4
6
8
10
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

BRUNSWICK COUNTY

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, drilled to 102 ft, diameter 6 in., cased to 84 ft, open hole 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 areal-effects network.

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.

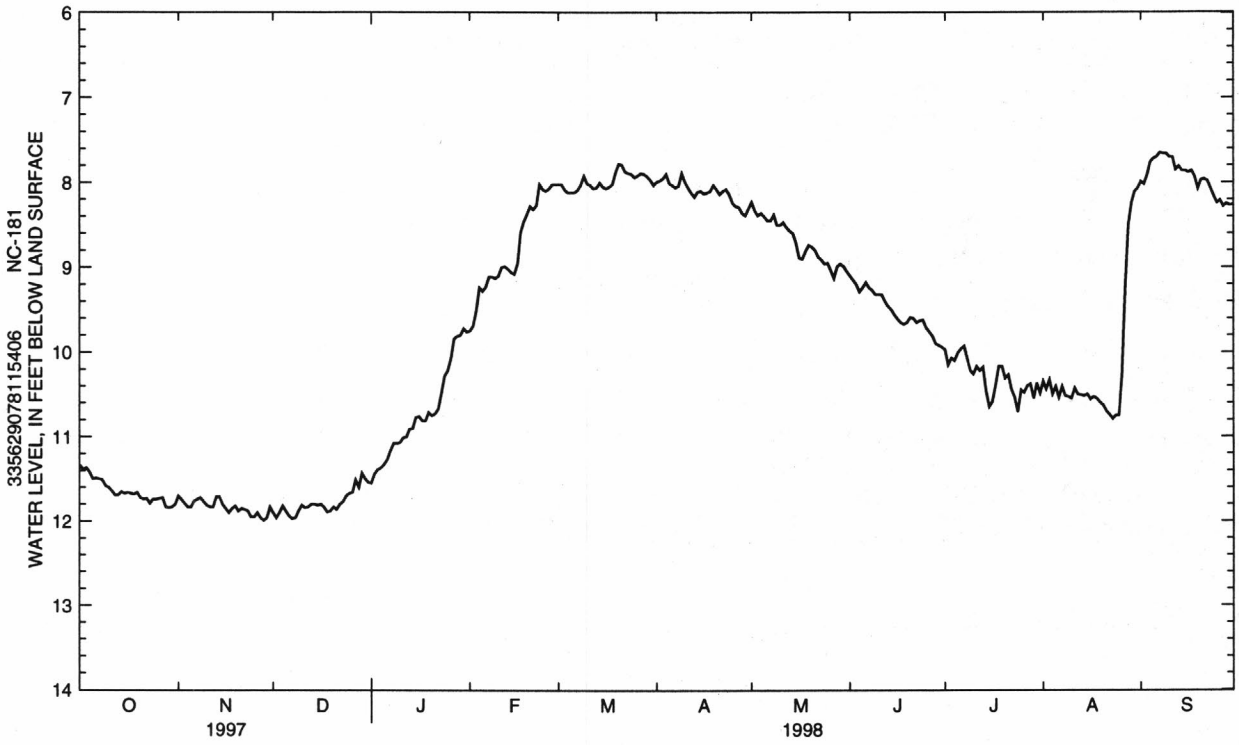
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 6.37 ft below land-surface datum, Mar. 13, 1987; lowest water level recorded, 13.53 ft below land-surface datum, Aug. 1, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.34	11.70	11.90	11.55	9.75	8.02	7.99	8.23	9.10	9.97	10.35	7.99
2	11.39	11.74	11.96	11.44	9.69	8.02	7.98	8.33	9.15	10.15	10.44	8.02
3	11.37	11.79	11.90	11.39	9.51	8.09	7.95	8.39	9.20	10.07	10.33	7.91
4	11.42	11.83	11.82	11.37	9.24	8.12	7.90	8.36	9.29	10.10	10.50	7.76
5	11.50	11.83	11.88	11.33	9.28	8.12	8.01	8.40	9.24	10.01	10.41	7.72
6	11.49	11.76	11.94	11.27	9.23	8.12	8.03	8.45	9.18	9.96	10.54	7.70
7	11.50	11.74	11.97	11.17	9.11	8.09	8.06	8.45	9.24	9.93	10.41	7.65
8	11.51	11.72	11.96	11.08	9.11	8.03	8.04	8.38	9.27	10.08	10.52	7.66
9	11.58	11.77	11.88	11.08	9.13	7.92	7.89	8.50	9.32	10.22	10.53	7.66
10	11.60	11.81	11.81	11.07	9.10	8.01	7.99	8.50	9.32	10.26	10.55	7.70
11	11.64	11.83	11.84	11.01	9.00	8.03	8.06	8.47	9.32	10.17	10.43	7.70
12	11.69	11.83	11.83	11.00	8.99	8.07	8.12	8.53	9.40	10.22	10.50	7.85
13	11.69	11.71	11.80	10.91	9.02	8.06	8.17	8.57	9.46	10.18	10.51	7.81
14	11.65	11.71	11.80	10.90	9.06	8.00	8.11	8.60	9.50	10.46	10.52	7.86
15	11.67	11.80	11.81	10.77	9.08	8.05	8.10	8.71	9.56	10.65	10.50	7.86
16	11.66	11.85	11.80	10.76	8.95	8.07	8.13	8.89	9.61	10.59	10.56	7.88
17	11.67	11.90	11.83	10.81	8.59	8.05	8.12	8.90	9.65	10.39	10.53	7.86
18	11.68	11.85	11.89	10.81	8.46	8.02	8.10	8.81	9.67	10.17	10.55	7.93
19	11.66	11.82	11.88	10.71	8.38	7.88	8.03	8.74	9.65	10.17	10.60	8.07
20	11.72	11.88	11.83	10.75	8.28	7.78	8.08	8.76	9.59	10.31	10.63	7.97
21	11.74	11.85	11.86	10.73	8.32	7.79	8.14	8.80	9.60	10.27	10.70	7.96
22	11.73	11.86	11.80	10.67	8.27	7.87	8.10	8.88	9.65	10.44	10.74	7.98
23	11.79	11.88	11.77	10.49	8.02	7.89	8.08	8.91	9.63	10.54	10.79	8.07
24	11.74	11.95	11.70	10.28	8.08	7.90	8.14	8.96	9.62	10.71	10.75	8.16
25	11.74	11.95	11.67	10.22	8.10	7.94	8.24	8.95	9.71	10.45	10.75	8.24
26	11.73	11.90	11.66	10.07	8.07	7.92	8.28	9.04	9.76	10.48	10.27	8.21
27	11.72	11.96	11.51	9.84	8.02	7.89	8.29	9.13	9.81	10.40	9.23	8.28
28	11.83	11.99	11.60	9.81	8.02	7.90	8.36	8.99	9.90	10.38	8.51	8.25
29	11.84	11.96	11.43	9.80	---	7.93	8.39	8.96	9.92	10.55	8.24	8.27
30	11.83	11.83	11.50	9.72	---	7.97	8.31	8.99	9.94	10.37	8.11	8.26
31	11.80	---	11.54	9.76	---	8.03	---	9.05	---	10.49	8.07	---

WTR YR 1998 MEAN 9.81 HIGH 7.65 LOW 11.99


335629078115406 NC-181
WATER LEVEL, IN FEET BELOW LAND SURFACE
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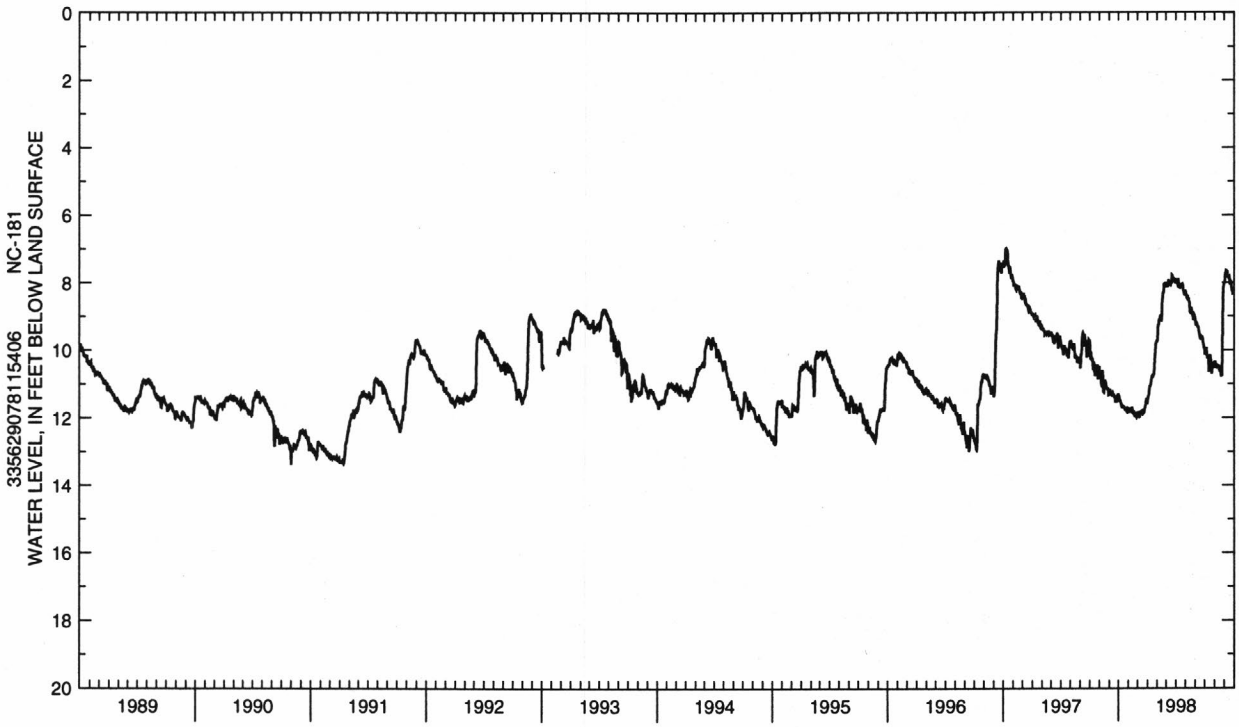
335629078115406 NC-181
WATER LEVEL, IN FEET BELOW LAND SURFACE
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BRUNSWICK COUNTY--Continued

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

LOCATION.--Lat 35°56'31", long 78°00'36", Hydrologic Unit 03030005, north of Southport on SR 1527 .45 miles northeast of intersection of SR 1526. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne.

WELL CHARACTERISTICS.--Drilled observation well, depth 200 ft, diameter 6 in., cased to 93.5 ft, open hole 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 induced-effects network.

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

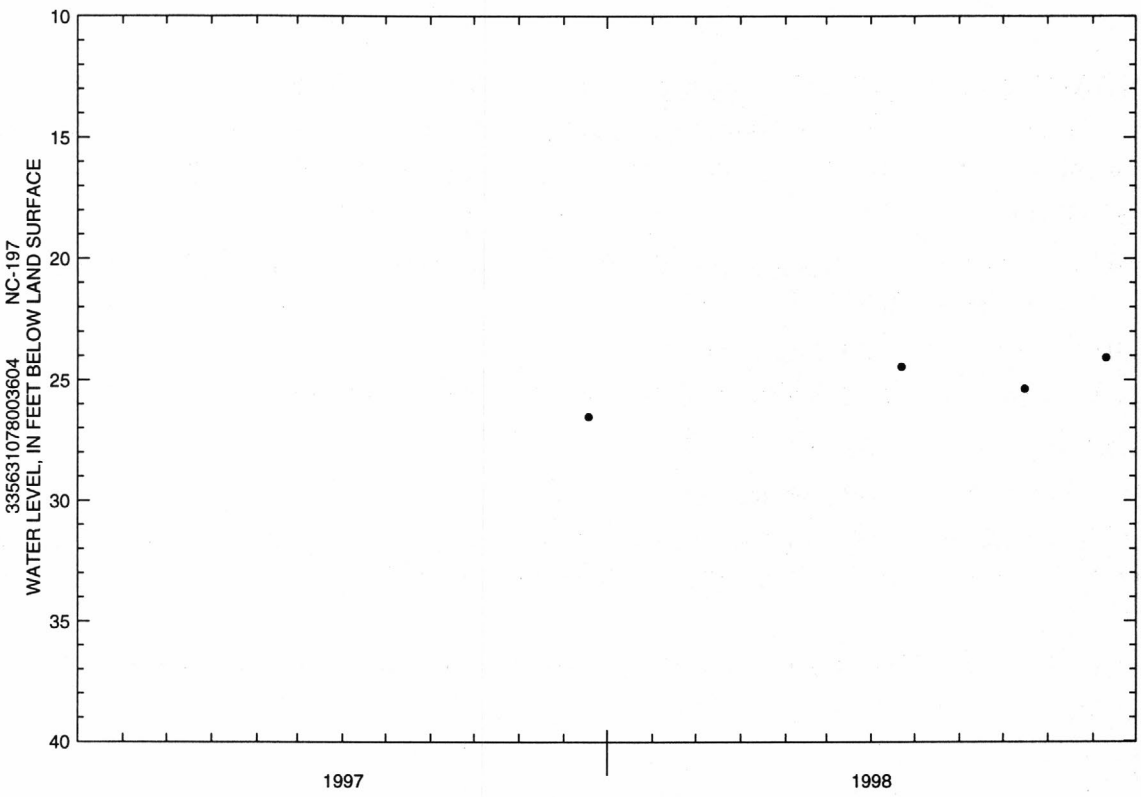
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.08 ft below land-surface datum, Sept. 10, 1998; lowest water level measured, 26.51 ft below land-surface datum, Sept. 18, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL
SEP 18	26.51

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 22	24.45	JUL 16	25.37	SEP 10	24.08


335631078003604 NC-197
WATER LEVEL, IN FEET BELOW LAND SURFACE
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BRUNSWICK COUNTY--Continued

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

LOCATION.--Lat 35°56'31", long 78°00'36", Hydrologic Unit 03030005, north of Southport on SR 1527 .45 miles northeast of intersection of SR 1526. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne.

WELL CHARACTERISTICS.--Drilled observation well, depth 74 ft, diameter 4 in., cased to 64 ft, screened 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.

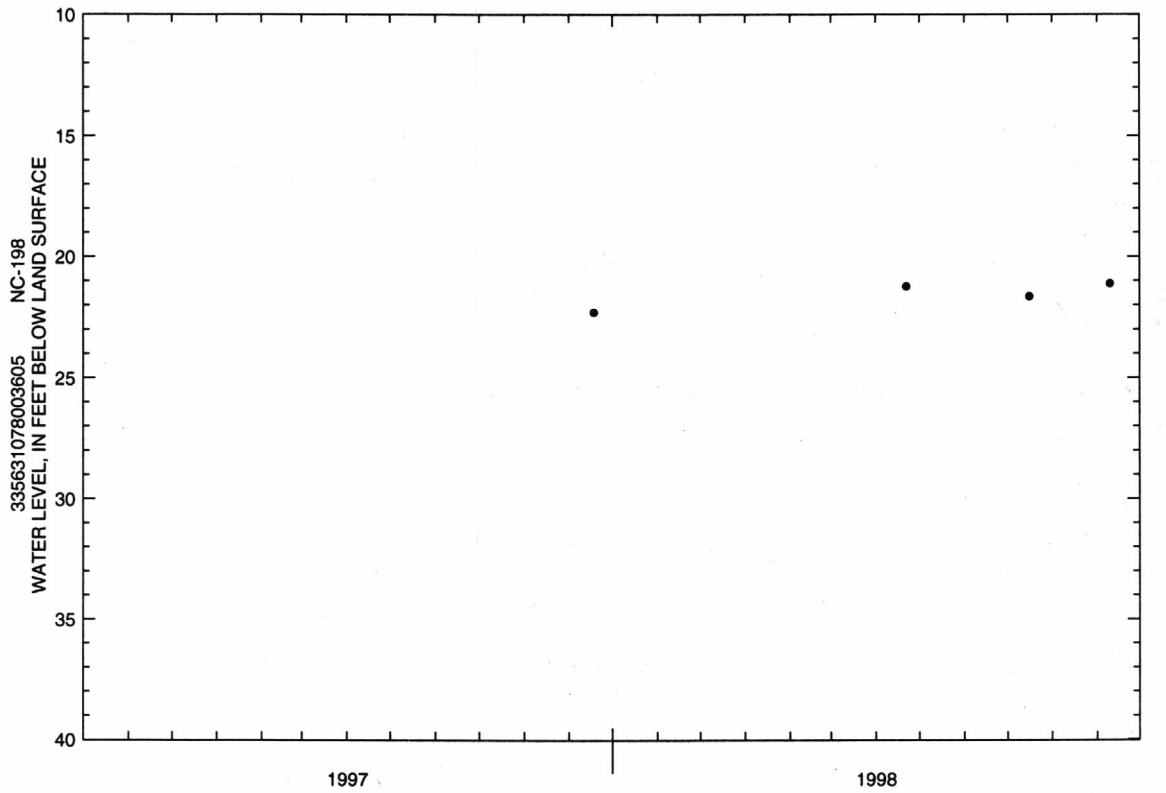
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.12 ft below land-surface datum, Sept. 10, 1998; lowest water level measured, 22.28 ft below land-surface datum, Sept. 18, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL
SEP 18	22.28

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 22	21.22	JUL 16	21.64	SEP 10	21.12


NC-198
335631078003605
WATER LEVEL, IN FEET BELOW LAND SURFACE
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BRUNSWICK COUNTY--Continued

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

LOCATION.--Lat 35°56'31", long 78°00'36", Hydrologic Unit 03030005, north of Southport on SR 1527 .45 miles northeast of intersection of SR 1526. 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 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.

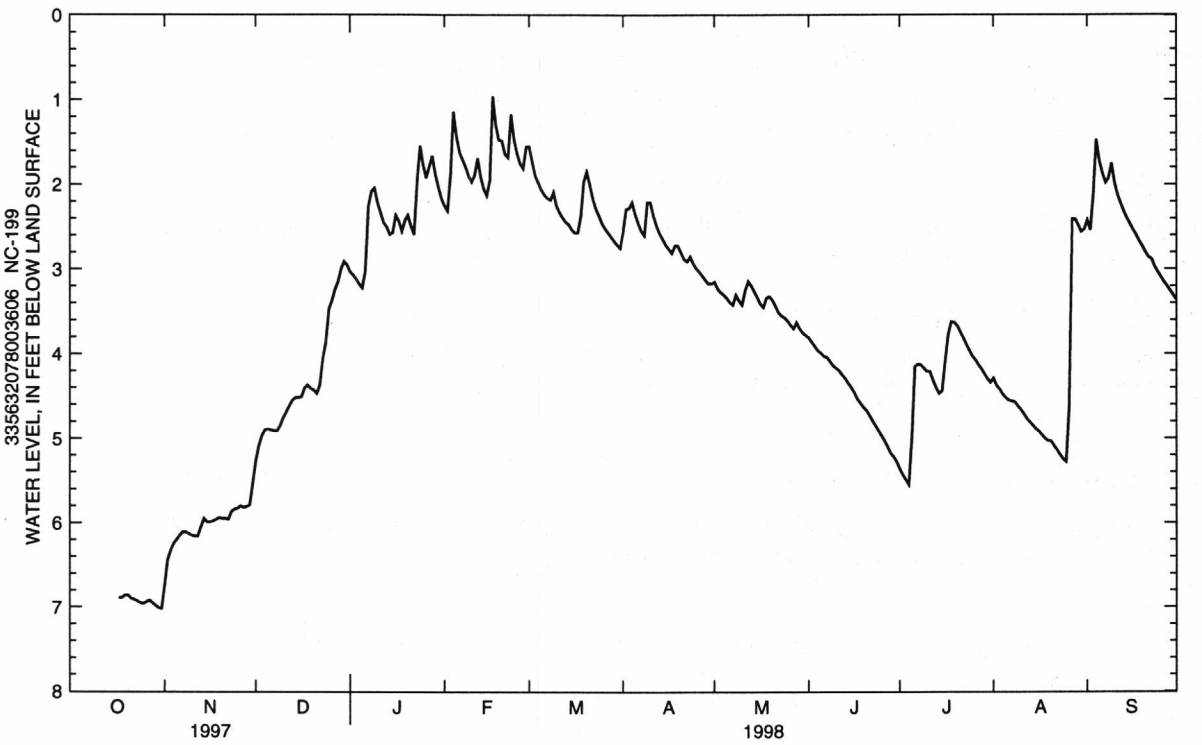
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.69 ft below land-surface datum, Feb. 17, 1998; lowest water level recorded, 7.03 ft below land-surface datum, Oct. 30, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	6.74	5.26	3.03	2.25	1.55	2.55	3.15	3.81	5.36	4.29	2.42
2	---	6.44	5.09	3.07	2.31	1.73	2.29	3.23	3.86	5.43	4.38	2.54
3	---	6.33	4.97	3.12	1.88	1.90	2.28	3.27	3.91	5.49	4.42	2.13
4	---	6.25	4.90	3.18	1.14	1.98	2.21	3.30	3.96	5.55	4.48	1.47
5	---	6.20	4.89	3.22	1.43	2.06	2.35	3.34	3.99	4.96	4.52	1.72
6	---	6.15	4.90	3.02	1.62	2.12	2.46	3.39	4.03	4.15	4.55	1.87
7	---	6.11	4.91	2.26	1.71	2.16	2.55	3.42	4.04	4.12	4.56	1.98
8	---	6.11	4.91	2.08	1.80	2.18	2.60	3.30	4.09	4.13	4.57	1.93
9	---	6.13	4.85	2.04	1.90	2.09	2.21	3.37	4.14	4.17	4.62	1.75
10	---	6.15	4.76	2.21	1.97	2.25	2.21	3.42	4.17	4.21	4.66	1.99
11	---	6.16	4.69	2.33	1.89	2.33	2.37	3.25	4.20	4.21	4.71	2.13
12	---	6.16	4.62	2.45	1.69	2.39	2.49	3.14	4.25	4.31	4.77	2.23
13	---	6.05	4.55	2.50	1.91	2.44	2.58	3.19	4.29	4.40	4.81	2.32
14	---	5.95	4.52	2.59	2.05	2.47	2.64	3.26	4.35	4.47	4.85	2.40
15	---	5.99	4.52	2.57	2.13	2.53	2.71	3.33	4.40	4.44	4.89	2.47
16	---	5.99	4.51	2.36	1.95	2.57	2.76	3.41	4.46	4.10	4.92	2.54
17	6.89	5.98	4.41	2.43	.96	2.57	2.81	3.45	4.53	3.78	4.96	2.60
18	6.89	5.96	4.37	2.55	1.30	2.37	2.72	3.34	4.58	3.62	5.00	2.67
19	6.86	5.94	4.41	2.42	1.47	1.96	2.72	3.32	4.63	3.63	5.03	2.73
20	6.86	5.95	4.43	2.36	1.48	1.85	2.80	3.36	4.67	3.67	5.03	2.80
21	6.90	5.95	4.47	2.49	1.64	2.00	2.88	3.43	4.73	3.74	5.09	2.86
22	6.91	5.96	4.37	2.59	1.68	2.17	2.91	3.51	4.79	3.81	5.14	2.88
23	6.93	5.87	4.06	1.97	1.17	2.29	2.85	3.55	4.85	3.89	5.20	2.97
24	6.95	5.84	3.86	1.54	1.46	2.37	2.93	3.57	4.91	3.96	5.25	3.03
25	6.96	5.83	3.47	1.76	1.63	2.46	2.99	3.61	4.97	4.03	5.28	3.09
26	6.94	5.80	3.37	1.92	1.75	2.52	3.03	3.66	5.03	4.07	4.61	3.15
27	6.92	5.82	3.24	1.79	1.81	2.57	3.08	3.70	5.10	4.13	2.41	3.20
28	6.95	5.81	3.15	1.66	1.55	2.62	3.13	3.63	5.18	4.18	2.41	3.25
29	6.98	5.79	3.00	1.88	---	2.67	3.17	3.70	5.22	4.24	2.48	3.30
30	7.01	5.53	2.91	2.02	---	2.71	3.17	3.75	5.28	4.30	2.56	3.36
31	7.02	---	2.95	2.16	---	2.75	---	3.78	---	4.34	2.53	---

WTR YR 1998 MEAN 3.66 HIGH .96 LOW 7.02


335632078003606 NC-199
WATER LEVEL, IN FEET BELOW LAND SURFACE
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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, in Marble. 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.--Digital recorder with a 60-minute punch interval. Digital recorder replaced with electronic data logger on Aug. 12, 1997.

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.

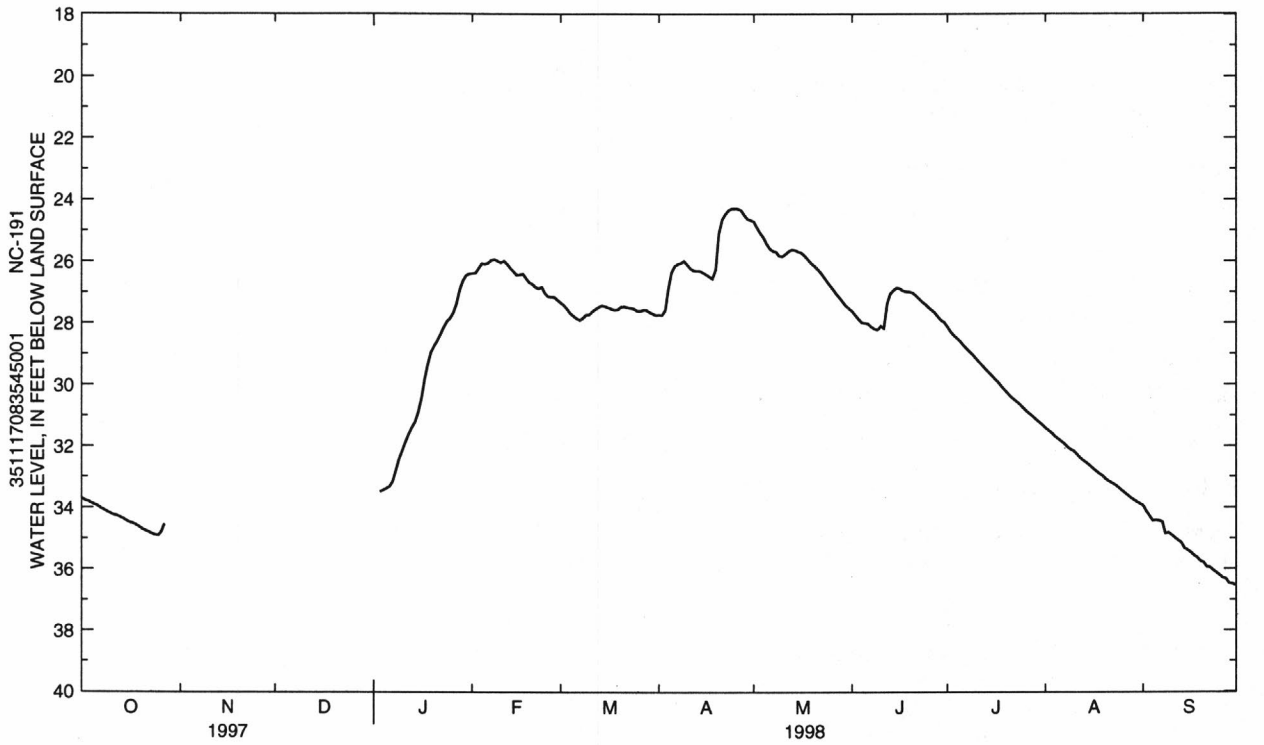
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 19.26 ft below land-surface datum, Mar. 29, 1994; lowest water level recorded, 38.41 ft below land-surface datum, Nov. 25 and 26, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.71	---	---	---	26.39	27.34	27.73	24.72	27.61	28.12	31.41	33.94
2	33.77	---	---	---	26.38	27.42	27.74	24.91	27.74	28.28	31.49	34.12
3	33.80	---	---	33.48	26.23	27.54	27.57	25.07	27.87	28.40	31.57	34.28
4	33.86	---	---	33.44	26.07	27.68	26.88	25.22	27.98	28.49	31.68	34.43
5	33.91	---	---	33.38	26.09	27.77	26.35	25.42	28.00	28.59	31.76	34.42
6	33.95	---	---	33.32	26.05	27.85	26.15	25.58	28.02	28.72	31.84	34.43
7	34.02	---	---	33.16	25.96	27.90	26.08	25.66	28.12	28.83	31.92	34.47
8	34.08	---	---	32.79	25.94	27.84	26.05	25.69	28.19	28.93	32.03	34.85
9	34.14	---	---	32.43	25.99	27.73	25.98	25.82	28.22	29.03	32.11	34.83
10	34.19	---	---	32.15	26.04	27.73	26.10	25.84	28.10	29.15	32.16	34.90
11	34.24	---	---	31.87	25.99	27.62	26.23	25.76	28.17	29.27	32.27	34.99
12	34.27	---	---	31.61	26.09	27.54	26.29	25.67	27.38	29.37	32.38	35.07
13	34.31	---	---	31.40	26.22	27.48	26.31	25.62	27.06	29.49	32.47	35.15
14	34.36	---	---	31.21	26.33	27.43	26.31	25.63	26.94	29.60	32.54	35.33
15	34.43	---	---	30.90	26.45	27.46	26.36	25.68	26.86	29.70	32.63	35.39
16	34.48	---	---	30.44	26.43	27.50	26.42	25.72	26.88	29.81	32.72	35.46
17	34.52	---	---	29.83	26.41	27.54	26.49	25.81	26.96	29.91	32.81	35.57
18	34.57	---	---	29.33	26.56	27.57	26.56	25.93	26.98	30.04	32.89	35.63
19	34.63	---	---	28.95	26.69	27.56	26.26	26.05	26.99	30.16	32.96	35.75
20	34.70	---	---	28.74	26.74	27.47	25.11	26.14	27.02	30.27	33.06	35.79
21	34.75	---	---	28.57	26.84	27.46	24.65	26.24	27.10	30.39	33.14	35.94
22	34.80	---	---	28.36	26.88	27.49	24.48	26.36	27.21	30.48	33.20	35.95
23	34.86	---	---	28.14	26.84	27.51	24.35	26.50	27.31	30.56	33.26	36.05
24	34.89	---	---	27.95	27.04	27.52	24.30	26.65	27.39	30.65	33.34	36.13
25	34.91	---	---	27.85	27.14	27.60	24.29	26.78	27.49	30.76	33.43	36.21
26	34.81	---	---	27.67	27.15	27.61	24.30	26.91	27.58	30.86	33.51	36.30
27	34.55	---	---	27.38	27.16	27.57	24.35	27.05	27.67	30.95	33.60	36.33
28	---	---	---	26.93	27.26	27.57	24.50	27.18	27.80	31.03	33.68	36.48
29	---	---	---	26.64	---	27.64	24.63	27.31	27.91	31.13	33.75	36.49
30	---	---	---	26.46	---	27.69	24.66	27.44	27.98	31.22	33.82	36.54
31	---	---	---	26.41	---	27.74	---	27.53	---	31.31	33.88	---

WTR YR 1998 MEAN 29.53 HIGH 24.29 LOW 36.54


351117083545001 NC-191
WATER LEVEL, IN FEET BELOW LAND SURFACE
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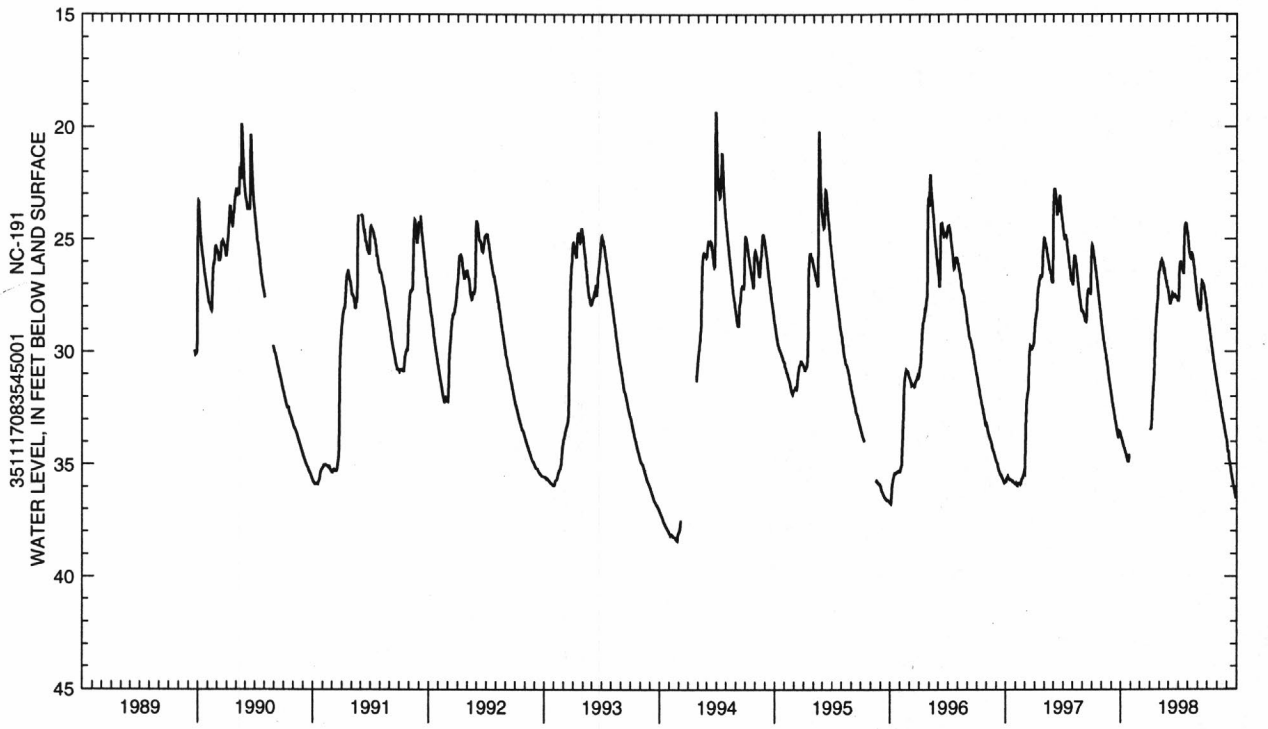
351117083545001 NC-191
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CHEROKEE COUNTY--Continued

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, in Marble. 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.--Digital recorder with a 60-minute punch interval. Digital recorder replaced with electronic data logger on Aug. 12, 1997.

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.

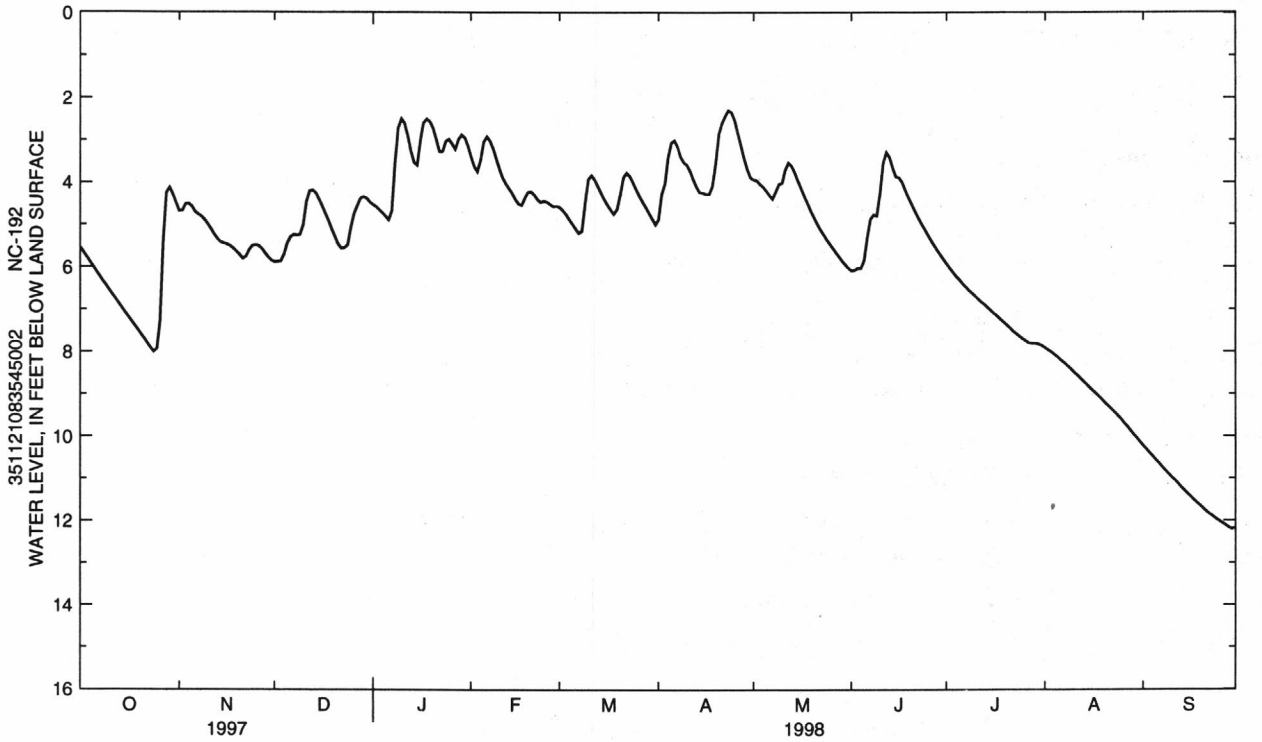
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.09 ft above land-surface datum, Mar. 28, 1993; lowest recorded, 14.44 ft below land-surface datum, Nov. 4, 5, and 6, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.56	4.69	5.89	4.54	3.39	4.60	4.88	3.94	6.09	5.93	7.91	10.22
2	5.67	4.68	5.88	4.59	3.63	4.67	4.29	3.96	6.08	6.03	7.96	10.30
3	5.78	4.52	5.87	4.66	3.75	4.77	4.03	4.04	6.03	6.13	8.01	10.39
4	5.89	4.51	5.70	4.73	3.47	4.88	3.41	4.11	6.03	6.22	8.07	10.47
5	6.00	4.58	5.45	4.81	3.04	4.99	3.06	4.20	5.85	6.30	8.13	10.56
6	6.11	4.71	5.30	4.90	2.92	5.10	3.01	4.31	5.30	6.39	8.20	10.64
7	6.22	4.77	5.25	4.69	3.02	5.21	3.16	4.40	4.88	6.47	8.26	10.73
8	6.33	4.82	5.26	3.51	3.21	5.16	3.39	4.23	4.78	6.55	8.33	10.81
9	6.43	4.90	5.25	2.73	3.45	4.49	3.53	4.05	4.81	6.62	8.40	10.89
10	6.54	5.00	5.01	2.50	3.70	3.93	3.59	4.02	4.26	6.69	8.48	10.97
11	6.65	5.12	4.47	2.60	3.90	3.84	3.74	3.71	3.55	6.76	8.55	11.04
12	6.75	5.24	4.21	2.90	4.04	3.94	3.93	3.54	3.29	6.83	8.62	11.12
13	6.86	5.35	4.19	3.26	4.15	4.10	4.11	3.61	3.41	6.89	8.70	11.21
14	6.96	5.42	4.26	3.54	4.27	4.26	4.24	3.78	3.67	6.96	8.77	11.28
15	7.07	5.45	4.41	3.60	4.41	4.41	4.25	3.97	3.87	7.03	8.85	11.36
16	7.17	5.47	4.58	3.00	4.52	4.54	4.28	4.15	3.90	7.10	8.92	11.43
17	7.28	5.51	4.75	2.60	4.55	4.66	4.28	4.33	4.01	7.16	8.99	11.51
18	7.38	5.57	4.93	2.51	4.37	4.76	4.09	4.50	4.20	7.23	9.06	11.58
19	7.48	5.64	5.12	2.57	4.24	4.64	3.57	4.67	4.37	7.30	9.14	11.65
20	7.59	5.72	5.30	2.73	4.23	4.30	2.88	4.83	4.53	7.37	9.22	11.72
21	7.69	5.81	5.47	2.99	4.30	3.88	2.60	4.98	4.69	7.44	9.29	11.79
22	7.80	5.76	5.57	3.28	4.41	3.78	2.44	5.12	4.84	7.52	9.36	11.85
23	7.91	5.60	5.56	3.28	4.48	3.86	2.30	5.23	4.98	7.58	9.44	11.90
24	8.00	5.51	5.49	3.03	4.45	4.01	2.34	5.35	5.11	7.64	9.52	11.96
25	7.93	5.49	5.09	2.98	4.47	4.18	2.54	5.45	5.24	7.70	9.60	12.01
26	7.27	5.51	4.75	3.10	4.53	4.33	2.84	5.56	5.37	7.75	9.69	12.06
27	5.34	5.58	4.57	3.22	4.58	4.47	3.14	5.66	5.49	7.80	9.77	12.11
28	4.25	5.68	4.39	2.98	4.57	4.60	3.43	5.76	5.61	7.81	9.86	12.16
29	4.13	5.78	4.35	2.88	---	4.74	3.70	5.86	5.72	7.81	9.96	12.20
30	4.29	5.85	4.39	2.95	---	4.87	3.89	5.95	5.83	7.82	10.04	12.18
31	4.50	---	4.48	3.14	---	5.01	---	6.03	---	7.86	10.13	---

WTR YR 1998 MEAN 5.75 HIGH 2.30 LOW 12.20


351121083545002 NC-192
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
2
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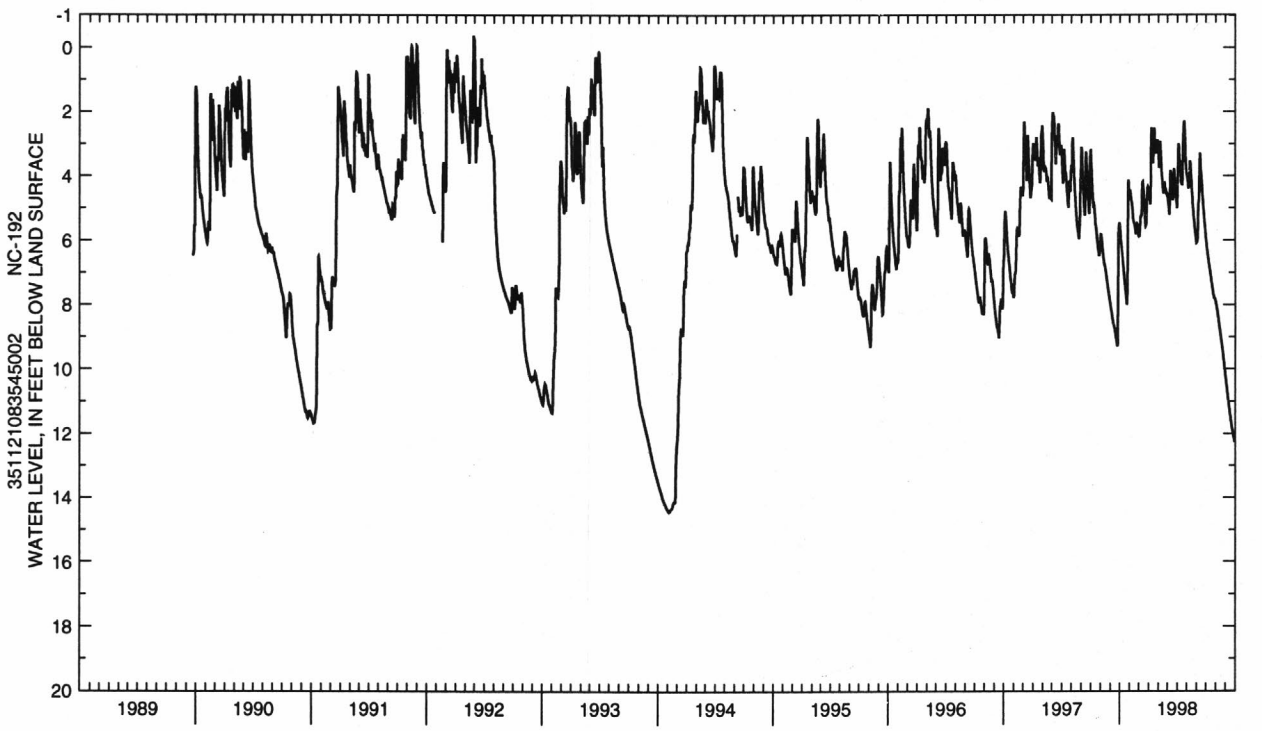
J
A
S
1997
1998


351121083545002 NC-192
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1997
1998

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, drilled to 506 ft, diameter 4 in., cased to 496 ft, 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 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 recorded, 39.11 ft below land-surface datum, July 20, 1976; lowest water level measured, 48.36 ft below land-surface datum, Sept. 29, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	48.60	MAR 3	47.91	JUN 16	47.97	JUL 15	48.30	SEP 9	48.11	SEP 29	48.36
DEC 19	48.12	APR 21	47.96								


34250807836080 2 NC-179
WATER LEVEL, IN FEET BELOW LAND SURFACE
43
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1995
1996
1997
1998

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., cased to 990 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.

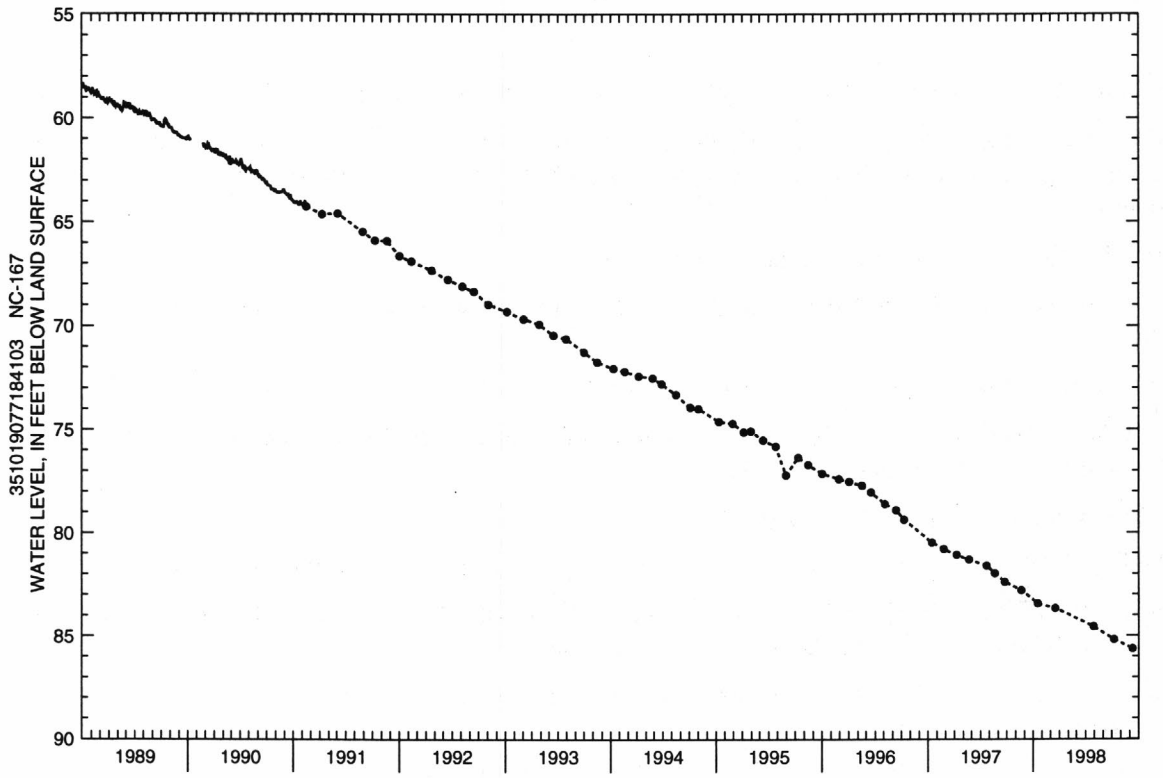
PERIOD OF RECORD.--July 1985 to current year. Continuous record July 1985 to November 1990.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 50.29 ft below land-surface datum, Sept. 27, 1985; lowest water level measured, 85.63 ft below land-surface datum, Sept. 11, 1998.

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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	83.45	DEC 18	83.67	APR 29	84.57	JUL 9	85.19	SEP 11	85.63


351019077184103 NC-167
WATER LEVEL, IN FEET BELOW LAND SURFACE
55
60
65
70
75
80
85
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1989
1990
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1992
1993
1994
1995
1996
1997
1998

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, drilled to 730 ft, diameter 4 in., cased to 716 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.

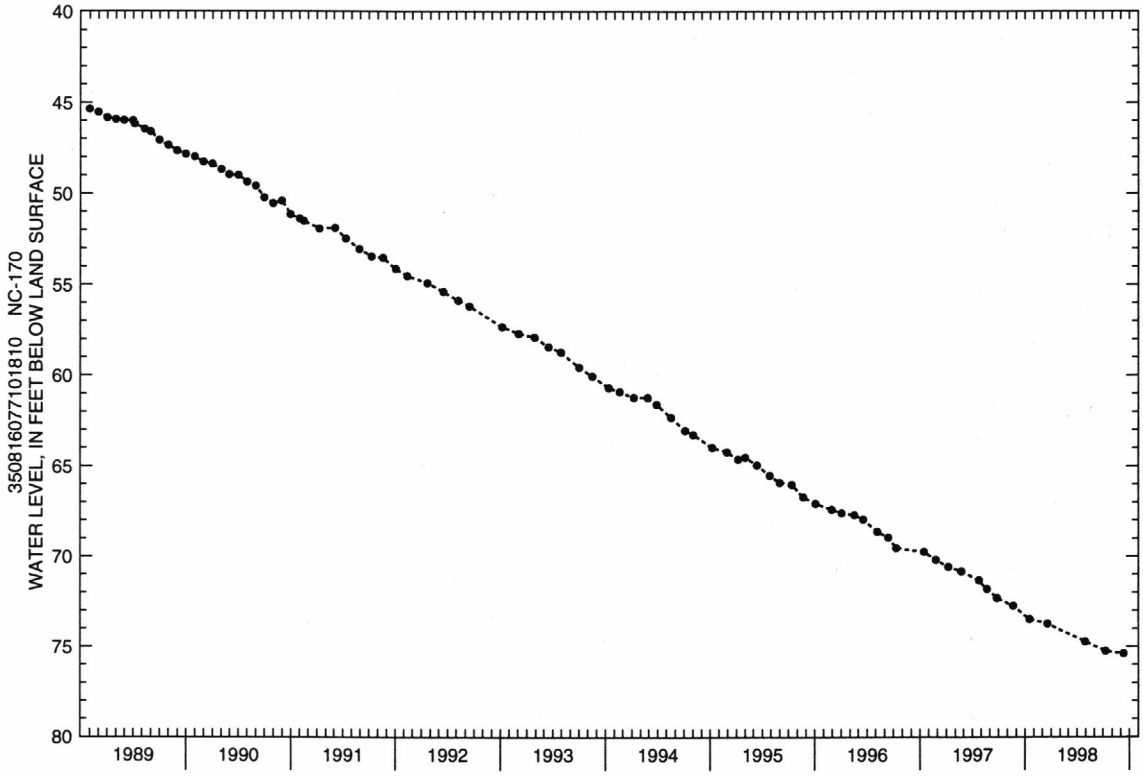
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--July 1979 to current year. Continuous record April 1984 to November 1990. Records 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 recorded, 25.14 ft below land-surface datum, July 18, 1979; lowest water level measured, 75.39 ft below land-surface datum, Sept. 11, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	73.49	DEC 18	73.74	APR 29	74.73	JUL 9	75.25	SEP 11	75.39


350816077101810 NC-170
WATER LEVEL, IN FEET BELOW LAND SURFACE
40
45
50
55
60
65
70
75
80
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

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.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 1040 ft, diameter 4 in., cased to 1030 ft, screened interval from 1030 to 1040 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.

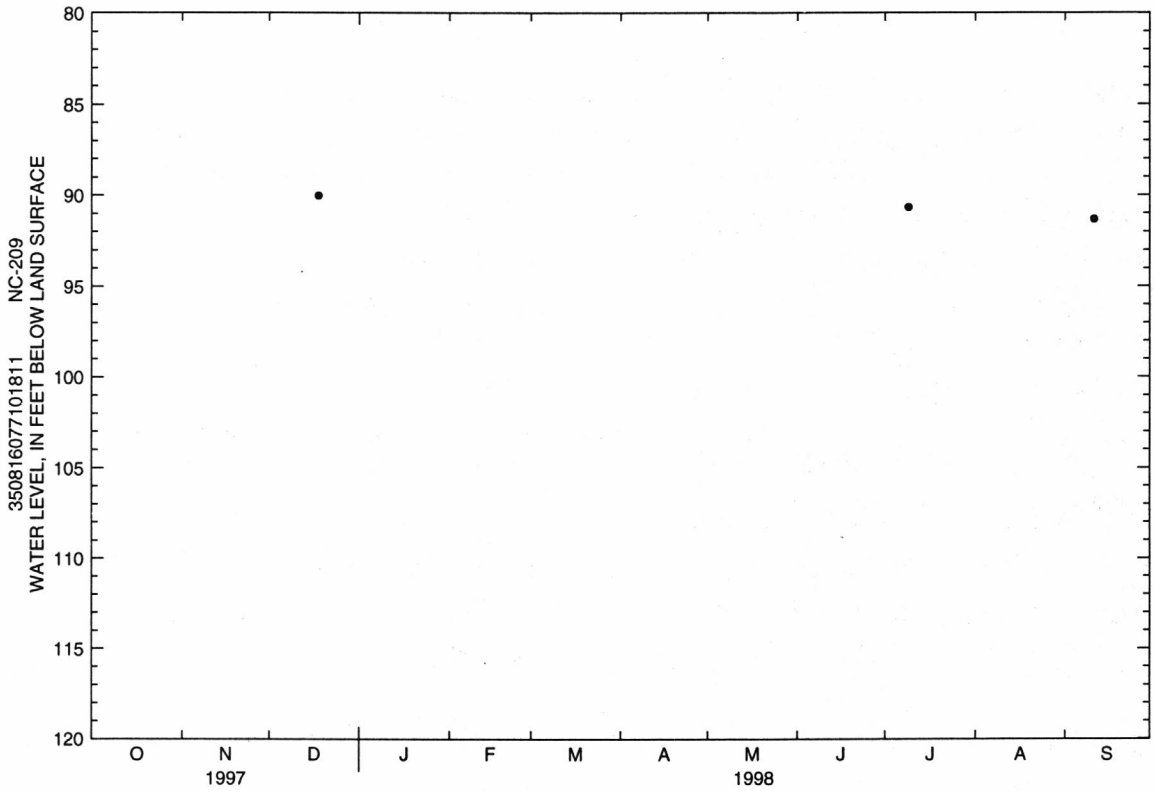
REMARKS.--Well is part of areal-effects network.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 47.60 ft below land-surface datum, March 21, 1984; lowest water level measured, 91.32 ft below land-surface datum, Sept. 11, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 18	90.03	JUL 9	90.67	SEP 11	91.32


350816077101811 NC-209
WATER LEVEL, IN FEET BELOW LAND SURFACE
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110
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S
1997
1998

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.

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.

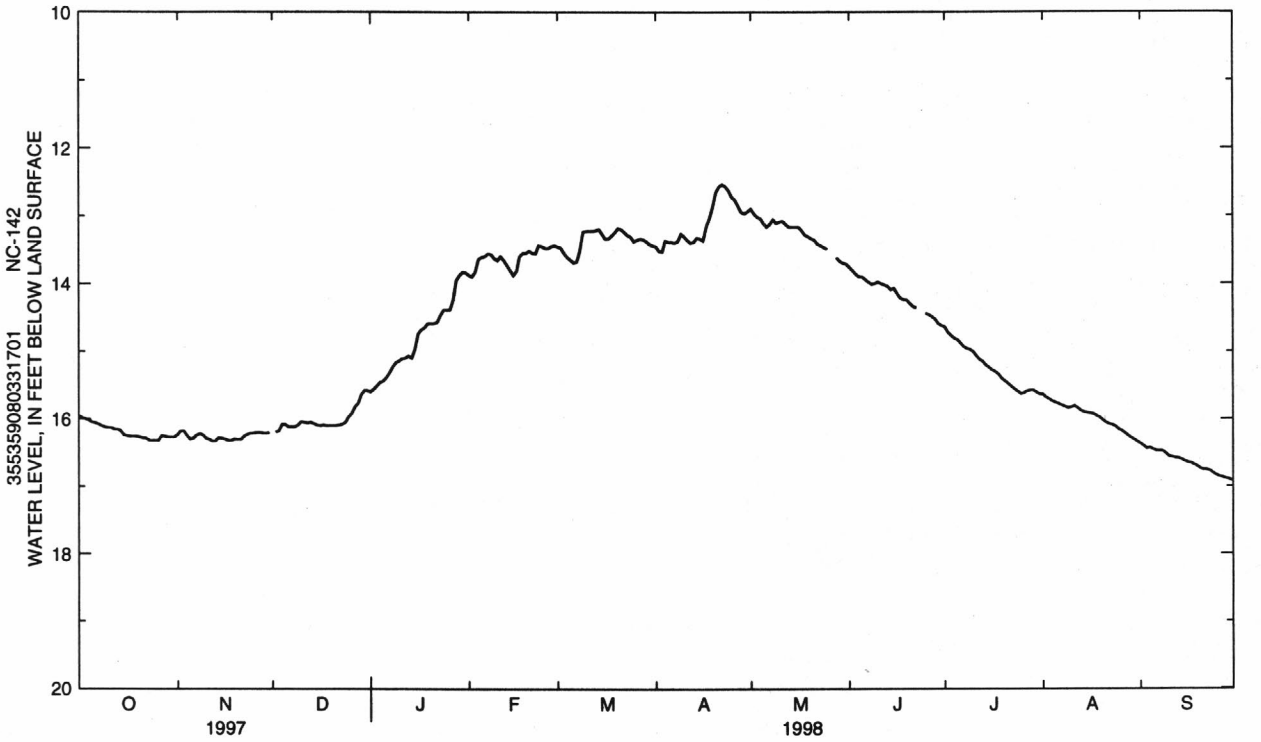
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 10.64 ft below land-surface datum, Mar. 28, 1993; lowest water level recorded, 20.98 ft below land-surface datum, Oct. 24, 25, and 26, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.96	16.23	---	15.60	13.88	13.46	13.45	12.90	13.76	14.64	15.64	16.37
2	15.99	16.18	16.19	15.56	13.90	13.47	13.52	12.97	13.81	14.72	15.68	16.40
3	16.00	16.18	16.18	15.51	13.83	13.55	13.53	13.02	13.86	14.77	15.71	16.44
4	16.02	16.25	16.08	15.46	13.64	13.61	13.37	13.04	13.90	14.81	15.74	16.43
5	16.05	16.30	16.08	15.44	13.61	13.65	13.39	13.11	13.90	14.83	15.76	16.45
6	16.06	16.29	16.12	15.39	13.60	13.69	13.39	13.17	13.94	14.88	15.78	16.47
7	16.08	16.24	16.12	15.32	13.56	13.68	13.40	13.13	13.98	14.93	15.80	16.48
8	16.10	16.22	16.12	15.23	13.57	13.52	13.38	13.06	14.01	14.96	15.82	16.48
9	16.12	16.24	16.09	15.17	13.63	13.24	13.27	13.11	14.00	14.97	15.84	16.51
10	16.13	16.29	16.04	15.14	13.66	13.23	13.31	13.09	13.98	15.01	15.83	16.56
11	16.13	16.31	16.05	15.11	13.60	13.23	13.36	13.08	14.00	15.07	15.81	16.57
12	16.15	16.33	16.06	15.10	13.66	13.23	13.40	13.13	14.02	15.12	15.84	16.58
13	16.15	16.33	16.05	15.07	13.73	13.22	13.39	13.17	14.04	15.15	15.88	16.59
14	16.17	16.28	16.07	15.10	13.81	13.20	13.33	13.17	14.09	15.20	15.90	16.61
15	16.24	16.29	16.09	14.97	13.88	13.27	13.34	13.17	14.07	15.24	15.91	16.63
16	16.25	16.30	16.10	14.74	13.82	13.34	13.37	13.17	14.15	15.28	15.92	16.65
17	16.26	16.32	16.09	14.68	13.60	13.34	13.16	13.22	14.21	15.30	15.93	16.66
18	16.26	16.32	16.10	14.65	13.55	13.30	13.04	13.29	14.24	15.34	15.96	16.68
19	16.26	16.30	16.10	14.59	13.55	13.25	12.87	13.31	14.24	15.40	15.98	16.71
20	16.27	16.31	16.10	14.59	13.52	13.19	12.66	13.34	14.29	15.44	16.02	16.74
21	16.28	16.31	16.10	14.59	13.55	13.20	12.57	13.36	14.34	15.48	16.06	16.76
22	16.29	16.26	16.09	14.57	13.56	13.24	12.54	13.42	14.36	15.52	16.08	16.76
23	16.32	16.23	16.08	14.47	13.44	13.29	12.57	13.44	---	15.56	16.09	16.77
24	16.32	16.21	16.05	14.39	13.45	13.31	12.63	13.47	---	15.59	16.11	16.81
25	16.32	16.21	15.97	14.39	13.48	13.38	12.73	13.49	14.44	15.63	16.15	16.84
26	16.32	16.20	15.92	14.39	13.48	13.36	12.77	---	14.46	15.62	16.18	16.86
27	16.25	16.20	15.82	14.24	13.45	13.34	12.86	---	14.49	15.59	16.21	16.87
28	16.26	16.21	15.77	13.95	13.44	13.35	12.95	13.62	14.53	15.58	16.25	16.89
29	16.27	16.21	15.64	13.88	---	13.38	12.97	13.67	14.59	15.58	16.28	16.90
30	16.27	16.20	15.58	13.83	---	13.42	12.94	13.70	14.62	15.61	16.31	16.92
31	16.27	---	15.58	13.84	---	13.44	---	13.71	---	15.64	16.34	---

WTR YR 1998 MEAN 14.90 HIGH 12.54 LOW 16.92


355359080331701 NC-142
WATER LEVEL, IN FEET BELOW LAND SURFACE
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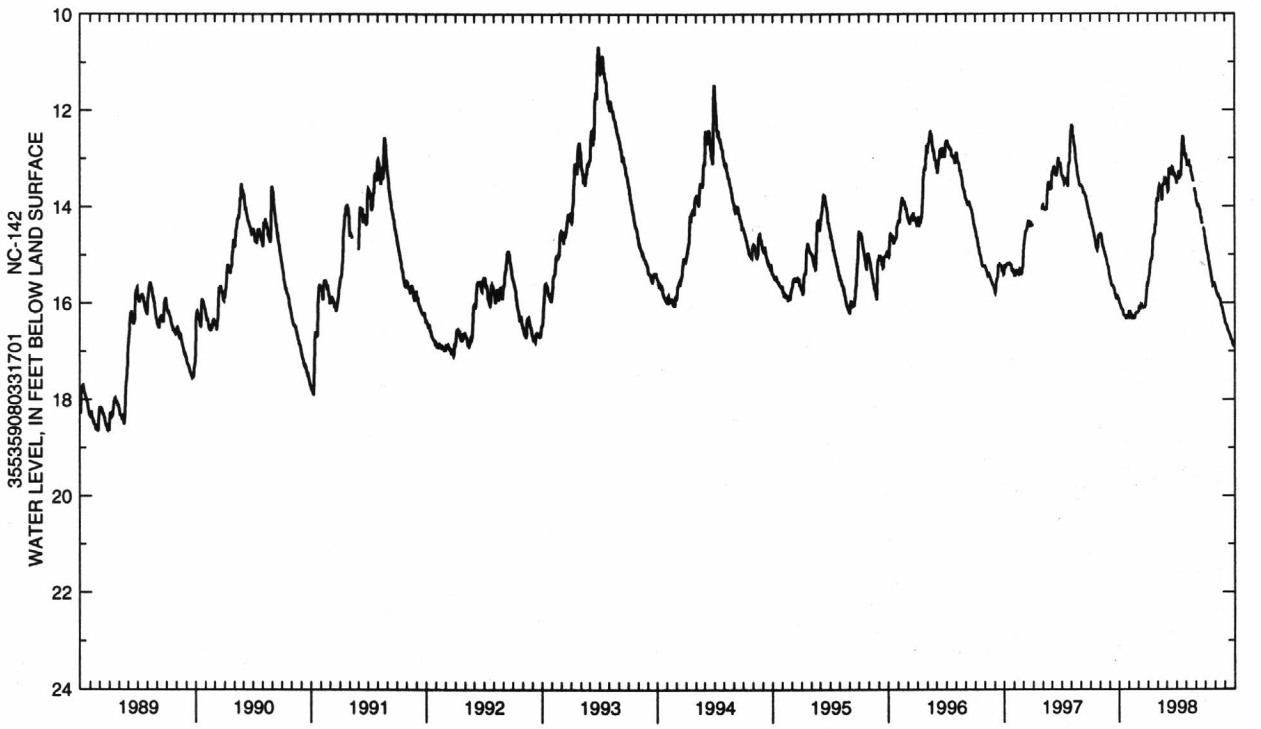
355359080331701 NC-142
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1997
1998

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, drilled to 98 ft, diameter 4 in., cased to 83 ft, 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.

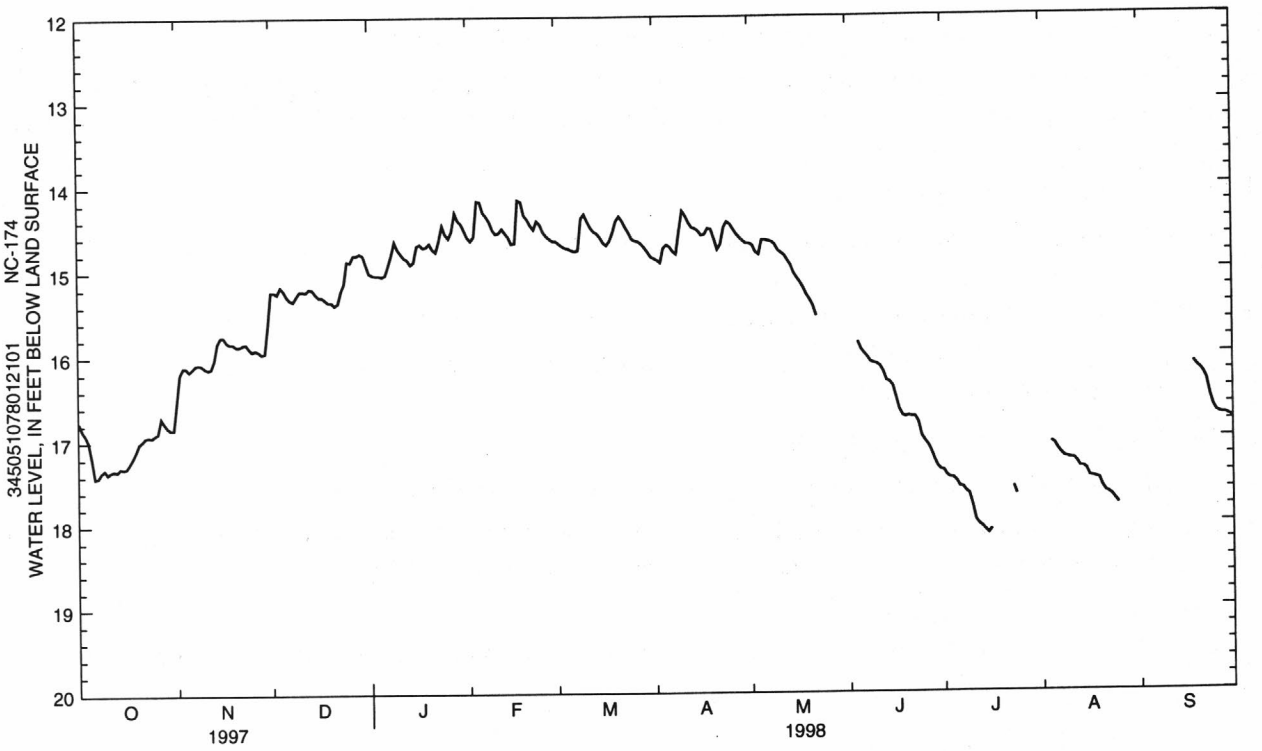
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 14.00 ft below land-surface datum, Oct. 8, 1996; lowest water level recorded, 19.93 ft below land-surface datum, Aug. 4 and 5, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.76	16.53	15.23	15.01	14.59	14.64	14.85	14.68	---	17.38	---	---
2	16.85	16.20	15.23	15.03	14.63	14.67	14.87	14.70	---	17.44	---	---
3	16.91	16.12	15.25	15.04	14.58	14.70	14.90	14.78	---	17.47	---	---
4	16.99	16.12	15.17	15.04	14.16	14.72	14.73	14.81	15.85	17.47	17.05	---
5	17.19	16.16	15.21	15.05	14.17	14.73	14.69	14.64	15.94	17.51	17.07	---
6	17.42	16.13	15.28	15.03	14.30	14.75	14.71	14.64	15.99	17.57	17.14	---
7	17.41	16.09	15.32	14.92	14.34	14.76	14.77	14.65	16.03	17.58	17.19	---
8	17.35	16.08	15.34	14.79	14.41	14.75	14.80	14.66	16.09	17.63	17.23	---
9	17.32	16.09	15.28	14.64	14.50	14.37	14.52	14.69	16.10	17.66	17.24	---
10	17.37	16.12	15.22	14.73	14.55	14.32	14.29	14.76	16.11	17.80	17.25	---
11	17.34	16.14	15.22	14.78	14.54	14.41	14.35	14.79	16.14	17.97	17.25	---
12	17.33	16.13	15.23	14.83	14.49	14.48	14.43	14.82	16.20	18.02	17.29	---
13	17.34	16.03	15.19	14.85	14.54	14.53	14.49	14.88	16.31	18.05	17.35	---
14	17.30	15.83	15.20	14.91	14.59	14.55	14.50	14.94	16.33	18.09	17.35	---
15	17.31	15.76	15.25	14.88	14.67	14.60	14.53	15.03	16.38	18.13	17.38	---
16	17.30	15.76	15.29	14.69	14.66	14.66	14.58	15.09	16.52	18.08	17.46	---
17	17.24	15.82	15.29	14.67	14.15	14.69	14.57	15.14	16.65	---	17.47	---
18	17.18	15.84	15.32	14.71	14.17	14.64	14.50	15.21	16.73	---	17.48	16.12
19	17.10	15.84	15.35	14.70	14.33	14.54	14.51	15.29	16.74	---	17.49	16.17
20	17.01	15.87	15.35	14.66	14.38	14.41	14.62	15.35	16.73	---	17.58	16.20
21	16.98	15.87	15.39	14.73	14.45	14.35	14.75	15.42	16.74	---	17.64	16.25
22	16.94	15.85	15.36	14.76	14.50	14.40	14.69	15.54	16.74	---	17.66	16.33
23	16.93	15.84	15.22	14.63	14.40	14.48	14.49	---	16.81	17.57	17.69	16.51
24	16.94	15.89	15.13	14.45	14.44	14.54	14.42	---	16.97	17.67	17.74	16.64
25	16.91	15.93	14.87	14.55	14.53	14.62	14.45	---	17.03	---	17.79	16.71
26	16.89	15.91	14.88	14.60	14.58	14.64	14.51	---	17.08	---	---	16.73
27	16.71	15.93	14.80	14.52	14.61	14.65	14.57	---	17.15	---	---	16.74
28	16.77	15.96	14.80	14.30	14.64	14.68	14.61	---	17.26	---	---	16.74
29	16.82	15.95	14.78	14.39	---	14.72	14.65	---	17.33	---	---	16.76
30	16.85	15.62	14.80	14.43	---	14.77	14.68	---	17.37	---	---	16:78
31	16.85	---	14.91	14.51	---	14.83	---	---	---	---	---	---

WTR YR 1998 MEAN 15.68 HIGH 14.15 LOW 18.13


345051078012101 NC-174
WATER LEVEL, IN FEET BELOW LAND SURFACE
12
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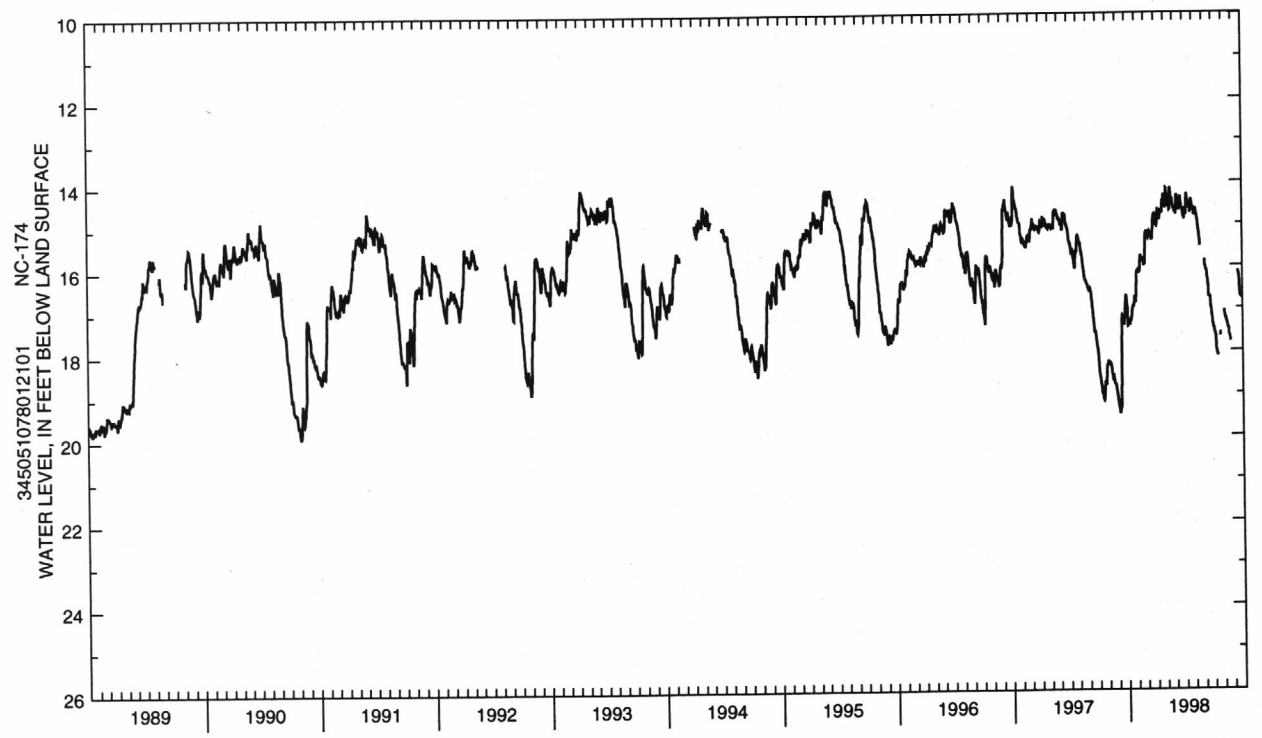
345051078012101 NC-174
WATER LEVEL, IN FEET BELOW LAND SURFACE
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DUPLIN COUNTY--Continued

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 Route 11. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 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.

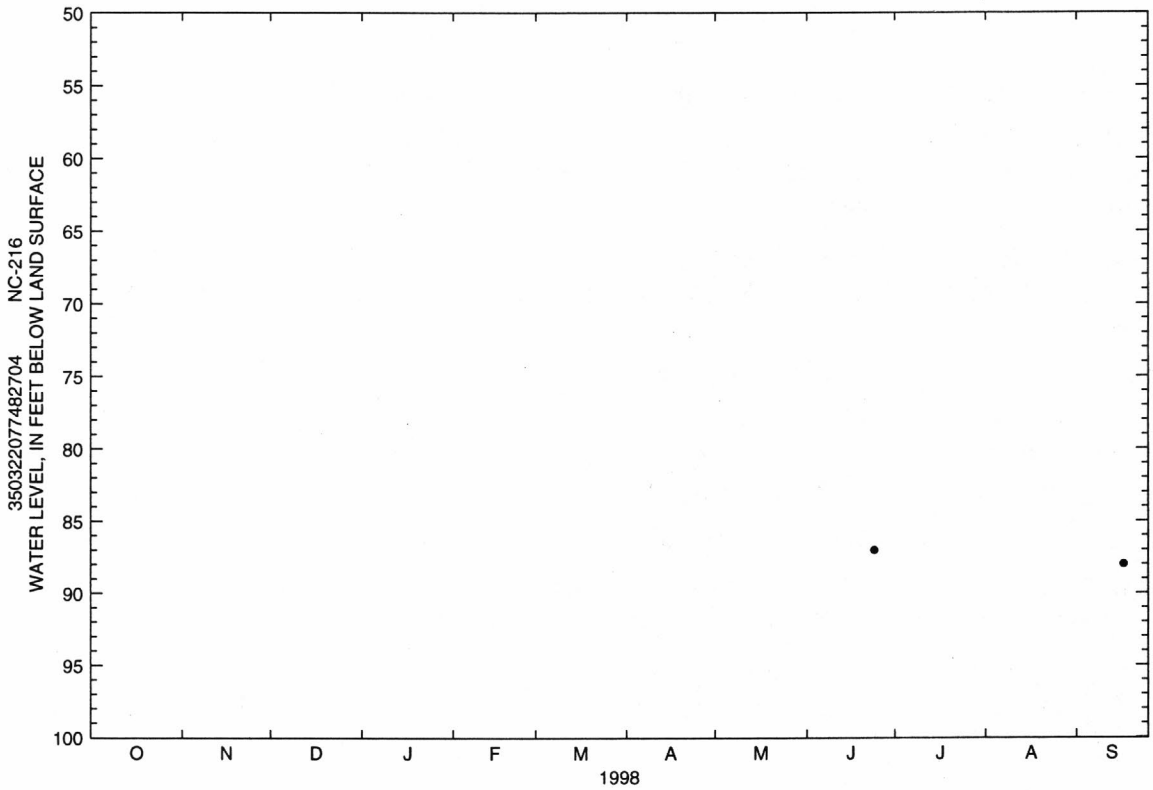
REMARKS.--Well is part of areal-effects network.

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, 87.99 ft below land-surface datum, Sept. 17, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 24	87.01	SEP 17	87.99


350322077482704 NC-216
WATER LEVEL, IN FEET BELOW LAND SURFACE
50
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1998

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.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 218 ft, diameter 4 in., cased 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 (levels by DENR). Measuring point: Top of casing, 2.62 ft above land-surface datum.

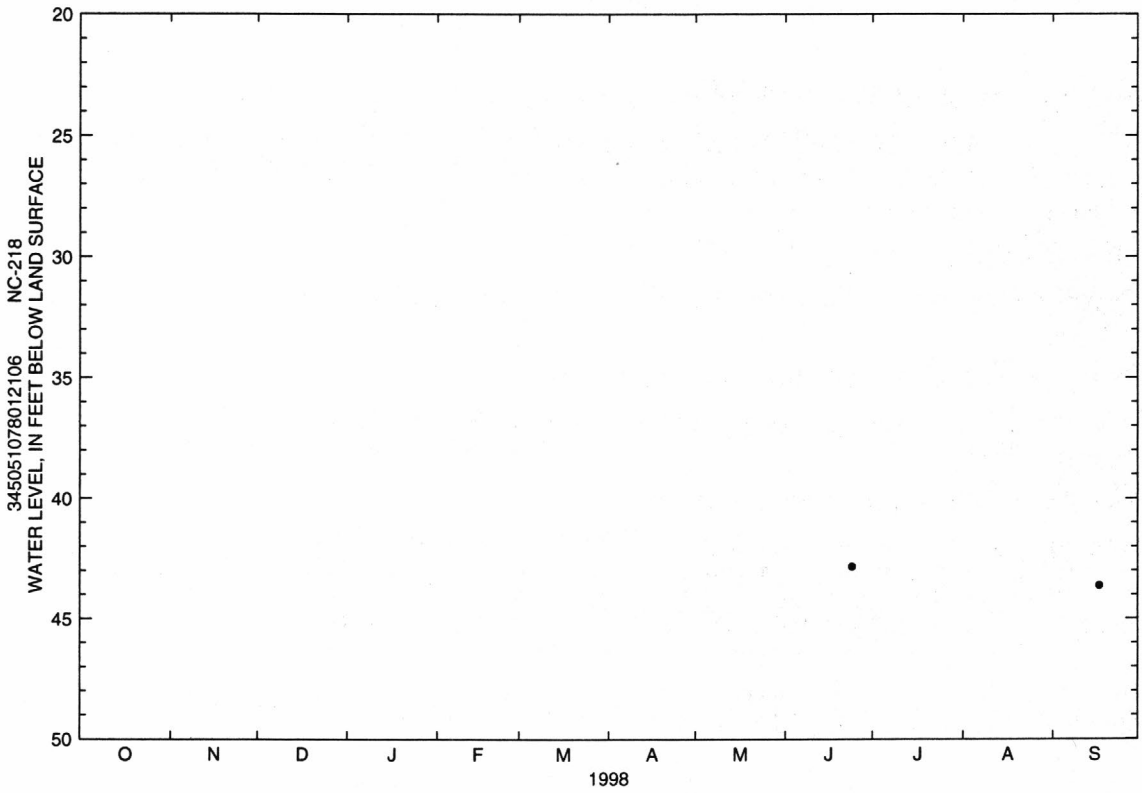
REMARKS.--Well is part of areal-effects network.

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

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

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 24	42.83	SEP 17	43.62


345051078012106 NC-218
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1998

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, drilled to 570 ft, diameter 4 in., cased to 555 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.

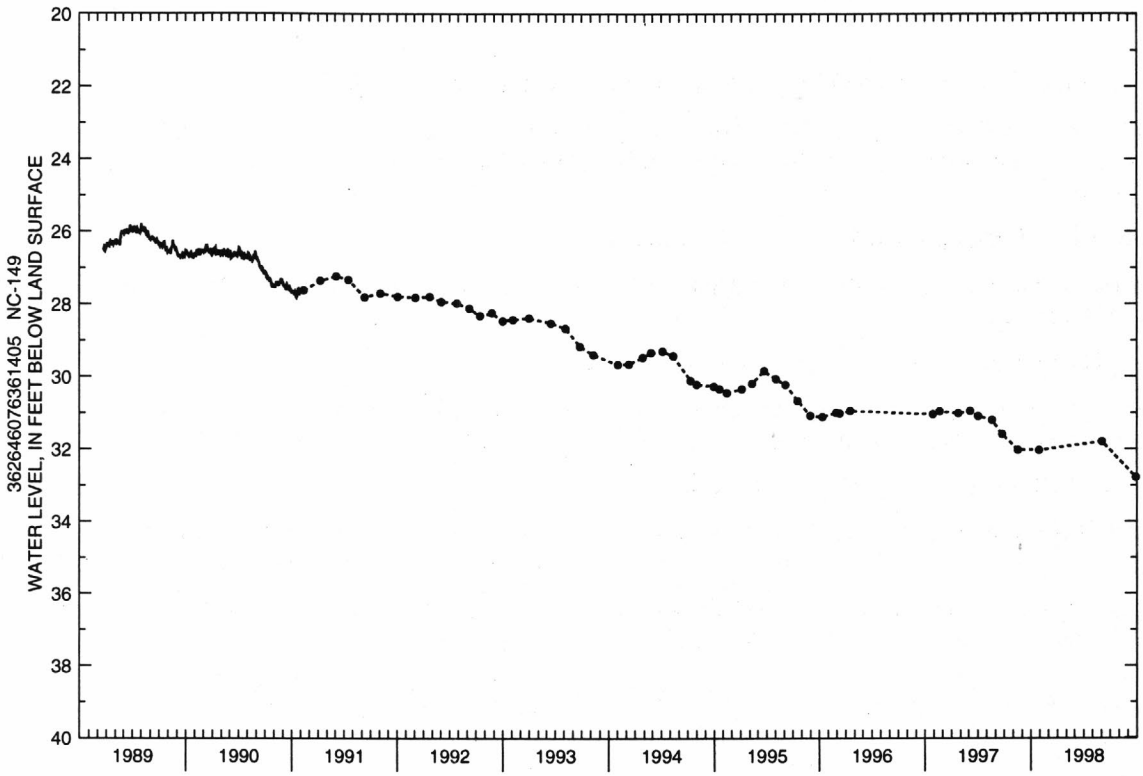
PERIOD OF RECORD.--October 1967 to current year. Continuous record November 1986 to November 1990. Records from October 1967 to September 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.37 ft below land-surface datum, Dec. 30, 1968; lowest water level measured, 32.78 ft below land-surface datum, Sept. 29, 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 -0.54 ft.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	32.03	JUN 3	31.79	SEP 29	32.78


362646076361405 NC-149
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1998

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.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 905 ft, diameter 4 in., cased to 880 ft, screened interval from 880 to 890 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 37.9 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 1.52 ft above land-surface datum.

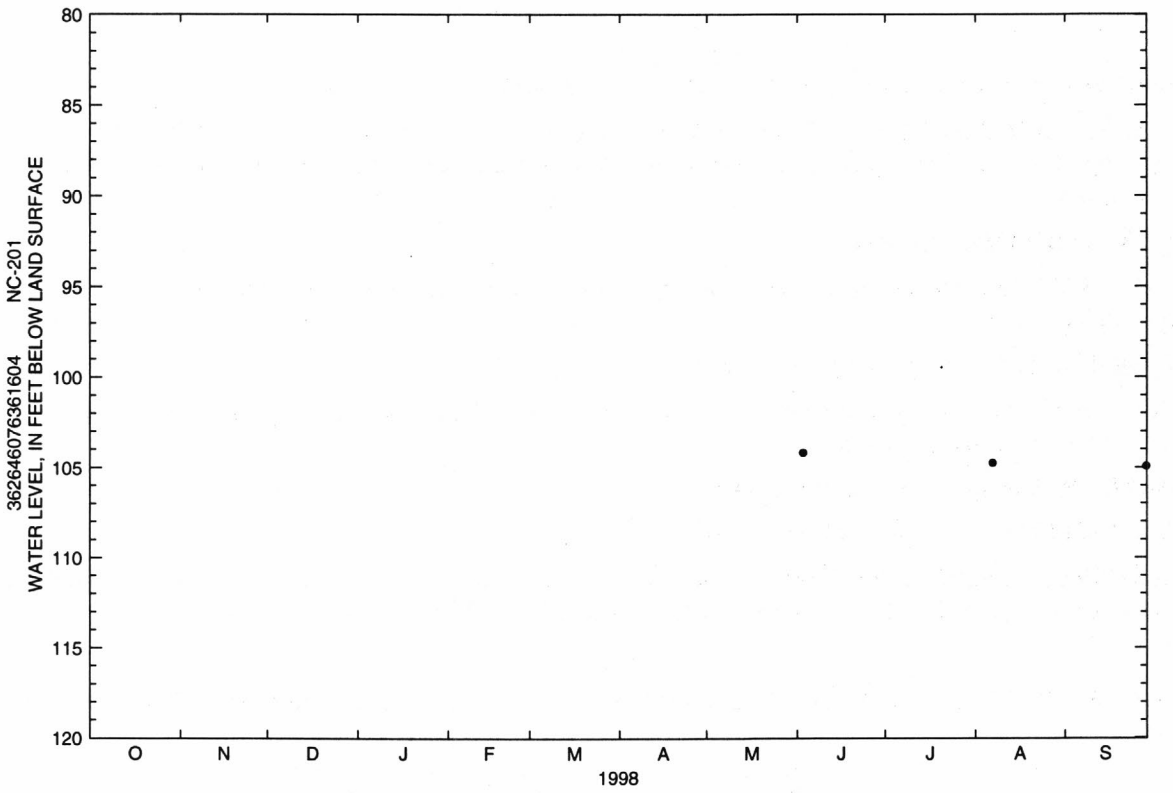
REMARKS.--Well is part of areal-effects network.

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, 104.94 ft below land-surface datum, Sept. 29, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 3	104.17	AUG 7	104.76	SEP 29	104.94


362646076361604 NC-201
WATER LEVEL, IN FEET BELOW LAND SURFACE
80
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1998

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.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 269 ft, diameter 4 in., cased to 258 ft, screened interval from 258 to 263 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 37.67 ft above sea level (levels by DENR). Measuring point: Top of casing, 1.08 ft above land-surface datum.

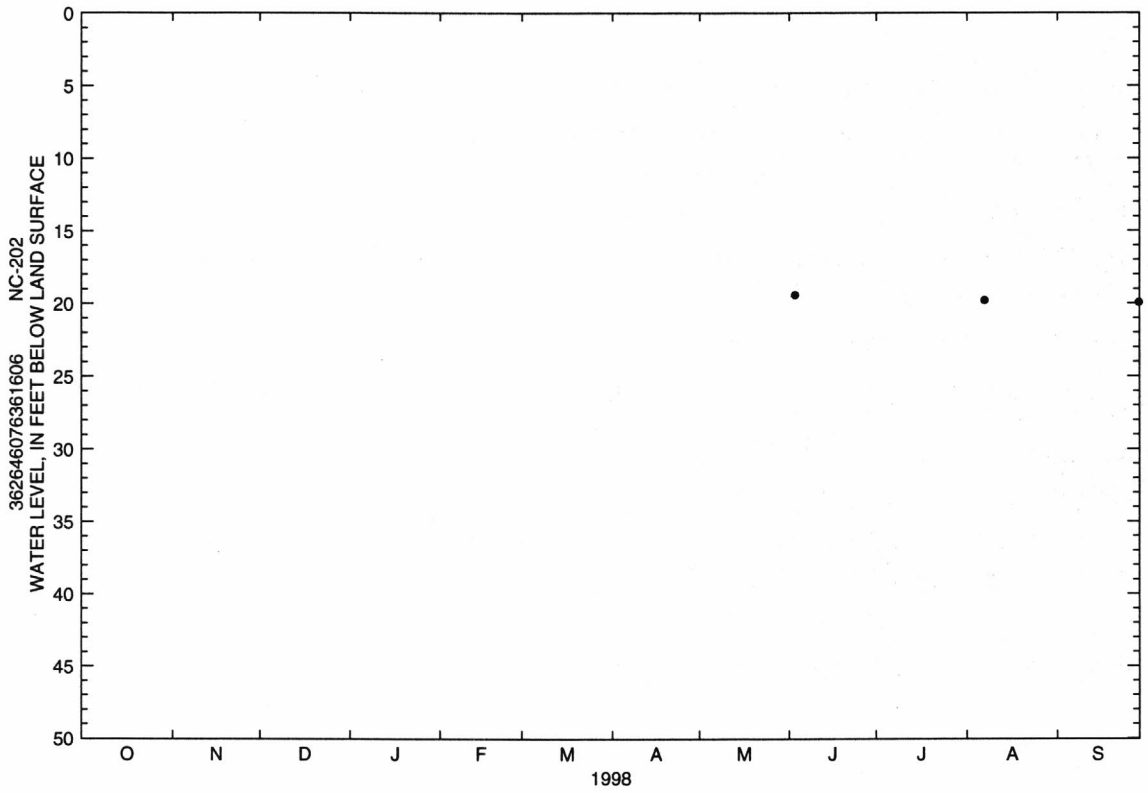
REMARKS.--Well is part of areal-effects network.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 11.35 ft below land-surface datum, Sept., 1967; lowest water level measured, 19.93 ft below land-surface datum, Sept. 29, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 3	19.35	AUG 7	19.76	SEP 29	19.93


NC-202
362646076361606
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1998

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, on Mill Street 150 ft north of US 258. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek.

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

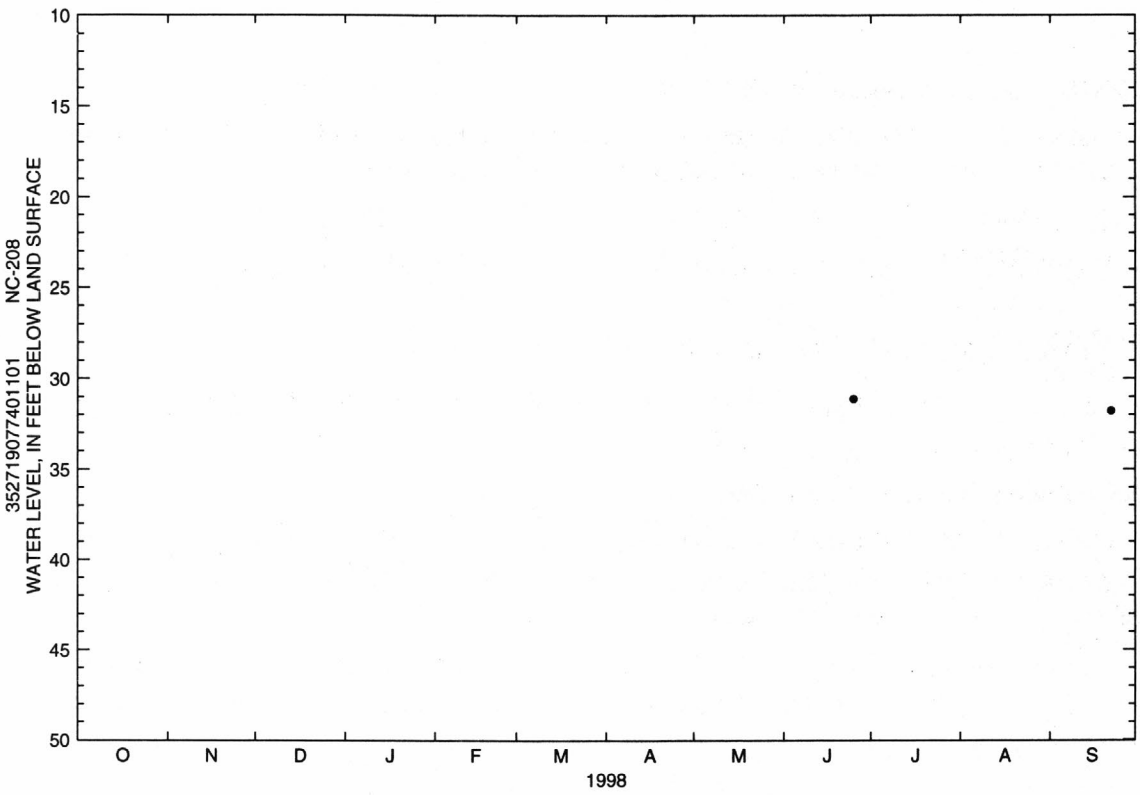
REMARKS.--Well is part of areal-effects network.

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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 25	31.12	SEP 22	31.78


352719077401101 NC-208
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1998

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.--Digital recorder with a 60-minute punch interval. Digital recorder replaced with electronic data logger on July 14, 1997.

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.

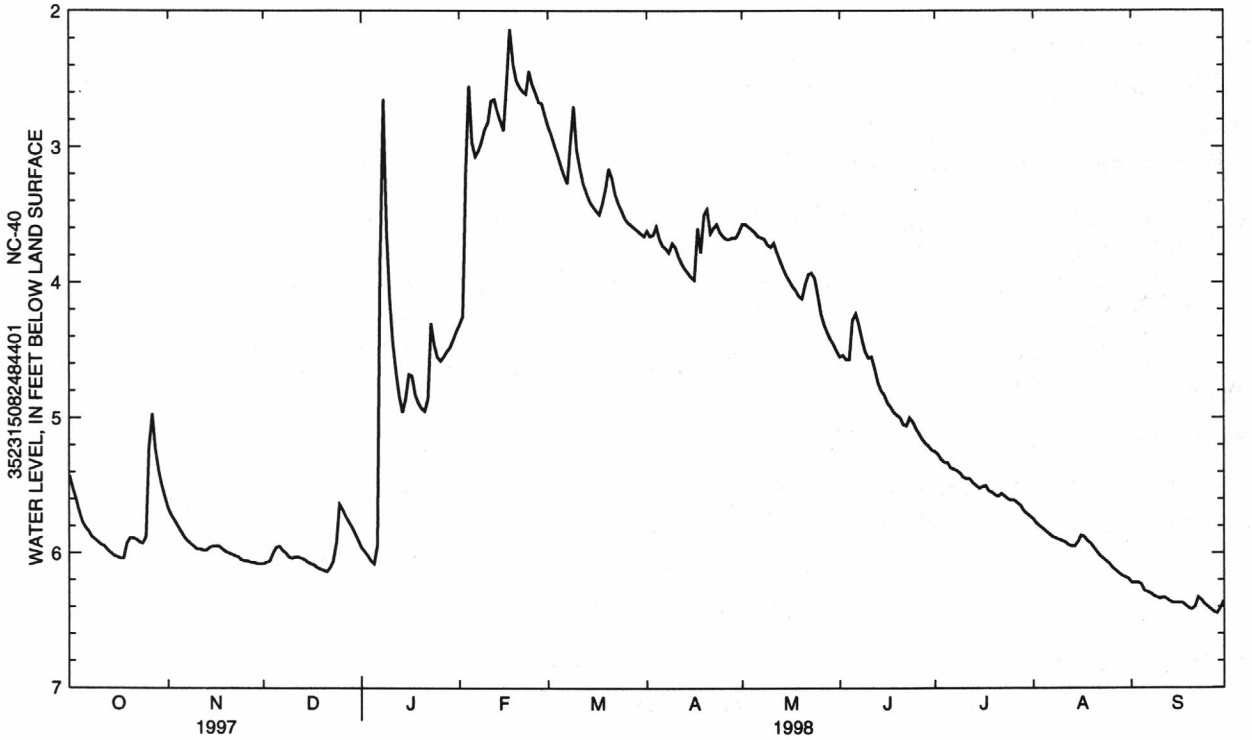
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.24 ft below land-surface datum, Mar. 12, 1977; lowest water level recorded, 6.90 ft below land-surface datum, Oct. 7, 8, and 9, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.43	5.67	6.08	5.96	4.31	2.85	3.62	3.57	4.55	5.25	5.75	6.22
2	5.52	5.72	6.07	5.99	4.25	2.91	3.66	3.57	4.54	5.27	5.78	6.22
3	5.60	5.76	6.06	6.02	3.19	2.99	3.65	3.59	4.57	5.31	5.80	6.22
4	5.69	5.80	6.00	6.06	2.55	3.06	3.59	3.61	4.57	5.33	5.82	6.23
5	5.77	5.84	5.96	6.08	2.97	3.14	3.68	3.63	4.28	5.33	5.84	6.28
6	5.81	5.88	5.95	5.94	3.07	3.21	3.73	3.66	4.23	5.37	5.86	6.29
7	5.84	5.91	5.98	3.81	3.03	3.27	3.75	3.67	4.31	5.38	5.88	6.30
8	5.88	5.93	6.00	2.65	2.96	2.98	3.78	3.68	4.42	5.39	5.89	6.32
9	5.90	5.95	6.03	3.62	2.87	2.70	3.71	3.72	4.51	5.41	5.90	6.33
10	5.92	5.97	6.04	4.13	2.82	3.02	3.74	3.74	4.56	5.44	5.91	6.34
11	5.94	5.97	6.03	4.45	2.66	3.16	3.81	3.71	4.55	5.45	5.92	6.33
12	5.95	5.98	6.03	4.67	2.65	3.27	3.86	3.78	4.64	5.45	5.94	6.34
13	5.98	5.98	6.04	4.84	2.74	3.34	3.90	3.84	4.74	5.48	5.95	6.36
14	6.00	5.96	6.05	4.96	2.81	3.40	3.93	3.90	4.80	5.50	5.95	6.37
15	6.02	5.95	6.07	4.86	2.88	3.44	3.96	3.95	4.83	5.52	5.92	6.37
16	6.03	5.95	6.08	4.68	2.51	3.47	3.98	3.99	4.89	5.51	5.87	6.37
17	6.04	5.95	6.09	4.69	2.13	3.50	3.60	4.03	4.92	5.50	5.88	6.37
18	6.04	5.97	6.11	4.83	2.39	3.42	3.78	4.06	4.96	5.54	5.91	6.39
19	5.93	5.99	6.12	4.89	2.51	3.31	3.50	4.10	4.98	5.55	5.93	6.41
20	5.89	6.00	6.13	4.93	2.56	3.16	3.46	4.12	5.00	5.57	5.96	6.42
21	5.89	6.01	6.14	4.95	2.59	3.23	3.64	4.02	5.05	5.58	5.99	6.40
22	5.90	6.02	6.11	4.86	2.61	3.35	3.60	3.94	5.06	5.56	6.02	6.33
23	5.92	6.03	6.06	4.30	2.44	3.42	3.57	3.93	5.00	5.58	6.04	6.35
24	5.93	6.05	5.92	4.46	2.54	3.47	3.63	3.97	5.03	5.60	6.06	6.38
25	5.88	6.06	5.64	4.55	2.60	3.53	3.66	4.09	5.08	5.61	6.08	6.40
26	5.22	6.06	5.68	4.58	2.67	3.56	3.68	4.23	5.12	5.61	6.11	6.42
27	4.97	6.07	5.73	4.55	2.68	3.58	3.68	4.31	5.16	5.63	6.13	6.44
28	5.23	6.07	5.77	4.51	2.77	3.60	3.67	4.37	5.19	5.65	6.15	6.45
29	5.39	6.08	5.81	4.48	---	3.62	3.67	4.42	5.21	5.69	6.17	6.41
30	5.50	6.08	5.86	4.42	---	3.64	3.63	4.46	5.24	5.71	6.18	6.36
31	5.59	---	5.91	4.36	---	3.66	---	4.51	---	5.73	6.19	---

WTR YR 1998 MEAN 4.92 HIGH 2.13 LOW 6.45


352315082484401 NC-40
WATER LEVEL, IN FEET BELOW LAND SURFACE
2
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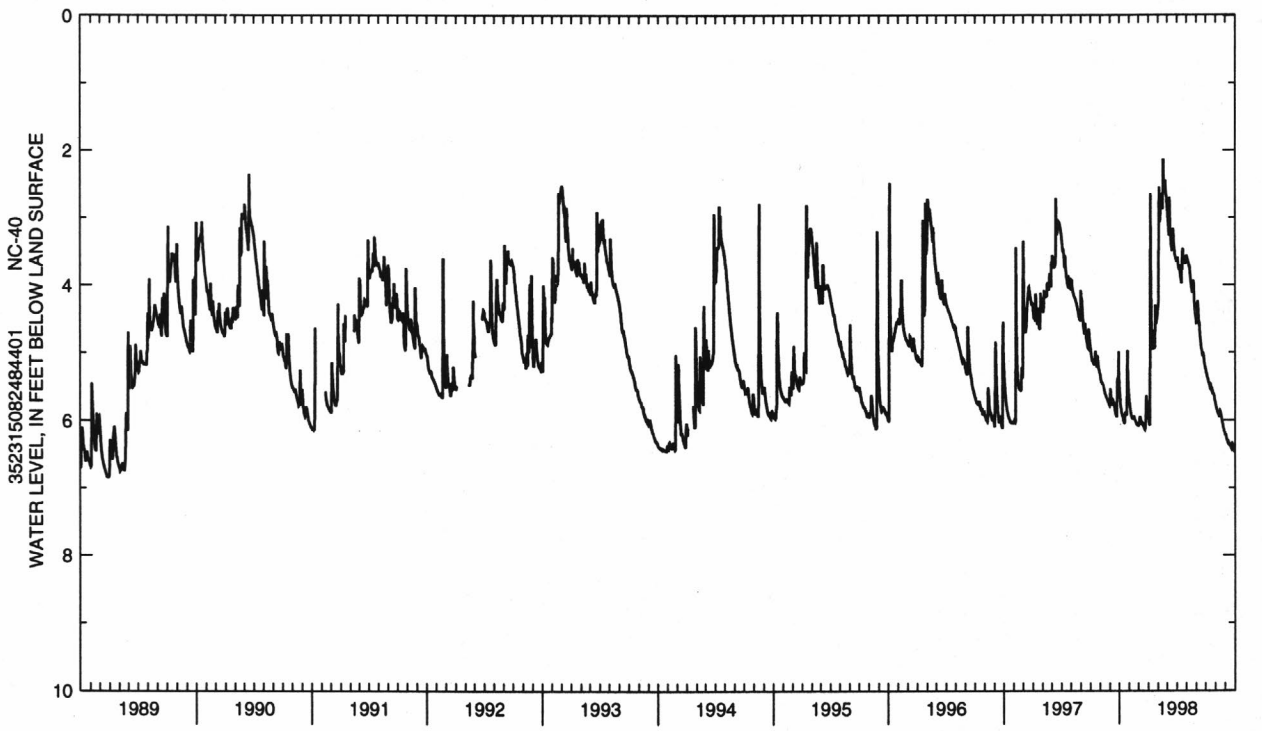
1998


352315082484401 NC-40
WATER LEVEL, IN FEET BELOW LAND SURFACE
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2
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1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

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, drilled to 818 ft, diameter 4 in., cased to 560 ft, screened interval from 560 to 570 ft, cemented from 575 to 818 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.

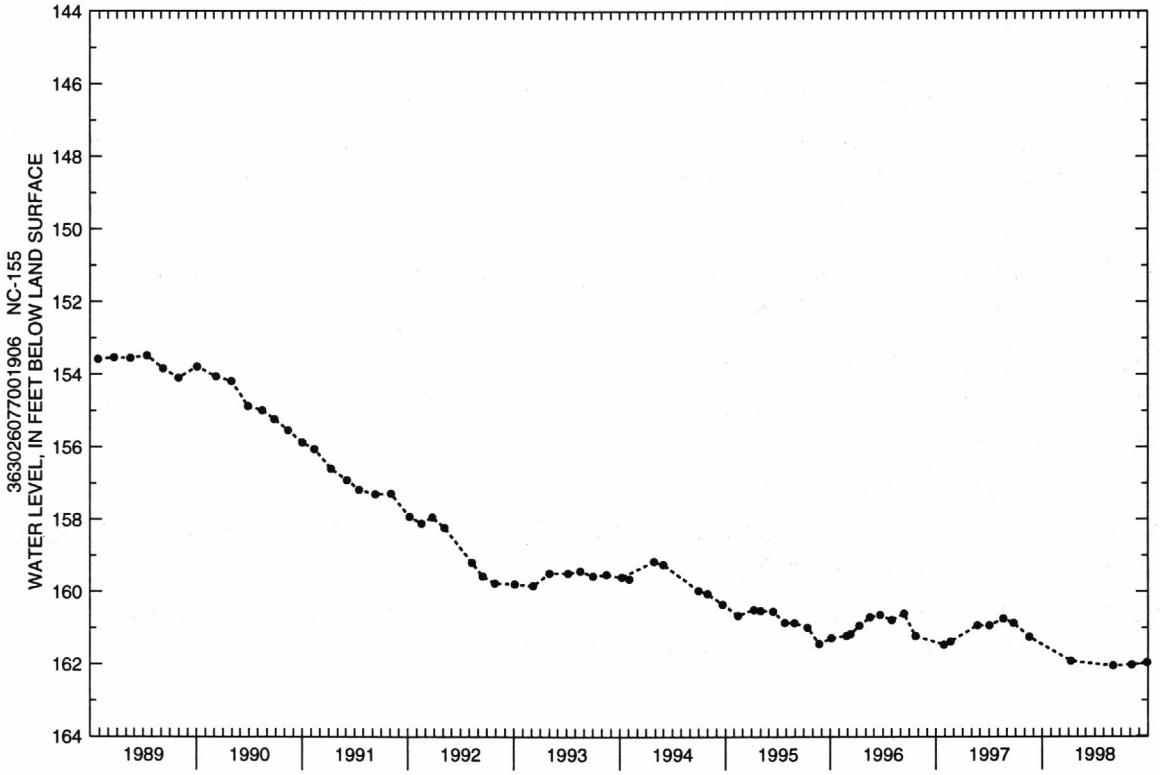
REMARKS.--Well is part of areal-effects network.

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 recorded, 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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 8	161.92	JUN 3	162.05	AUG 7	162.02	SEP 29	161.96


363026077001906 NC-155
WATER LEVEL, IN FEET BELOW LAND SURFACE
144
146
148
150
152
154
156
158
160
162
164
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

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.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 260 ft, diameter 4 in., cased to 250 ft, 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.

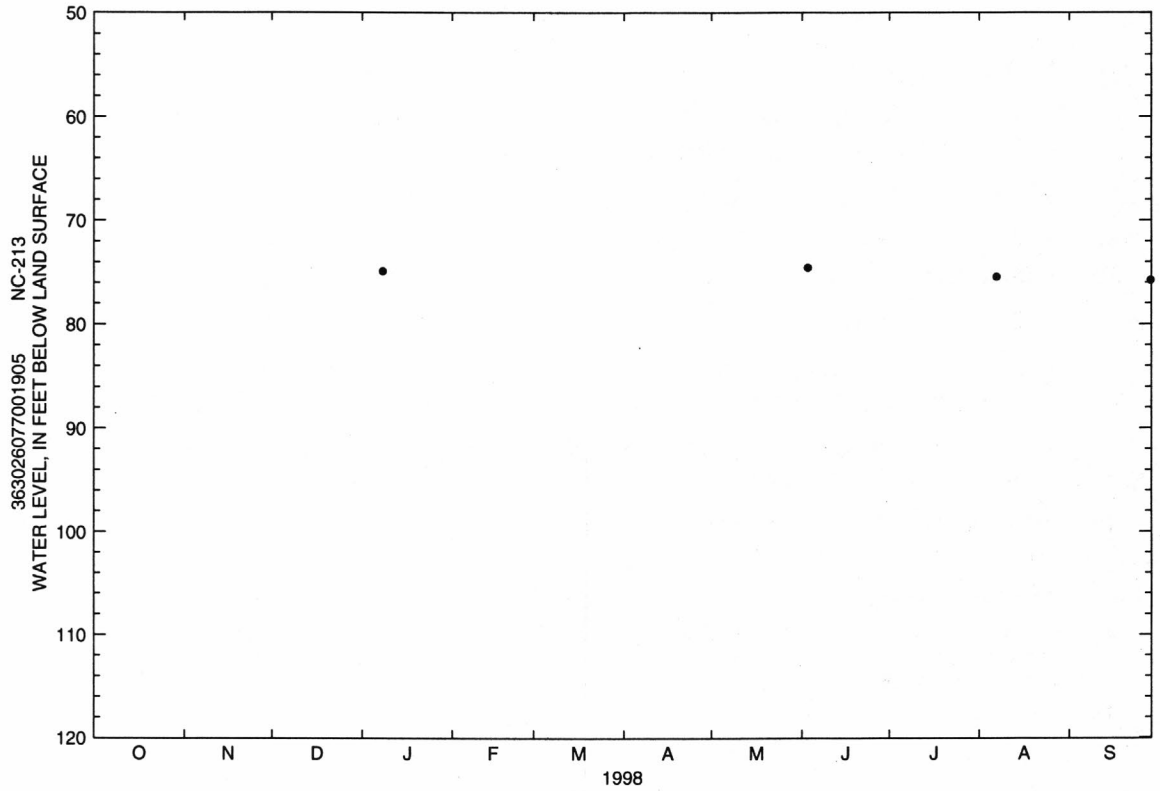
REMARKS.--Well is part of areal-effects network.

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, 75.77 ft below land-surface datum, Sept. 29, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 8	74.88	JUN 3	74.54	AUG 7	75.42	SEP 29	75.77


363026077001905 NC-213
WATER LEVEL, IN FEET BELOW LAND SURFACE
50
60
70
80
90
100
110
120
O
N
D
J
F
M
A
M
J
J
A
S
1998

HOKE COUNTY

350314079213301. Local number, Ho-32; DENR McCain Research Station well T48i2.

LOCATION.--Lat 35°03'17", long 79°21'35", Hydrologic Unit 03040203, near McCain, 0.6 mi west of State Highway 211 off Hill Drive. Owner: DENR (North Carolina Department of Environment and Natural Resources).

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

WELL CHARACTERISTICS.--Drilled observation well, depth 110 ft, diameter 4 in. to 82 ft and 2.5 in. from 92 to 100 ft, cased to 82 ft and from 92 to 110 ft, screened interval from 82 to 92 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 350 ft above sea level (from topographic map). Measuring point: Top of collar on 4-inch casing, 2.3 ft above land-surface datum; revised from 1.6 ft above land-surface datum, February 1999.

REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study. Negative values of water levels measured in feet below land surface indicate ground-water levels that are above land surface.

PERIOD OF RECORD.--February 1972 to current year. Records from February 1972 to December 1987 are unpublished and available in the files of the Groundwater Section, DENR.

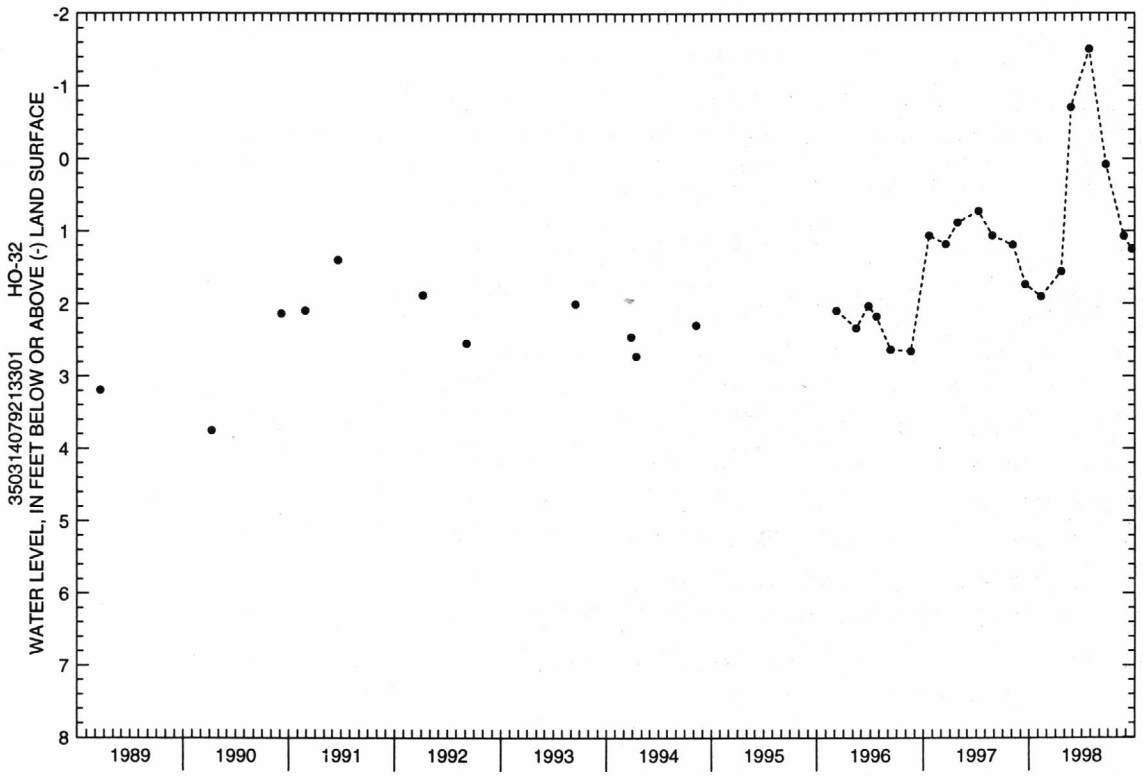
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.51 ft above land-surface datum, April 28, 1998; lowest measured, 4.52 ft below land-surface datum, July 15, 1981.

REVISIONS.--Water-level values and extremes for period of record published in Water Resources Data, North Carolina, NC-96-2 and NC-97-2, should be adjusted by -0.7 ft

WATER LEVEL, IN FEET BELOW OR ABOVE LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 12	1.90	FEB 24	-.71	APR 28	-1.51	JUN 25	.08	AUG 25	1.07	SEP 23	1.25
JAN 21	1.56										

Note: Negative values indicate water level above land surface datum.


HO-32
350314079213301
WATER LEVEL, IN FEET BELOW OR ABOVE (-) LAND SURFACE
-2
-1
0
1
2
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5
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7
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1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

HOKE COUNTY--Continued

345933079144406. Local number, Ho-47; DENR Raeford Research Station well U46e6.

LOCATION.--Lat 34°59'34", long 79°14'42", Hydrologic Unit 03030004, northwest of Raeford, 0.2 mi north of Secondary Road 1203 on Secondary Road 1311 at North Carolina Department of Transportation Maintenance Yard. Owner: DENR (North Carolina Department of Environment and Natural Resources).

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

WELL CHARACTERISTICS.--Drilled observation well, depth 111 ft, diameter 4 in to 62 ft and 2.5 in from 62 to 111 ft, cased to 62 ft and from 67 to 96 ft and 101 to 111 ft, screened intervals from 62 to 67 ft and 96 to 101 ft.

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

DATUM.--Land-surface datum is 274.37 ft above sea level (levels by DENR). Measuring point: Top of flange attached to floor of instrument shelter, 1.7 ft above land-surface datum (since December 1995).

REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--July 1981 to current year. Continuous record from January 1994 to November 1994 and from December 1995 to current year.

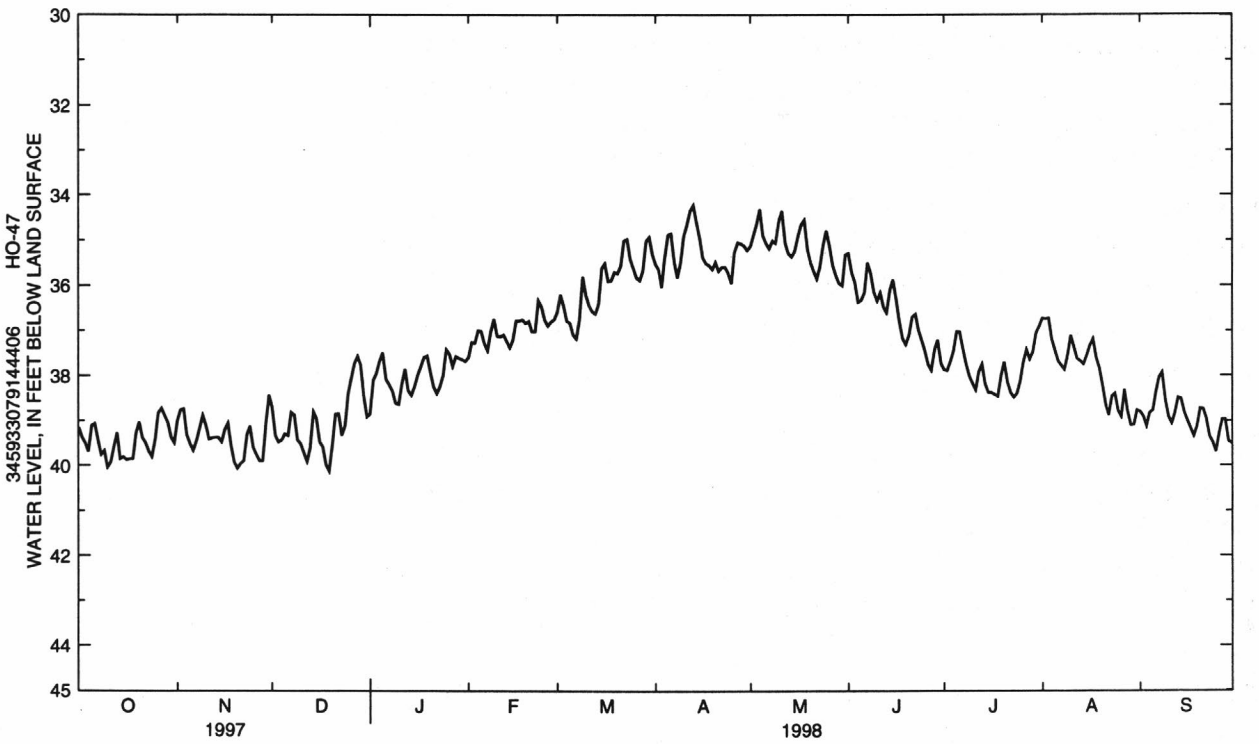
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 34.12 ft below land-surface datum, May 4, 1998; lowest measured, 43.85 ft below land-surface datum, Jan. 20, 1994.

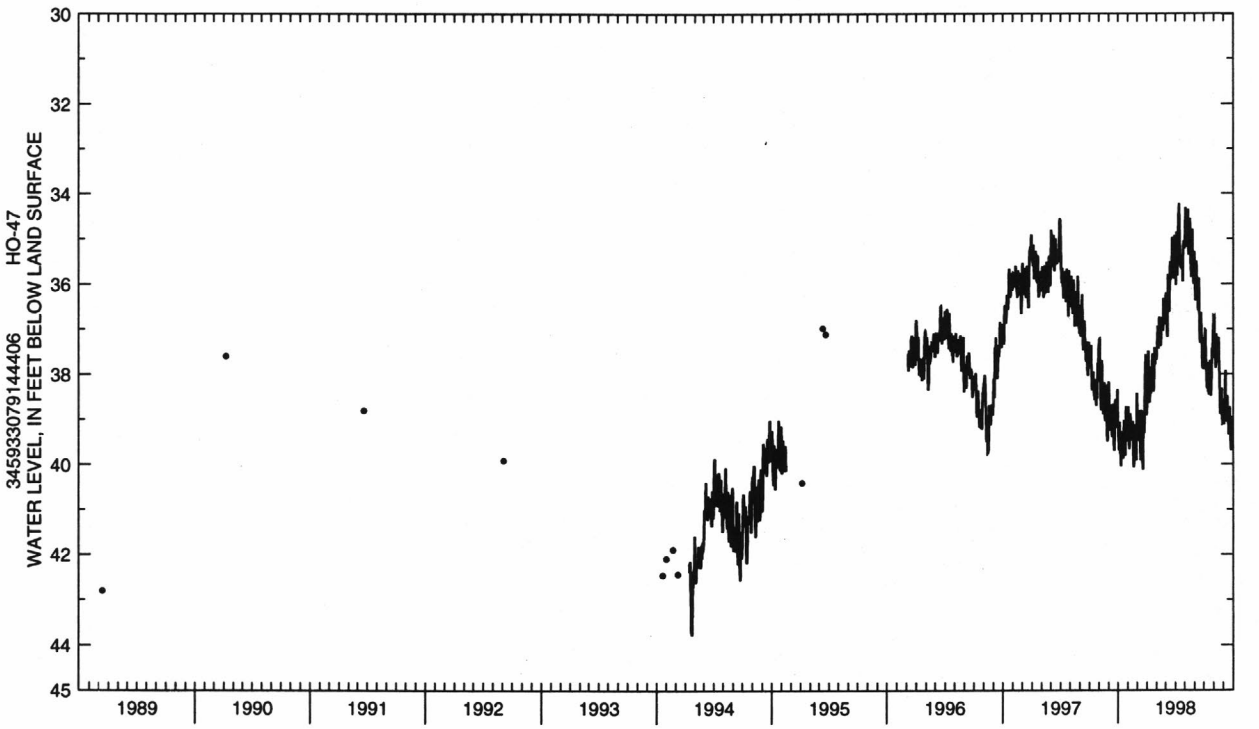
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39.16	39.00	38.69	38.85	37.60	36.58	35.53	35.13	35.29	37.87	36.73	38.80
2	39.37	38.76	39.33	38.10	37.26	36.20	35.64	34.89	35.71	37.89	36.74	38.90
3	39.50	38.73	39.47	37.95	37.28	36.46	36.03	34.65	35.92	37.69	36.73	39.12
4	39.69	39.31	39.43	37.67	37.00	36.78	35.38	34.31	36.37	37.46	37.19	38.83
5	39.11	39.51	39.29	37.49	37.01	36.83	34.88	34.90	36.33	37.02	37.45	38.77
6	39.07	39.66	39.33	38.08	37.29	37.09	34.85	35.07	36.16	37.03	37.68	38.37
7	39.44	39.44	38.81	38.20	37.44	37.18	35.48	35.18	35.50	37.41	37.78	38.04
8	39.76	39.17	38.87	38.34	37.01	36.75	35.82	35.01	35.73	37.74	37.87	37.93
9	39.67	38.88	39.43	38.60	36.74	35.80	35.49	35.06	36.14	38.01	37.53	38.55
10	40.04	39.10	39.51	38.63	37.12	36.20	34.91	34.57	36.34	38.17	37.11	38.91
11	39.92	39.41	39.71	38.19	37.13	36.44	34.65	34.35	36.16	38.32	37.38	39.06
12	39.58	39.38	39.91	37.85	37.09	36.57	34.35	35.06	36.48	37.92	37.63	38.83
13	39.27	39.37	39.60	38.33	37.23	36.62	34.22	35.29	36.60	37.75	37.68	38.49
14	39.85	39.37	38.80	38.43	37.38	36.41	34.59	35.36	36.10	38.19	37.75	38.51
15	39.80	39.47	38.94	38.24	37.21	35.61	34.94	35.24	35.87	38.38	37.56	38.82
16	39.87	39.20	39.47	37.98	36.78	35.51	35.38	34.91	36.32	38.38	37.34	39.00
17	39.85	39.05	39.58	37.80	36.78	35.90	35.51	34.66	36.80	38.42	37.19	39.17
18	39.85	39.55	39.98	37.59	36.75	35.89	35.55	34.55	37.18	38.46	37.60	39.34
19	39.26	39.92	40.12	37.56	36.83	35.70	35.64	35.18	37.31	38.00	37.84	39.12
20	39.03	40.06	39.52	37.93	36.79	35.73	35.48	35.49	37.10	37.70	38.21	38.73
21	39.38	39.95	38.85	38.24	37.02	35.56	35.68	35.68	36.70	38.15	38.65	38.74
22	39.49	39.89	38.84	38.39	37.02	35.01	35.59	35.85	36.64	38.38	38.88	38.96
23	39.68	39.30	39.32	38.24	36.33	34.97	35.59	35.59	37.00	38.48	38.46	39.35
24	39.80	39.12	39.11	37.98	36.47	35.41	35.72	35.11	37.22	38.40	38.40	39.48
25	39.41	39.60	38.40	37.42	36.76	35.62	35.95	34.79	37.46	38.13	38.78	39.69
26	38.82	39.75	38.05	37.52	36.89	35.82	35.26	35.12	37.76	37.71	38.91	39.29
27	38.72	39.89	37.73	37.79	36.80	35.88	35.05	35.55	37.88	37.43	38.32	38.97
28	38.88	39.89	37.57	37.57	36.75	35.67	35.07	35.78	37.43	37.64	38.79	38.97
29	39.04	39.04	37.76	37.61	---	35.01	35.12	35.95	37.21	37.48	39.10	39.46
30	39.36	38.43	38.47	37.64	---	34.93	35.22	36.00	37.73	37.06	39.09	39.50
31	39.49	---	38.91	37.68	---	35.31	---	35.32	---	36.91	38.77	---

WTR YR 1998 MEAN 37.55 HIGH 34.22 LOW 40.12


345933079144406 HO-47
WATER LEVEL, IN FEET BELOW LAND SURFACE
30
32
34
36
38
40
42
44
45
O
N
D
J
F
M
A
M
J
J
A
S
1997
1998


345933079144406 HO-47
WATER LEVEL, IN FEET BELOW LAND SURFACE
30
32
34
36
38
40
42
44
45
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

HOKE COUNTY--Continued

350210079064501. Local number, Ho-114; Hoke County Utilities well WA4.

LOCATION.--Lat 35°02'10", long 79°06'45", Hydrologic Unit 03030004, northeast of Raeford, 0.3 mi north of U.S. Highway 401 on Carolina Drive. Owner: Hoke County Utilities.

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

WELL CHARACTERISTICS.--Drilled supply well, depth 120 ft, diameter 8 in., cased to 60 ft and from 80 to 105 ft and 115 to 120 ft, screened intervals from 60 to 80 ft and 105 to 115 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 262 ft above sea level (from topographic map). Measuring point: Top of well access pipe in pump pedestal, 2.1 ft above land-surface datum.

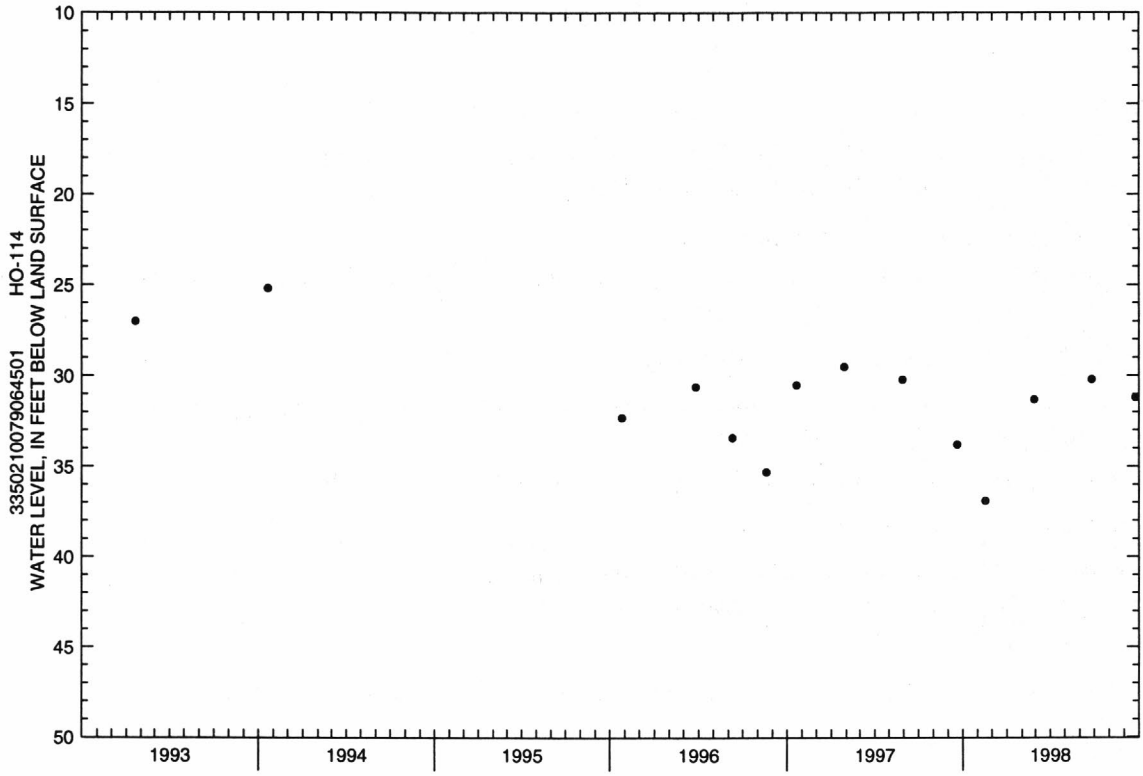
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--October 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.2 ft below land-surface datum, Oct. 21, 1993; lowest measured, 36.9 ft below land-surface datum, Nov. 17, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 17	36.9	FEB 26	31.3	JUN 26	30.2	SEP 24	31.2


HO-114
335021007906450 1
WATER LEVEL, IN FEET BELOW LAND SURFACE
10
15
20
25
30
35
40
45
50
1993
1994
1995
1996
1997
1998

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., cased to 506 ft and from 516 to 535 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 October 1983 to December 1987. Records from March 1980 to September 1983 are unpublished and available in the files of the Groundwater Section, DENR.

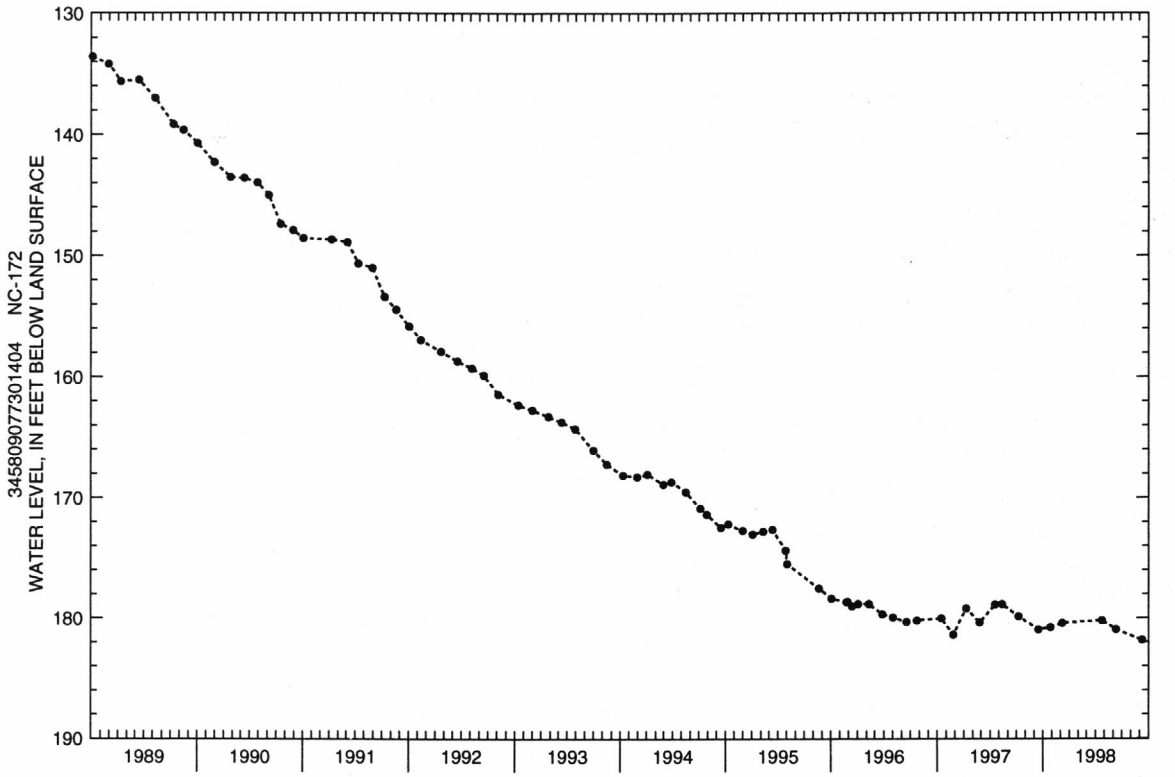
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 67.56 ft below land-surface datum, Mar. 18, 1980; lowest water level measured, 181.84 ft below land-surface datum, Sept. 10, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL
SEP 16	180.94

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	180.75	DEC 8	180.41	APR 24	180.20	JUN 11	180.94	SEP 10	181.84


345809077301404 NC-172
WATER LEVEL, IN FEET BELOW LAND SURFACE
130
140
150
160
170
180
190
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

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, drilled to 15 ft, diameter 4 in., cased to 5 ft, screened interval from 5 to 15 ft.

INSTRUMENTATION.--Satellite telemetry with a 60-minute recording interval.

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.

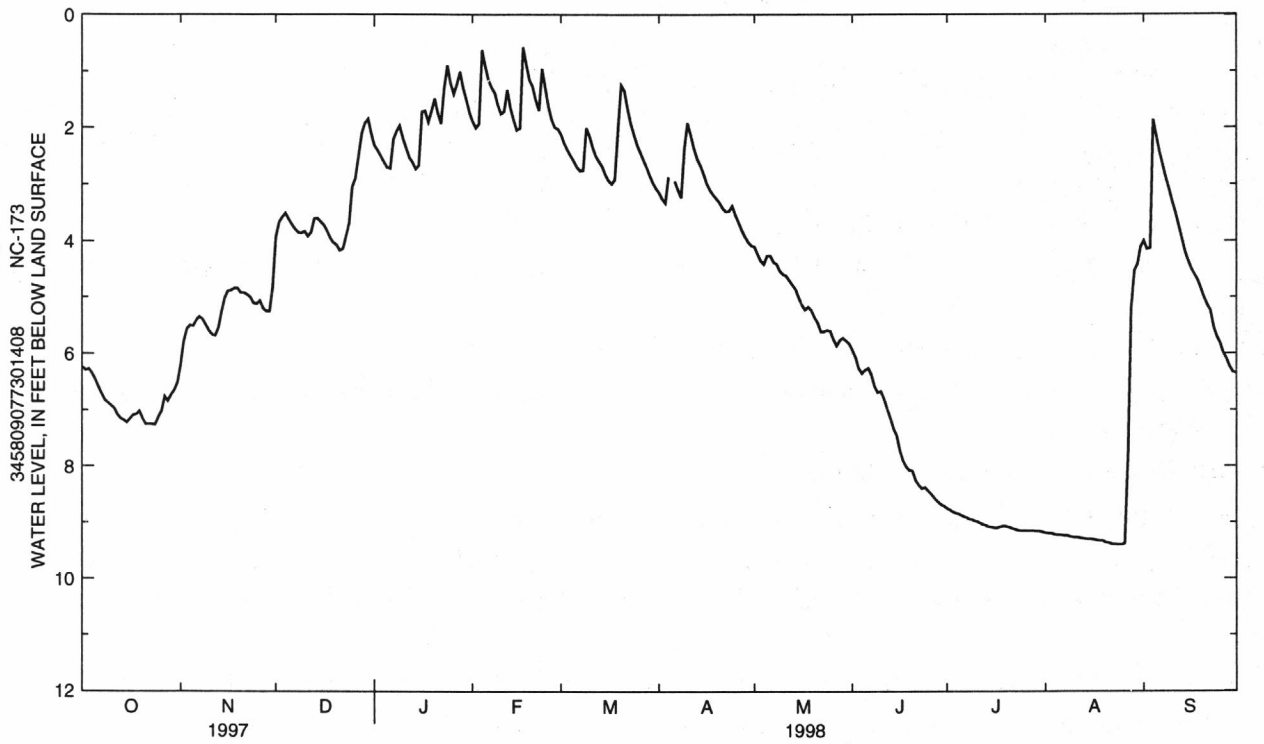
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.34 ft below land-surface datum, Aug. 14, 1991, Feb. 17, 1998; lowest water level recorded, 9.97 ft below land-surface datum, Sept. 19, 20, 21, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.24	6.20	3.93	2.31	1.88	2.12	3.14	4.10	5.93	8.75	9.19	4.00
2	6.29	5.79	3.67	2.40	2.00	2.27	3.25	4.23	6.07	8.78	9.20	4.15
3	6.27	5.56	3.58	2.50	1.93	2.39	3.33	4.35	6.26	8.82	9.20	4.13
4	6.35	5.50	3.51	2.61	.62	2.49	2.87	4.41	6.35	8.84	9.22	1.86
5	6.46	5.51	3.61	2.70	.90	2.59	---	4.26	6.29	8.86	9.23	2.15
6	6.59	5.41	3.71	2.72	1.15	2.69	2.94	4.26	6.26	8.89	9.23	2.43
7	6.71	5.35	3.79	2.21	1.28	2.76	3.10	4.37	6.37	8.91	9.24	2.67
8	6.82	5.39	3.85	2.06	1.38	2.75	3.23	4.41	6.58	8.94	9.24	2.89
9	6.87	5.49	3.86	1.96	1.59	2.00	2.36	4.53	6.69	8.96	9.26	3.10
10	6.92	5.59	3.83	2.19	1.75	2.14	1.91	4.59	6.67	8.98	9.27	3.31
11	6.97	5.66	3.92	2.36	1.71	2.35	2.13	4.62	6.80	9.00	9.27	3.51
12	7.08	5.68	3.85	2.53	1.32	2.50	2.36	4.70	6.98	9.03	9.28	3.73
13	7.15	5.54	3.61	2.61	1.64	2.60	2.55	4.78	7.14	9.05	9.29	3.96
14	7.18	5.26	3.60	2.73	1.86	2.68	2.66	4.86	7.33	9.08	9.30	4.19
15	7.22	5.01	3.66	2.67	2.04	2.83	2.81	5.00	7.45	9.09	9.30	4.36
16	7.16	4.89	3.72	1.71	2.01	2.93	2.98	5.13	7.72	9.10	9.31	4.50
17	7.09	4.88	3.82	1.70	.57	2.99	3.10	5.22	7.90	9.10	9.32	4.60
18	7.08	4.84	3.95	1.90	.88	2.91	3.18	5.17	8.01	9.08	9.33	4.70
19	7.02	4.84	4.03	1.70	1.15	2.01	3.25	5.23	8.07	9.07	9.33	4.85
20	7.15	4.92	4.07	1.48	1.27	1.24	3.32	5.36	8.08	9.08	9.36	5.01
21	7.25	4.92	4.17	1.74	1.51	1.34	3.42	5.45	8.25	9.10	9.37	5.14
22	7.25	4.95	4.14	1.92	1.69	1.65	3.48	5.61	8.34	9.12	9.39	5.24
23	7.25	5.00	3.92	1.30	.95	1.92	3.47	5.61	8.40	9.14	9.39	5.53
24	7.26	5.10	3.69	.89	1.29	2.11	3.38	5.58	8.38	9.15	9.40	5.70
25	7.12	5.12	3.05	1.20	1.62	2.30	3.54	5.60	8.44	9.15	9.40	5.81
26	7.02	5.06	2.89	1.40	1.85	2.43	3.67	5.75	8.50	9.15	9.38	5.98
27	6.76	5.20	2.51	1.23	1.99	2.57	3.81	5.86	8.57	9.15	7.77	6.09
28	6.84	5.25	2.10	1.00	2.02	2.69	3.92	5.76	8.63	9.15	5.20	6.23
29	6.73	5.25	1.92	1.29	---	2.83	4.02	5.72	8.68	9.16	4.53	6.33
30	6.65	4.81	1.84	1.50	---	2.96	4.08	5.77	8.71	9.16	4.42	6.35
31	6.51	---	2.10	1.72	---	3.07	---	5.82	---	9.17	4.11	---

WTR YR 1998 MEAN 4.97 HIGH .57 LOW 9.40


345809077301408 NC-173
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
2
4
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12
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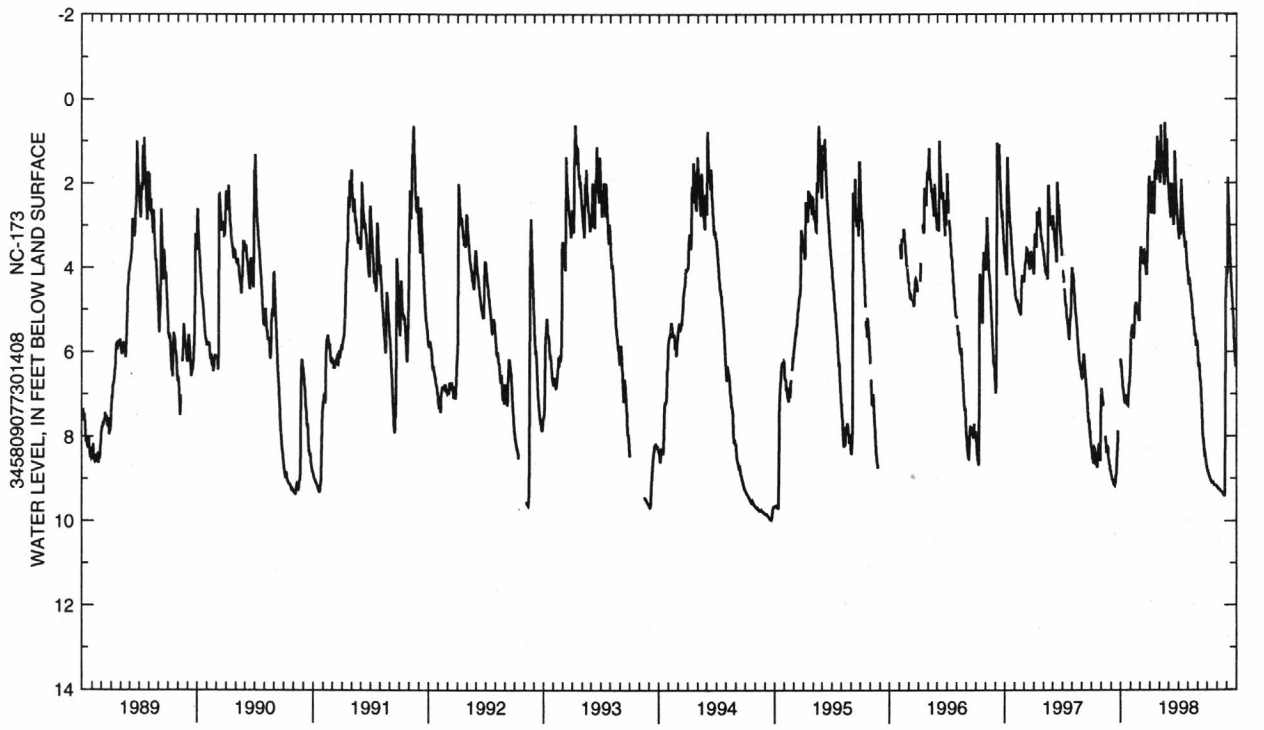
1997
1998


345809077301408 NC-173
WATER LEVEL, IN FEET BELOW LAND SURFACE
-2
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8
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12
14
1989
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1994
1995
1996
1997
1998

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, drilled to 284 ft, diameter 4 in., cased to 274 ft, 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.

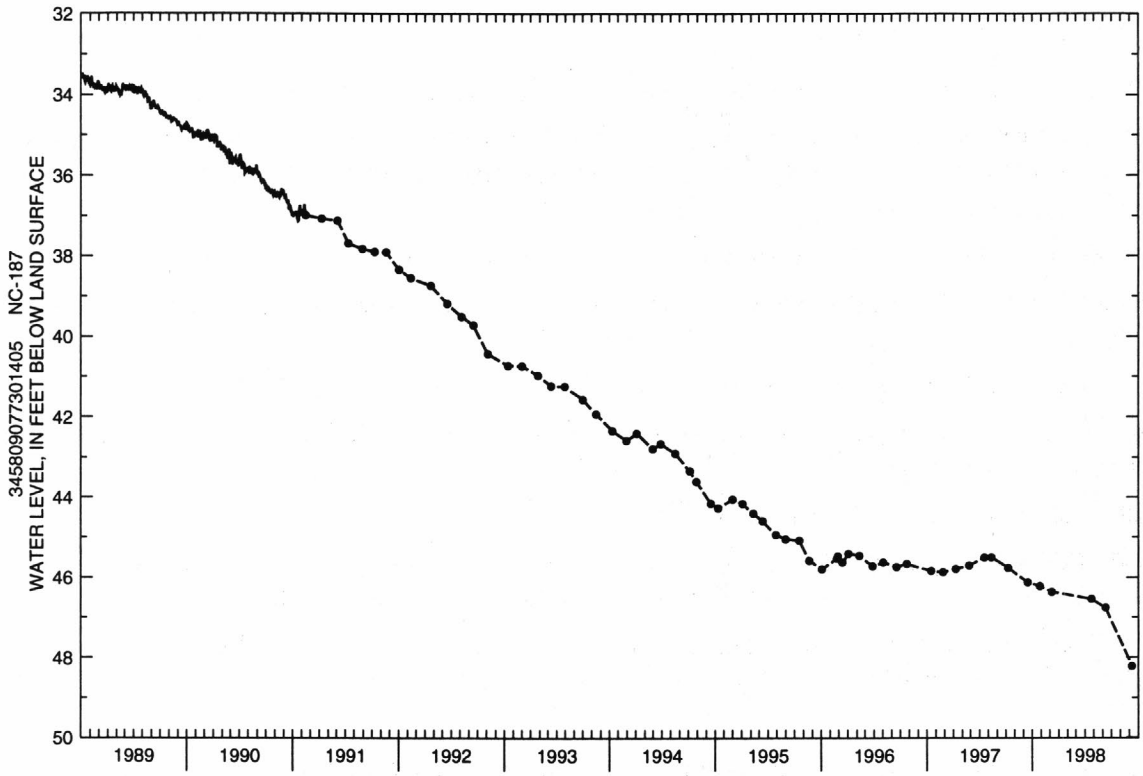
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--July 1980 to current year. Continuous record 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 recorded, 21.53 ft below land-surface datum, Oct. 29, 1980; lowest water level measured, 48.22 ft below land-surface datum, Sept. 10, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	46.22	DEC 8	46.36	APR 24	46.54	JUN 11	46.76	SEP 10	48.22


345809077301405 NC-187
WATER LEVEL, IN FEET BELOW LAND SURFACE
32
34
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1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

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.

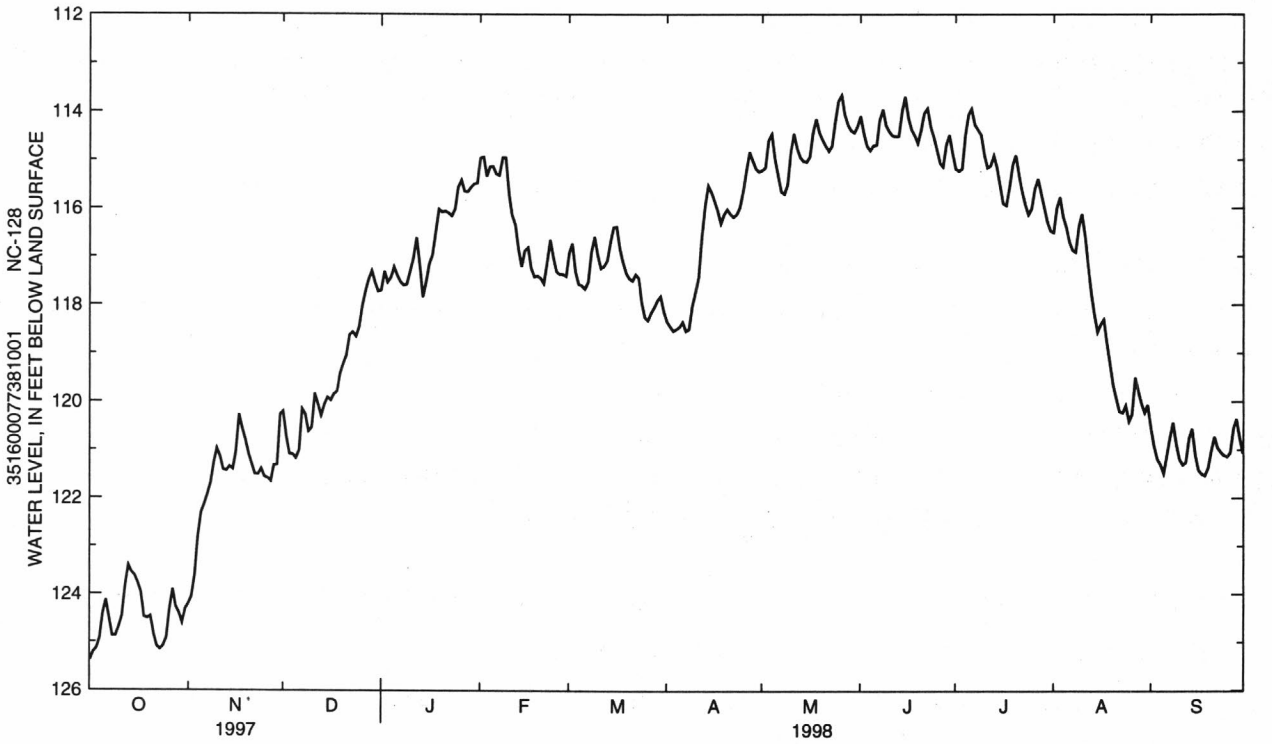
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 34.83 ft below land-surface datum, Dec. 30, 1968; lowest water level recorded 125.96 ft below land-surface datum, Sept. 27, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125.39	124.21	120.21	117.70	114.96	116.92	118.34	115.21	114.09	115.18	116.50	120.55
2	125.22	124.06	120.74	117.31	114.94	116.73	118.44	115.15	114.45	115.23	116.00	120.92
3	125.14	123.61	121.09	117.54	115.34	117.32	118.54	114.59	114.71	115.18	115.77	121.19
4	124.94	122.82	121.10	117.44	115.14	117.57	118.50	114.46	114.80	114.49	116.17	121.30
5	124.40	122.31	121.18	117.22	115.13	117.60	118.45	114.97	114.70	114.06	116.39	121.49
6	124.13	122.14	121.02	117.40	115.29	117.67	118.35	115.32	114.69	113.94	116.69	121.13
7	124.52	121.93	120.16	117.53	115.32	117.52	118.54	115.65	114.17	114.27	116.87	120.74
8	124.88	121.71	120.27	117.60	114.95	116.91	118.50	115.70	113.95	114.37	116.91	120.43
9	124.88	121.28	120.63	117.58	114.95	116.59	118.01	115.50	114.28	114.48	116.37	120.89
10	124.70	120.98	120.55	117.31	115.71	116.96	117.74	114.82	114.41	114.88	116.12	121.19
11	124.47	121.15	119.84	117.05	116.14	117.24	117.42	114.45	114.49	115.16	116.58	121.31
12	123.85	121.42	120.07	116.61	116.34	117.20	116.59	114.75	114.51	115.12	117.18	121.26
13	123.41	121.44	120.30	117.15	116.83	117.08	115.94	114.94	114.50	114.91	117.75	120.76
14	123.55	121.35	120.07	117.84	117.21	116.71	115.53	115.02	113.99	115.15	118.18	120.56
15	123.62	121.41	119.92	117.55	116.88	116.39	115.67	115.04	113.69	115.54	118.56	121.12
16	123.77	121.05	119.98	117.15	116.81	116.38	115.85	114.93	114.13	115.90	118.41	121.42
17	123.98	120.27	119.85	116.97	117.24	116.85	116.06	114.43	114.37	115.94	118.30	121.50
18	124.49	120.56	119.80	116.48	117.42	117.11	116.31	114.15	114.49	115.56	118.78	121.53
19	124.51	120.81	119.43	116.02	117.40	117.34	116.12	114.42	114.65	115.09	119.23	121.37
20	124.47	121.09	119.22	116.08	117.45	117.45	116.02	114.58	114.37	114.90	119.66	121.03
21	124.84	121.31	119.05	116.06	117.56	117.50	116.12	114.71	114.03	115.32	119.95	120.73
22	125.09	121.51	118.63	116.10	117.11	117.37	116.18	114.81	113.93	115.65	120.21	120.95
23	125.16	121.52	118.57	116.16	116.65	117.44	116.12	114.71	114.30	115.93	120.23	121.05
24	125.09	121.40	118.66	116.02	117.02	117.94	115.97	114.19	114.53	116.13	120.08	121.11
25	124.92	121.57	118.47	115.57	117.31	118.26	115.64	113.78	114.78	116.00	120.41	121.14
26	124.34	121.59	118.02	115.42	117.37	118.32	115.22	113.66	115.07	115.60	120.26	121.06
27	123.90	121.66	117.72	115.65	117.37	118.16	114.83	114.06	115.14	115.39	119.50	120.55
28	124.27	121.33	117.47	115.66	117.41	118.05	115.01	114.28	114.67	115.69	119.78	120.36
29	124.41	121.32	117.30	115.57	---	117.90	115.18	114.39	114.48	115.99	120.05	120.75
30	124.61	120.27	117.55	115.50	---	117.82	115.24	114.43	114.88	116.28	120.23	121.07
31	124.32	---	117.73	115.48	---	118.14	---	114.30	---	116.47	120.07	---

WTR YR 1998 MEAN 118.05 HIGH 113.66 LOW 125.39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WATER LEVEL, IN FEET BELOW LAND SURFACE
112
114
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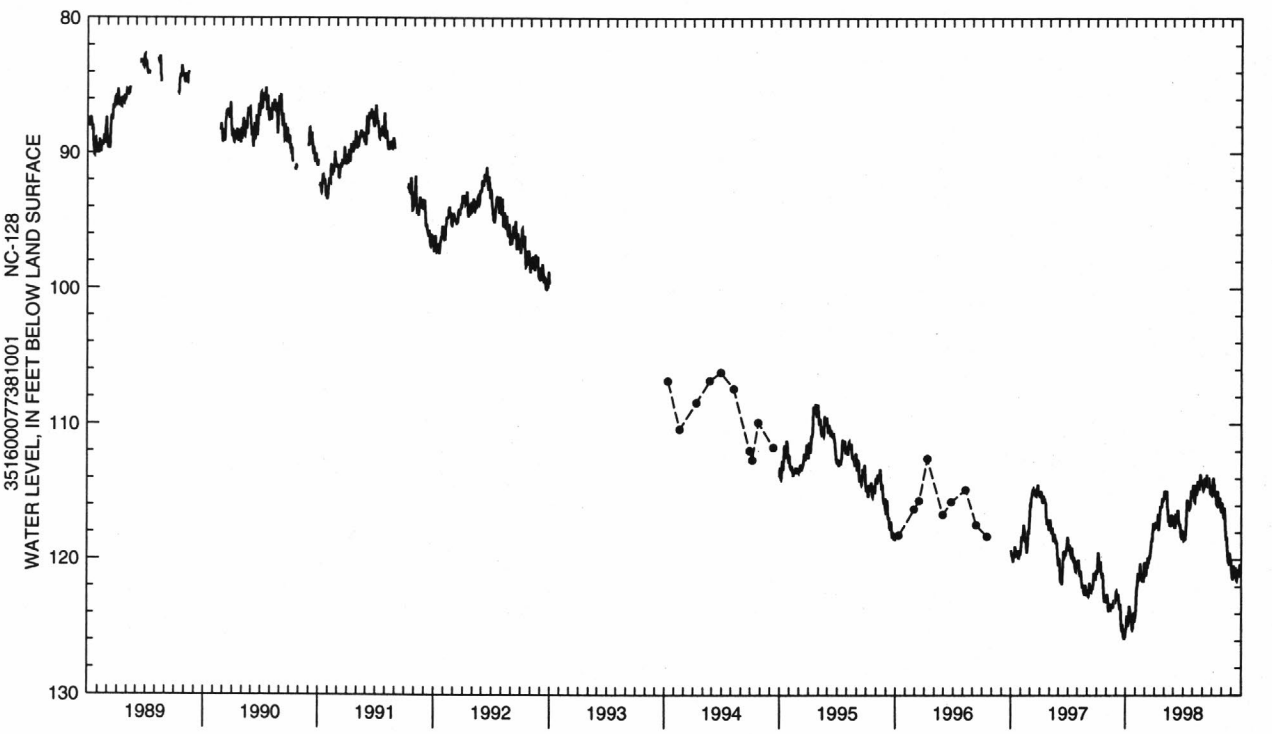
1998


351600077381001 NC-128
WATER LEVEL, IN FEET BELOW LAND SURFACE
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100
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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, drilled to 134 ft, diameter 4 in., cased to 124 ft, 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.

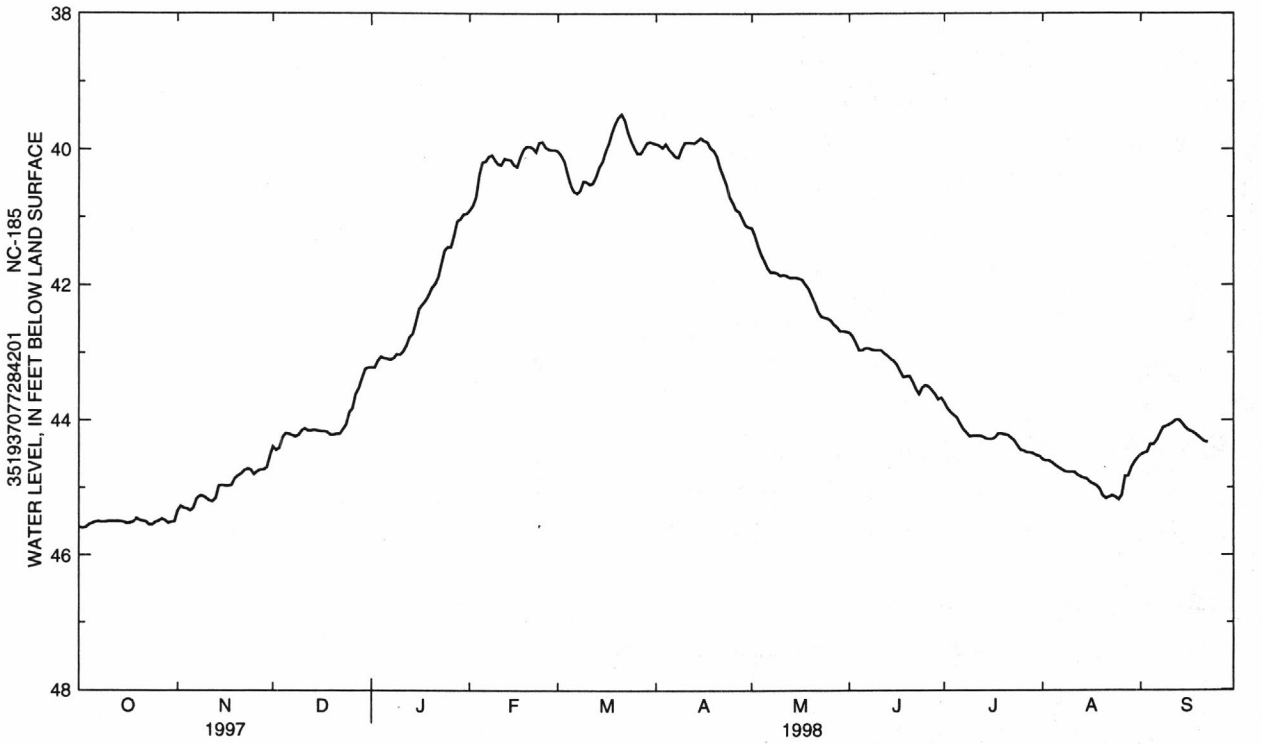
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 39.46 ft below land-surface datum, Mar. 21, 1998; lowest water level recorded, 60.61 ft below land-surface datum, July 31, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45.59	45.34	44.39	43.22	40.90	40.03	39.92	41.16	42.70	43.73	44.58	44.51
2	45.60	45.27	44.44	43.22	40.83	40.09	39.94	41.27	42.76	43.82	44.60	44.49
3	45.59	45.30	44.41	43.12	40.70	40.18	39.98	41.42	42.85	43.88	44.60	44.47
4	45.55	45.31	44.25	43.06	40.37	40.36	39.92	41.55	42.96	43.92	44.63	44.36
5	45.53	45.34	44.19	43.08	40.19	40.53	40.00	41.64	42.96	43.96	44.67	44.36
6	45.51	45.30	44.20	43.09	40.18	40.62	40.05	41.75	42.93	44.05	44.70	44.30
7	45.50	45.16	44.22	43.10	40.11	40.65	40.11	41.81	42.93	44.13	44.73	44.20
8	45.51	45.12	44.24	43.08	40.09	40.61	40.12	41.81	42.95	44.18	44.76	44.11
9	45.51	45.12	44.22	43.02	40.16	40.47	39.99	41.82	42.96	44.24	44.77	44.09
10	45.50	45.15	44.15	43.03	40.22	40.48	39.90	41.86	42.96	44.23	44.77	44.07
11	45.50	45.19	44.12	42.98	40.23	40.52	39.90	41.85	42.96	44.23	44.77	44.04
12	45.50	45.20	44.15	42.89	40.14	40.50	39.90	41.86	43.01	44.23	44.81	44.00
13	45.50	45.15	44.15	42.77	40.15	40.40	39.91	41.89	43.04	44.24	44.84	44.00
14	45.50	44.97	44.14	42.72	40.16	40.26	39.87	41.89	43.09	44.27	44.86	44.05
15	45.51	44.96	44.15	42.55	40.23	40.18	39.83	41.89	43.12	44.28	44.87	44.11
16	45.53	44.97	44.16	42.35	40.26	40.03	39.87	41.90	43.18	44.28	44.92	44.15
17	45.52	44.97	44.16	42.29	40.12	39.91	39.89	41.92	43.27	44.26	44.95	44.17
18	45.51	44.96	44.17	42.23	40.01	39.75	39.98	41.99	43.36	44.20	44.97	44.20
19	45.45	44.86	44.21	42.15	39.96	39.62	40.02	42.05	43.35	44.20	45.02	44.24
20	45.48	44.82	44.21	42.04	39.96	39.53	40.10	42.16	43.35	44.21	45.12	44.28
21	45.49	44.79	44.20	41.99	39.98	39.48	40.27	42.26	43.43	44.22	45.16	44.32
22	45.50	44.74	44.20	41.89	40.04	39.57	40.39	42.39	43.54	44.26	45.14	44.33
23	45.55	44.72	44.13	41.69	39.90	39.75	40.52	42.46	43.61	44.30	45.12	---
24	45.55	44.73	44.06	41.49	39.89	39.87	40.70	42.48	43.51	44.37	45.14	---
25	45.51	44.80	43.88	41.44	39.97	39.98	40.79	42.49	43.48	44.44	45.18	---
26	45.49	44.76	43.82	41.44	40.00	40.06	40.89	42.52	43.50	44.45	45.11	---
27	45.46	44.73	43.61	41.27	40.01	40.06	40.92	42.58	43.55	44.48	44.83	---
28	45.48	44.73	43.52	41.06	40.01	39.99	41.02	42.62	43.61	44.48	44.83	---
29	45.52	44.70	43.38	41.03	---	39.91	41.12	42.68	43.69	44.49	44.70	---
30	45.51	44.53	43.24	40.96	---	39.89	41.15	42.68	43.67	44.52	44.62	---
31	45.50	---	43.22	40.95	---	39.91	---	42.69	---	44.53	44.56	---

WTR YR 1998 MEAN 42.99 HIGH 39.48 LOW 45.60


351937077284201 NC-185
WATER LEVEL, IN FEET BELOW LAND SURFACE
38
40
42
44
46
48
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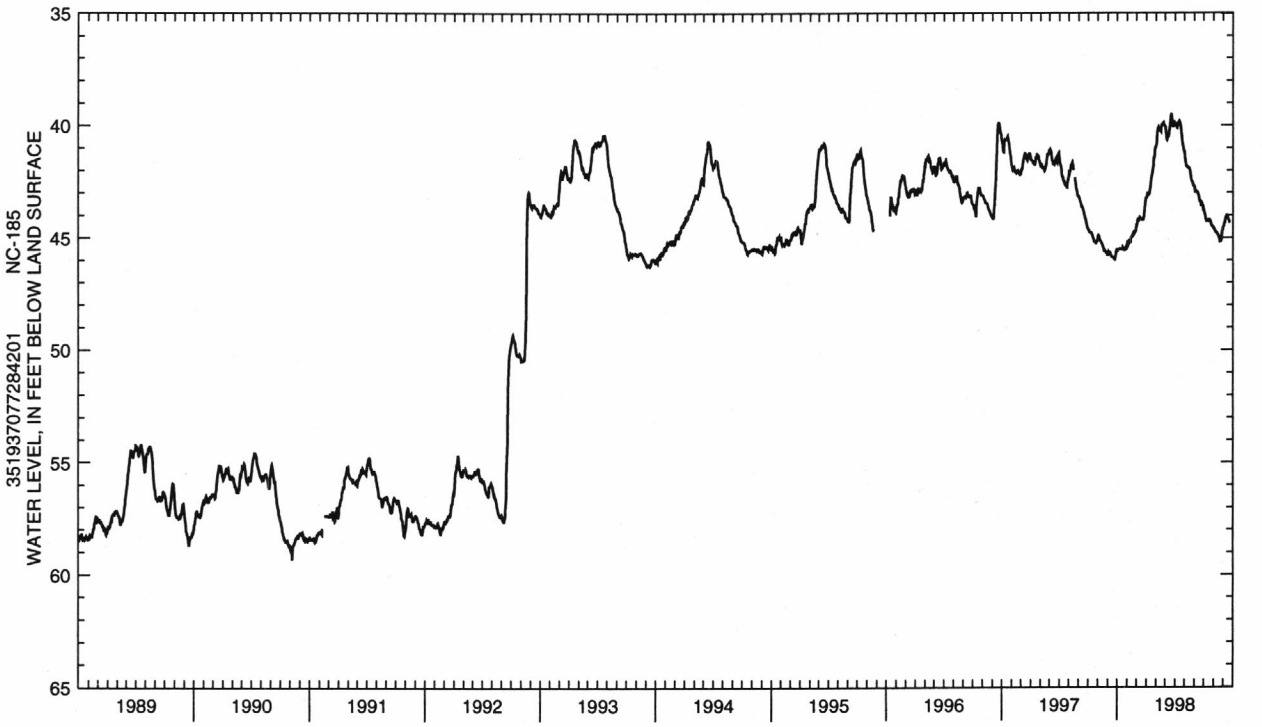
1997
1998


351937077284201 NC-185
WATER LEVEL, IN FEET BELOW LAND SURFACE
35
40
45
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60
65
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

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, drilled to 520 ft, diameter 6 in., cased to 480 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; revised from 1.85 ft above land-surface datum, Dec. 1997.

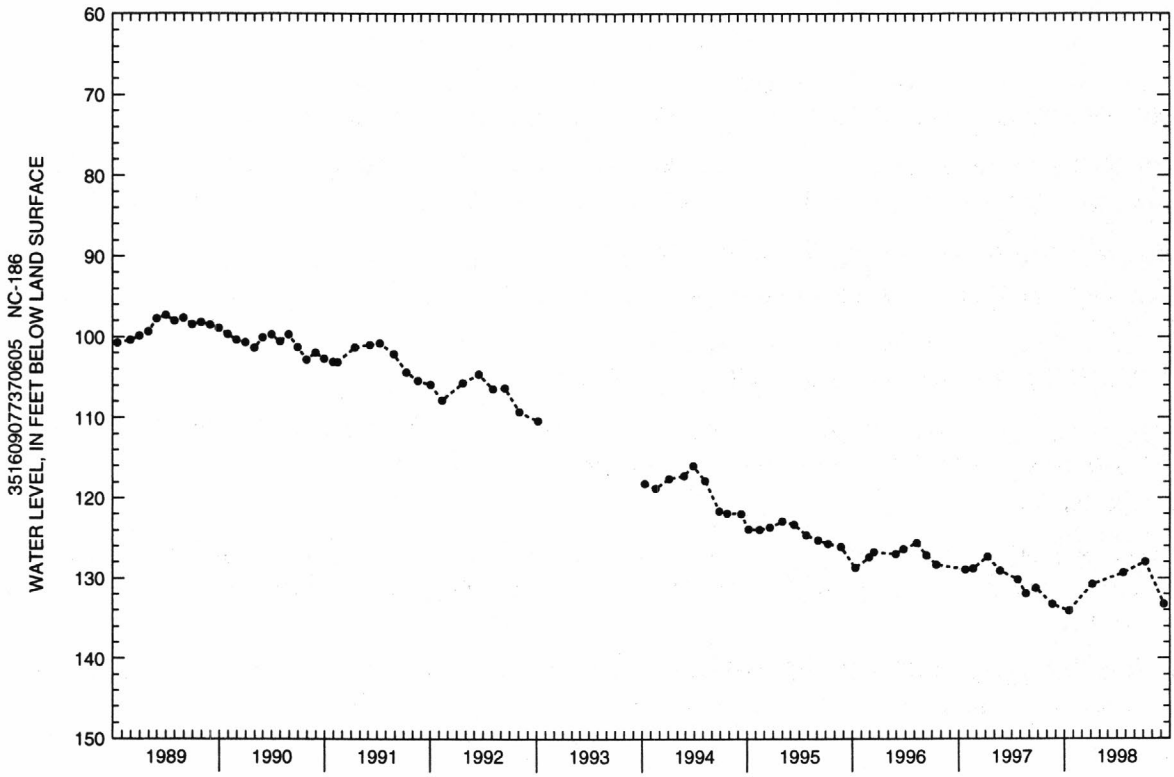
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--August 1974 to September 1992, October 1993 to current year. Continuous record 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 recorded, 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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	134.11	JAN 6	130.79	APR 24	129.36	JUL 9	127.98	SEP 11	133.24


351609077370605 NC-186
WATER LEVEL, IN FEET BELOW LAND SURFACE
60
70
80
90
100
110
120
130
140
150
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

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, on State Route 11, 10.5 mi east of the intersection of US 70 at Kinston. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 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.

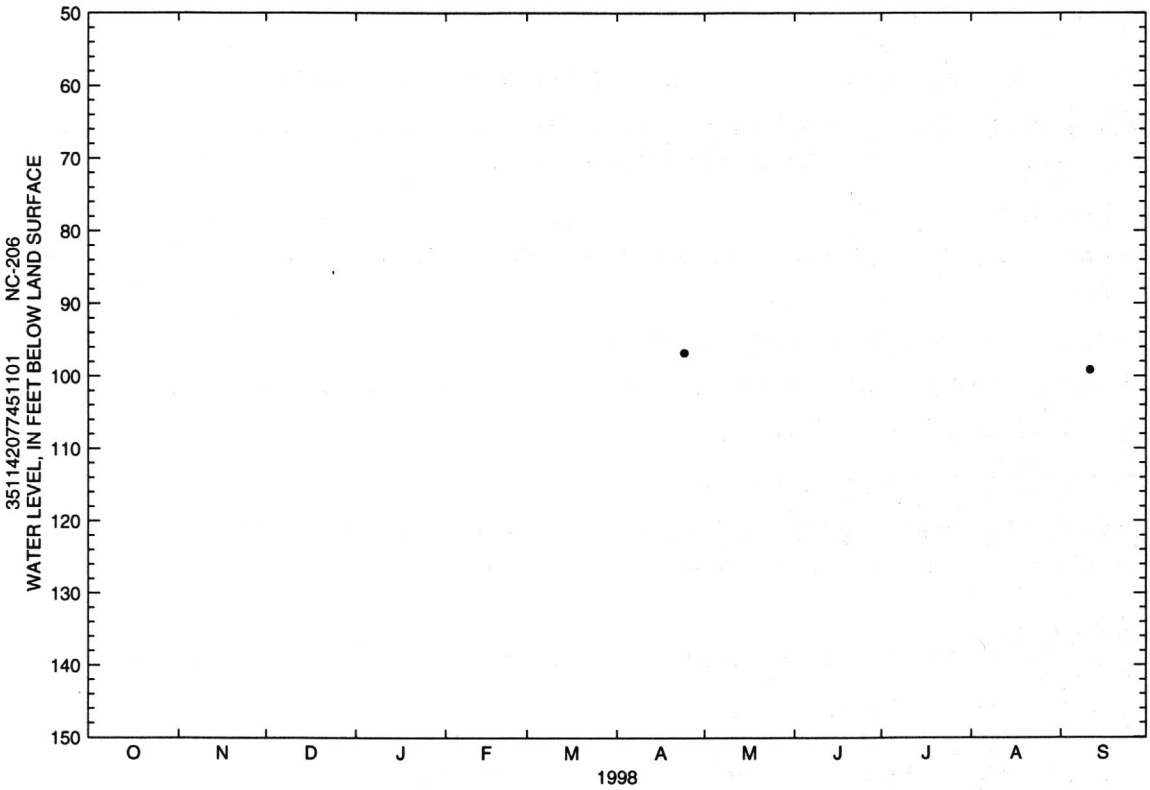
REMARKS.--Well is part of areal-effects network.

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, 99.16 ft below land-surface datum, Sept. 11, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL
APR 24	96.72	SEP 11	99.16


351142077451101 NC-206
WATER LEVEL, IN FEET BELOW LAND SURFACE
50
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70
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110
120
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1998

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 21.0 ft, screened and sand filter packed from 21.0 to 26.0 ft.

INSTRUMENTATION.--Digital recorder with a 60-minute punch interval.

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.

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

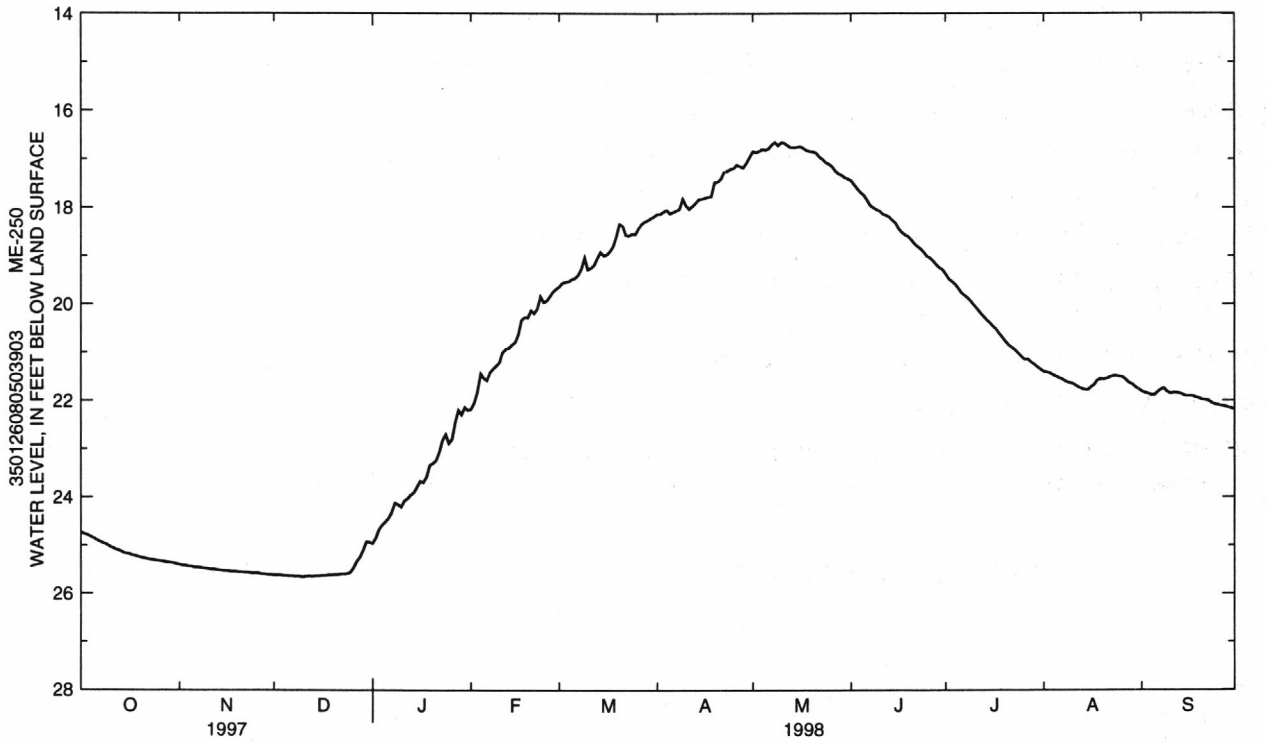
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.63 ft below land-surface datum, Apr. 10, 1993; lowest water level recorded, 25.66 ft below land-surface datum Dec. 10 and 11, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.74	25.40	25.62	24.97	22.18	19.63	18.13	16.84	17.44	19.37	21.40	21.81
2	24.77	25.42	25.62	24.85	22.04	19.56	18.13	16.86	17.53	19.47	21.41	21.84
3	24.79	25.42	25.62	24.68	21.82	19.54	18.08	16.84	17.61	19.53	21.43	21.85
4	24.83	25.44	25.63	24.58	21.44	19.53	18.05	16.79	17.69	19.58	21.47	21.89
5	24.86	25.44	25.63	24.52	21.53	19.48	18.12	16.81	17.74	19.67	21.50	21.89
6	24.90	25.46	25.64	24.44	21.58	19.46	18.09	16.78	17.84	19.76	21.53	21.83
7	24.93	25.46	25.64	24.32	21.42	19.39	18.06	16.70	17.95	19.82	21.56	21.77
8	24.96	25.47	25.65	24.13	21.34	19.26	18.03	16.65	18.00	19.87	21.60	21.74
9	24.99	25.48	25.65	24.16	21.28	19.03	17.82	16.72	18.04	19.94	21.63	21.82
10	25.03	25.49	25.66	24.21	21.21	19.28	17.95	16.65	18.07	20.02	21.64	21.85
11	25.06	25.50	25.65	24.08	21.00	19.25	18.03	16.67	18.13	20.10	21.68	21.84
12	25.09	25.50	25.64	24.03	20.93	19.19	17.97	16.72	18.16	20.18	21.72	21.84
13	25.11	25.51	25.65	23.96	20.91	19.04	17.91	16.76	18.19	20.26	21.75	21.85
14	25.15	25.52	25.64	23.91	20.84	18.92	17.83	16.76	18.26	20.33	21.77	21.88
15	25.17	25.53	25.64	23.79	20.79	18.99	17.82	16.75	18.31	20.39	21.78	21.91
16	25.18	25.53	25.63	23.67	20.62	18.97	17.80	16.74	18.43	20.46	21.72	21.91
17	25.21	25.54	25.63	23.70	20.33	18.90	17.78	16.77	18.51	20.52	21.67	21.91
18	25.22	25.55	25.62	23.58	20.27	18.80	17.77	16.82	18.56	20.61	21.58	21.93
19	25.24	25.55	25.62	23.34	20.28	18.59	17.48	16.84	18.59	20.69	21.55	21.95
20	25.26	25.56	25.61	23.30	20.13	18.34	17.47	16.85	18.66	20.78	21.56	21.98
21	25.27	25.56	25.61	23.24	20.19	18.38	17.41	16.87	18.74	20.85	21.54	21.99
22	25.29	25.57	25.60	23.07	20.09	18.57	17.27	16.95	18.80	20.90	21.51	22.00
23	25.30	25.57	25.60	22.83	19.84	18.58	17.25	17.00	18.85	20.95	21.49	22.05
24	25.31	25.58	25.59	22.70	19.96	18.54	17.21	17.07	18.92	21.02	21.49	22.08
25	25.32	25.58	25.57	22.89	19.93	18.55	17.19	17.10	19.00	21.09	21.50	22.09
26	25.33	25.58	25.47	22.80	19.83	18.43	17.12	17.15	19.04	21.15	21.51	22.11
27	25.34	25.60	25.34	22.45	19.74	18.34	17.15	17.24	19.10	21.14	21.57	22.12
28	25.35	25.60	25.25	22.20	19.68	18.29	17.18	17.30	19.18	21.20	21.63	22.14
29	25.36	25.61	25.11	22.29	---	18.26	17.08	17.33	19.24	21.25	21.66	22.16
30	25.37	25.61	24.93	22.14	---	18.22	16.96	17.38	19.28	21.30	21.72	22.18
31	25.39	---	24.94	22.20	---	18.18	---	17.41	---	21.35	21.76	---

WTR YR 1998 MEAN 21.37 HIGH 16.65 LOW 25.66


350126080503903 ME-250
WATER LEVEL, IN FEET BELOW LAND SURFACE
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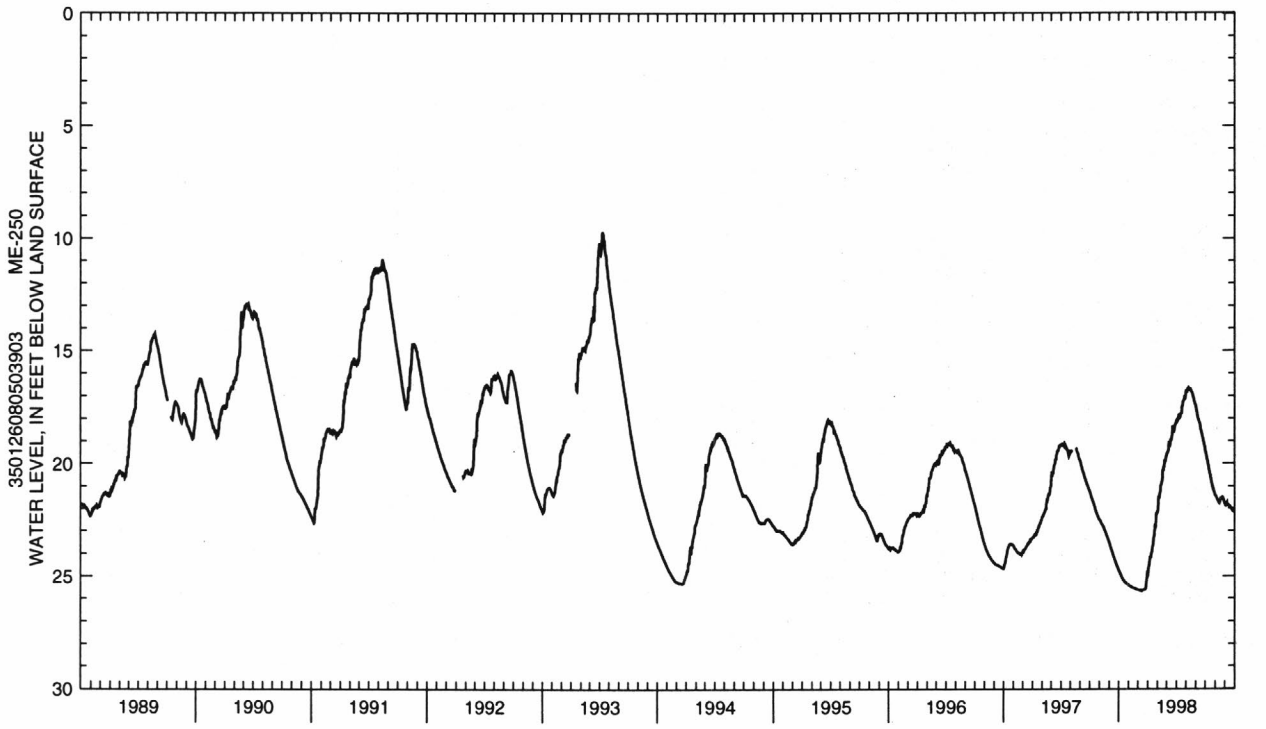
J
J
A
S
1997
1998


350126080503903 ME-250
WATER LEVEL, IN FEET BELOW LAND SURFACE
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5
10
15
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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.--Digital recorder with a 60-minute punch interval.

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.

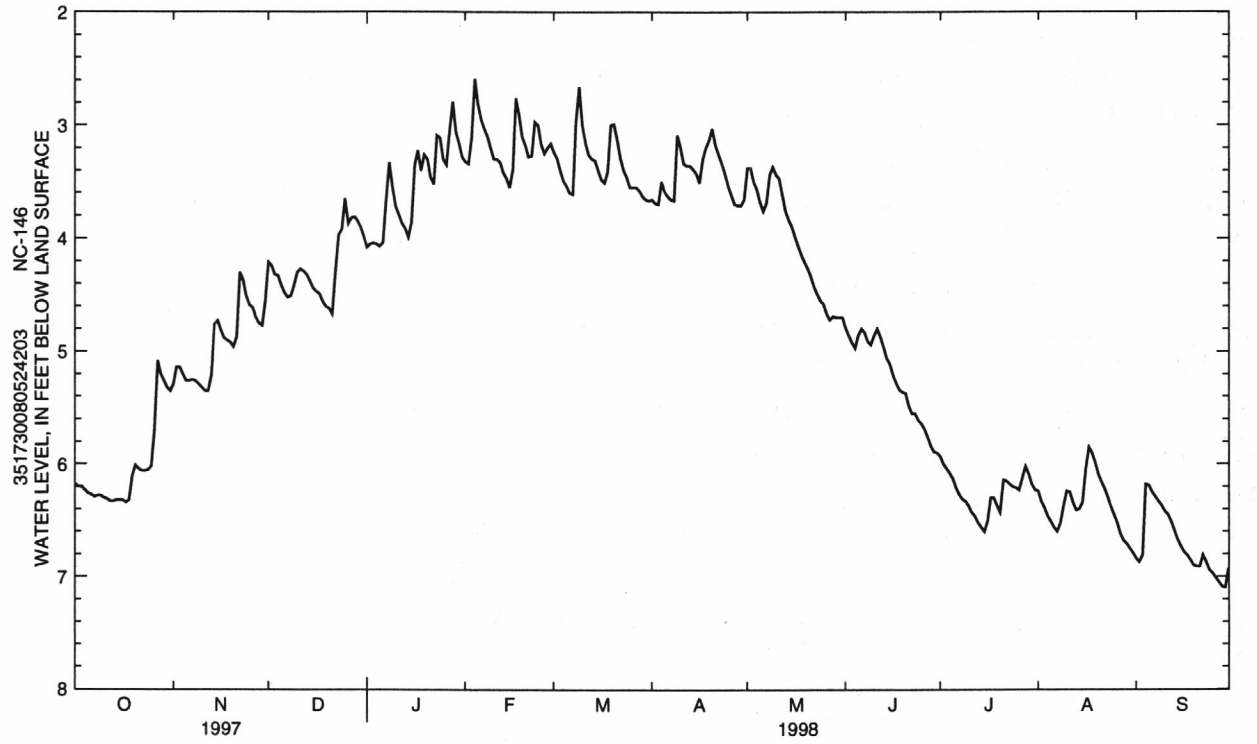
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.28 ft below land-surface datum, Mar. 24, 1993; lowest water level recorded, 7.93 ft below land-surface datum, Oct. 10 and 11, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.18	5.29	4.21	4.08	3.32	3.24	3.66	3.38	4.79	5.93	6.24	6.84
2	6.20	5.14	4.24	4.05	3.34	3.29	3.69	3.38	4.86	6.00	6.33	6.87
3	6.20	5.14	4.32	4.04	3.11	3.40	3.70	3.50	4.92	6.04	6.39	6.81
4	6.23	5.20	4.33	4.05	2.59	3.49	3.50	3.57	4.97	6.08	6.46	6.18
5	6.26	5.26	4.41	4.07	2.81	3.54	3.59	3.68	4.86	6.13	6.51	6.19
6	6.27	5.26	4.48	4.04	2.95	3.60	3.63	3.76	4.80	6.21	6.56	6.25
7	6.29	5.25	4.52	3.68	3.03	3.61	3.66	3.69	4.83	6.27	6.60	6.29
8	6.28	5.26	4.51	3.33	3.10	2.97	3.67	3.44	4.91	6.31	6.53	6.33
9	6.28	5.29	4.42	3.54	3.20	2.66	3.09	3.37	4.94	6.33	6.37	6.37
10	6.30	5.32	4.30	3.72	3.30	3.00	3.19	3.44	4.86	6.37	6.24	6.42
11	6.31	5.35	4.27	3.79	3.30	3.16	3.34	3.47	4.80	6.43	6.25	6.45
12	6.33	5.35	4.29	3.87	3.33	3.26	3.36	3.62	4.87	6.46	6.34	6.51
13	6.33	5.21	4.32	3.91	3.42	3.30	3.36	3.76	4.96	6.52	6.41	6.59
14	6.32	4.76	4.38	3.99	3.47	3.31	3.39	3.84	5.06	6.56	6.40	6.67
15	6.32	4.73	4.44	3.86	3.55	3.40	3.43	3.90	5.11	6.60	6.34	6.73
16	6.32	4.81	4.47	3.35	3.39	3.48	3.51	3.99	5.21	6.51	6.05	6.78
17	6.34	4.88	4.49	3.22	2.76	3.51	3.30	4.07	5.28	6.30	5.85	6.81
18	6.32	4.90	4.56	3.40	2.91	3.41	3.20	4.15	5.34	6.30	5.90	6.85
19	6.10	4.92	4.60	3.26	3.10	3.00	3.13	4.21	5.36	6.37	5.99	6.90
20	6.01	4.96	4.62	3.30	3.18	2.99	3.03	4.27	5.37	6.43	6.09	6.91
21	6.04	4.87	4.67	3.46	3.28	3.13	3.18	4.34	5.48	6.14	6.16	6.91
22	6.06	4.30	4.28	3.52	3.27	3.29	3.26	4.43	5.55	6.15	6.22	6.81
23	6.06	4.37	3.97	3.09	2.97	3.40	3.34	4.49	5.55	6.18	6.30	6.87
24	6.05	4.51	3.92	3.11	3.00	3.46	3.43	4.55	5.61	6.20	6.38	6.94
25	6.02	4.59	3.65	3.30	3.17	3.55	3.54	4.58	5.64	6.21	6.45	6.97
26	5.70	4.61	3.87	3.35	3.25	3.55	3.62	4.67	5.69	6.23	6.52	7.01
27	5.08	4.70	3.82	3.06	3.20	3.55	3.70	4.72	5.76	6.12	6.62	7.05
28	5.20	4.75	3.81	2.79	3.16	3.58	3.71	4.69	5.84	6.02	6.68	7.09
29	5.26	4.77	3.85	3.06	---	3.63	3.71	4.70	5.89	6.09	6.71	7.10
30	5.32	4.55	3.91	3.16	---	3.66	3.66	4.70	5.90	6.18	6.75	6.93
31	5.35	---	3.99	3.28	---	3.67	---	4.70	---	6.23	6.79	---

WTR YR 1998 MEAN 4.79 HIGH 2.59 LOW 7.10


351730080524203 NC-146
WATER LEVEL, IN FEET BELOW LAND SURFACE
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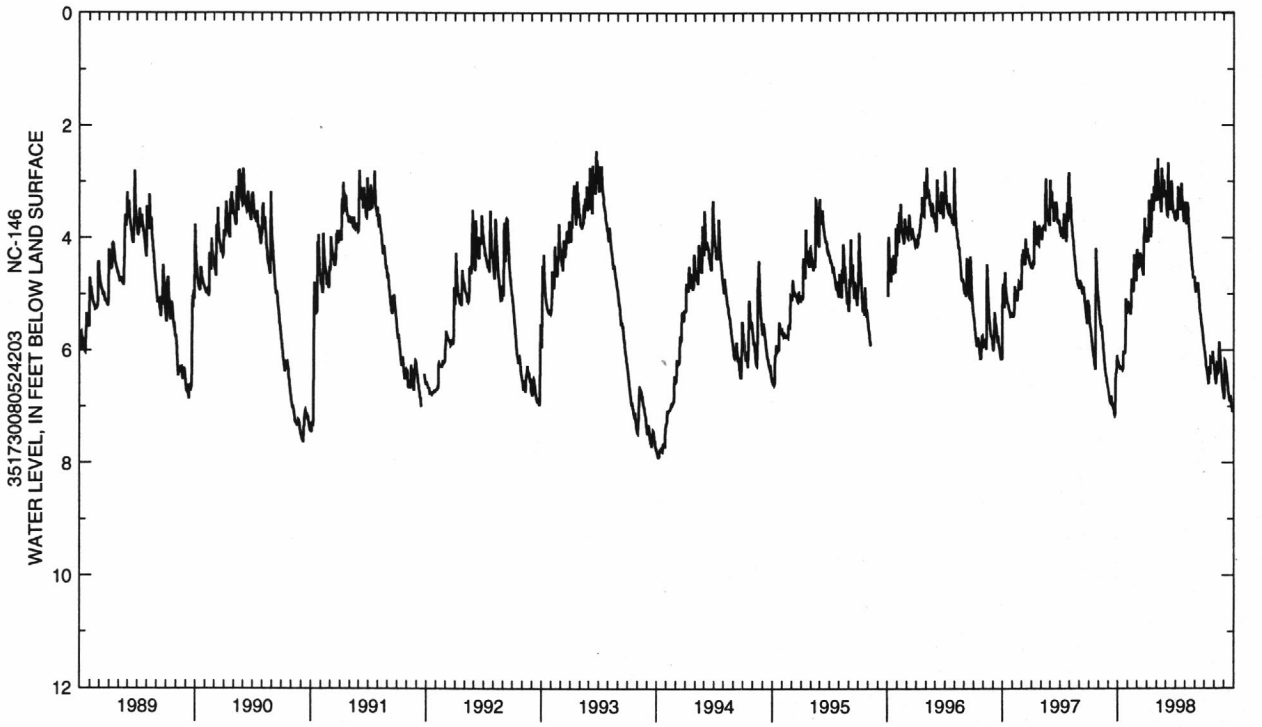
351730080524203 NC-146
WATER LEVEL, IN FEET BELOW LAND SURFACE
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NEW HANOVER COUNTY

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: Walter J. Hodder.

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.--Measured periodically with steel tape.

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 (since March 11, 1976).

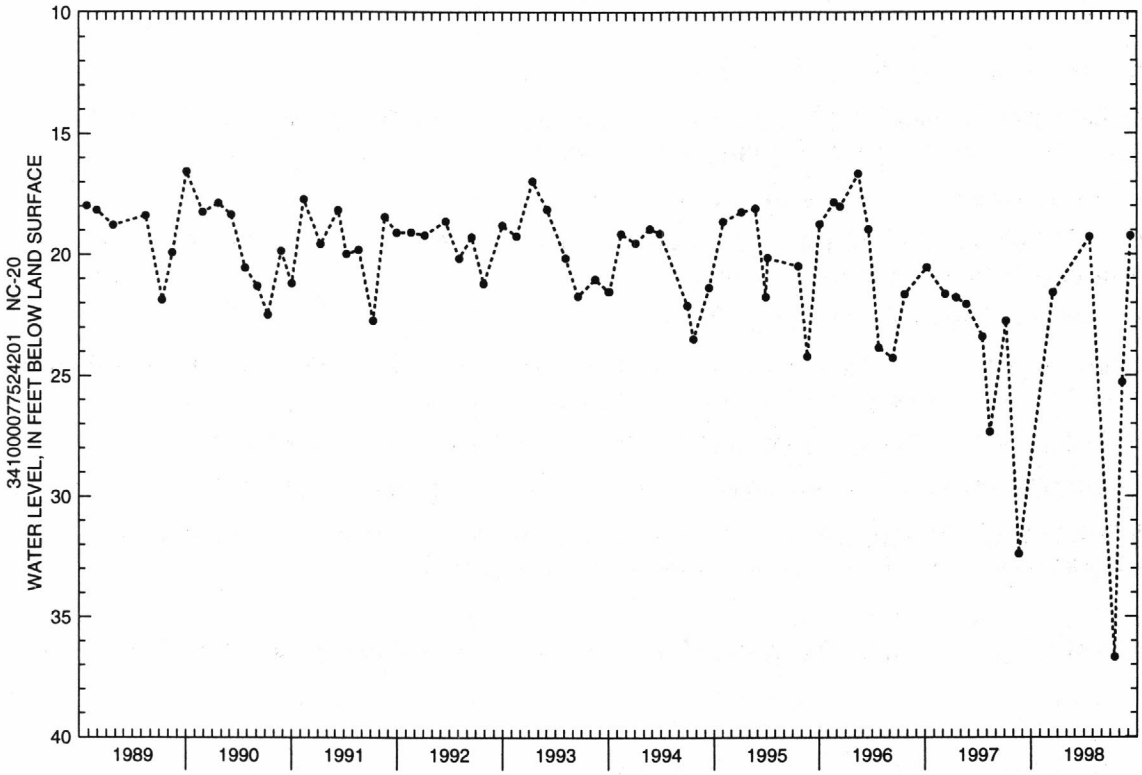
REMARKS.--Well is part of areal-effects network. Water levels are affected by supply well drilled in subdivision.

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

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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 16	21.58	APR 22	19.29	JUL 16	36.69	AUG 12	25.29	SEP 10	19.25


341000077524201 NC-20
WATER LEVEL, IN FEET BELOW LAND SURFACE
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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, drilled to 70 ft, diameter 18 in., cased to 23 ft, open hole to 70 ft; measured depth 68 ft, January 1974.

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

DATUM.--Land-surface datum is 17.0 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 1.83 ft above land-surface datum; revised from 1.90 ft. above land-surface datum, April 29, 1993.

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

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

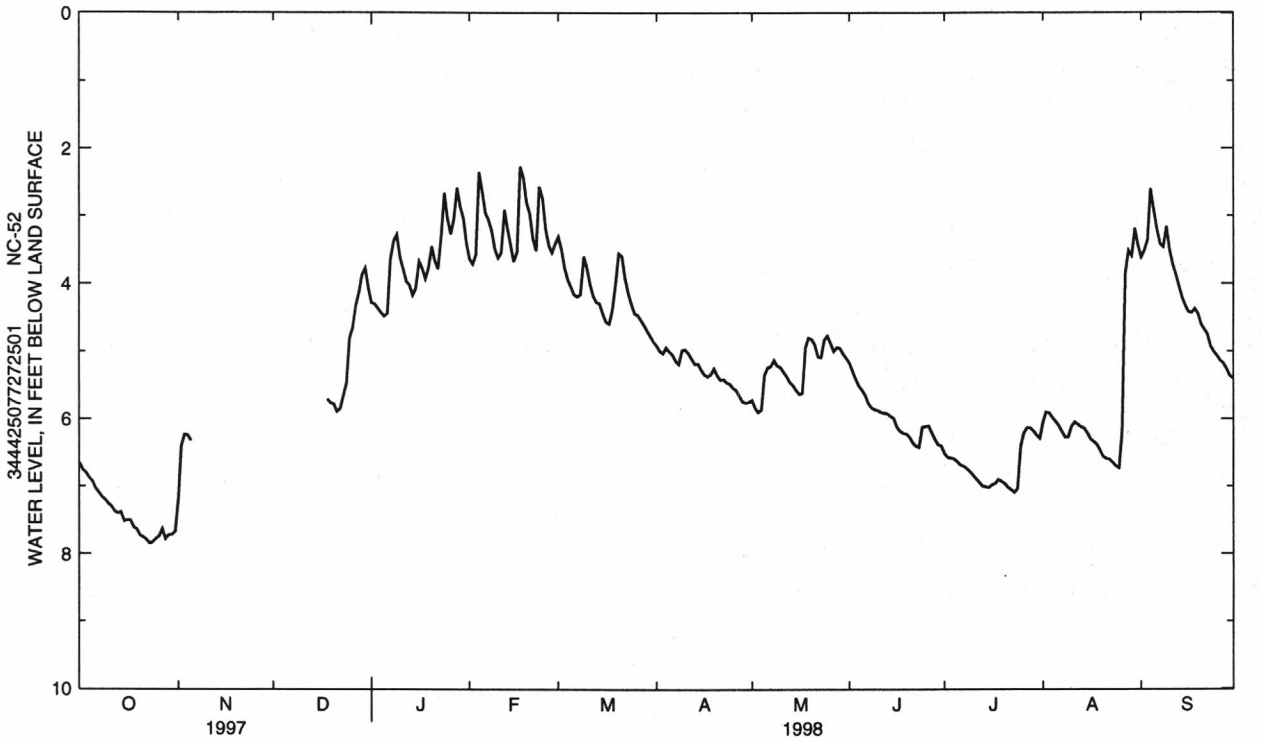
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.67 ft below land-surface datum, Sept. 14, 1984; lowest water level recorded, 10.44 ft below land-surface datum, Jan. 3, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.66	7.18	---	4.28	3.63	3.31	4.91	5.72	5.17	6.51	6.05	3.61
2	6.76	6.41	---	4.30	3.71	3.49	4.99	5.83	5.29	6.57	5.90	3.51
3	6.80	6.23	---	4.36	3.57	3.77	5.03	5.90	5.41	6.58	5.91	3.36
4	6.87	6.24	---	4.43	2.35	3.94	4.94	5.86	5.51	6.59	5.98	2.60
5	6.93	6.32	---	4.48	2.63	4.05	5.00	5.35	5.57	6.63	6.04	2.92
6	7.03	---	---	4.44	2.96	4.16	5.05	5.24	5.65	6.68	6.10	3.20
7	7.09	---	---	3.64	3.06	4.19	5.14	5.22	5.77	6.70	6.19	3.42
8	7.16	---	---	3.37	3.23	4.16	5.19	5.13	5.83	6.73	6.27	3.46
9	7.20	---	---	3.28	3.49	3.60	4.98	5.21	5.86	6.78	6.27	3.16
10	7.26	---	---	3.61	3.62	3.76	4.97	5.23	5.87	6.83	6.11	3.50
11	7.30	---	---	3.78	3.54	4.01	5.03	5.30	5.90	6.89	6.05	3.72
12	7.37	---	---	3.97	2.91	4.18	5.11	5.37	5.91	6.94	6.08	3.87
13	7.40	---	---	4.02	3.18	4.27	5.19	5.45	5.92	7.00	6.12	4.05
14	7.38	---	---	4.17	3.43	4.29	5.18	5.50	5.96	7.01	6.14	4.21
15	7.52	---	---	4.07	3.67	4.44	5.27	5.57	5.99	7.02	6.21	4.33
16	7.50	---	---	3.67	3.53	4.56	5.34	5.63	6.12	6.98	6.30	4.42
17	7.50	---	---	3.77	2.27	4.59	5.37	5.62	6.18	6.96	6.34	4.43
18	7.61	---	5.71	3.93	2.43	4.39	5.34	4.95	6.21	6.90	6.38	4.37
19	7.64	---	5.76	3.77	2.80	4.00	5.25	4.80	6.22	6.93	6.47	4.45
20	7.73	---	5.78	3.45	2.97	3.55	5.35	4.82	6.27	6.96	6.56	4.60
21	7.75	---	5.89	3.66	3.33	3.59	5.42	4.90	6.35	7.02	6.59	4.68
22	7.79	---	5.85	3.78	3.51	3.92	5.41	5.08	6.40	7.05	6.60	4.75
23	7.85	---	5.67	3.31	2.57	4.14	5.46	5.09	6.42	7.09	6.65	4.93
24	7.83	---	5.47	2.66	2.74	4.30	5.48	4.83	6.12	7.04	6.70	5.01
25	7.77	---	4.81	3.04	3.20	4.44	5.54	4.77	6.11	6.40	6.73	5.07
26	7.74	---	4.64	3.27	3.44	4.46	5.57	4.88	6.10	6.21	6.18	5.14
27	7.63	---	4.32	3.05	3.54	4.54	5.66	5.00	6.20	6.13	3.84	5.18
28	7.78	---	4.13	2.59	3.41	4.61	5.74	4.94	6.30	6.13	3.51	5.26
29	7.72	---	3.87	2.86	---	4.70	5.76	4.95	6.38	6.18	3.59	5.36
30	7.72	---	3.77	3.04	---	4.78	5.75	5.04	6.40	6.24	3.19	5.40
31	7.67	---	4.06	3.40	---	4.86	---	5.10	---	6.29	3.43	---

WTR YR 1998 MEAN 5.19 HIGH 2.27 LOW 7.85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WATER LEVEL, IN FEET BELOW LAND SURFACE
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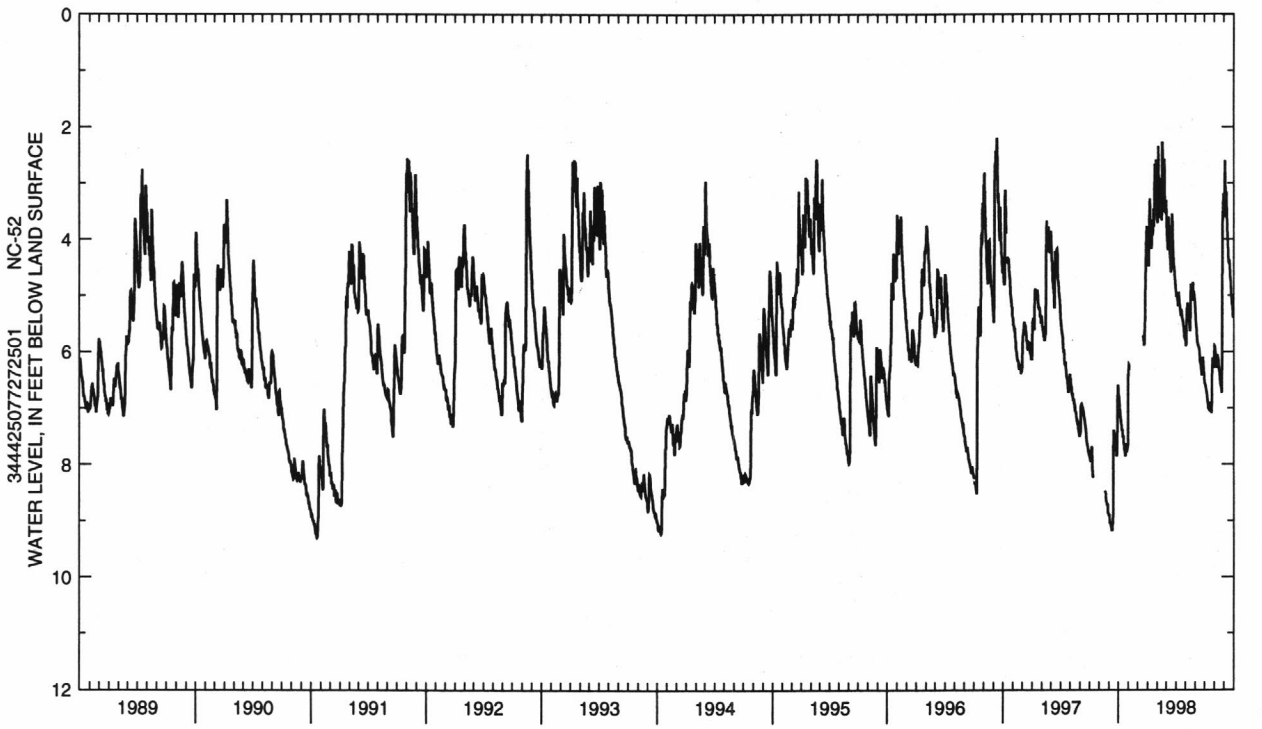
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WATER LEVEL, IN FEET BELOW LAND SURFACE
344250772725O1 NC-52
1989
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1998

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, drilled to 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.

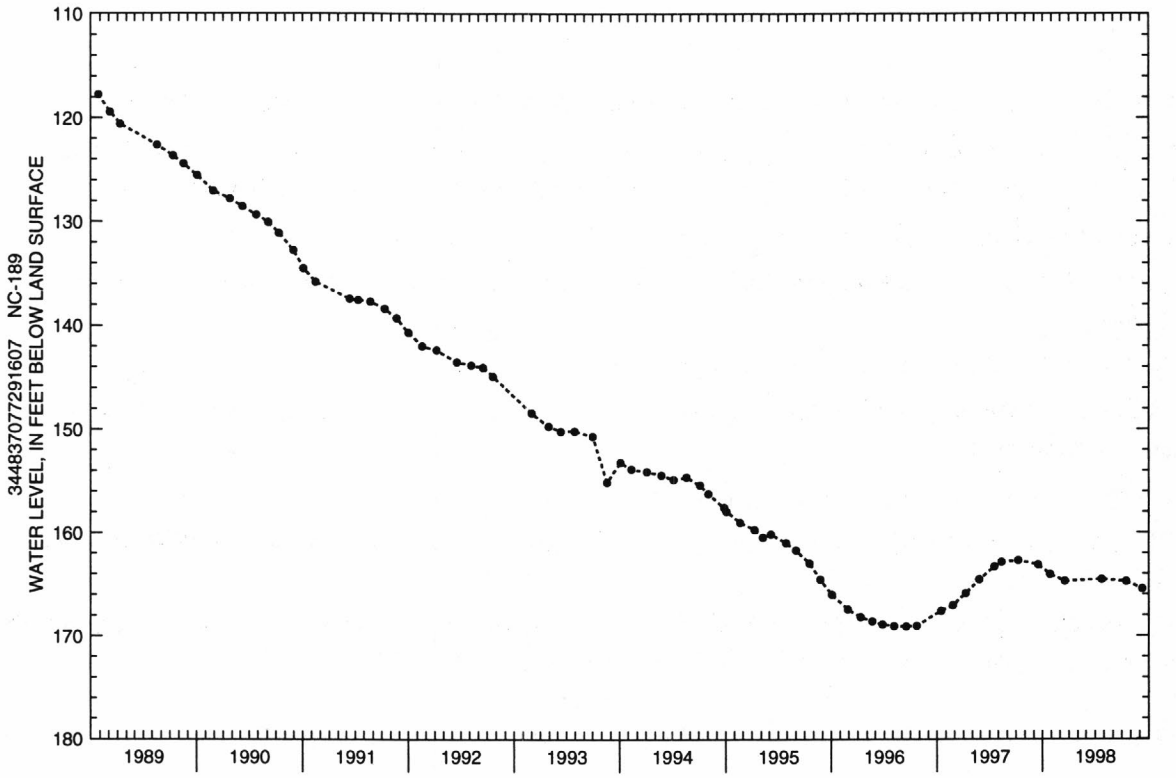
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--April 1988 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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	164.05	DEC 17	164.72	APR 24	164.54	JUL 16	164.73	SEP 10	165.46


344837077291607 NC-189
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1997
1998

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 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, 40.96 ft below land-surface datum, Oct. 12, 13, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40.76	40.53	---	39.79	39.17	38.52	38.64	38.67	38.56	38.94	39.98	40.18
2	40.84	40.47	---	39.81	39.17	38.52	38.63	38.67	38.56	39.04	39.97	40.19
3	40.85	40.58	---	39.78	39.01	38.53	38.63	38.70	38.56	39.09	39.97	40.16
4	40.85	40.65	---	39.74	38.52	38.65	38.49	38.70	38.56	39.13	40.04	40.04
5	40.88	40.78	---	39.71	38.51	38.69	38.62	38.66	38.56	39.14	40.09	40.16
6	40.89	40.78	---	39.60	38.70	38.72	38.65	38.71	38.56	39.18	40.12	40.19
7	40.91	---	---	39.48	38.70	38.72	38.68	38.72	38.61	39.21	40.16	40.19
8	40.93	---	---	39.33	38.71	38.64	38.66	38.58	38.70	39.23	40.20	40.13
9	40.95	---	---	39.28	38.81	38.51	38.48	38.59	38.75	39.25	40.24	40.20
10	40.95	---	---	39.36	38.82	38.58	38.49	38.63	38.71	39.28	40.24	40.30
11	40.95	---	---	39.40	38.80	38.76	38.64	38.57	38.69	39.34	40.23	40.31
12	40.96	---	---	39.45	38.71	38.89	38.75	38.61	38.66	39.41	40.23	40.29
13	40.94	---	---	39.42	38.78	38.93	38.80	38.67	38.60	39.47	40.24	40.29
14	40.90	---	---	39.43	38.85	38.90	38.73	38.71	38.59	39.51	40.24	40.31
15	40.87	---	---	39.34	39.00	38.88	38.67	38.73	38.59	39.52	40.24	40.32
16	40.86	---	39.89	39.25	38.95	38.92	38.67	38.71	38.61	39.52	40.31	40.31
17	40.83	---	39.85	39.25	38.54	38.92	38.67	38.69	38.67	39.54	40.36	40.27
18	40.79	---	39.85	39.31	38.46	38.84	38.69	38.65	38.74	39.53	40.39	40.23
19	40.68	---	39.90	39.29	38.51	38.65	38.67	38.67	38.74	39.59	40.39	40.18
20	40.68	---	39.88	39.30	38.56	38.57	38.67	38.67	38.72	39.65	40.45	40.17
21	40.69	---	39.89	39.40	38.63	38.45	38.71	38.65	38.75	39.72	40.50	40.17
22	40.69	---	39.84	39.39	38.75	38.55	38.67	38.67	38.79	39.78	40.52	40.13
23	40.75	---	39.77	39.24	38.55	38.66	38.66	38.63	38.81	39.81	40.52	40.10
24	40.77	---	39.74	39.10	38.53	38.69	38.69	38.61	38.77	39.85	40.52	40.20
25	40.72	---	39.59	39.21	38.67	38.81	38.74	38.58	38.81	39.88	40.51	40.20
26	40.71	---	39.59	39.32	38.72	38.82	38.75	38.58	38.83	39.90	40.18	40.20
27	40.61	---	39.47	39.17	38.68	38.78	38.74	38.57	38.82	39.94	39.68	40.19
28	40.75	---	39.54	38.96	38.57	38.70	38.82	38.58	38.87	39.95	39.93	40.19
29	40.80	---	39.46	39.09	---	38.67	38.88	38.57	38.93	39.97	40.08	40.19
30	40.80	---	39.42	39.05	---	38.67	38.84	38.57	38.92	39.97	40.11	40.19
31	40.77	---	39.56	39.08	---	38.67	---	38.57	---	39.97	40.17	---

WTR YR 1998 MEAN 39.41 HIGH 38.45 LOW 40.96


343512077265601 ON-218
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1997
1998

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 at North Carolina Division of Forest Resources Fire Tower on U.S. Highway 17. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 240.0 ft, diameter 4 in., cased to 150.0 ft, screened interval from 150.0 to 240.0 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, 2.13 ft above land-surface datum.

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

PERIOD OF RECORD.--October 1994 to current year.

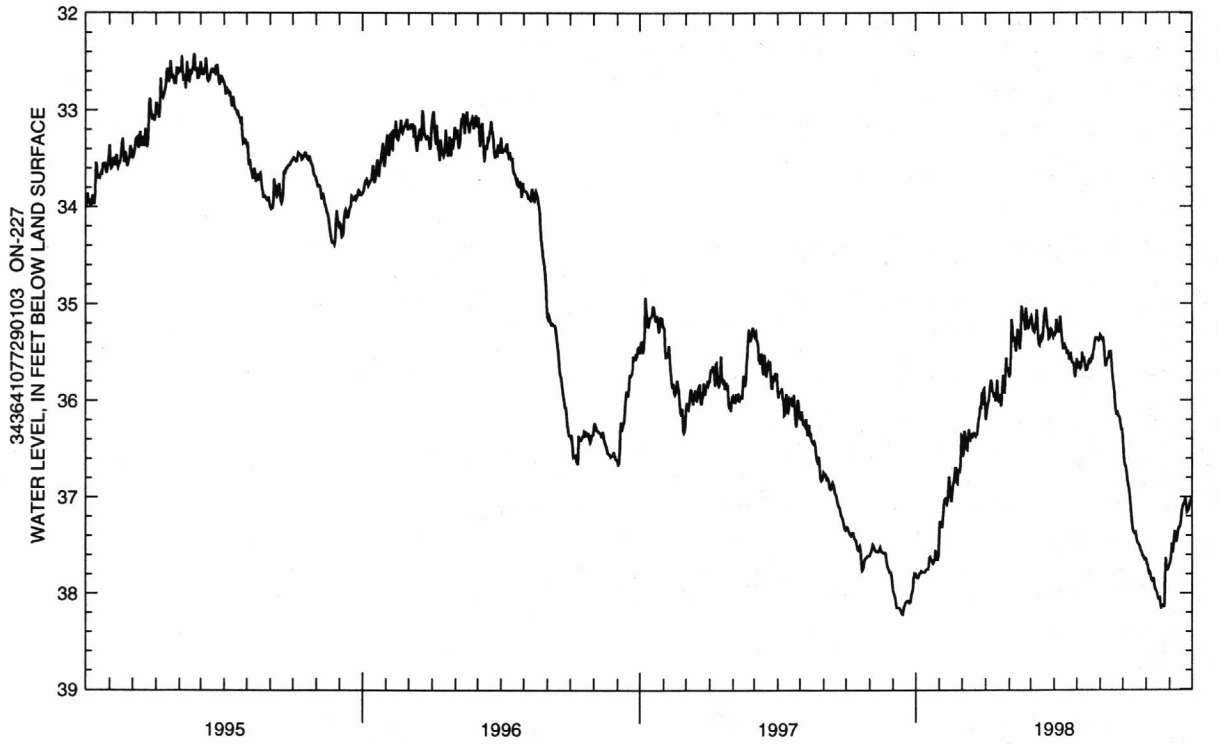
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 32.35 ft below land-surface datum, Feb. 22, 1995; lowest water level recorded, 38.23 ft below land-surface datum, Sept. 13, 14, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37.80	37.34	36.37	36.20	35.76	35.15	35.31	35.57	35.32	36.40	37.65	37.70
2	37.83	37.25	36.58	36.14	35.73	35.13	35.32	35.62	35.33	36.53	37.70	37.67
3	37.84	37.29	36.53	36.07	35.54	35.18	35.30	35.67	35.35	36.63	37.71	37.61
4	37.84	37.31	36.32	36.03	35.16	35.27	35.16	35.64	35.37	36.68	37.76	37.48
5	37.82	37.31	36.34	36.00	35.25	35.28	35.28	35.60	35.36	36.68	37.79	37.58
6	37.79	37.21	36.45	35.93	35.39	35.29	35.29	35.67	35.42	36.74	37.78	37.54
7	37.79	37.09	36.50	35.84	35.35	35.25	35.29	35.66	35.55	36.82	37.81	37.43
8	37.77	37.03	36.51	35.79	35.35	35.18	35.26	35.50	35.64	36.87	37.86	37.35
9	37.78	37.02	36.39	35.82	35.45	35.06	35.13	35.55	35.64	36.91	37.87	37.44
10	37.78	37.05	36.30	35.91	35.49	35.21	35.24	35.58	35.58	36.97	37.85	37.47
11	37.78	37.07	36.38	35.92	35.38	35.36	35.34	35.57	35.57	37.06	37.85	37.43
12	37.78	37.04	36.40	35.97	35.26	35.42	35.41	35.64	35.55	37.16	37.92	37.36
13	37.78	36.90	36.36	35.93	35.33	35.43	35.47	35.69	35.49	37.26	37.96	37.32
14	37.76	36.79	36.35	36.01	35.36	35.34	35.43	35.69	35.51	37.33	37.97	37.32
15	37.75	36.92	36.37	35.90	35.47	35.33	35.42	35.68	35.50	37.36	37.99	37.30
16	37.75	36.99	36.35	35.79	35.34	35.37	35.46	35.64	35.60	37.37	38.03	37.25
17	37.75	37.05	36.34	35.93	35.02	35.35	35.46	35.59	35.69	37.38	38.06	37.16
18	37.73	36.98	36.35	36.02	35.06	35.25	35.52	35.58	35.78	37.37	38.06	37.11
19	37.63	36.88	36.37	35.94	35.14	35.11	35.48	35.61	35.85	37.43	38.05	37.08
20	37.62	36.85	36.35	35.97	35.13	35.06	35.51	35.60	35.92	37.46	38.13	37.07
21	37.64	36.79	36.35	36.06	35.20	35.04	35.58	35.55	36.05	37.48	38.15	37.05
22	37.65	36.70	36.26	36.03	35.27	35.14	35.53	35.56	36.12	37.49	38.14	37.01
23	37.68	36.70	36.19	35.86	35.04	35.24	35.52	35.49	36.15	37.50	38.13	37.08
24	37.69	36.85	36.16	35.74	35.11	35.26	35.58	35.46	36.11	37.53	38.14	37.16
25	37.67	36.86	36.06	35.88	35.22	35.36	35.61	35.38	36.16	37.56	38.14	37.15
26	37.65	36.72	36.09	35.93	35.26	35.35	35.61	35.35	36.17	37.57	37.87	37.14
27	37.55	36.72	35.92	35.70	35.23	35.28	35.63	35.35	36.18	37.61	37.63	37.10
28	37.62	36.73	36.05	35.56	35.18	35.26	35.74	35.35	36.25	37.61	37.76	37.05
29	37.65	36.64	35.89	35.70	---	35.27	35.76	35.37	36.30	37.64	37.76	37.05
30	37.65	36.36	35.88	35.66	---	35.31	35.68	35.38	36.30	37.65	37.75	37.00
31	37.60	---	36.02	35.71	---	35.34	---	35.37	---	37.64	37.72	---

WTR YR 1998 MEAN 36.39 HIGH 35.02 LOW 38.15


343641077290103 ON-227
WATER LEVEL, IN FEET BELOW LAND SURFACE
32
33
34
35
36
37
38
39
1995
1996
1997
1998

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 at North Carolina Divison of Forest Resources Fire Tower 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, 2.10 ft above land-surface datum.

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

PERIOD OF RECORD.--October 1994 to current year.

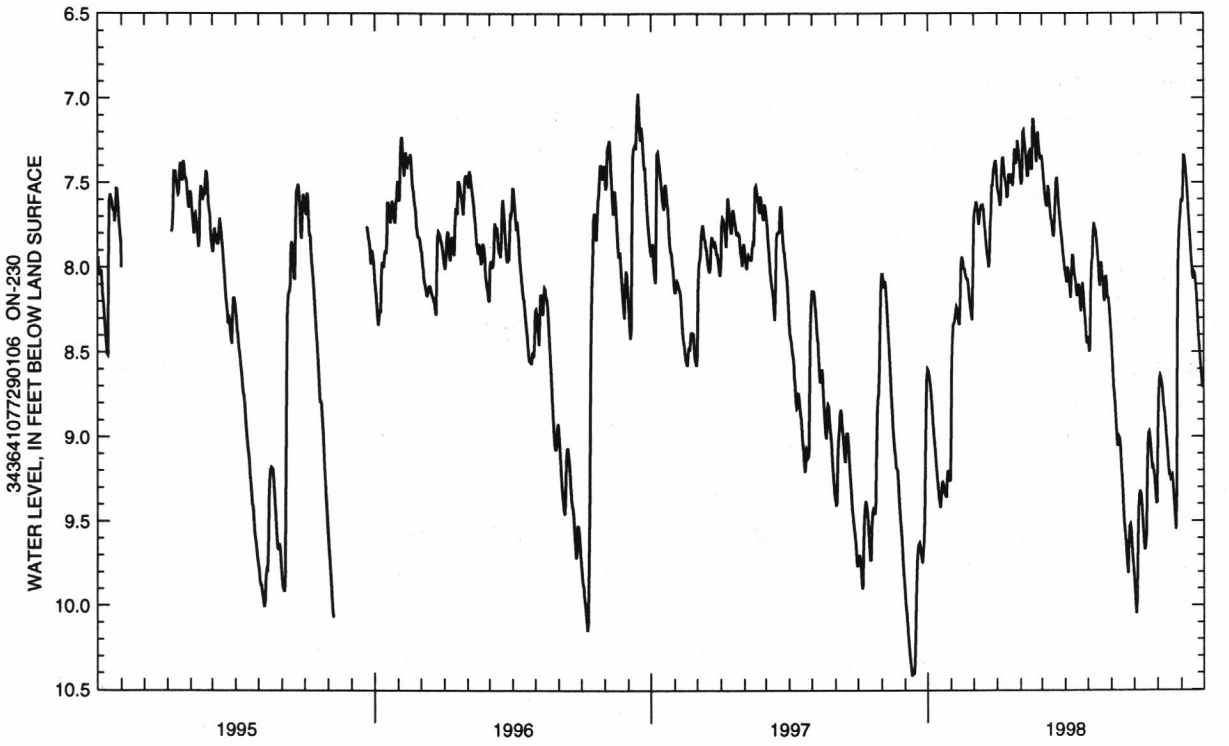
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 6.37 ft below land-surface datum, Jan. 22, 1995; lowest water level recorded, 10.44 ft below land-surface datum, Sept. 10, 13, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.60	8.96	7.72	7.52	7.47	7.34	8.03	8.41	8.42	9.83	9.00	7.60
2	8.61	8.57	7.67	7.55	7.51	7.39	8.06	8.43	8.50	9.92	8.77	7.62
3	8.64	8.42	7.65	7.57	7.49	7.45	8.09	8.50	8.60	9.99	8.66	7.59
4	8.67	8.34	7.62	7.61	7.20	7.51	8.00	8.48	8.70	10.05	8.64	7.34
5	8.71	8.33	7.62	7.64	7.19	7.57	8.02	8.11	8.75	9.97	8.65	7.34
6	8.77	8.31	7.66	7.61	7.25	7.61	8.07	7.98	8.81	9.61	8.67	7.37
7	8.84	8.27	7.71	7.44	7.28	7.64	8.12	7.94	8.90	9.41	8.70	7.41
8	8.91	8.23	7.75	7.36	7.33	7.64	8.18	7.79	8.98	9.34	8.76	7.47
9	8.97	8.24	7.70	7.35	7.40	7.52	8.05	7.74	9.05	9.32	8.82	7.53
10	9.03	8.29	7.65	7.41	7.46	7.54	7.93	7.77	9.05	9.34	8.85	7.61
11	9.08	8.32	7.64	7.47	7.46	7.61	7.93	7.78	9.00	9.39	8.90	7.70
12	9.15	8.34	7.65	7.49	7.32	7.66	7.98	7.82	9.01	9.47	8.97	7.77
13	9.21	8.22	7.64	7.52	7.31	7.71	8.03	7.87	9.07	9.55	9.03	7.84
14	9.26	8.00	7.66	7.59	7.35	7.73	8.06	7.93	9.17	9.63	9.09	7.92
15	9.30	7.94	7.73	7.58	7.42	7.77	8.09	8.00	9.24	9.67	9.16	7.99
16	9.36	7.95	7.78	7.46	7.42	7.81	8.15	8.07	9.34	9.65	9.23	8.05
17	9.38	7.98	7.84	7.45	7.12	7.82	8.17	8.11	9.43	9.59	9.22	8.07
18	9.42	8.01	7.89	7.50	7.13	7.70	8.12	7.99	9.51	9.24	9.25	8.03
19	9.37	8.01	7.93	7.50	7.20	7.58	8.10	7.97	9.56	9.04	9.24	8.04
20	9.28	8.04	7.96	7.45	7.25	7.48	8.13	8.04	9.61	8.98	9.23	8.09
21	9.27	8.06	8.00	7.48	7.32	7.47	8.22	8.08	9.69	8.97	9.26	8.15
22	9.28	8.07	7.96	7.52	7.38	7.54	8.26	8.17	9.76	9.00	9.33	8.21
23	9.31	8.07	7.77	7.44	7.22	7.62	8.15	8.20	9.81	9.06	9.41	8.30
24	9.34	8.11	7.68	7.30	7.20	7.67	8.09	8.06	9.63	9.13	9.48	8.40
25	9.35	8.17	7.52	7.34	7.27	7.73	8.14	8.05	9.53	9.19	9.55	8.46
26	9.36	8.21	7.52	7.39	7.32	7.78	8.22	8.10	9.52	9.18	9.34	8.53
27	9.22	8.25	7.44	7.36	7.36	7.82	8.28	8.18	9.55	9.21	8.37	8.60
28	9.20	8.29	7.41	7.25	7.35	7.86	8.34	8.18	9.63	9.25	7.96	8.65
29	9.23	8.31	7.38	7.29	---	7.91	8.41	8.22	9.71	9.32	7.80	8.71
30	9.26	8.02	7.37	7.33	---	7.95	8.45	8.29	9.77	9.39	7.73	8.67
31	9.26	---	7.42	7.39	---	8.00	---	8.36	---	9.39	7.67	---

WTR YR 1998 MEAN 8.27 HIGH 7.12 LOW 10.05


343641077290106 ON-230
WATER LEVEL, IN FEET BELOW LAND SURFACE
6.5
7.0
7.5
8.0
8.5
9.0
9.5
10.0
10.5
1995
1996
1997
1998

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 90.0 ft, diameter 4 in., cased to 80.0 ft, screened interval from 80.0 to 90.0 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 Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

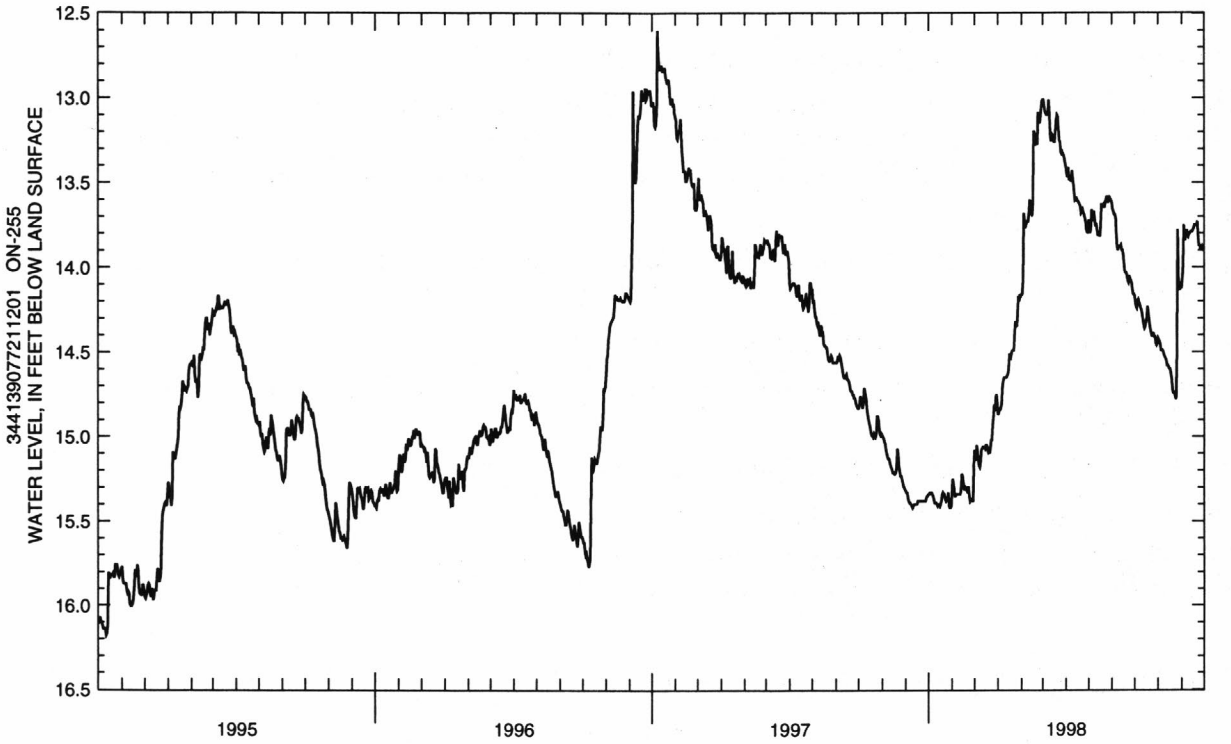
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 12.36 ft below land-surface datum, Oct. 8, 1996; lowest water level recorded, 16.19 ft below land-surface datum, Oct. 11, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.34	15.30	15.08	14.87	14.16	13.01	13.41	13.72	13.62	14.17	14.42	14.12
2	15.34	15.25	15.14	14.86	14.16	13.01	13.45	13.76	13.66	14.21	14.43	14.07
3	15.33	15.28	15.11	14.84	14.08	13.04	13.47	13.80	13.67	14.23	14.44	13.99
4	15.33	15.31	15.05	14.84	13.68	13.08	13.41	13.77	13.69	14.24	14.46	13.75
5	15.33	15.35	15.09	14.82	13.72	13.09	13.48	13.66	13.69	14.20	14.49	13.84
6	15.34	15.35	15.14	14.80	13.77	13.10	13.48	13.71	13.71	14.19	14.49	13.84
7	15.35	15.34	15.17	14.70	13.75	13.10	13.49	13.73	13.81	14.21	14.49	13.80
8	15.37	15.34	15.18	14.67	13.74	13.08	13.49	13.67	13.88	14.22	14.50	13.78
9	15.39	15.34	15.15	14.65	13.73	13.01	13.43	13.72	13.90	14.24	14.52	13.81
10	15.39	15.34	15.08	14.65	13.73	13.09	13.48	13.76	13.88	14.25	14.53	13.82
11	15.39	15.34	15.07	14.65	13.68	13.21	13.52	13.74	13.88	14.28	14.54	13.80
12	15.40	15.34	15.06	14.65	13.60	13.25	13.57	13.78	13.88	14.31	14.55	13.80
13	15.41	15.32	15.06	14.64	13.63	13.25	13.60	13.81	13.87	14.34	14.58	13.79
14	15.40	15.22	15.06	14.63	13.64	13.22	13.59	13.81	13.90	14.36	14.58	13.79
15	15.40	15.23	15.07	14.60	13.70	13.23	13.59	13.81	13.90	14.35	14.59	13.79
16	15.41	15.27	15.05	14.51	13.64	13.26	13.61	13.82	13.93	14.32	14.60	13.78
17	15.40	15.31	15.05	14.52	13.20	13.26	13.61	13.76	13.97	14.30	14.60	13.77
18	15.38	15.31	15.07	14.53	13.20	13.19	13.62	13.63	14.02	14.23	14.63	13.75
19	15.34	15.30	15.09	14.50	13.28	13.13	13.63	13.63	14.03	14.27	14.66	13.75
20	15.33	15.31	15.08	14.49	13.26	13.10	13.64	13.64	14.03	14.30	14.72	13.75
21	15.34	15.32	15.10	14.49	13.27	13.11	13.68	13.63	14.05	14.34	14.74	13.75
22	15.34	15.30	15.07	14.49	13.27	13.18	13.67	13.65	14.08	14.37	14.74	13.73
23	15.37	15.30	15.02	14.40	13.09	13.25	13.66	13.62	14.09	14.39	14.75	13.82
24	15.38	15.35	15.02	14.32	13.09	13.26	13.68	13.60	14.05	14.41	14.77	13.87
25	15.37	15.38	14.93	14.34	13.15	13.32	13.69	13.58	14.07	14.39	14.78	13.87
26	15.37	15.37	14.88	14.35	13.13	13.33	13.71	13.60	14.08	14.39	14.53	13.89
27	15.33	15.37	14.81	14.27	13.07	13.32	13.73	13.62	14.09	14.41	13.78	13.89
28	15.41	15.38	14.85	14.17	13.02	13.33	13.78	13.58	14.13	14.41	14.06	13.88
29	15.42	15.38	14.77	14.20	---	13.34	13.79	13.59	14.16	14.45	14.13	13.90
30	15.42	15.16	14.75	14.16	---	13.36	13.80	13.60	14.16	14.46	14.13	13.90
31	15.41	---	14.80	14.17	---	13.39	---	13.61	---	14.45	14.12	---

WTR YR 1998 MEAN 14.24 HIGH 13.01 LOW 15.42


344139077211201 ON-255
WATER LEVEL, IN FEET BELOW LAND SURFACE
12.5
13.0
13.5
14.0
14.5
15.0
15.5
16.0
16.5
1995
1996
1997
1998

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, 4 in. isolation casing to 208.0 ft in the Castle Hayne aquifer, and 8 in. isolation casing 115.0 ft in the Surficial 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 Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

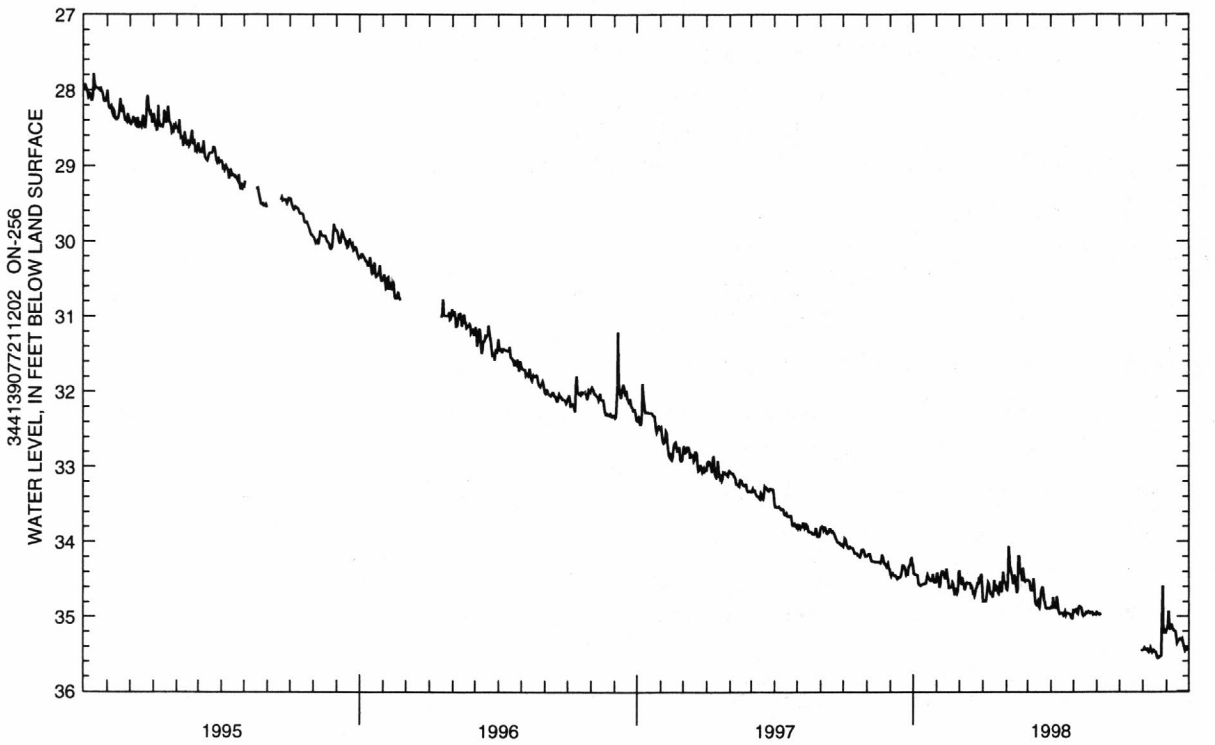
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 30.15 ft below land-surface datum, Oct. 4, 5, 1995; lowest water level recorded, 34.50 ft below land-surface datum, Sept. 9, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.31	34.44	34.38	34.79	34.63	34.51	34.87	34.91	34.94	---	35.45	35.18
2	34.42	34.41	34.54	34.79	34.64	34.51	34.88	34.91	34.95	---	35.44	35.16
3	34.43	34.48	34.55	34.79	34.54	34.52	34.88	34.93	34.96	---	35.42	35.12
4	34.43	34.52	34.48	34.79	34.06	34.54	34.74	34.92	34.97	---	35.44	34.93
5	34.44	34.61	34.48	34.79	34.19	34.63	34.87	34.89	34.96	---	35.44	35.12
6	34.44	34.55	34.54	34.72	34.39	34.65	34.87	34.95	34.98	---	35.45	35.18
7	34.45	34.44	34.58	34.63	34.37	34.65	34.88	34.96	---	---	35.44	35.15
8	34.55	34.39	34.64	34.54	34.42	34.62	34.88	34.87	---	---	35.47	35.10
9	34.57	34.39	34.60	34.56	34.48	34.49	34.73	34.86	---	---	35.48	35.15
10	34.57	34.41	34.55	34.64	34.56	34.63	34.80	34.87	---	---	35.46	35.17
11	34.58	34.45	34.54	34.69	34.53	34.78	34.90	34.87	---	---	35.42	35.19
12	34.57	34.49	34.55	34.70	34.44	34.83	34.94	34.90	---	---	35.45	35.19
13	34.57	34.44	34.55	34.69	34.55	34.84	34.96	34.97	---	---	35.48	35.20
14	34.56	34.36	34.55	34.74	34.59	34.81	34.96	34.99	---	---	35.46	35.26
15	34.56	34.46	34.55	34.63	34.68	34.79	34.95	34.98	---	---	35.45	35.36
16	34.56	34.51	34.60	34.51	34.64	34.86	34.95	34.98	---	---	35.46	35.34
17	34.55	34.61	34.59	34.62	34.20	34.88	34.95	34.96	---	---	35.48	35.32
18	34.55	34.61	34.63	34.66	34.20	34.78	34.98	34.94	---	---	35.48	35.31
19	34.48	34.60	34.69	34.60	34.37	34.67	34.96	34.95	---	---	35.52	35.30
20	34.44	34.60	34.69	34.62	34.40	34.63	34.93	34.94	---	---	35.55	35.30
21	34.47	34.60	34.72	34.68	34.44	34.60	34.98	34.93	---	---	35.56	35.31
22	34.48	34.54	34.68	34.69	34.52	34.67	34.95	34.94	---	---	35.55	35.30
23	34.51	34.56	34.62	34.58	34.35	34.78	34.95	34.95	---	---	35.54	35.34
24	34.52	34.66	34.61	34.53	34.40	34.80	34.95	34.94	---	---	35.54	35.39
25	34.51	34.71	34.54	34.62	34.52	34.88	34.96	34.94	---	---	35.53	35.43
26	34.51	34.63	34.57	34.67	34.53	34.89	34.96	34.94	---	---	35.16	35.46
27	34.43	34.64	34.47	34.54	34.51	34.89	34.97	34.97	---	---	34.59	35.44
28	34.53	34.68	34.55	34.40	34.51	34.88	35.01	34.96	---	---	35.13	35.43
29	34.54	34.65	34.46	34.54	---	34.88	35.02	34.97	---	---	35.21	35.45
30	34.54	34.41	34.43	34.54	---	34.89	35.02	34.96	---	35.46	35.20	35.45
31	34.54	---	34.59	34.55	---	34.89	---	34.97	---	35.45	35.23	---

WTR YR 1998 MEAN 34.80 HIGH 34.06 LOW 35.56


344139077211202 ON-256
WATER LEVEL, IN FEET BELOW LAND SURFACE
27
28
29
30
31
32
33
34
35
36
1995
1996
1997
1998

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.

WELL CHARACTERISTICS.--Drilled observation well, depth 527.0 ft, well cased 2.5 in. to 517.0 ft in the Pee Dee aquifer, 4 in. isolation casing to 208.0 ft in the Castle Hayne aquifer, and 8 in. isolation casing 78.0 ft in the Surficial aquifer, screened interval from 517.0 to 527.0 ft.

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

DATUM.--Land-surface datum is 23.19 ft above sea level, (levels by DENR). Measuring point: Top of shelter floor, 3.92 ft above land-surface datum.

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

PERIOD OF RECORD.--October 1994 to current year.

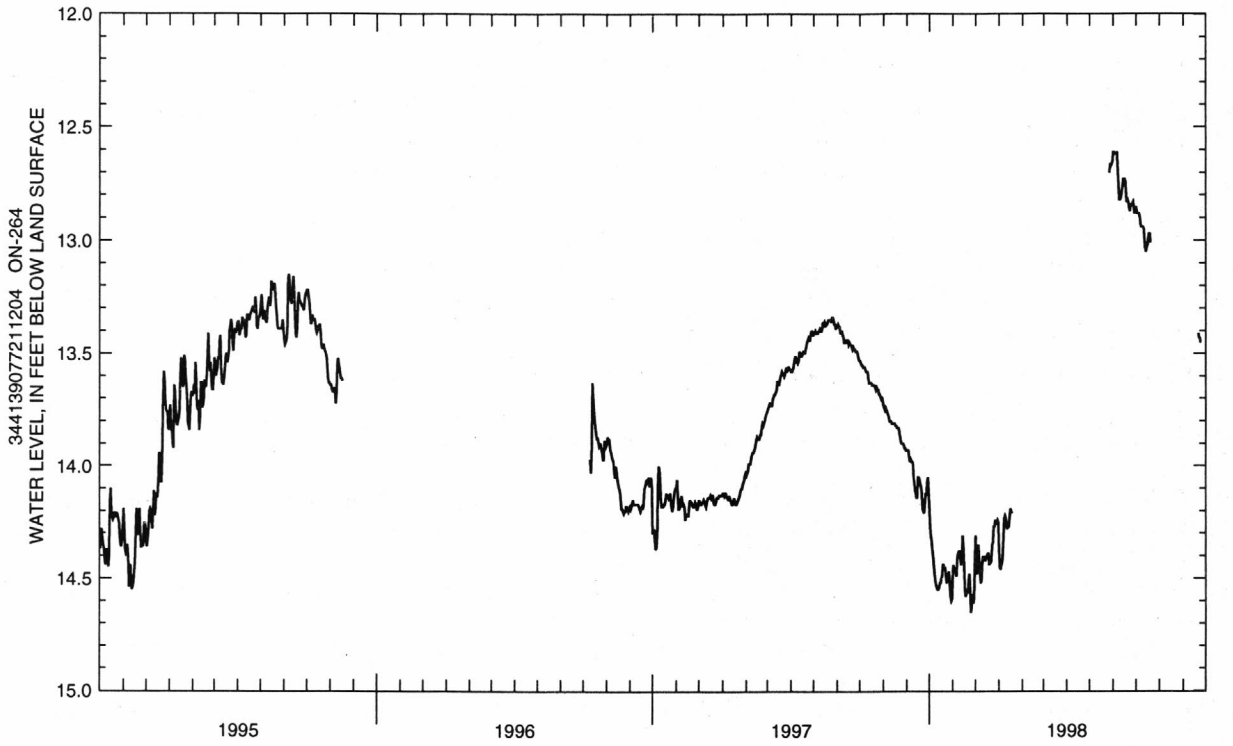
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.08 ft below land-surface datum, Jun. 6, 1995; lowest water level recorded, 14.57 ft below land-surface datum, Nov. 11, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.17	14.47	14.31	14.37	---	---	---	---	12.61	12.85	---	---
2	14.26	14.44	14.43	14.45	---	---	13.29	---	12.61	12.88	---	---
3	14.31	14.46	14.48	14.46	---	---	---	---	12.62	12.88	---	---
4	14.33	14.47	14.39	14.44	---	---	---	---	12.62	12.88	---	---
5	14.37	14.47	14.35	14.43	---	---	---	---	12.62	12.88	---	---
6	14.40	14.49	14.42	14.40	---	---	---	---	12.61	12.90	---	---
7	14.44	14.41	14.47	14.33	---	---	---	---	12.68	12.93	---	---
8	14.48	14.39	14.52	14.23	---	---	---	---	12.77	12.94	---	---
9	14.51	14.38	14.51	14.22	---	---	---	---	12.82	12.94	---	---
10	14.53	14.38	14.43	14.23	---	---	---	---	12.82	12.94	---	---
11	14.54	14.41	14.40	14.26	---	---	---	---	12.81	12.95	---	---
12	14.55	14.44	14.42	14.28	---	---	---	---	12.79	12.99	---	---
13	14.55	14.41	14.42	14.27	---	---	---	---	12.76	13.03	---	---
14	14.54	14.31	14.40	14.27	---	---	---	---	12.73	13.05	---	---
15	14.52	14.37	14.41	14.23	---	---	---	---	12.73	13.03	---	---
16	14.52	14.46	14.40	14.19	---	---	---	---	12.73	13.02	---	---
17	14.50	14.55	14.39	14.20	---	---	---	---	12.74	12.99	---	---
18	14.49	14.58	14.39	14.21	---	---	---	---	12.79	12.97	---	---
19	14.44	14.57	14.44	---	---	---	---	---	12.83	12.97	---	---
20	14.44	14.56	14.43	---	---	---	---	---	12.82	13.01	---	---
21	14.46	14.56	14.43	---	---	---	---	---	12.83	---	---	13.41
22	14.45	14.51	14.42	---	---	---	---	---	12.86	---	---	13.43
23	14.49	14.48	14.35	---	---	---	---	---	12.87	---	---	13.43
24	14.52	14.55	14.34	---	---	---	---	---	12.85	---	---	13.45
25	14.49	14.65	14.27	---	---	---	---	---	12.84	---	---	13.45
26	14.48	14.62	14.27	---	---	---	---	---	12.84	---	---	---
27	14.47	14.57	14.24	---	---	---	---	12.70	12.83	---	---	---
28	14.53	14.61	14.26	---	---	---	---	12.66	12.85	---	---	---
29	14.58	14.59	14.25	---	---	---	---	12.67	12.88	---	---	---
30	14.60	14.44	14.24	---	---	---	---	12.66	12.87	---	---	---
31	14.59	---	14.25	---	---	---	---	12.65	---	---	---	---

WTR YR 1998 MEAN 13.87 HIGH 12.61 LOW 14.65


12.0
12.5
13.0
13.5
14.0
14.5
15.0
WATER LEVEL, IN FEET BELOW LAND SURFACE
344139077211204 ON-264
1995
1996
1997
1998

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 295.0 ft, well cased 2.5 in. to 285.0 ft in the Castle Hayne aquifer, 4 in. isolation casing to 117.0 ft in the Surficial aquifer, screened interval from 285.0 to 295.0 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 Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

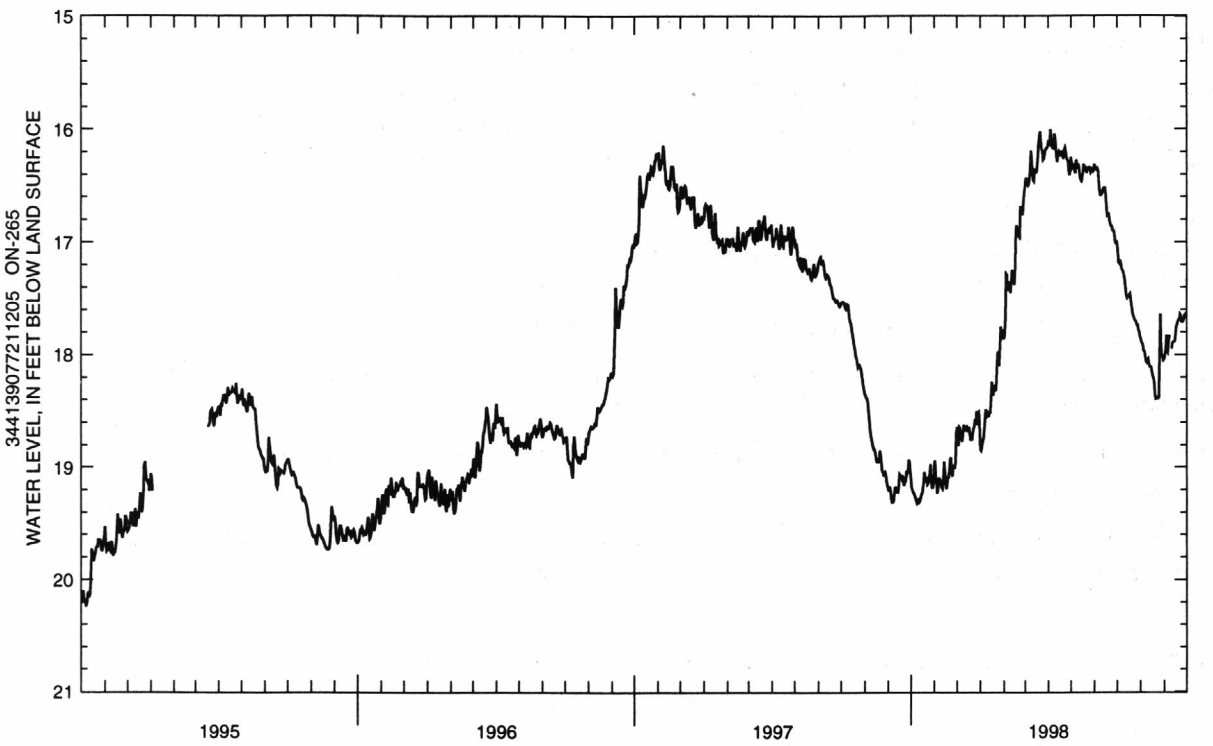
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 16.08 ft below land-surface datum, Nov. 8, 1996; lowest water level recorded, 20.26 ft below land-surface datum, Oct. 7, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.09	18.95	18.64	18.84	17.86	16.51	16.11	16.25	16.31	17.02	17.86	18.04
2	19.18	18.94	18.80	18.85	17.83	16.44	16.12	16.29	16.33	17.12	17.89	18.01
3	19.20	19.07	18.80	18.81	17.67	16.44	16.13	16.35	16.35	17.18	17.90	17.97
4	19.22	19.14	18.64	18.77	17.28	16.49	16.00	16.34	16.36	17.19	17.93	17.83
5	19.23	19.23	18.65	18.74	17.29	16.50	16.10	16.31	16.35	17.16	17.96	17.97
6	19.25	19.20	18.71	18.69	17.43	16.49	16.13	16.37	16.37	17.20	17.97	17.98
7	19.27	19.10	18.74	18.59	17.38	16.43	16.17	16.39	16.48	17.24	18.00	17.90
8	19.30	19.10	18.77	18.49	17.37	16.34	16.17	16.27	16.56	17.25	18.06	17.83
9	19.32	19.11	18.70	18.49	17.42	16.19	16.04	16.32	16.59	17.27	18.07	---
10	19.31	19.15	18.62	18.54	17.45	16.28	16.08	16.35	16.56	17.30	18.05	---
11	19.29	19.18	18.64	18.53	17.36	16.41	16.19	16.31	16.57	17.35	18.04	17.95
12	19.31	19.19	18.66	18.55	17.25	16.45	16.26	16.36	16.55	17.41	18.08	17.90
13	19.30	19.10	18.65	18.50	17.29	16.46	16.29	16.43	16.52	17.47	18.11	17.89
14	19.27	18.95	18.64	18.52	17.29	16.36	16.22	16.45	16.52	17.50	18.11	17.89
15	19.24	19.04	18.68	18.39	17.38	16.36	16.20	16.46	16.52	17.49	18.11	17.88
16	19.23	19.12	18.66	18.24	17.25	16.39	16.22	16.44	16.60	17.49	18.16	17.83
17	19.19	19.19	18.64	18.33	16.90	16.36	16.21	16.39	16.68	17.47	18.19	17.76
18	19.14	19.17	18.70	18.36	16.85	16.26	16.24	16.31	16.76	17.46	18.22	17.73
19	19.04	19.09	18.76	18.28	16.94	16.13	16.20	16.34	16.75	17.53	18.26	17.71
20	19.09	19.09	18.73	18.28	16.92	16.07	16.20	16.36	16.75	17.57	18.36	17.69
21	19.11	19.04	18.76	18.32	16.95	16.02	16.26	16.35	16.81	17.61	18.39	17.69
22	19.09	18.93	18.70	18.29	16.96	16.10	16.18	16.39	16.84	17.65	18.38	17.64
23	19.15	18.91	18.65	18.10	16.69	16.18	16.16	16.36	16.86	17.67	18.39	17.65
24	19.14	19.03	18.64	17.97	16.69	16.19	16.20	16.35	16.86	17.69	18.39	17.71
25	19.08	19.08	18.57	18.05	16.75	16.27	16.25	16.34	16.90	17.70	18.38	17.71
26	19.06	18.99	18.61	18.10	16.75	16.26	16.27	16.35	16.90	17.71	18.09	17.71
27	18.97	18.99	18.50	17.91	16.64	16.22	16.28	16.38	16.91	17.74	17.64	17.69
28	19.14	19.01	18.62	17.75	16.56	16.19	16.37	16.36	16.98	17.74	17.90	17.65
29	19.18	18.96	18.52	17.86	---	16.17	16.41	16.38	17.02	17.78	18.00	17.65
30	19.18	18.69	18.51	17.78	---	16.17	16.38	16.38	16.99	17.80	18.02	17.63
31	19.14	---	18.65	17.82	---	16.16	---	16.37	---	17.84	18.05	---

WTR YR 1998 MEAN 17.61 HIGH 16.00 LOW 19.32


344139077211205 ON-265
WATER LEVEL, IN FEET BELOW LAND SURFACE
15
16
17
18
19
20
21
1995
1996
1997
1998

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 130.0 ft, diameter 6 in., cased to 120.0 ft, screened interval from 120.0 to 130.0 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 Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

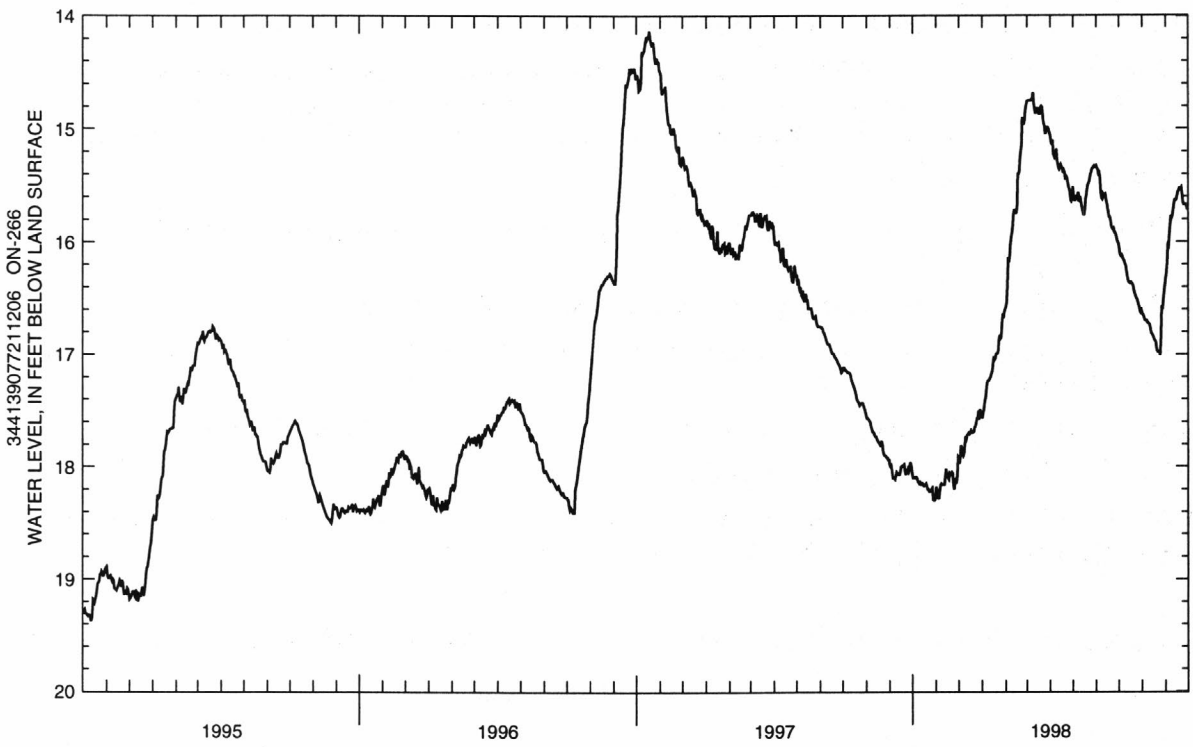
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 14.09 ft below land-surface datum, Oct. 18, 1996; lowest water level recorded, 19.38 ft below land-surface datum, Oct. 11, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.07	18.18	17.92	17.57	16.58	14.76	15.06	15.51	15.33	16.04	16.64	16.33
2	18.10	18.20	17.97	17.52	16.54	14.75	15.12	15.59	15.35	16.10	16.65	16.28
3	18.10	18.26	17.90	17.49	16.40	14.75	15.14	15.63	15.36	16.12	16.66	16.19
4	18.10	18.28	17.81	17.42	16.14	14.75	15.10	15.63	15.40	16.13	16.69	16.03
5	18.09	18.28	17.84	17.39	16.18	14.75	15.22	15.59	15.39	16.12	16.70	16.04
6	18.09	18.21	17.88	17.35	16.14	14.75	15.24	15.61	15.43	16.14	16.70	15.95
7	18.10	18.16	17.90	17.27	16.04	14.74	15.26	15.62	15.55	16.16	16.70	15.86
8	18.13	18.15	17.88	17.24	15.97	14.73	15.25	15.56	15.61	16.17	16.72	15.77
9	18.14	18.16	17.80	17.23	15.93	14.68	15.18	15.60	15.62	16.20	16.72	15.79
10	18.15	18.16	17.73	17.23	15.88	14.78	15.28	15.63	15.58	16.21	16.73	15.77
11	18.14	18.16	17.75	17.21	15.77	14.83	15.32	15.62	15.60	16.26	16.74	15.72
12	18.16	18.16	17.72	17.20	15.72	14.86	15.35	15.66	15.59	16.30	16.77	15.67
13	18.16	18.09	17.71	17.17	15.72	14.86	15.36	15.70	15.58	16.34	16.81	15.63
14	18.15	18.02	17.70	17.15	15.73	14.82	15.34	15.73	15.63	16.36	16.82	15.63
15	18.16	18.07	17.71	17.09	15.75	14.82	15.32	15.76	15.66	16.36	16.83	15.63
16	18.17	18.09	17.70	17.02	15.68	14.86	15.34	15.76	15.70	16.37	16.85	15.60
17	18.16	18.10	17.68	17.05	15.40	14.87	15.35	15.71	15.73	16.36	16.87	15.56
18	18.16	18.11	17.70	17.04	15.40	14.87	15.39	15.62	15.78	16.37	16.88	15.55
19	18.15	18.06	17.70	17.00	15.37	14.81	15.37	15.58	15.78	16.38	16.89	15.53
20	18.18	18.07	17.69	16.99	15.24	14.80	15.39	15.52	15.81	16.39	16.95	15.53
21	18.20	18.06	17.69	16.99	15.19	14.81	15.45	15.49	15.86	16.43	16.97	15.53
22	18.20	18.05	17.65	16.98	15.12	14.89	15.42	15.48	15.88	16.46	16.98	15.52
23	18.22	18.06	17.64	16.87	14.90	14.95	15.43	15.45	15.89	16.48	16.98	15.58
24	18.22	18.16	17.61	16.83	14.96	14.97	15.47	15.41	15.88	16.50	16.98	15.65
25	18.21	18.20	17.57	16.86	14.96	15.04	15.51	15.39	15.92	16.51	17.01	15.67
26	18.20	18.15	17.57	16.85	14.92	15.04	15.53	15.36	15.92	16.53	16.85	15.67
27	18.19	18.12	17.50	16.73	14.83	14.99	15.56	15.35	15.94	16.56	16.57	15.67
28	18.29	18.13	17.58	16.64	14.79	14.99	15.63	15.34	15.97	16.58	16.60	15.67
29	18.30	18.08	17.49	16.68	---	14.99	15.64	15.33	16.00	16.62	16.52	15.70
30	18.30	17.91	17.51	16.62	---	15.01	15.62	15.34	16.01	16.63	16.45	15.72
31	18.28	---	17.52	16.60	---	15.04	---	15.34	---	16.61	16.39	---

WTR YR 1998 MEAN 16.43 HIGH 14.68 LOW 18.30


344139077211206 ON-266
WATER LEVEL, IN FEET BELOW LAND SURFACE
14
15
16
17
18
19
20
1995
1996
1997
1998

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 40.0 ft, diameter 4 in., cased to 30.0 ft, screened interval from 30.0 to 40.0 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 Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

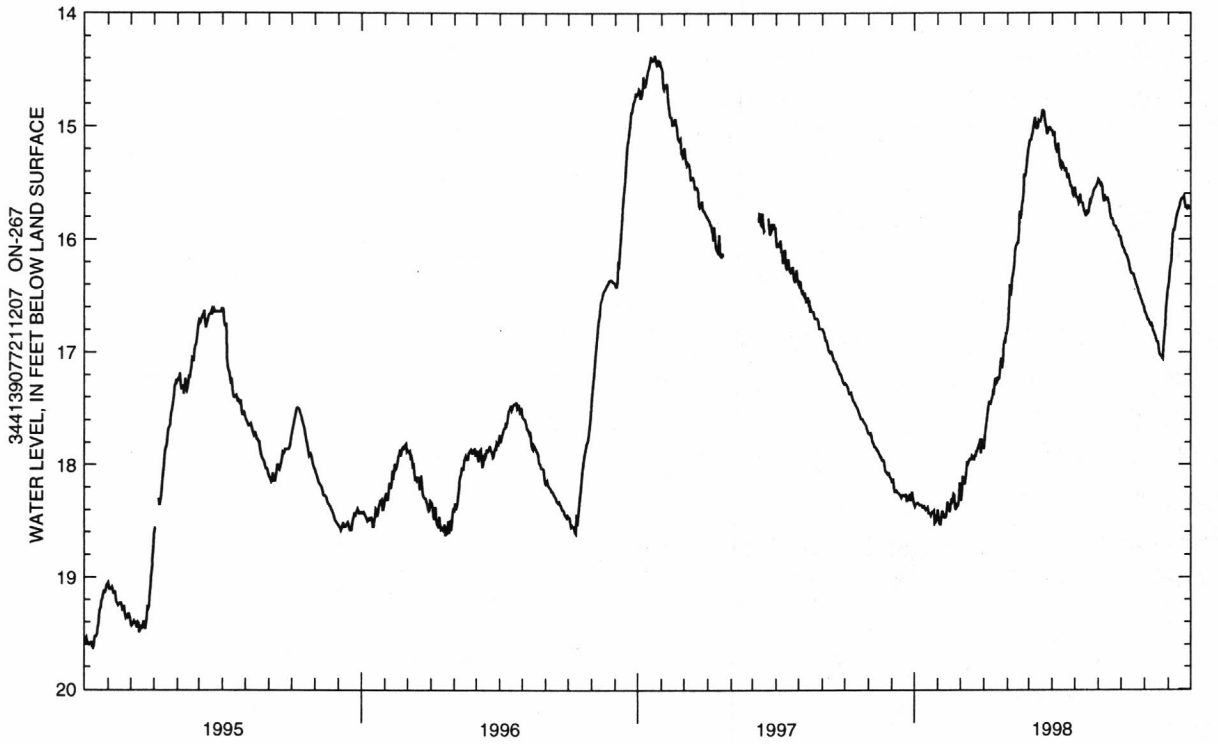
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 14.35 ft below land-surface datum, Oct. 18, 1996; lowest water level recorded, 19.63 ft below land-surface datum, Oct. 11, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.35	18.40	18.25	17.86	16.79	15.18	15.04	15.54	15.47	16.02	16.64	16.42
2	18.37	18.45	18.32	17.75	16.71	15.13	15.08	15.60	15.48	16.05	16.65	16.37
3	18.35	18.51	18.22	17.69	16.58	15.12	15.08	15.63	15.50	16.07	16.67	16.27
4	18.35	18.53	18.10	17.63	16.40	15.12	15.05	15.63	15.52	16.08	16.69	16.23
5	18.34	18.53	18.12	17.58	16.50	15.08	15.17	15.65	15.51	16.09	16.71	16.19
6	18.34	18.46	18.17	17.53	16.46	15.06	15.20	15.68	15.53	16.12	16.71	16.08
7	18.35	18.41	18.17	17.48	16.35	15.00	15.22	15.66	15.61	16.13	16.73	15.97
8	18.36	18.43	18.12	17.44	16.32	14.96	15.21	15.60	15.66	16.14	16.75	15.91
9	18.36	18.46	18.04	17.44	16.28	14.92	15.15	15.67	15.66	16.16	16.76	15.93
10	18.36	18.47	17.97	17.45	16.22	15.00	15.26	15.68	15.63	16.18	16.75	15.89
11	18.36	18.47	17.99	17.42	16.10	15.02	15.32	15.68	15.65	16.21	16.77	15.84
12	18.38	18.46	17.97	17.40	16.06	15.02	15.36	15.72	15.65	16.25	16.81	15.80
13	18.38	18.39	17.95	17.35	16.05	15.01	15.37	15.75	15.63	16.28	16.82	15.77
14	18.37	18.33	17.95	17.36	16.03	14.95	15.32	15.77	15.67	16.30	16.84	15.75
15	18.39	18.38	17.95	17.27	16.03	14.96	15.33	15.79	15.69	16.30	16.86	15.73
16	18.40	18.40	17.92	17.23	15.94	14.96	15.36	15.79	15.76	16.31	16.89	15.71
17	18.39	18.42	17.93	17.28	15.75	14.94	15.37	15.76	15.79	16.31	16.91	15.67
18	18.39	18.37	17.95	17.27	15.82	14.90	15.40	15.77	15.82	16.34	16.91	15.65
19	18.38	18.32	17.95	17.22	15.79	14.86	15.37	15.76	15.82	16.36	16.94	15.64
20	18.43	18.33	17.91	17.24	15.69	14.86	15.41	15.71	15.83	16.38	17.00	15.64
21	18.43	18.30	17.93	17.23	15.66	14.87	15.46	15.66	15.87	16.40	17.02	15.63
22	18.43	18.26	17.88	17.18	15.58	14.94	15.42	15.67	15.88	16.42	17.03	15.62
23	18.45	18.27	17.88	17.08	15.42	14.99	15.45	15.63	15.89	16.44	17.04	15.67
24	18.43	18.38	17.85	17.05	15.45	15.01	15.49	15.62	15.89	16.47	17.05	15.72
25	18.42	18.40	17.83	17.14	15.42	15.07	15.53	15.58	15.92	16.49	17.06	15.72
26	18.42	18.34	17.86	17.09	15.36	15.05	15.53	15.56	15.92	16.50	16.93	15.73
27	18.41	18.37	17.77	16.93	15.28	15.02	15.55	15.55	15.93	16.53	16.84	15.71
28	18.52	18.36	17.90	16.90	15.22	15.01	15.60	15.54	15.97	16.54	16.78	15.71
29	18.51	18.31	17.77	16.92	---	15.01	15.61	15.53	15.98	16.57	16.62	15.72
30	18.50	18.16	17.81	16.83	---	15.03	15.58	15.51	15.98	16.58	16.54	15.74
31	18.46	---	17.84	16.83	---	15.04	---	15.49	---	16.60	16.46	---

WTR YR 1998 MEAN 16.57 HIGH 14.86 LOW 18.53


344139077211207 ON-267
WATER LEVEL, IN FEET BELOW LAND SURFACE
14
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17
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1995
1996
1997
1998

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 180.0 ft, diameter 2 in., cased to 170.0 ft, screened interval from 170.0 to 180.0 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 Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

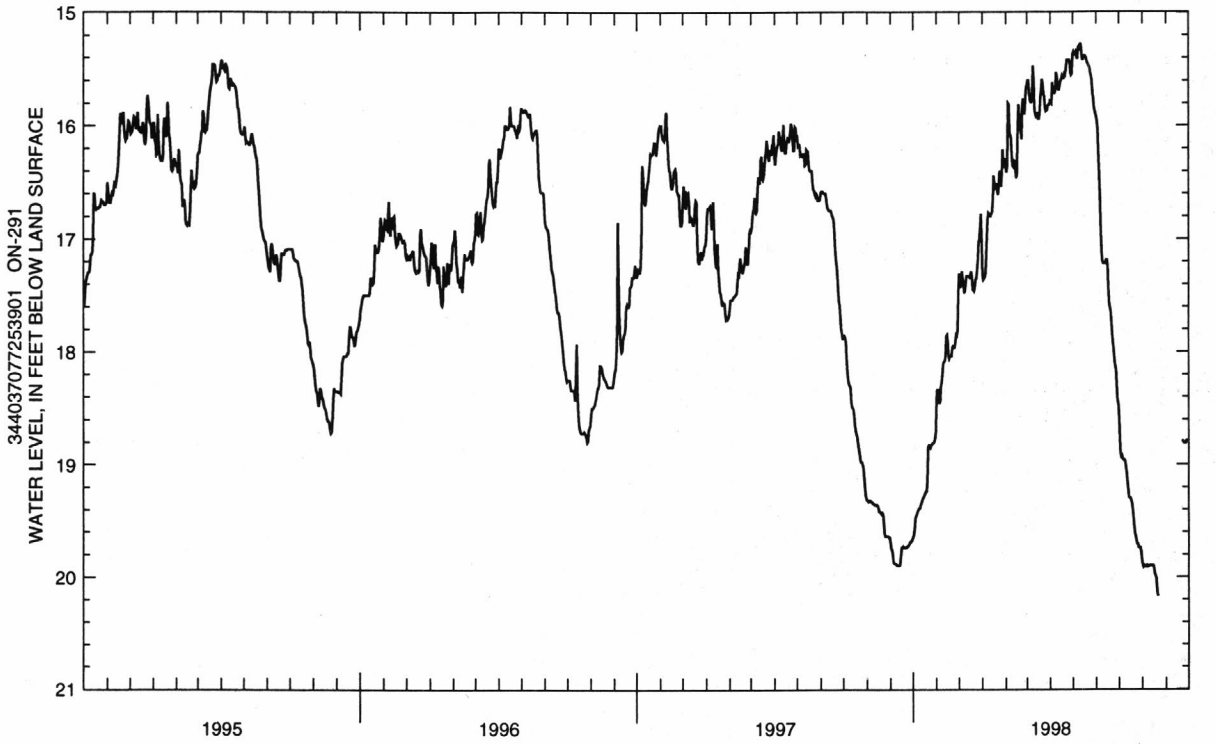
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 15.40 ft below land-surface datum, Apr. 2, 1995; lowest water level recorded, 20.18 ft below land-surface datum, Aug. 21, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.65	18.43	17.31	17.32	16.37	15.64	15.77	15.37	15.92	18.58	19.89	---
2	19.63	18.34	17.41	17.36	16.41	15.60	15.79	15.35	15.96	18.78	19.91	---
3	19.58	18.34	17.43	17.35	16.34	15.60	15.80	15.37	16.03	18.90	19.90	---
4	19.48	18.34	17.32	17.34	15.80	15.71	15.62	15.37	16.26	18.93	19.91	---
5	19.46	18.46	17.29	17.31	15.81	15.77	15.70	15.35	16.43	18.92	19.91	---
6	19.44	18.44	17.36	17.20	16.05	15.79	15.71	15.38	16.64	18.95	19.91	---
7	19.42	18.30	17.41	17.01	16.08	15.79	15.71	15.41	16.91	18.96	19.90	---
8	19.40	18.27	17.48	16.83	16.10	15.72	15.69	15.31	17.11	18.96	19.91	---
9	19.39	18.18	17.46	16.77	16.24	15.47	15.53	15.30	17.20	18.97	19.91	---
10	19.39	18.10	17.38	16.78	16.35	15.58	15.56	15.34	17.22	19.02	19.90	---
11	19.36	18.09	17.33	16.80	16.36	15.84	15.66	15.27	17.22	19.07	19.90	---
12	19.34	18.08	17.33	16.80	16.30	15.89	15.68	15.30	17.22	19.15	19.90	---
13	19.32	18.04	17.33	16.78	16.36	15.91	15.68	15.39	17.22	19.22	19.90	---
14	19.30	17.86	17.33	16.76	16.39	15.89	15.64	15.42	17.19	19.29	19.90	---
15	19.29	17.85	17.34	16.66	16.46	15.89	15.60	15.39	17.19	19.30	19.90	---
16	19.27	17.92	17.32	16.44	16.42	15.94	15.59	15.38	17.26	19.30	19.92	---
17	19.26	18.04	17.29	16.50	16.00	15.94	15.56	15.38	17.43	19.32	19.97	---
18	19.24	18.06	17.34	16.55	15.81	15.89	15.58	15.39	17.57	19.35	19.99	---
19	19.24	18.04	17.45	16.54	15.98	15.75	15.58	15.41	17.61	19.41	20.01	---
20	19.14	18.04	17.45	16.51	16.02	15.69	15.54	15.44	17.64	19.46	20.12	---
21	18.84	18.04	17.46	16.58	16.04	15.59	15.55	15.45	17.74	19.54	20.16	---
22	18.83	17.97	17.43	16.61	16.12	15.63	15.50	15.47	17.84	19.61	20.17	18.79
23	18.84	17.95	17.36	16.52	15.83	15.72	15.42	15.48	17.93	19.64	---	18.79
24	18.85	17.95	17.35	16.40	15.76	15.74	15.42	15.53	17.99	19.68	---	18.80
25	18.83	17.97	17.28	16.45	15.89	15.84	15.42	15.55	18.08	19.71	---	18.81
26	18.82	17.92	17.19	16.54	15.89	15.87	15.42	15.60	18.13	19.71	---	18.81
27	18.81	17.85	17.03	16.42	15.77	15.86	15.44	15.71	18.16	19.74	---	18.81
28	18.81	17.86	17.00	16.21	15.67	15.86	15.53	15.76	18.32	19.74	---	18.79
29	18.80	17.81	16.90	16.37	---	15.82	15.55	15.84	18.44	19.74	---	18.79
30	18.77	17.46	16.78	16.32	---	15.81	15.54	15.87	18.46	19.77	---	18.78
31	18.71	---	17.00	16.29	---	15.81	---	15.90	---	19.84	---	---

WTR YR 1998 MEAN 17.33 HIGH 15.27 LOW 20.17


344037077253901 ON-291
WATER LEVEL, IN FEET BELOW LAND SURFACE
15
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21
1995
1996
1997
1998

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 232.0 ft, diameter 2 in., cased to 222.0 ft, screened interval from 222.0 to 232.0 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 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.

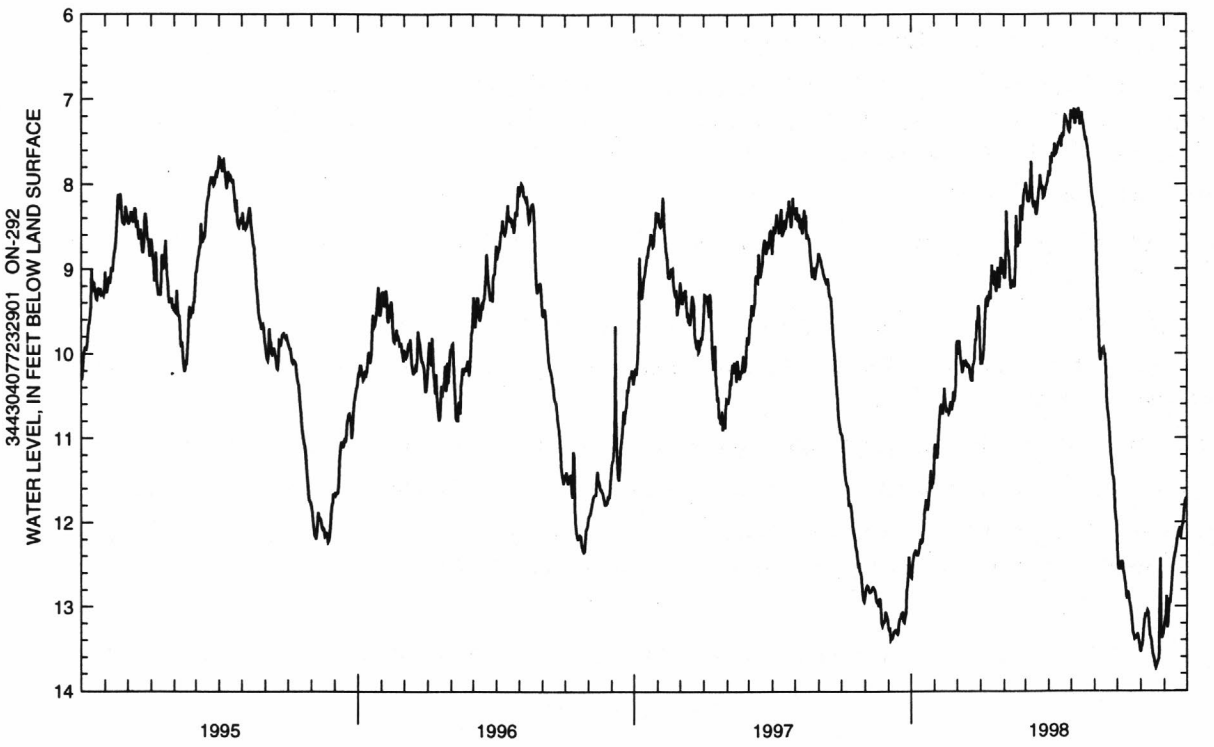
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 6.99 ft below land-surface datum, May 10, 1998; lowest water level recorded, 13.80 ft below land-surface datum, Aug. 20, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.65	11.13	9.85	10.13	9.09	8.05	7.88	7.13	8.30	12.27	13.54	13.22
2	12.66	11.07	10.01	10.10	9.11	7.98	7.90	7.19	8.37	12.50	13.47	13.15
3	12.52	11.21	9.97	10.11	8.98	8.06	7.89	7.23	8.59	12.56	13.46	13.11
4	12.44	11.19	9.85	10.06	8.31	8.18	7.67	7.18	8.96	12.49	13.34	12.87
5	12.38	11.24	9.98	9.97	8.56	8.20	7.76	7.11	9.27	12.48	13.24	13.25
6	12.36	11.05	10.08	9.83	8.80	8.20	7.63	7.28	9.56	12.56	13.16	13.20
7	12.33	10.88	10.15	9.58	8.78	8.13	7.65	7.28	9.85	12.49	13.10	13.04
8	12.37	10.74	10.23	9.37	8.89	8.00	7.66	7.12	10.04	12.46	13.11	12.93
9	12.39	10.63	10.18	9.35	9.09	7.73	7.52	7.23	10.08	12.57	13.10	12.94
10	12.39	10.60	10.08	9.45	9.23	8.05	7.65	7.19	9.99	12.61	13.05	12.84
11	12.36	10.68	10.12	9.38	9.20	8.22	7.64	7.10	9.95	12.68	13.07	12.71
12	12.31	10.72	10.15	9.35	9.13	8.25	7.60	7.21	9.94	12.75	13.20	12.56
13	12.24	10.60	10.10	9.26	9.21	8.23	7.58	7.30	9.93	12.87	13.33	12.48
14	12.20	10.41	10.12	9.36	9.18	8.20	7.51	7.22	10.01	12.91	13.37	12.43
15	12.24	10.56	10.17	9.12	9.21	8.33	7.51	7.15	10.01	12.82	13.40	12.37
16	12.23	10.63	10.14	8.95	8.99	8.36	7.47	7.23	10.22	12.85	13.50	12.34
17	12.13	10.70	10.15	9.16	8.37	8.30	7.43	7.27	10.50	12.94	13.57	12.28
18	12.06	10.66	10.25	9.17	8.55	8.19	7.56	7.34	10.64	12.98	13.60	12.20
19	11.88	10.67	10.31	9.02	8.74	8.08	7.40	7.40	10.71	13.05	13.65	12.15
20	11.82	10.71	10.31	9.06	8.68	8.03	7.44	7.47	10.80	13.11	13.71	12.11
21	11.74	10.69	10.33	9.24	8.69	7.89	7.43	7.46	10.94	13.21	13.73	12.08
22	11.74	10.59	10.13	9.27	8.69	8.00	7.28	7.53	11.10	13.32	13.70	12.06
23	11.86	10.57	10.12	9.08	8.25	8.04	7.19	7.58	11.23	13.34	13.67	12.19
24	11.80	10.67	10.06	8.98	8.38	8.02	7.20	7.68	11.32	13.39	13.64	12.09
25	11.67	10.61	9.84	9.20	8.43	8.16	7.26	7.72	11.45	13.38	13.62	12.04
26	11.60	10.45	9.84	9.22	8.28	8.15	7.26	7.83	11.46	13.37	12.98	12.01
27	11.38	10.57	9.61	8.99	8.14	8.12	7.32	7.96	11.57	13.35	12.43	11.89
28	11.60	10.51	9.70	8.86	8.07	8.07	7.37	8.08	11.84	13.32	13.33	11.78
29	11.52	10.38	9.43	9.06	---	8.02	7.38	8.15	11.95	13.38	13.38	11.74
30	11.55	9.90	9.49	8.89	---	8.00	7.34	8.21	12.01	13.43	13.34	11.71
31	11.44	---	9.81	9.00	---	7.95	---	8.26	---	13.51	13.31	---

WTR YR 1998 MEAN 10.27 HIGH 7.10 LOW 13.73


344304077232901 ON-292
WATER LEVEL, IN FEET BELOW LAND SURFACE
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14
1995
1996
1997
1998

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 235.0 ft, diameter 2 in., cased to 225.0 ft, screened interval from 225.0 to 235.0 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 Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

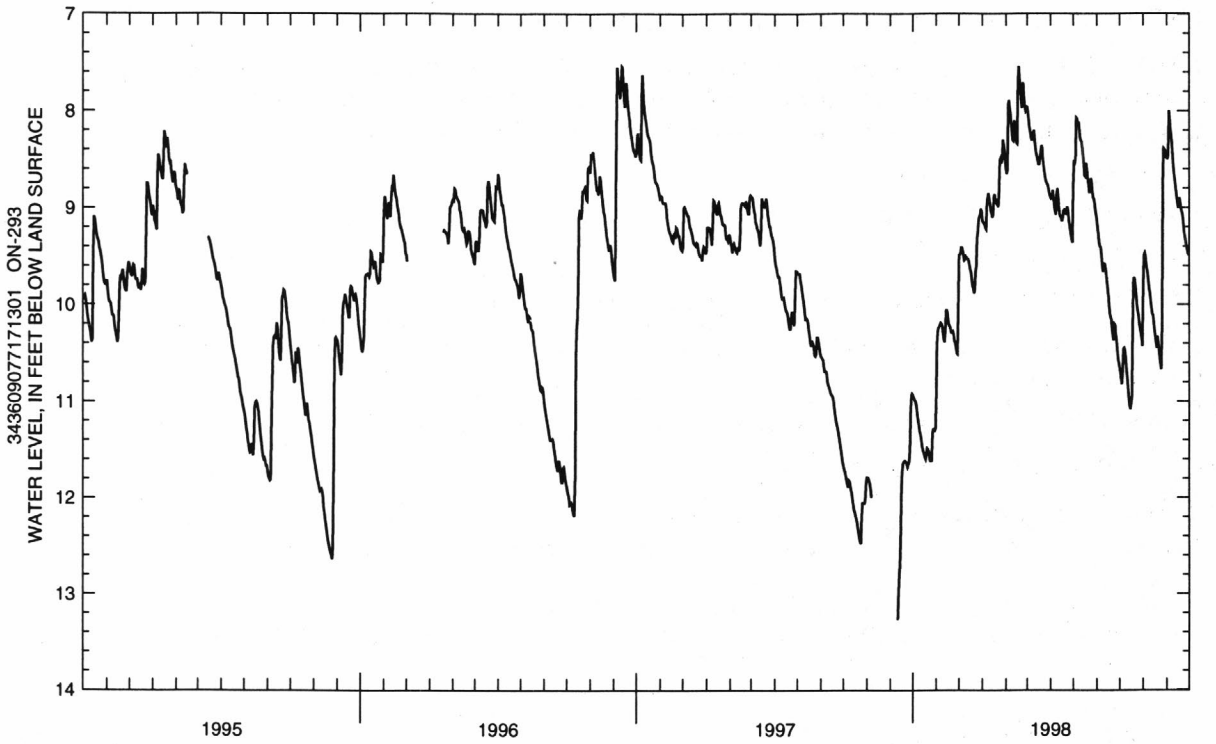
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 7.50 ft below land-surface datum, Aug. 12, 13, 1996; lowest water level recorded, 13.28 ft below land-surface datum, Sept. 10, 11, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.93	10.90	9.49	9.14	8.60	7.95	8.89	8.78	9.13	10.66	9.81	8.44
2	10.96	10.43	9.48	9.15	8.65	8.01	8.86	8.53	9.21	10.71	9.49	8.50
3	10.98	10.28	9.47	9.16	8.61	8.09	8.91	8.54	9.27	10.77	9.47	8.46
4	10.99	10.24	9.41	9.18	7.93	8.17	8.82	8.50	9.36	10.82	9.51	8.00
5	11.01	10.23	9.41	9.21	7.89	8.21	8.91	8.07	9.40	10.69	9.58	8.10
6	11.06	10.21	9.44	9.22	7.99	8.27	8.98	8.08	9.41	10.46	9.63	8.18
7	11.14	10.19	9.49	8.96	8.02	8.30	9.04	8.15	9.48	10.45	9.68	8.25
8	11.20	10.20	9.54	8.90	8.12	8.30	9.07	8.11	9.59	10.48	9.76	8.32
9	11.25	10.22	9.53	8.85	8.22	8.23	8.86	8.19	9.66	10.56	9.84	8.45
10	11.31	10.30	9.50	8.91	8.30	8.20	8.80	8.28	9.63	10.67	9.89	8.58
11	11.34	10.36	9.51	8.96	8.31	8.32	8.89	8.31	9.57	10.76	9.97	8.66
12	11.39	10.39	9.53	9.03	8.10	8.38	9.00	8.32	9.61	10.87	10.04	8.73
13	11.46	10.26	9.53	9.05	8.16	8.44	9.07	8.40	9.67	10.97	10.10	8.80
14	11.50	10.06	9.55	9.10	8.23	8.47	9.09	8.48	9.76	11.05	10.11	8.87
15	11.53	10.06	9.60	9.07	8.33	8.51	9.10	8.59	9.84	11.08	10.19	8.93
16	11.55	10.10	9.64	8.89	8.34	8.55	9.14	8.67	9.91	11.02	10.27	8.99
17	11.58	10.18	9.67	8.86	7.67	8.55	9.11	8.68	10.01	10.96	10.33	8.99
18	11.60	10.21	9.75	8.94	7.54	8.49	9.03	8.54	10.09	10.27	10.40	8.90
19	11.55	10.22	9.81	8.95	7.68	8.41	9.03	8.60	10.13	9.78	10.45	8.95
20	11.49	10.25	9.83	8.91	7.75	8.36	9.01	8.70	10.15	9.72	10.33	9.01
21	11.50	10.29	9.88	8.95	7.89	8.39	9.07	8.75	10.25	9.74	10.39	9.05
22	11.52	10.29	9.85	8.99	7.97	8.51	9.04	8.84	10.32	9.82	10.47	9.07
23	11.58	10.28	9.66	8.84	7.73	8.59	8.99	8.84	10.37	9.91	10.55	9.14
24	11.62	10.31	9.60	8.51	7.71	8.64	9.03	8.70	10.20	10.01	10.62	9.24
25	11.62	10.38	9.31	8.49	7.86	8.70	9.13	8.73	10.21	10.07	10.67	9.29
26	11.62	10.39	9.25	8.54	7.96	8.73	9.18	8.83	10.31	10.12	10.26	9.34
27	11.33	10.44	9.12	8.51	8.00	8.75	9.24	8.90	10.38	10.20	8.75	9.39
28	11.29	10.50	9.09	8.30	7.98	8.76	9.29	8.91	10.48	10.25	8.39	9.42
29	11.29	10.51	9.07	8.35	---	8.78	9.33	8.96	10.57	10.30	8.40	9.47
30	11.30	10.02	9.01	8.40	---	8.83	9.36	9.04	10.61	10.35	8.41	9.49
31	11.28	---	9.05	8.51	---	8.87	---	9.08	---	10.43	8.46	---

WTR YR 1998 MEAN 9.44 HIGH 7.54 LOW 11.62


343609077171301 ON-293
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1995
1996
1997
1998

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, go 4 mi to dirt road, turn left go 0.4 mi, well is on left side in field 200 yards 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 Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

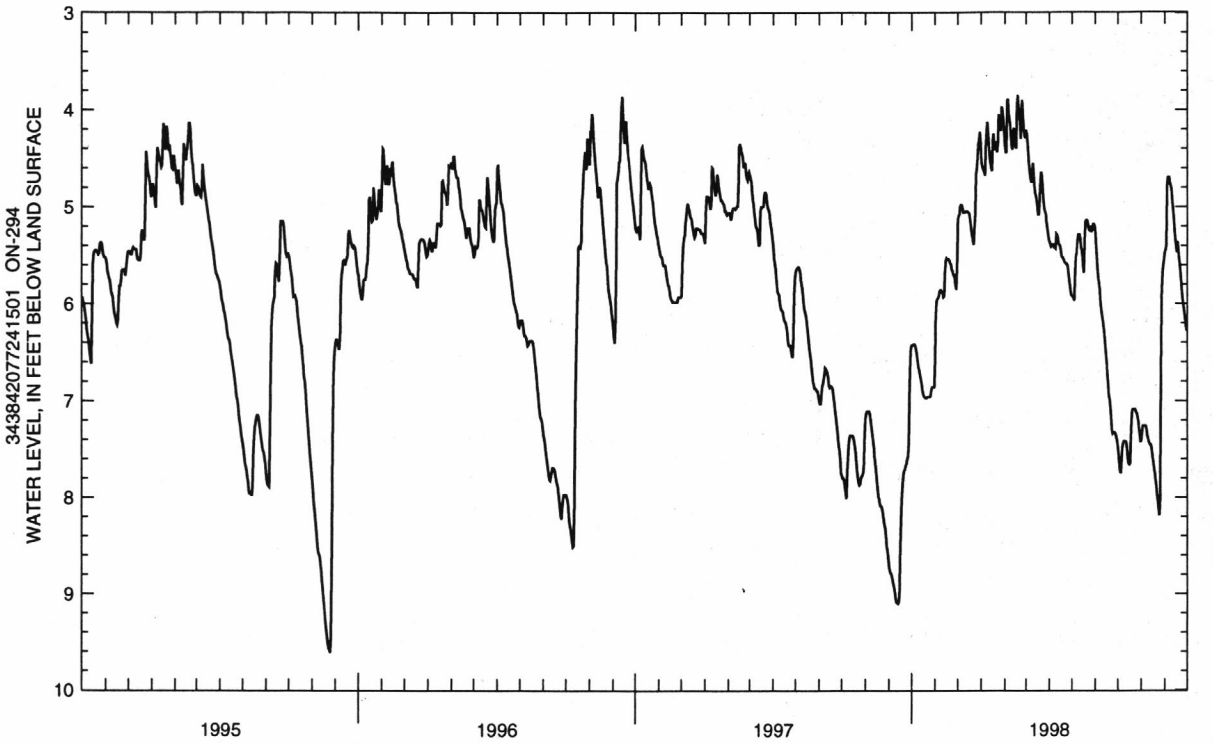
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 3.84 ft below land-surface datum, Feb. 17, 18, 1994; lowest water level recorded, 9.64 ft below land-surface datum, Aug. 26, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.43	6.58	5.13	4.54	4.36	4.21	5.36	5.92	5.25	7.49	7.41	5.47
2	6.43	6.13	5.09	4.58	4.44	4.25	5.38	5.93	5.39	7.58	7.32	5.45
3	6.42	5.98	5.08	4.61	4.44	4.35	5.41	5.94	5.51	7.66	7.26	5.40
4	6.42	5.95	5.00	4.63	3.91	4.47	5.40	5.97	5.65	7.73	7.26	4.78
5	6.42	5.94	4.98	4.65	3.89	4.58	5.39	5.69	5.74	7.75	7.26	4.70
6	6.44	5.92	4.98	4.68	4.05	4.66	5.39	5.52	5.79	7.60	7.26	4.70
7	6.48	5.87	5.00	4.35	4.09	4.72	5.42	5.48	5.86	7.48	7.26	4.70
8	6.54	5.86	5.06	4.22	4.15	4.75	5.42	5.36	6.00	7.44	7.29	4.76
9	6.60	5.86	5.06	4.13	4.28	4.65	5.43	5.29	6.07	7.42	7.36	4.78
10	6.66	5.88	5.06	4.25	4.37	4.55	5.28	5.29	6.13	7.42	7.39	4.82
11	6.69	5.88	5.05	4.38	4.41	4.67	5.29	5.29	6.18	7.42	7.43	4.93
12	6.74	5.93	5.05	4.49	4.22	4.77	5.32	5.33	6.24	7.43	7.44	5.02
13	6.78	5.92	5.05	4.55	4.19	4.86	5.38	5.42	6.32	7.49	7.46	5.12
14	6.83	5.67	5.05	4.60	4.26	4.88	5.39	5.45	6.42	7.60	7.46	5.23
15	6.89	5.55	5.06	4.63	4.38	4.93	5.40	5.52	6.52	7.65	7.52	5.33
16	6.93	5.53	5.07	4.31	4.40	5.01	5.44	5.62	6.61	7.66	7.59	5.41
17	6.95	5.54	5.13	4.25	3.95	5.08	5.51	5.68	6.72	7.65	7.64	5.47
18	6.96	5.54	5.20	4.36	3.85	5.08	5.52	5.33	6.82	7.39	7.71	5.36
19	6.97	5.54	5.27	4.42	3.96	4.94	5.53	5.15	6.95	7.19	7.76	5.45
20	6.97	5.55	5.31	4.33	4.04	4.71	5.55	5.14	6.98	7.10	7.84	5.54
21	6.97	5.58	5.35	4.38	4.15	4.64	5.57	5.14	7.06	7.09	7.88	5.61
22	6.96	5.59	5.39	4.44	4.30	4.69	5.58	5.16	7.17	7.09	7.97	5.68
23	6.96	5.65	5.22	4.34	4.06	4.81	5.59	5.23	7.30	7.09	8.04	5.78
24	6.96	5.66	5.09	4.05	3.90	4.93	5.59	5.24	7.34	7.09	8.12	5.89
25	6.96	5.70	4.67	4.10	4.06	5.01	5.61	5.21	7.33	7.12	8.19	5.97
26	6.95	5.70	4.61	4.21	4.19	5.05	5.68	5.21	7.33	7.13	8.03	6.03
27	6.89	5.74	4.50	4.21	4.27	5.07	5.75	5.26	7.33	7.17	6.68	6.09
28	6.86	5.81	4.35	3.97	4.29	5.15	5.81	5.22	7.35	7.21	5.90	6.16
29	6.86	5.85	4.32	4.02	---	5.21	5.87	5.18	7.39	7.29	5.69	6.23
30	6.86	5.60	4.23	4.10	---	5.27	5.91	5.18	7.42	7.36	5.60	6.28
31	6.86	---	4.33	4.23	---	5.33	---	5.20	---	7.43	5.55	---

WTR YR 1998 MEAN 5.71 HIGH 3.85 LOW 8.19


343842077241501 ON-294
WATER LEVEL, IN FEET BELOW LAND SURFACE
3
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6
7
8
9
10
1995
1996
1997
1998

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 253.0 ft, diameter 2 in., cased to 243.0 ft, screened interval from 243.0 to 253.0 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 Marine Corps Base, Camp Lejeune, North Carolina, Water Resources Network project.

PERIOD OF RECORD.--October 1994 to current year.

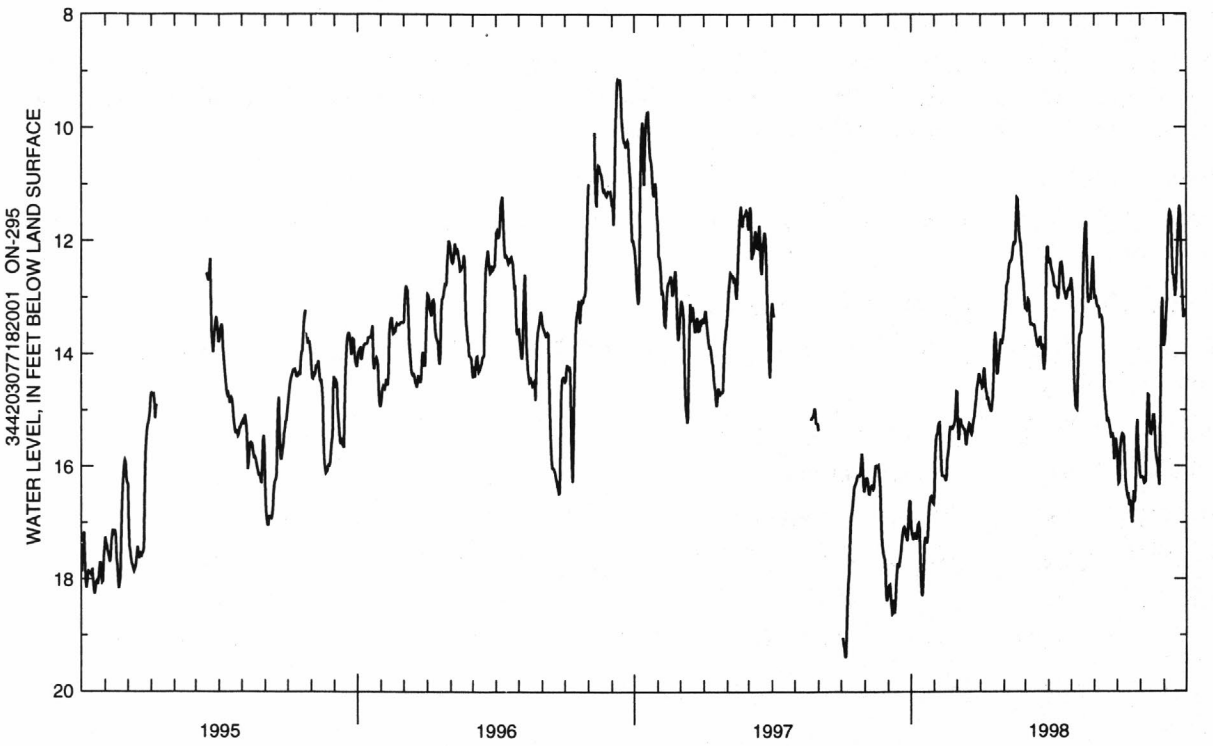
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.07 ft below land-surface datum, Sept. 12, 1996; lowest water level recorded, 19.45 ft below land-surface datum, July 7, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.06	16.41	14.68	14.51	13.52	13.19	12.38	12.66	12.99	15.75	16.20	13.87
2	17.19	15.84	15.25	14.51	13.29	13.20	12.38	12.81	12.97	16.14	16.20	13.81
3	17.23	15.56	15.53	14.60	13.13	13.22	12.31	12.99	12.99	16.30	16.19	13.65
4	17.30	15.44	15.46	14.58	12.81	13.15	12.43	13.79	13.11	16.28	16.20	13.29
5	17.23	15.43	15.17	14.30	12.75	13.04	12.52	14.43	13.16	15.71	16.25	13.06
6	17.17	15.30	15.17	14.25	12.72	13.07	12.56	14.74	13.16	15.56	16.30	12.32
7	17.25	15.23	15.27	14.46	12.54	13.34	12.62	14.93	13.19	15.46	16.29	11.79
8	17.29	15.22	15.28	14.64	12.41	13.48	12.77	14.97	13.33	15.42	16.27	11.54
9	17.14	15.54	15.31	14.70	12.38	13.48	12.80	14.99	13.31	15.43	15.68	11.48
10	17.03	15.95	15.34	14.82	12.35	13.47	12.81	14.41	13.32	15.47	15.09	11.51
11	17.01	16.16	15.34	14.77	12.34	13.49	12.82	13.92	13.38	15.84	14.73	11.63
12	17.10	16.17	15.50	14.90	12.25	13.49	12.84	13.69	13.54	16.22	14.74	12.23
13	17.64	16.17	15.62	14.95	12.09	13.49	12.99	13.64	14.06	16.37	15.17	12.60
14	18.01	16.17	15.51	14.99	12.04	13.57	13.02	13.63	14.59	16.48	15.42	12.62
15	18.27	16.20	15.38	15.03	12.05	13.67	12.77	13.48	14.80	16.54	15.43	12.77
16	18.30	16.26	15.30	14.91	12.01	13.76	12.48	13.27	14.88	16.52	15.36	12.98
17	18.10	16.17	15.24	14.77	11.58	13.84	12.39	12.69	15.06	16.69	15.21	12.84
18	17.75	15.90	15.26	14.44	11.24	13.86	12.38	12.21	15.21	16.60	15.09	12.50
19	17.36	15.78	15.40	13.84	11.26	13.84	12.47	11.94	15.13	16.69	15.09	12.09
20	17.26	15.68	15.43	13.61	11.56	13.75	12.64	11.72	15.20	16.89	15.33	11.73
21	17.30	15.42	15.39	13.76	11.86	13.69	12.83	11.66	15.27	17.00	15.69	11.50
22	17.36	15.30	15.26	14.01	12.00	13.84	12.90	12.38	15.35	16.75	15.83	11.38
23	17.28	15.30	15.16	14.36	12.03	13.92	12.95	12.93	15.47	16.44	15.91	11.53
24	16.98	15.33	15.10	14.32	12.23	13.83	13.03	13.09	15.46	16.64	15.98	12.13
25	16.71	15.33	14.93	14.13	12.44	14.15	12.99	13.00	15.41	16.55	16.20	12.69
26	16.62	15.28	14.82	13.99	12.61	14.28	12.89	12.98	15.52	15.93	16.34	13.06
27	16.54	15.27	14.62	13.81	12.77	14.10	12.85	13.00	15.88	15.33	15.45	13.36
28	16.53	15.19	14.55	13.74	13.00	13.93	12.86	12.74	15.65	15.17	14.28	13.29
29	16.56	14.96	14.44	13.83	---	12.46	12.81	12.47	15.50	15.67	13.23	13.26
30	16.64	14.67	14.35	13.77	---	12.13	12.76	12.28	15.62	15.85	13.01	13.31
31	16.66	---	14.41	13.66	---	12.10	---	12.71	---	16.09	13.68	---

WTR YR 1998 MEAN 14.40 HIGH 11.24 LOW 18.30


344203077182001 ON-295
WATER LEVEL, IN FEET BELOW LAND SURFACE
8
10
12
14
16
18
20
1995
1996
1997
1998

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 21, 1981).

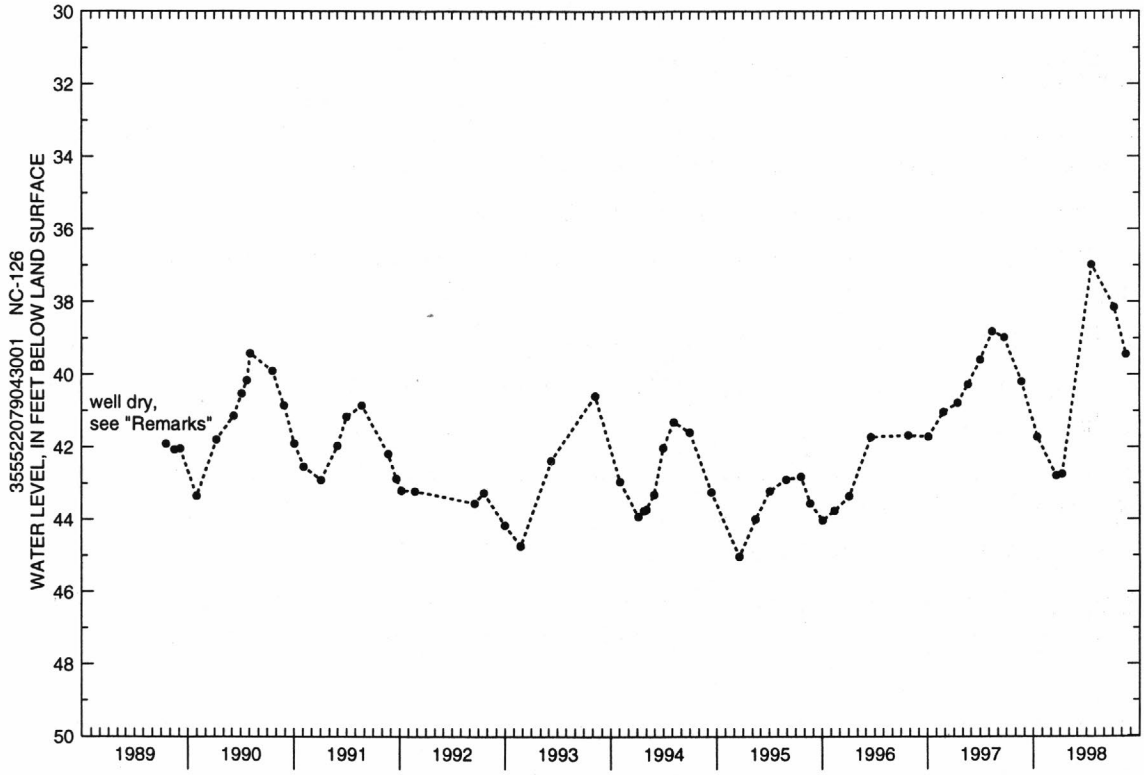
REMARKS.-- Well is part of terrane-effects network. Well found dry from October 13, 1988 to January 24, 1989. No periodic measurements made from January 24 to July 19, 1989.

PERIOD OF RECORD.--August 1938 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	41.72	DEC 12	42.79	JAN 9	42.74	APR 20	36.97	JUL 7	38.15	AUG 17	39.44


355522079043001 NC-126
WATER LEVEL, IN FEET BELOW LAND SURFACE
30
32
34
36
38
40
42
44
46
48
50
well dry,
see "Remarks"
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

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, drilled to 500 ft, diameter 4 in., cased to 120 ft, screened interval from 120 to 130 ft, cemented from 130 to 500 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 recorded, 3.22 ft below land-surface datum, June 26, 1979; lowest water level recorded, 10.29 ft below land-surface datum, Aug. 26, 1995.

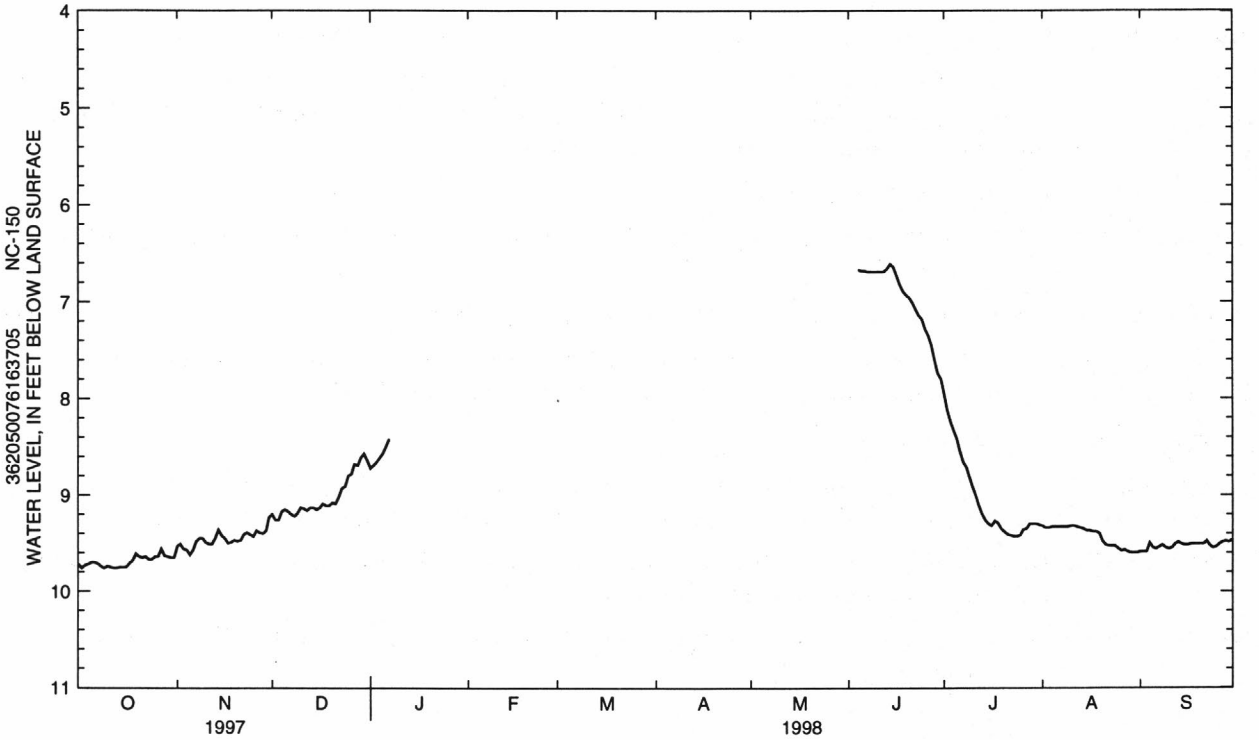
REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-87-1, should be adjusted by -0.35 ft.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.72	9.53	9.20	8.72	---	---	---	---	---	7.95	9.32	9.59
2	9.76	9.51	9.26	8.69	---	---	---	---	---	8.12	9.34	9.59
3	9.73	9.56	9.26	8.66	---	---	---	---	---	8.24	9.34	9.59
4	9.72	9.57	9.17	8.61	---	---	---	---	6.67	8.33	9.33	9.50
5	9.70	9.62	9.15	8.57	---	---	---	---	6.68	8.42	9.33	9.55
6	9.70	9.57	9.17	8.50	---	---	---	---	6.68	8.55	9.33	9.56
7	9.71	9.48	9.20	8.42	---	---	---	---	6.69	8.66	9.33	9.54
8	9.74	9.45	9.22	---	---	---	---	---	6.69	8.71	9.33	9.52
9	9.76	9.45	9.19	---	---	---	---	---	6.69	8.82	9.33	9.55
10	9.74	9.49	9.13	---	---	---	---	---	6.69	8.92	9.32	9.56
11	9.75	9.51	9.14	---	---	---	---	---	6.69	9.01	9.32	9.55
12	9.76	9.51	9.16	---	---	---	---	---	6.69	9.11	9.33	9.51
13	9.76	9.45	9.13	---	---	---	---	---	6.66	9.20	9.34	9.49
14	9.75	9.36	9.13	---	---	---	---	---	6.61	9.26	9.35	9.51
15	9.75	9.42	9.15	---	---	---	---	---	6.64	9.30	9.37	9.52
16	9.75	9.45	9.13	---	---	---	---	---	6.73	9.32	9.37	9.52
17	9.71	9.50	9.09	---	---	---	---	---	6.82	9.27	9.38	9.51
18	9.68	9.49	9.11	---	---	---	---	---	6.89	9.29	9.38	9.51
19	9.61	9.47	9.11	---	---	---	---	---	6.93	9.35	9.40	9.51
20	9.64	9.48	9.08	---	---	---	---	---	6.96	9.38	9.48	9.51
21	9.65	9.47	9.09	---	---	---	---	---	7.01	9.41	9.52	9.51
22	9.64	9.41	9.02	---	---	---	---	---	7.08	9.42	9.53	9.48
23	9.67	9.39	8.93	---	---	---	---	---	7.14	9.43	9.53	9.53
24	9.67	9.41	8.91	---	---	---	---	---	7.18	9.43	9.53	9.55
25	9.64	9.43	8.80	---	---	---	---	---	7.28	9.42	9.56	9.54
26	9.64	9.37	8.78	---	---	---	---	---	7.35	9.36	9.58	9.51
27	9.56	9.39	8.68	---	---	---	---	---	7.45	9.35	9.57	9.49
28	9.63	9.40	8.69	---	---	---	---	---	7.61	9.30	9.59	9.48
29	9.64	9.37	8.61	---	---	---	---	---	7.74	9.30	9.60	9.49
30	9.65	9.23	8.57	---	---	---	---	---	7.80	9.30	9.60	9.47
31	9.65	---	8.64	---	---	---	---	---	---	9.31	9.60	---

WTR YR 1998 MEAN 9.04 HIGH 6.61 LOW 9.76


362050076163705 NC-150
WATER LEVEL, IN FEET BELOW LAND SURFACE
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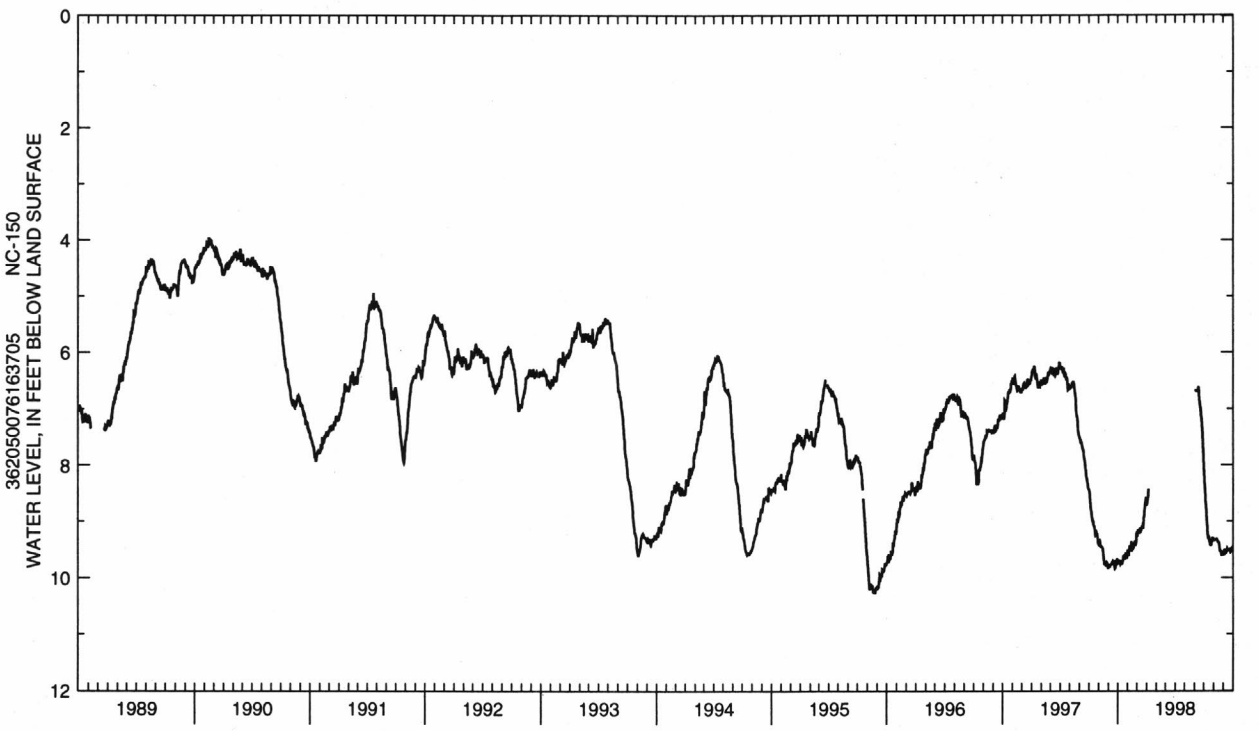
D
J
F
M
A
M
J
J
A
S
1997
1998


362050076163705 NC-150
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
2
4
6
8
10
12
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

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 site.

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.

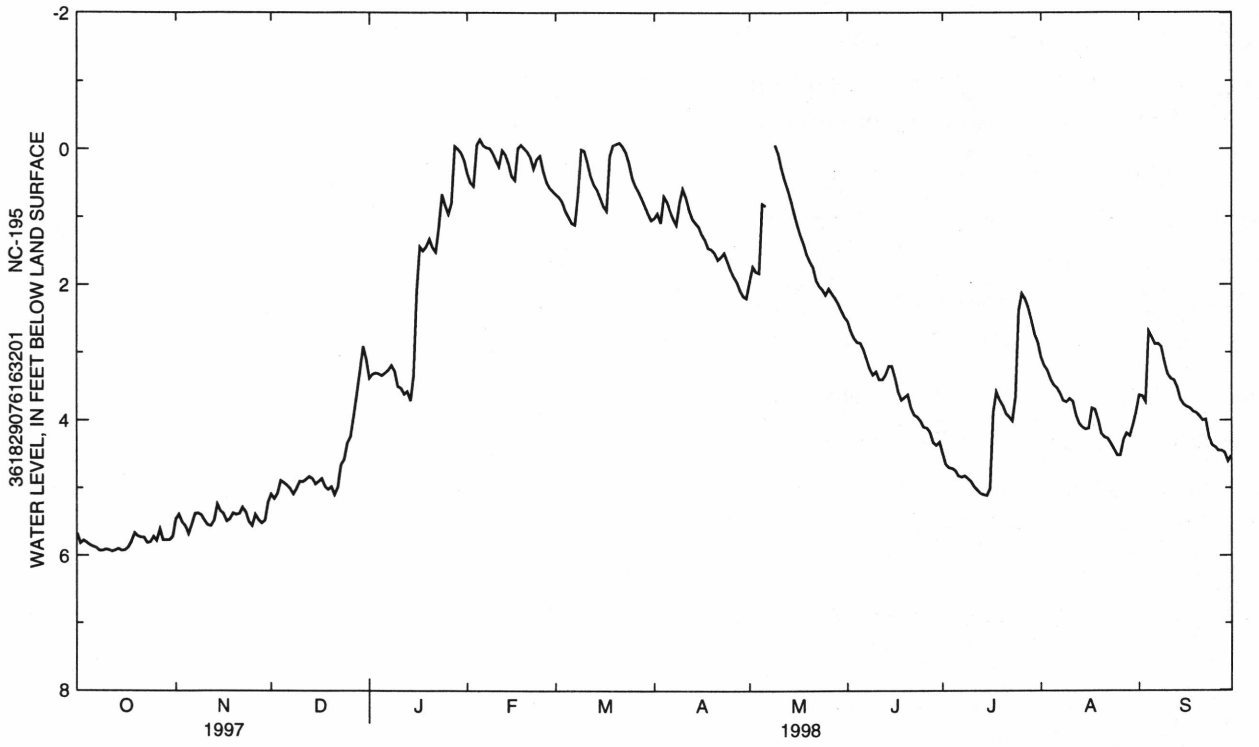
REVISIONS.--The measuring point description published in annual data reports prior to 1995 was in error. The measuring point description given above supersedes the description published for water years 1992, 1993, and 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.68	5.46	5.09	3.38	.36	.67	1.02	1.95	2.54	4.49	3.07	3.63
2	5.82	5.39	5.16	3.32	.50	.71	.95	1.73	2.69	4.65	3.19	3.64
3	5.78	5.51	5.08	3.30	.55	.78	1.09	1.81	2.79	4.70	3.26	3.73
4	5.81	5.56	4.89	3.31	-.06	.91	.70	1.83	2.85	4.71	3.39	2.69
5	5.85	5.68	4.92	3.34	-.14	1.00	.78	.81	2.86	4.74	3.48	2.78
6	5.87	5.54	4.96	3.30	-.05	1.09	.91	.84	2.96	4.82	3.52	2.88
7	5.89	5.38	5.01	3.26	-.02	1.12	1.03	---	3.10	4.84	3.60	2.87
8	5.93	5.37	5.09	3.19	-.01	.68	1.12	---	3.24	4.82	3.71	2.92
9	5.93	5.40	5.01	3.27	.06	.01	.79	-.06	3.33	4.86	3.73	3.15
10	5.91	5.48	4.90	3.50	.17	.03	.59	.07	3.28	4.90	3.68	3.32
11	5.92	5.55	4.91	3.52	.26	.21	.72	.27	3.40	4.98	3.72	3.39
12	5.94	5.56	4.87	3.61	.02	.40	.89	.45	3.40	5.03	3.92	3.41
13	5.92	5.48	4.83	3.57	.08	.53	1.03	.59	3.33	5.08	4.05	3.52
14	5.90	5.24	4.86	3.71	.21	.60	1.09	.76	3.20	5.10	4.10	3.69
15	5.93	5.34	4.94	3.34	.40	.72	1.15	.94	3.20	5.11	4.13	3.77
16	5.92	5.38	4.90	2.09	.46	.84	1.26	1.12	3.38	5.01	4.12	3.80
17	5.88	5.49	4.86	1.44	-.01	.91	1.34	1.27	3.58	3.88	3.82	3.82
18	5.80	5.46	4.98	1.50	-.06	.11	1.46	1.40	3.70	3.58	3.84	3.87
19	5.67	5.37	5.02	1.44	-.01	-.05	1.48	1.55	3.66	3.70	4.00	3.89
20	5.71	5.39	4.98	1.33	.04	-.07	1.53	1.66	3.62	3.78	4.20	3.94
21	5.73	5.38	5.10	1.45	.12	-.09	1.63	1.74	3.81	3.90	4.25	4.00
22	5.73	5.29	4.99	1.52	.29	-.04	1.59	1.94	3.92	3.95	4.27	3.99
23	5.81	5.36	4.66	1.16	.15	.05	1.53	2.02	3.95	4.01	4.35	4.25
24	5.80	5.50	4.58	.67	.10	.20	1.65	2.07	4.01	3.65	4.43	4.37
25	5.72	5.56	4.34	.83	.31	.42	1.78	2.15	4.10	2.38	4.52	4.40
26	5.78	5.39	4.24	.96	.48	.54	1.88	2.06	4.11	2.13	4.52	4.45
27	5.61	5.47	3.95	.80	.57	.63	1.96	2.13	4.17	2.21	4.29	4.45
28	5.77	5.52	3.61	-.04	.62	.73	2.08	2.20	4.33	2.34	4.19	4.48
29	5.77	5.48	3.28	.00	---	.84	2.17	2.28	4.37	2.53	4.23	4.61
30	5.77	5.21	2.91	.06	---	.95	2.20	2.39	4.32	2.73	4.07	4.53
31	5.72	---	3.10	.17	---	1.05	---	2.48	---	2.85	3.88	---

WTR YR 1998 MEAN 3.09 HIGH -.14 LOW 5.94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WATER LEVEL, IN FEET BELOW LAND SURFACE
361829076163201 NC-195
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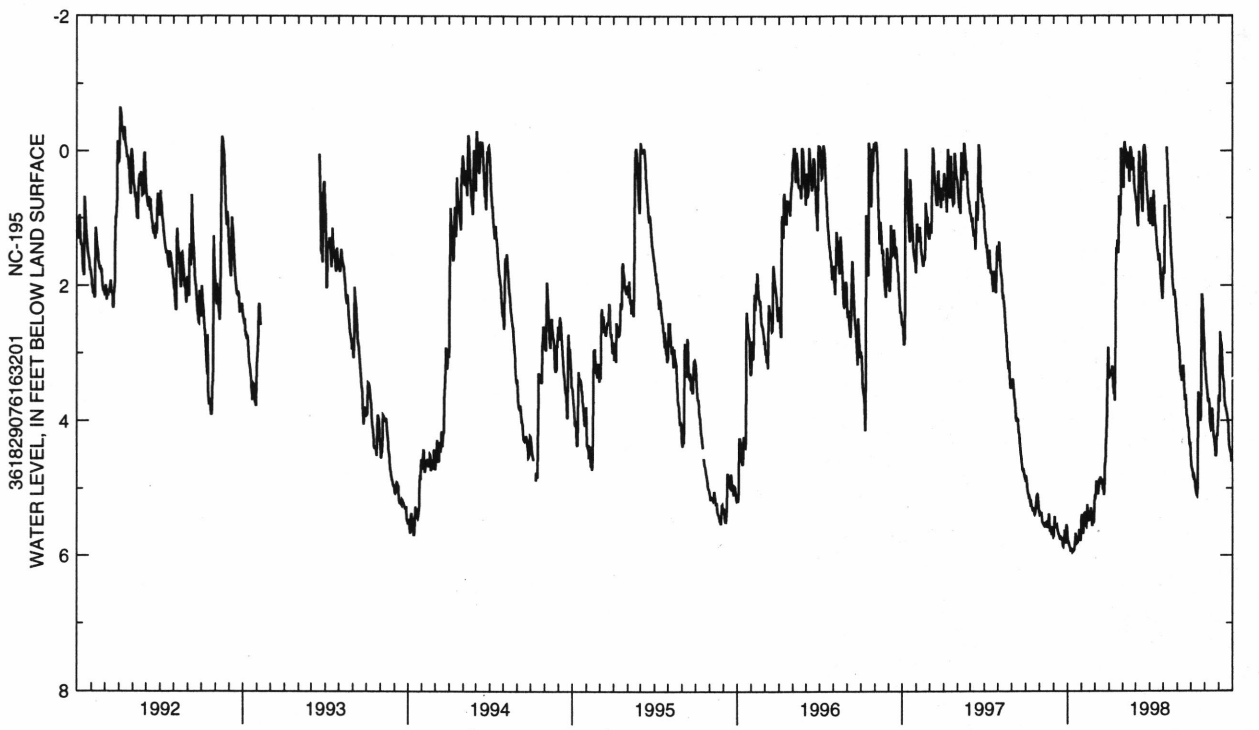
1998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WATER LEVEL, IN FEET BELOW LAND SURFACE
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PASQUOTANK COUNTY--Continued

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 SR 1360 0.8 mi northeast of U.S. 158. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Surficial.

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.

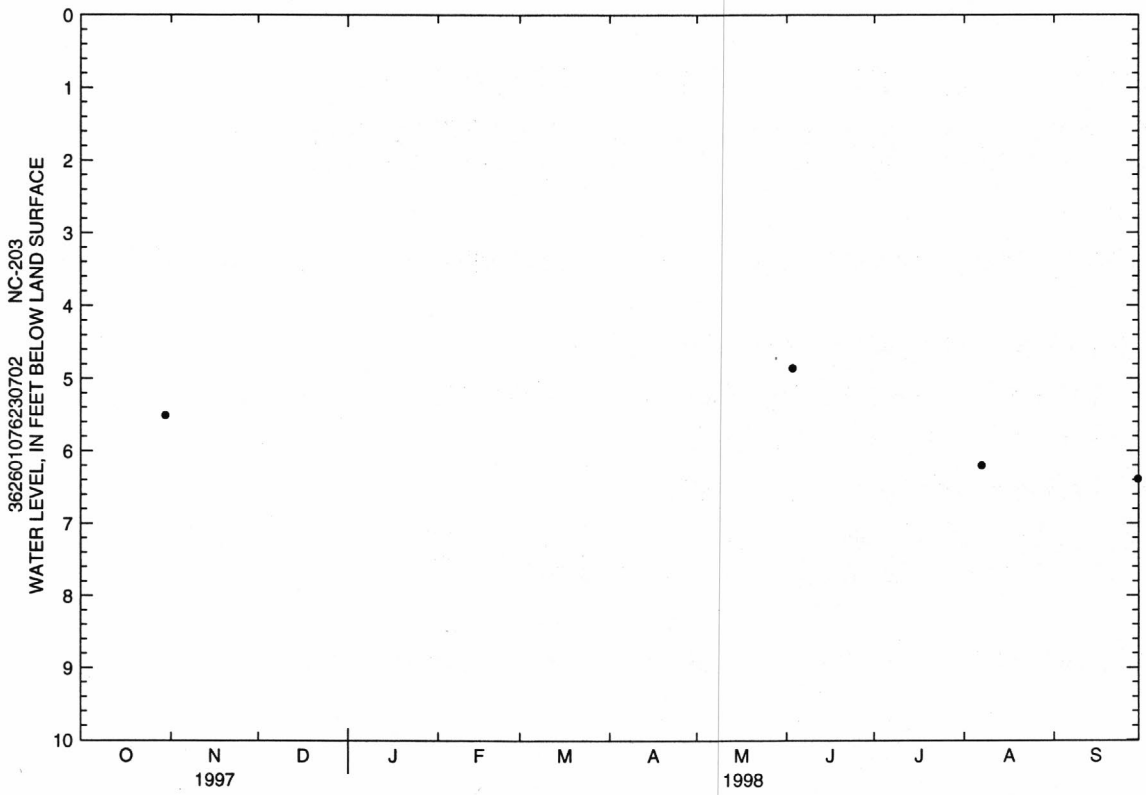
REMARKS.-- Well is part of induced-effects network.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.85 ft below land-surface datum, June 3, 1998; lowest water level measured, 6.39 ft below land-surface datum, Sept. 30, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	5.51	JUN 3	4.85	AUG 7	6.20	SEP 30	6.39


362601076230702 NC-203
WATER LEVEL, IN FEET BELOW LAND SURFACE
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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 SR 1360 0.8 mi northeast of U.S. 158. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer.

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, 2.90 ft above land-surface datum.

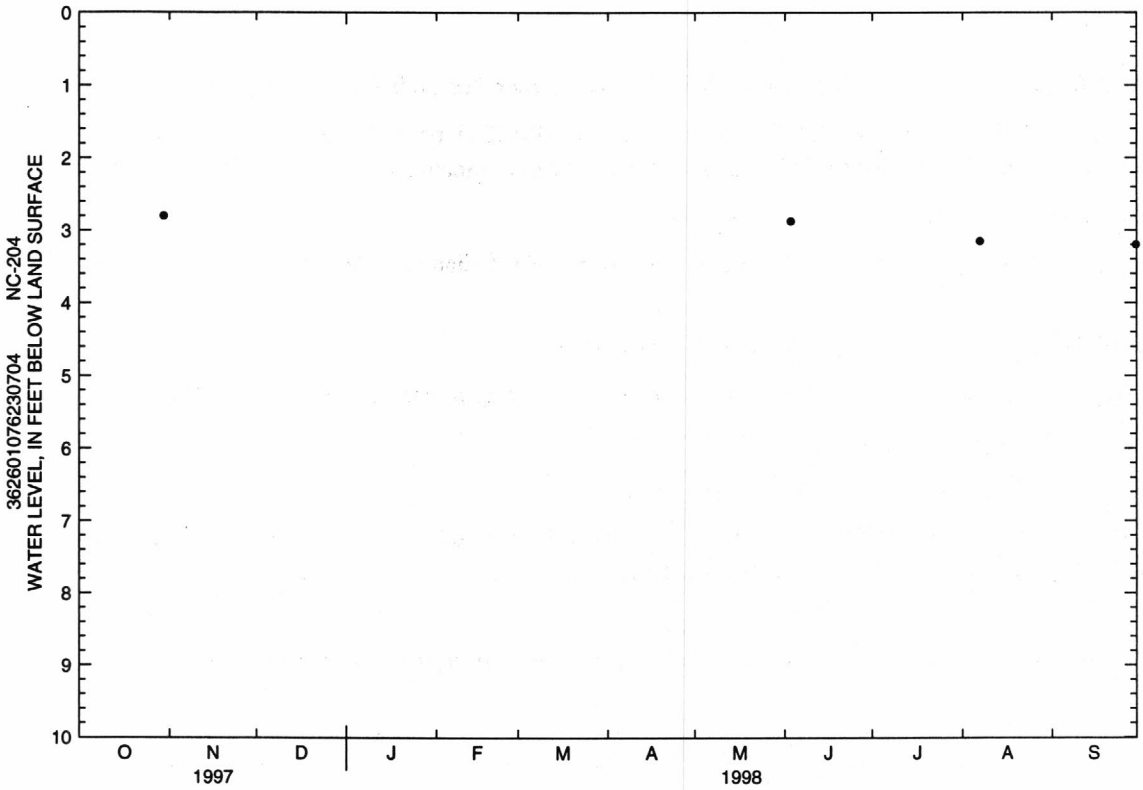
REMARKS.-- Well is part of induced-effects network.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.42 ft above land-surface datum, Sept. 2, 1981; lowest water level measured, 3.20 ft below land-surface, Sept. 30, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	2.80	JUN 3	2.87	AUG 7	3.15	SEP 30	3.20


NC-204
362601076230704
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1997
1998

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 SR 1360 0.8 mi northeast of U.S. 158. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Lower Cape Fear aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 1310 ft, diameter 4 in., cased to 1300 ft, screened interval from 1300 to 1310 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.

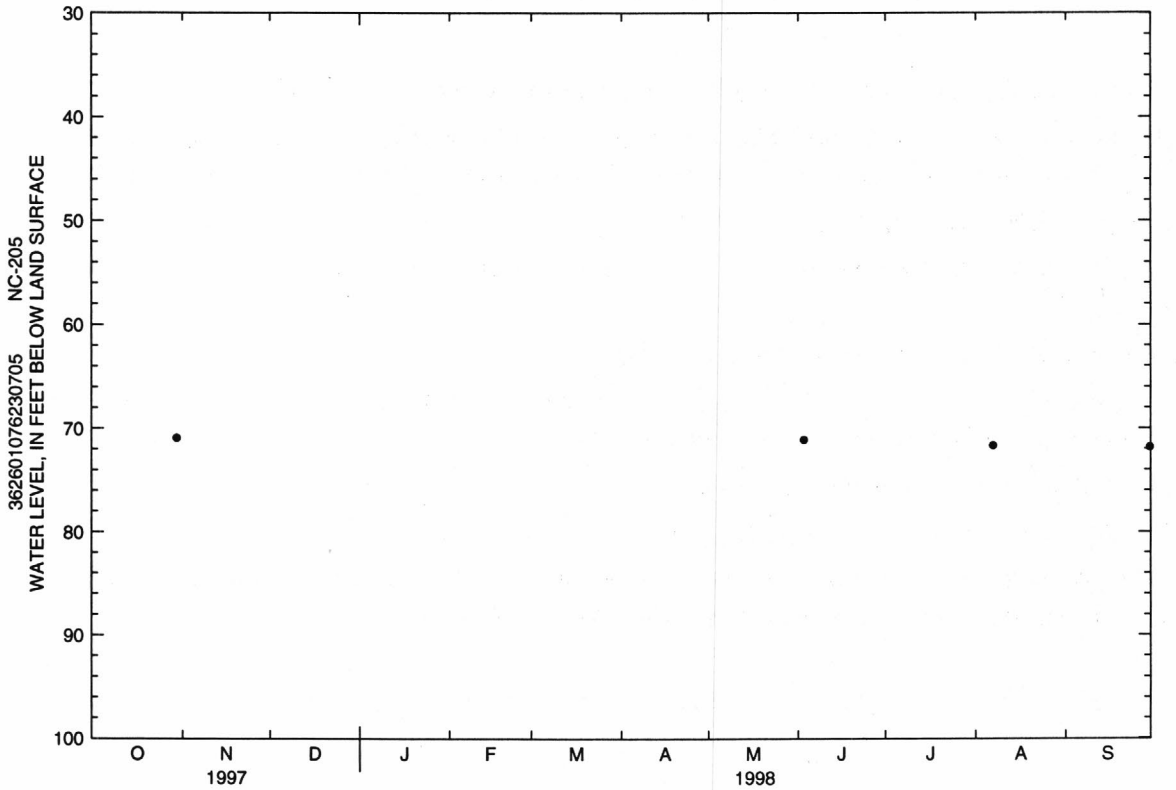
REMARKS.-- Well is part of induced-effects network.

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, 71.84 ft below land-surface datum, Sept. 30, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	70.94	JUN 3	71.09	AUG 7	71.67	SEP 30	71.84


362601076230705 NC-205
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1997
1998

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, drilled to 1,019 ft, diameter 4 in., cased to 1,009 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 instrument shelf, 2.64 ft above land-surface datum; revised from 3.02 ft above land-surface datum July 11, 1994.

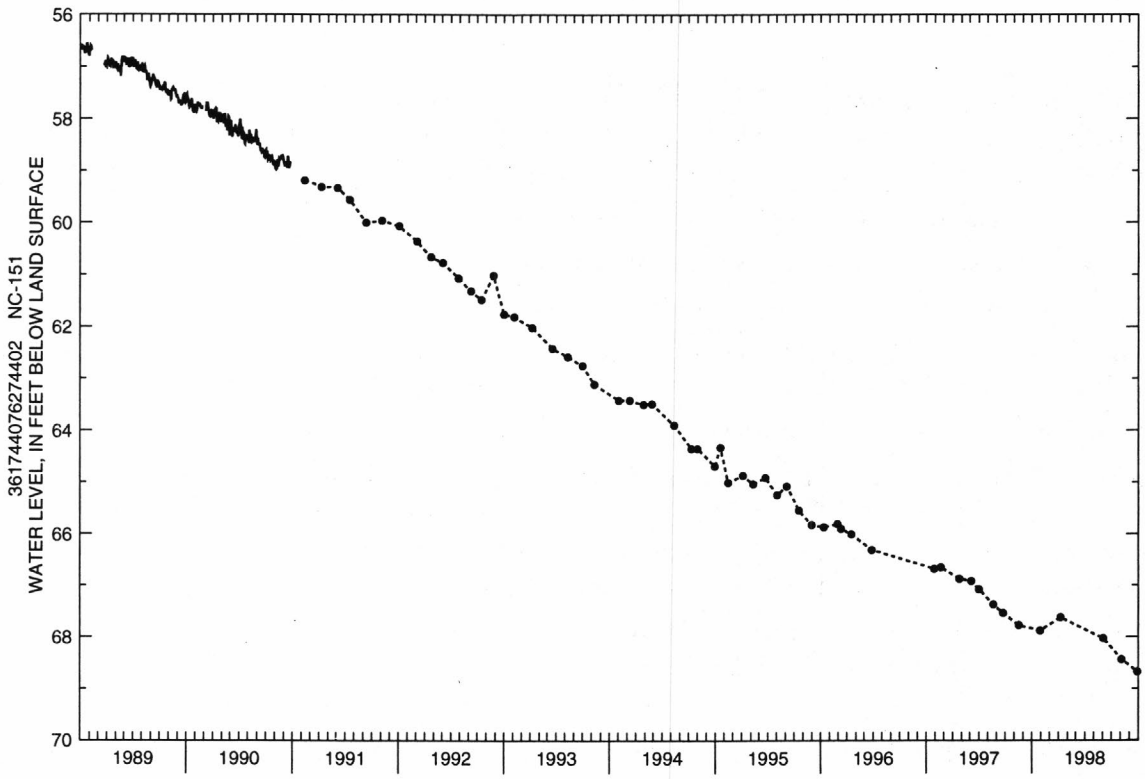
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--December 1977 to current year. Continuous record 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 recorded, 40.17 ft below land-surface datum, Dec. 7, 1977; lowest water level measured, 68.68 ft below land-surface datum, Sept. 29, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DARE	WATER LEVEL
OCT 30	67.88	JAN 8	67.63	JUN 3	68.03	AUG 6	68.44	SEP 29	68.68


361744076274402 NC-151
WATER LEVEL, IN FEET BELOW LAND SURFACE
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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, drilled to 351 ft, diameter 4 in., cased to 336 ft, open hole 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 casing, 2.90 ft above land-surface datum; revised from 3.00 ft above land-surface datum, July 11, 1994.

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

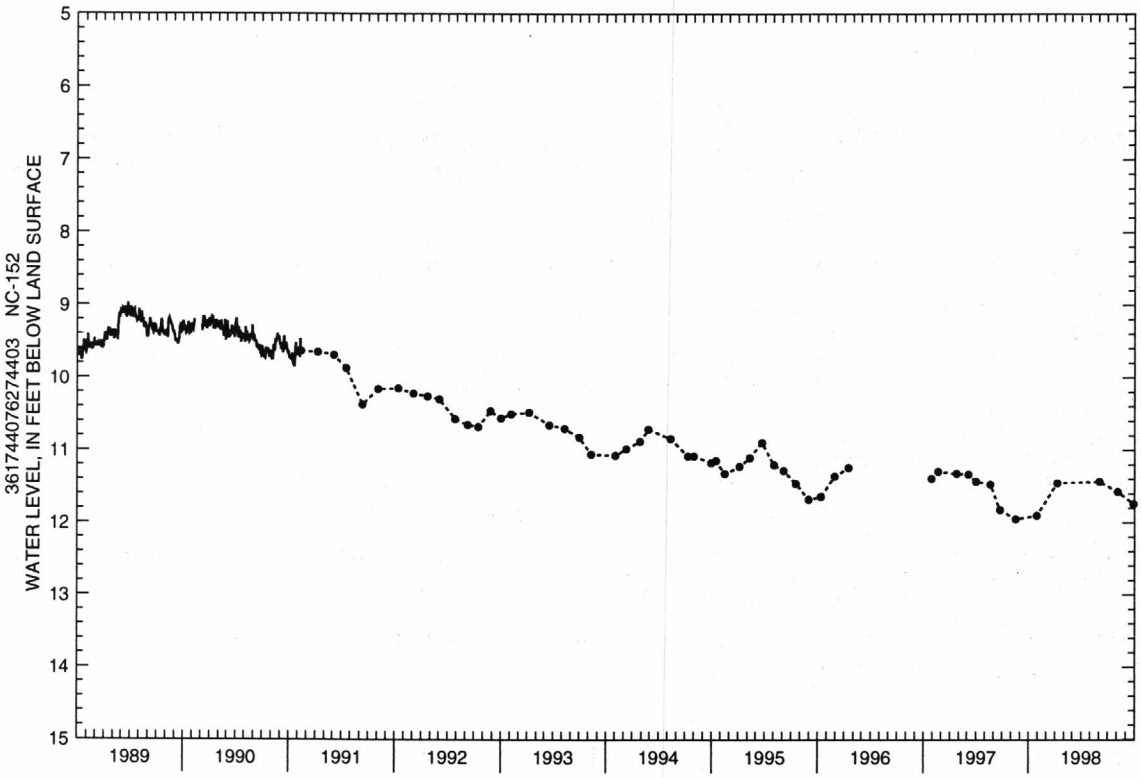
PERIOD OF RECORD.--December 1977 to current year. Continuous record November 1986 to November 1990. Records from December 1977 to July 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	11.90	JAN 8	11.45	JUN 3	11.43	AUG 6	11.57	SEP 29	11.74


361744076274403 NC-152
WATER LEVEL, IN FEET BELOW LAND SURFACE
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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.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 49 ft, diameter 2.5 in., cased to 39 ft, screened interval from 39 to 42 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 casing, 1.32 ft above land-surface datum.

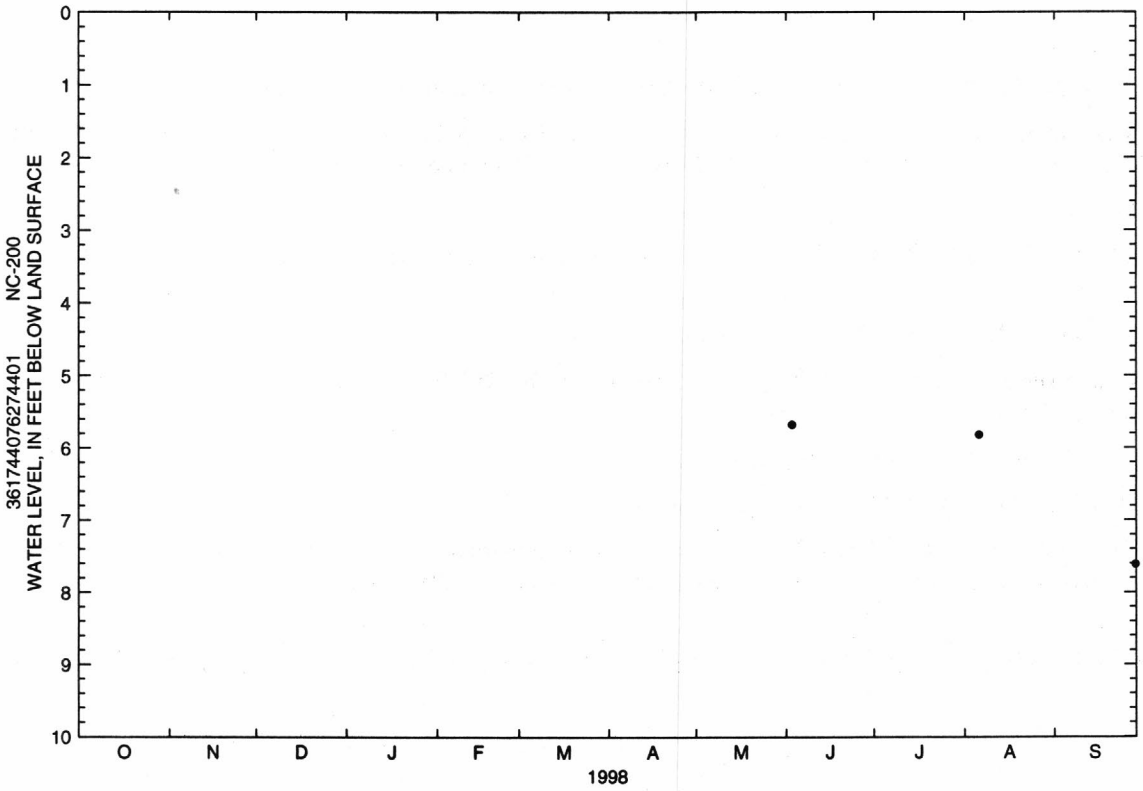
REMARKS.--Well is part of areal-effects network.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.09 ft below land-surface datum, Sept. 3, 1981; lowest water level measured, 7.61 ft below land-surface datum, Sept. 29, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 3	5.68	AUG 6	5.82	SEP 29	7.61


361744076274401 NC-200
WATER LEVEL, IN FEET BELOW LAND SURFACE
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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.--Satellite telemetry with a 60-minute recording interval.

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.

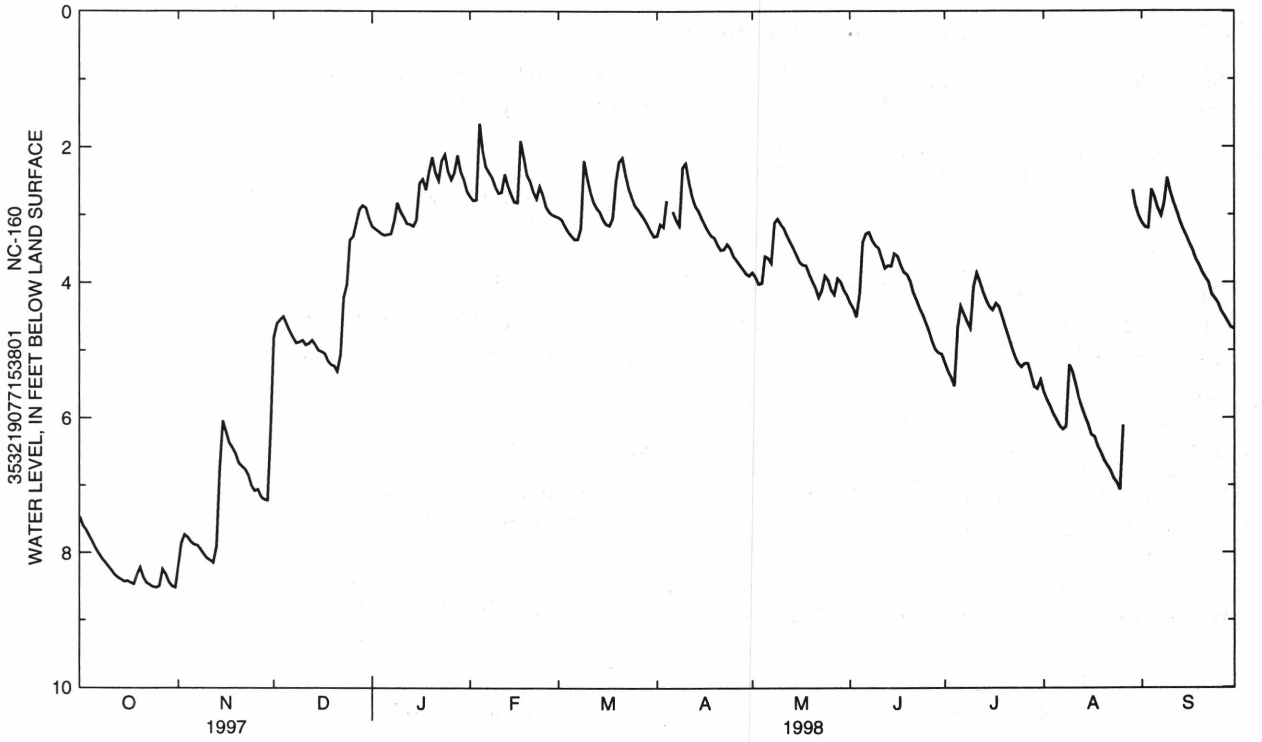
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.96 ft below land-surface datum, Feb. 4, 1998; lowest water level recorded, 8.84 ft below land-surface datum, Nov. 6, 7, and 8, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.47	8.19	4.81	3.17	2.73	3.04	3.31	3.85	4.30	5.19	5.62	3.12
2	7.60	7.86	4.60	3.21	2.79	3.07	3.14	3.92	4.38	5.31	5.73	3.19
3	7.67	7.73	4.55	3.24	2.78	3.17	3.18	4.02	4.51	5.41	5.83	3.20
4	7.76	7.77	4.50	3.28	1.65	3.25	2.79	4.01	4.16	5.53	5.94	2.63
5	7.85	7.84	4.61	3.30	2.05	3.31	---	3.61	3.41	4.67	6.03	2.75
6	7.94	7.88	4.72	3.29	2.29	3.36	2.95	3.64	3.28	4.35	6.12	2.90
7	8.02	7.89	4.81	3.28	2.37	3.36	3.08	3.71	3.26	4.47	6.17	3.02
8	8.09	7.95	4.89	3.09	2.45	3.20	3.16	3.12	3.38	4.58	6.13	2.84
9	8.15	8.02	4.88	2.82	2.58	2.20	2.30	3.06	3.45	4.68	5.22	2.46
10	8.21	8.08	4.85	2.95	2.68	2.44	2.24	3.14	3.49	4.07	5.31	2.67
11	8.27	8.11	4.92	3.03	2.67	2.66	2.51	3.20	3.64	3.86	5.50	2.82
12	8.33	8.15	4.90	3.13	2.40	2.81	2.72	3.31	3.79	3.99	5.70	2.95
13	8.37	7.90	4.85	3.14	2.57	2.90	2.87	3.40	3.75	4.14	5.85	3.10
14	8.40	6.78	4.92	3.17	2.70	2.96	2.94	3.49	3.76	4.26	5.98	3.22
15	8.43	6.04	5.00	3.08	2.81	3.07	3.05	3.59	3.57	4.36	6.10	3.32
16	8.42	6.20	5.02	2.53	2.82	3.14	3.15	3.70	3.61	4.41	6.25	3.42
17	8.45	6.37	5.05	2.47	1.91	3.16	3.24	3.74	3.74	4.31	6.28	3.53
18	8.47	6.44	5.16	2.63	2.16	3.05	3.31	3.75	3.85	4.36	6.42	3.65
19	8.32	6.53	5.21	2.36	2.41	2.51	3.34	3.87	3.88	4.51	6.52	3.74
20	8.22	6.67	5.23	2.15	2.51	2.22	3.44	3.98	3.98	4.66	6.63	3.85
21	8.37	6.72	5.31	2.37	2.66	2.16	3.52	4.07	4.15	4.81	6.71	3.93
22	8.45	6.76	5.06	2.49	2.76	2.40	3.51	4.22	4.26	4.96	6.78	4.00
23	8.48	6.85	4.22	2.20	2.58	2.61	3.43	4.12	4.38	5.10	6.90	4.18
24	8.51	7.01	4.03	2.11	2.71	2.74	3.49	3.90	4.48	5.20	6.96	4.24
25	8.52	7.08	3.37	2.36	2.88	2.86	3.61	3.96	4.60	5.25	7.07	4.31
26	8.50	7.06	3.32	2.48	2.96	2.92	3.67	4.11	4.73	5.20	6.11	4.42
27	8.25	7.17	3.12	2.38	3.00	2.99	3.74	4.18	4.87	5.20	---	4.50
28	8.32	7.21	2.92	2.12	3.02	3.06	3.80	3.94	4.99	5.36	---	4.58
29	8.44	7.22	2.86	2.36	---	3.15	3.87	3.99	5.04	5.54	2.64	4.66
30	8.50	6.16	2.89	2.48	---	3.24	3.90	4.11	5.06	5.57	2.87	4.69
31	8.52	---	3.05	2.65	---	3.32	---	4.19	---	5.44	3.02	---

WTR YR 1998 MEAN 4.46 HIGH 1.65 LOW 8.52


353219077153801 NC-160
WATER LEVEL, IN FEET BELOW LAND SURFACE
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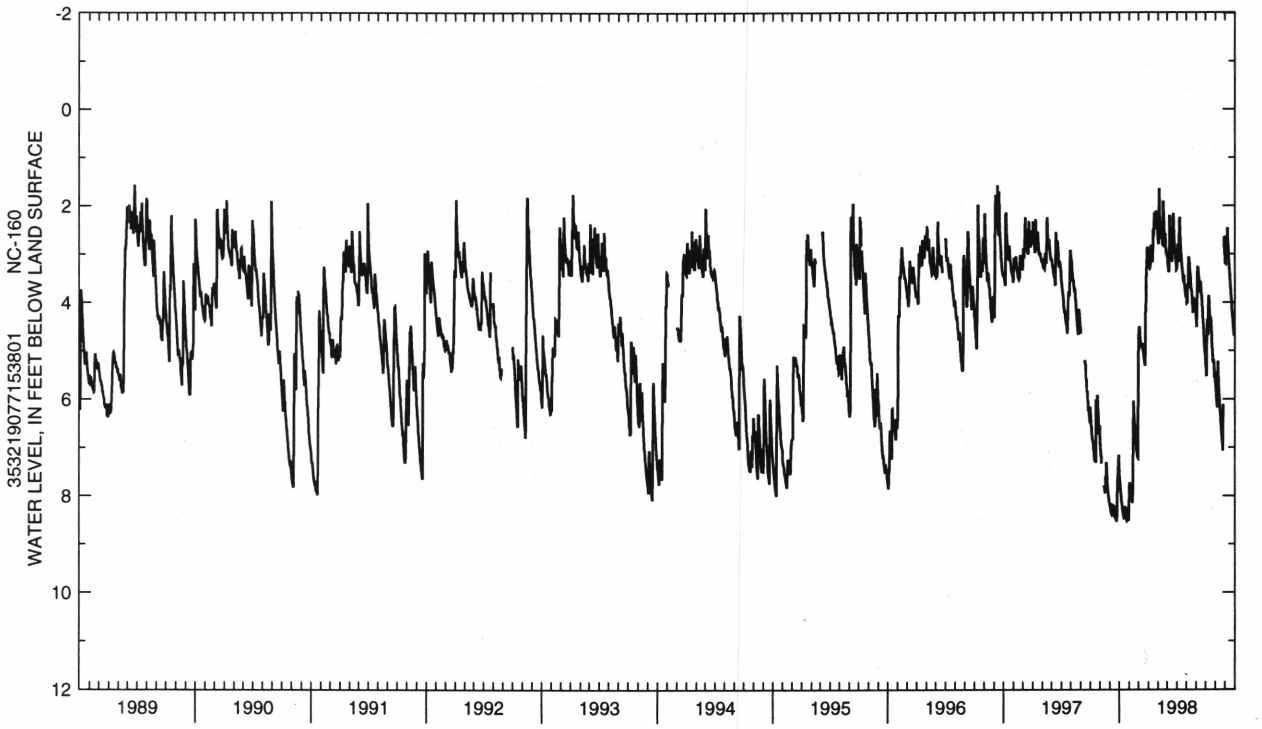
353219077153801 NC-160
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1997
1998

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 instrument shelf, 1.87 ft above land-surface datum.

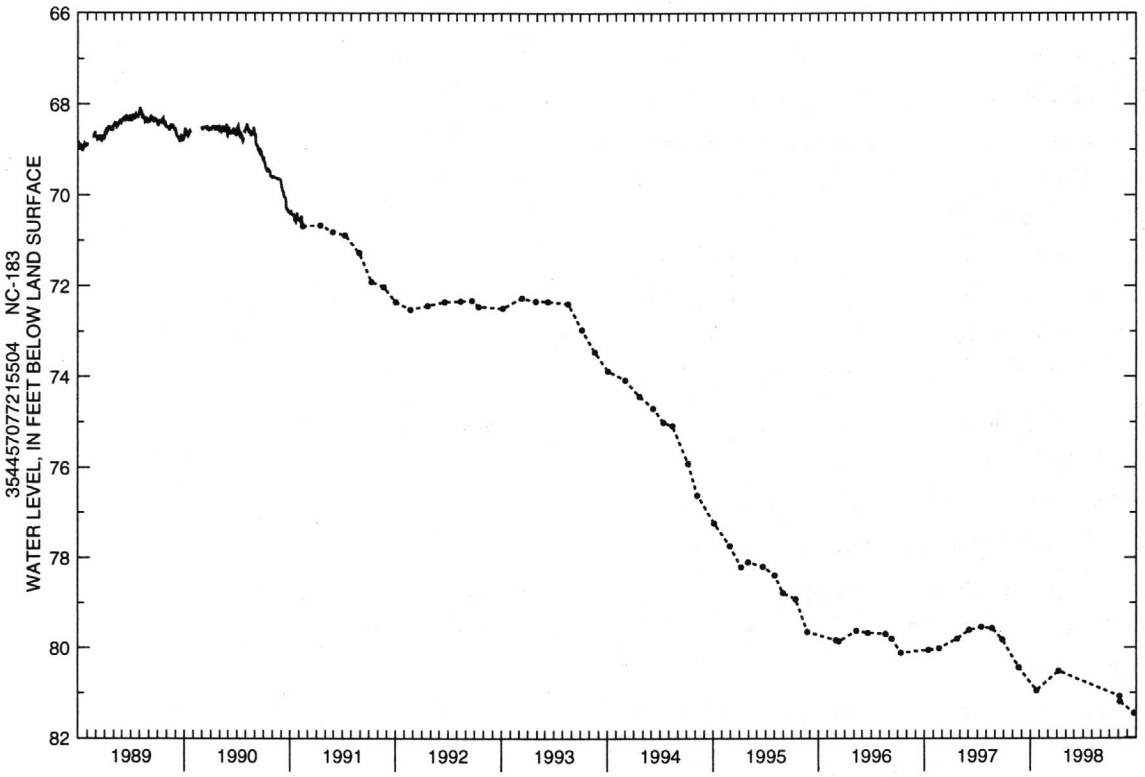
REMARKS.--Well is part of areal-effects network.

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, 81.46 ft below land-surface datum, Sept. 24, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	80.95	JAN 7	80.52	AUG 5	81.08	AUG 7	81.20	SEP 24	81.46


354457077215504 NC-183
WATER LEVEL, IN FEET BELOW LAND SURFACE
66
68
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72
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76
78
80
82
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

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.

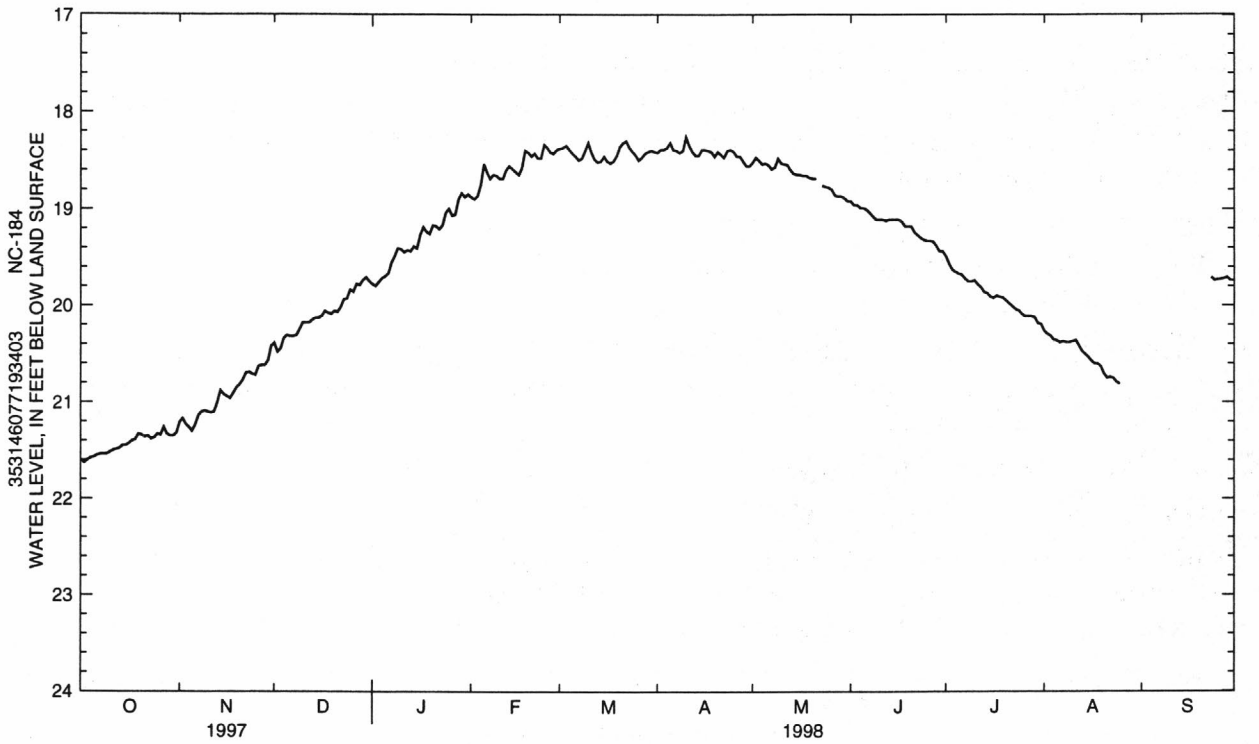
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 17.84 ft below land-surface datum, May 24, 1989; lowest water level recorded, 23.15 ft below land-surface datum, Oct. 6, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.60	21.21	20.39	19.78	18.88	18.38	18.42	18.52	18.92	19.49	20.26	---
2	21.63	21.17	20.48	19.80	18.90	18.37	18.39	18.47	18.96	19.57	20.29	---
3	21.60	21.23	20.45	19.76	18.87	18.35	18.39	18.50	18.96	19.63	20.31	---
4	21.58	21.26	20.34	19.72	18.75	18.39	18.37	18.54	18.99	19.65	20.35	---
5	21.57	21.30	20.31	19.70	18.54	18.43	18.32	18.53	18.99	19.67	20.36	---
6	21.55	21.24	20.32	19.67	18.63	18.46	18.39	18.55	19.01	19.68	20.38	---
7	21.54	21.14	20.32	19.56	18.69	18.50	18.40	18.59	19.04	19.72	20.37	---
8	21.54	21.10	20.31	19.49	18.65	18.48	18.42	18.57	19.08	19.75	20.38	---
9	21.54	21.09	20.25	19.41	18.66	18.40	18.40	18.48	19.11	19.75	20.38	---
10	21.52	21.10	20.18	19.42	18.69	18.32	18.26	18.53	19.11	19.74	20.37	---
11	21.50	21.11	20.18	19.45	18.69	18.42	18.35	18.54	19.11	19.78	20.36	---
12	21.49	21.10	20.18	19.43	18.60	18.49	18.41	18.55	19.12	19.81	20.41	---
13	21.48	21.00	20.15	19.44	18.56	18.52	18.45	18.60	19.11	19.86	20.47	---
14	21.45	20.88	20.13	19.39	18.59	18.51	18.45	18.64	19.11	19.87	20.50	---
15	21.45	20.92	20.13	19.41	18.62	18.46	18.39	18.65	19.11	19.91	20.53	---
16	21.43	20.94	20.11	19.27	18.65	18.51	18.39	18.65	19.11	19.92	20.57	---
17	21.40	20.96	20.06	19.19	18.58	18.53	18.40	18.66	19.13	19.90	20.60	---
18	21.39	20.91	20.08	19.24	18.40	18.51	18.41	18.66	19.18	19.91	20.60	---
19	21.33	20.85	20.09	19.26	18.42	18.45	18.46	18.68	19.18	19.92	20.63	---
20	21.34	20.82	20.06	19.17	18.46	18.36	18.41	18.69	19.18	19.95	20.70	---
21	21.36	20.77	20.07	19.18	18.43	18.32	18.44	18.69	19.24	19.98	20.75	---
22	21.35	20.70	20.02	19.21	18.48	18.30	18.47	---	19.27	20.01	20.74	---
23	21.38	20.69	19.94	19.17	18.48	18.37	18.40	18.76	19.30	20.04	20.75	19.71
24	21.37	20.71	19.93	19.04	18.34	18.41	18.39	18.77	19.32	20.05	20.79	19.74
25	21.33	20.72	19.84	19.00	18.37	18.45	18.41	18.78	19.33	20.09	20.81	19.73
26	21.34	20.63	19.86	19.07	18.42	18.50	18.46	18.80	19.33	20.11	---	19.73
27	21.26	20.62	19.78	19.06	18.43	18.47	18.46	18.86	19.34	20.11	---	19.72
28	21.33	20.62	19.79	18.90	18.39	18.43	18.51	18.87	19.39	20.11	---	19.71
29	21.35	20.57	19.74	18.84	---	18.41	18.56	18.87	19.44	20.12	---	19.74
30	21.35	20.42	19.71	18.88	---	18.40	18.56	18.89	19.44	20.18	---	19.74
31	21.32	---	19.75	18.85	---	18.41	---	18.92	---	20.19	---	---

WTR YR 1998 MEAN 19.58 HIGH 18.26 LOW 21.63


353146077193403 NC-184
WATER LEVEL, IN FEET BELOW LAND SURFACE
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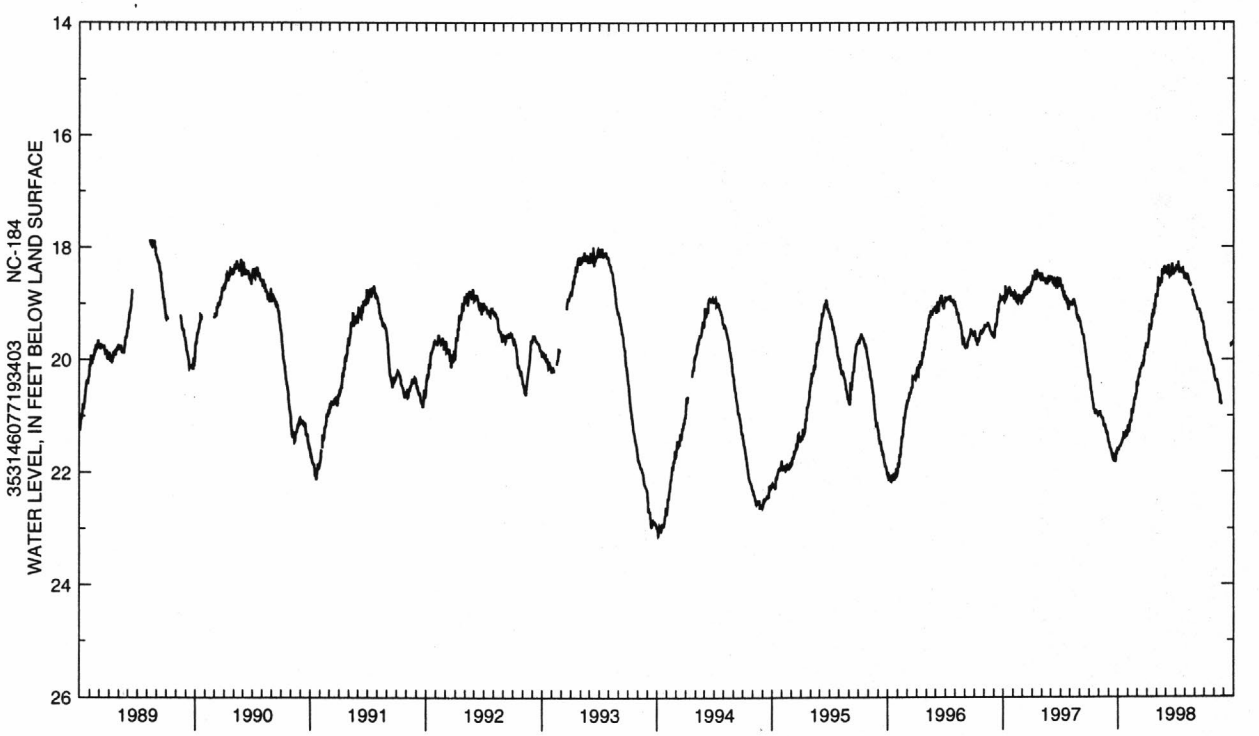
1998


353146077193403 NC-184
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1998

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 SR1124, 0.4 mi south of SR 1125. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Black Creek.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 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. Measuring point: Top of casing, 0.85 ft above land-surface datum.

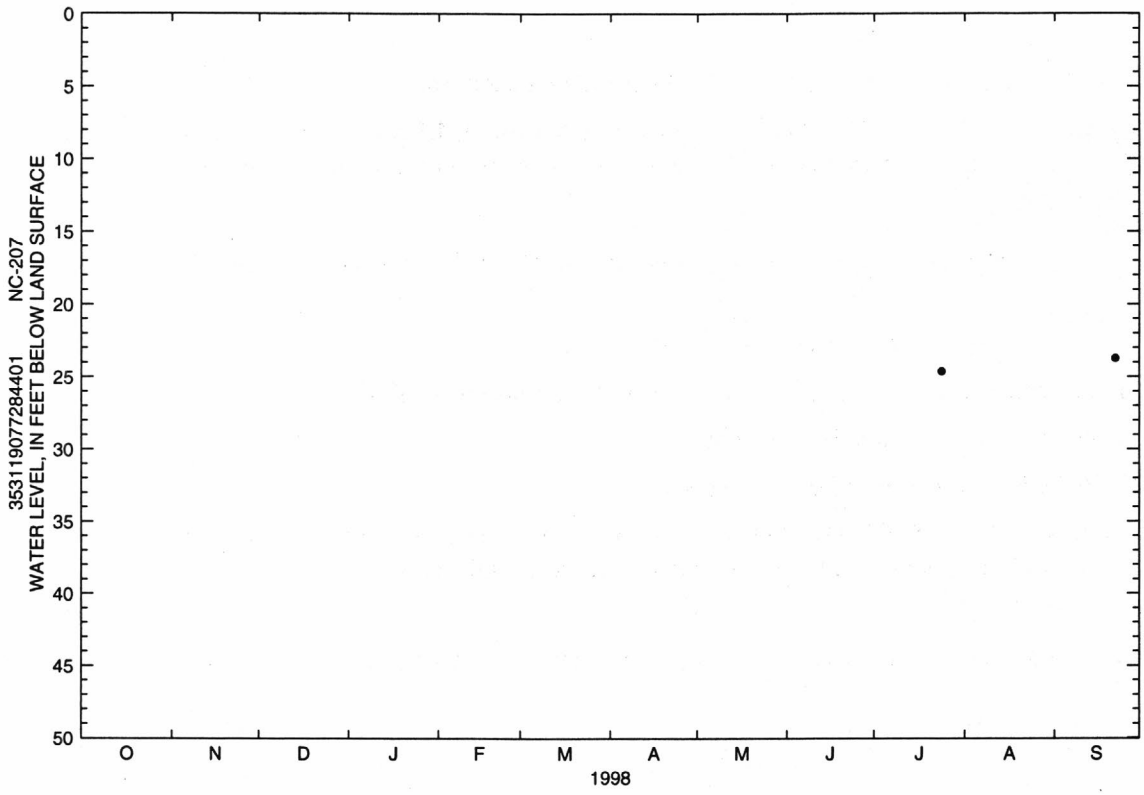
REMARKS.--Well is part of areal-effects network.

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, 24.62 ft below land-surface datum, July 24, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 24	24.62	SEP 22	23.74


NC-207
353119077284401
WATER LEVEL, IN FEET BELOW LAND SURFACE
0
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1998

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, drilled to 468 ft, diameter 6 in., cased to 390 ft and from 395 to 429 ft and 434 to 444 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.

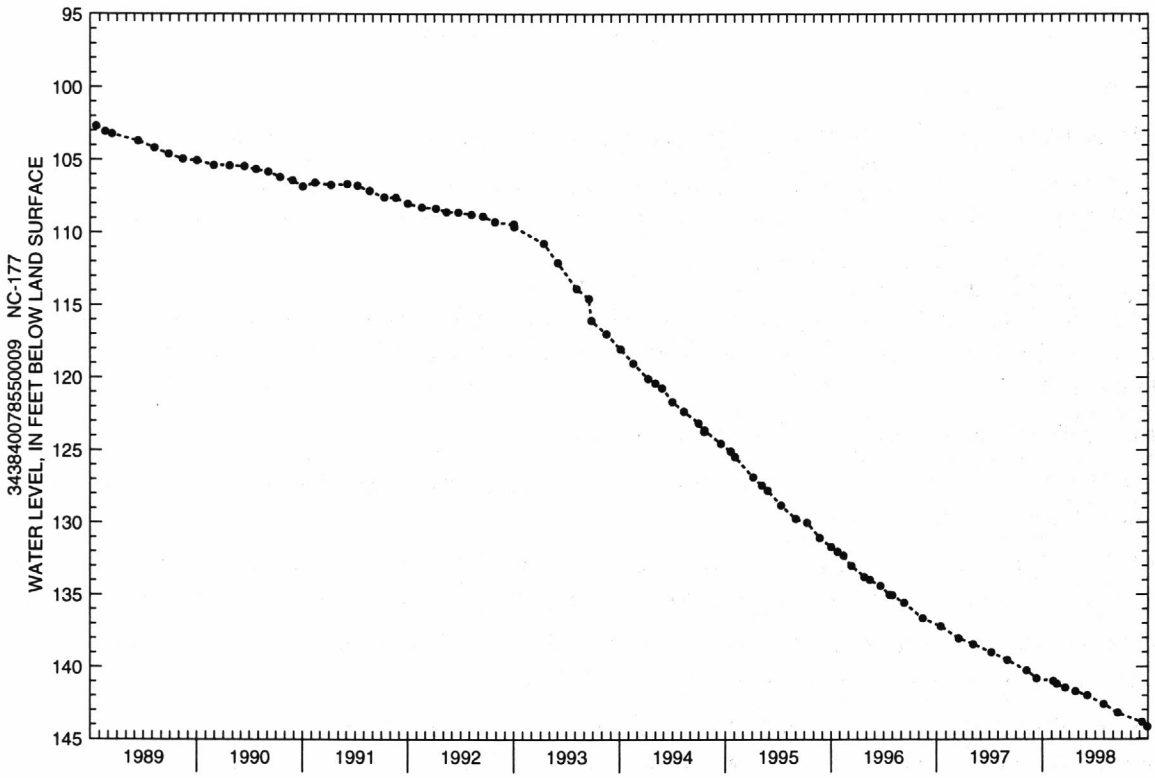
REMARKS.--Well is part of areal-effects network. Records prior to July 1985 are from Littlefield School Research Station well Y42f3 which was adjacent to and of similar construction to well Y42f9. Well Y42f3 was destroyed in September 1987.

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 recorded, 76.40 ft below land-surface datum, Jan. 5, 1971; lowest water level measured, 144.18 ft below land-surface datum, Sept. 28, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 7	141.00	DEC 18	141.47	MAR 4	141.99	JUN 17	143.20	SEP 9	143.84	SEP 28	144.18
NOV 19	141.19	JAN 22	141.70	APR 29	142.58						


343840078550009 NC-177
WATER LEVEL, IN FEET BELOW LAND SURFACE
95
100
105
110
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120
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130
135
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1989
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1997
1998

ROBESON COUNTY--Continued

343156079174702. Local number, Rb-148; DENR Rowland Research Station well Z47m2.

LOCATION.--Lat 34°31'55", long 79°17'47", Hydrologic Unit 03040204, in Rowland, southwest of corner of West Elm and South Railroad Streets. Owner: DENR (North Carolina Department of Environment and Natural Resources).

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

WELL CHARACTERISTICS.--Drilled observation well, depth 263 ft, diameter 4 in to 230 ft and 2.5 in from 205 to 263 ft, cased to 247 ft and from 252 to 258 ft, screened intervals from 247 to 252 ft and 258 to 263 ft.

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

DATUM.--Land-surface datum is 143.15 ft above sea level (levels by DENR). Measuring point: Top of flange attached to floor of instrument shelter, 2.1 ft above land-surface datum (since December 1995).

REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--April 1971 to current year. Continuous record since December 1995. Records from April 1971 to January 1984 are unpublished and available in the files of the Groundwater Section, DENR.

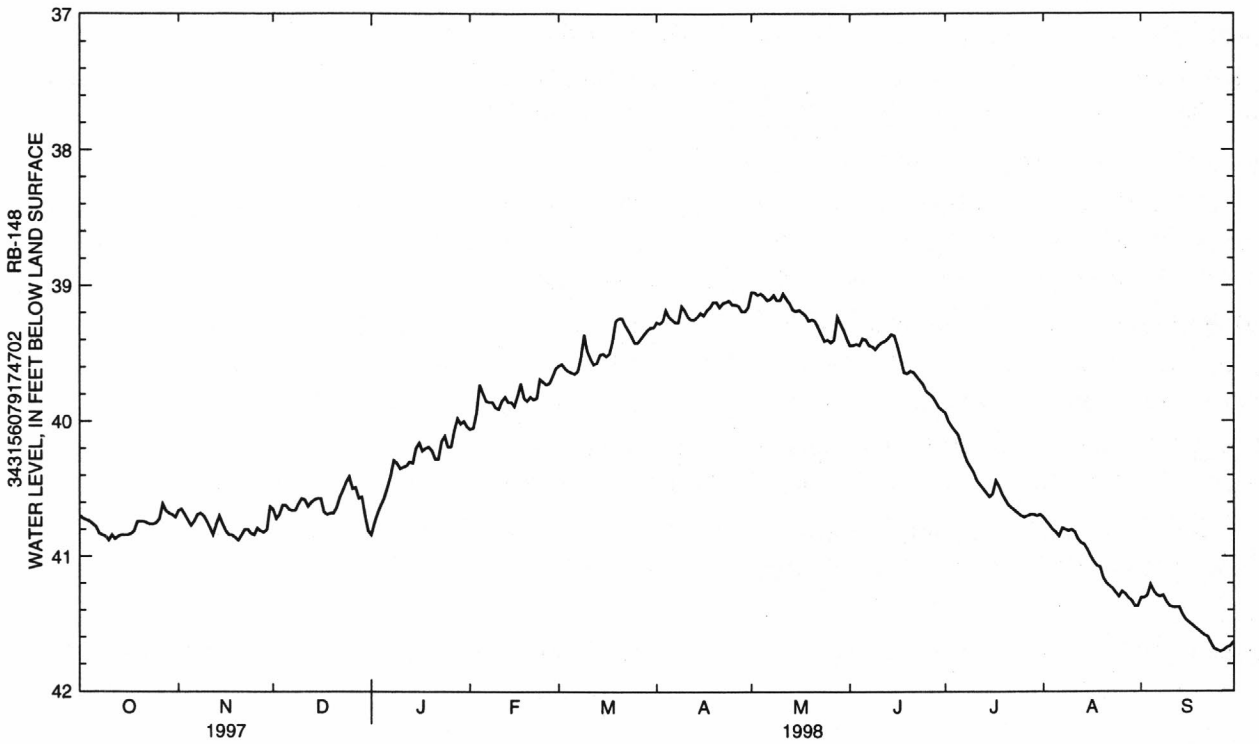
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.80 ft below land-surface datum, Apr. 30, 1971; lowest recorded, 41.72 ft below land-surface datum, Sept. 26, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40.70	40.66	40.65	40.84	40.06	39.59	39.27	39.05	39.44	39.94	40.71	41.31
2	40.72	40.65	40.72	40.75	40.05	39.58	39.28	39.05	39.44	40.00	40.74	41.31
3	40.73	40.69	40.69	40.68	39.94	39.61	39.26	39.07	39.43	40.04	40.77	41.29
4	40.74	40.73	40.62	40.62	39.73	39.63	39.18	39.06	39.44	40.07	40.80	41.21
5	40.76	40.77	40.62	40.57	39.79	39.64	39.23	39.08	39.39	40.10	40.82	41.26
6	40.78	40.74	40.65	40.49	39.85	39.65	39.25	39.11	39.40	40.17	40.85	41.29
7	40.83	40.69	40.66	40.41	39.86	39.63	39.27	39.10	39.44	40.24	40.79	41.30
8	40.84	40.68	40.66	40.29	39.86	39.53	39.27	39.07	39.45	40.30	40.80	41.29
9	40.85	40.70	40.61	40.31	39.90	39.36	39.15	39.11	39.47	40.34	40.81	41.34
10	40.88	40.74	40.57	40.35	39.91	39.48	39.18	39.11	39.44	40.38	40.80	41.37
11	40.84	40.79	40.58	40.34	39.85	39.54	39.23	39.06	39.42	40.44	40.82	41.38
12	40.87	40.84	40.63	40.33	39.82	39.58	39.25	39.10	39.41	40.47	40.87	41.38
13	40.85	40.76	40.60	40.30	39.86	39.57	39.25	39.13	39.39	40.50	40.90	41.38
14	40.84	40.70	40.58	40.31	39.86	39.51	39.23	39.18	39.36	40.53	40.91	41.43
15	40.84	40.76	40.57	40.20	39.89	39.50	39.20	39.19	39.37	40.56	40.95	41.47
16	40.84	40.81	40.57	40.16	39.81	39.52	39.22	39.18	39.45	40.54	41.00	41.49
17	40.83	40.84	40.67	40.22	39.72	39.50	39.18	39.20	39.54	40.44	41.04	41.51
18	40.81	40.84	40.69	40.20	39.83	39.41	39.16	39.22	39.64	40.48	41.07	41.53
19	40.74	40.86	40.68	40.19	39.85	39.26	39.12	39.26	39.65	40.54	41.08	41.55
20	40.74	40.88	40.68	40.22	39.82	39.24	39.12	39.25	39.63	40.58	41.16	41.57
21	40.74	40.84	40.64	40.28	39.84	39.24	39.16	39.26	39.64	40.62	41.20	41.59
22	40.75	40.80	40.56	40.28	39.83	39.29	39.13	39.31	39.67	40.64	41.22	41.60
23	40.76	40.80	40.51	40.15	39.69	39.33	39.12	39.36	39.70	40.66	41.24	41.65
24	40.76	40.83	40.45	40.11	39.71	39.37	39.11	39.41	39.73	40.68	41.27	41.69
25	40.75	40.84	40.41	40.19	39.73	39.42	39.14	39.40	39.78	40.70	41.30	41.70
26	40.72	40.79	40.50	40.19	39.72	39.42	39.14	39.42	39.80	40.71	41.26	41.71
27	40.61	40.81	40.49	40.07	39.67	39.39	39.15	39.40	39.82	40.70	41.28	41.70
28	40.66	40.82	40.57	39.98	39.61	39.36	39.19	39.23	39.86	40.69	41.31	41.68
29	40.68	40.80	40.56	40.02	---	39.33	39.19	39.28	39.90	40.69	41.33	41.67
30	40.69	40.63	40.70	40.00	---	39.31	39.16	39.33	39.92	40.70	41.37	41.64
31	40.71	---	40.81	40.04	---	39.31	---	39.39	---	40.69	41.37	---

WTR YR 1998 MEAN 40.22 HIGH 39.05 LOW 41.71


343156079174702 RB-148
WATER LEVEL, IN FEET BELOW LAND SURFACE
37
38
39
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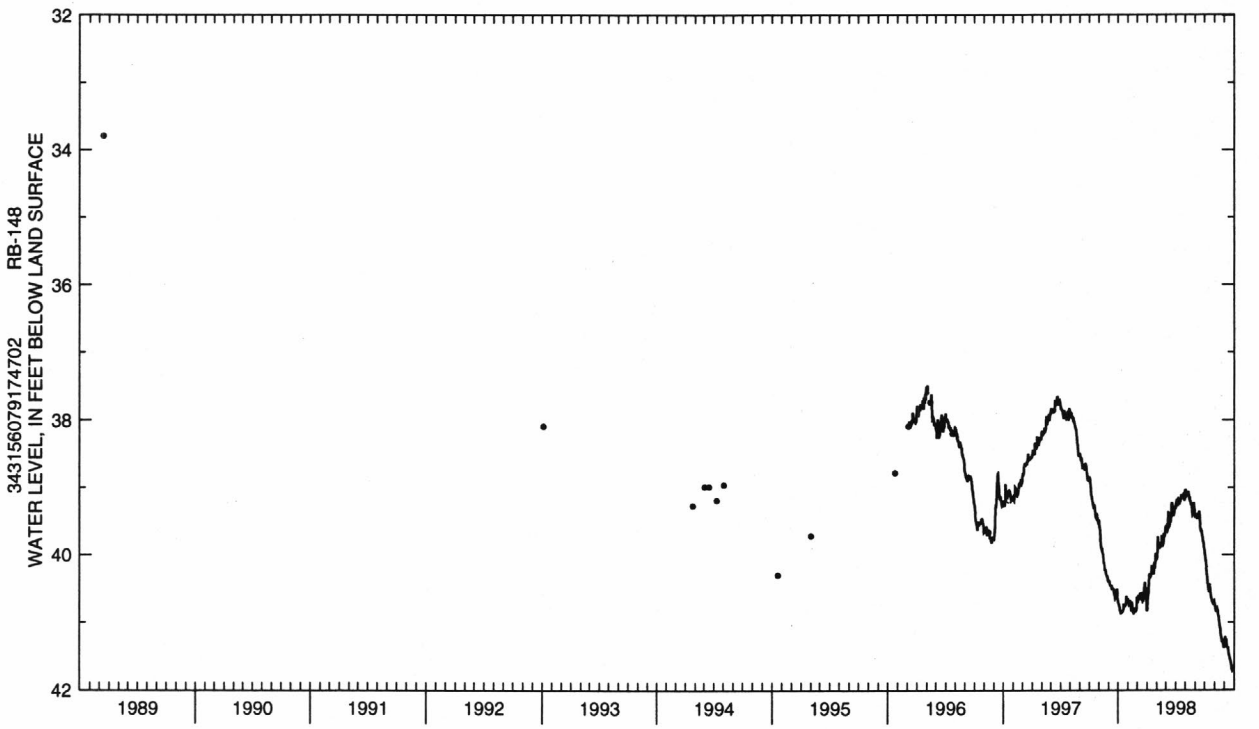
41
42
O
N
D
J
F
M
A
M
J
J
A
S
1997
1998


343156079174702 RB-148
WATER LEVEL, IN FEET BELOW LAND SURFACE
32
34
36
38
40
42
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

ROBESON COUNTY--Continued

343840078550010. Local number, Rb-184; DENR Littlefield School Research Station well Y42f10.

LOCATION.--Lat 34°38'40", long 78°54'58", Hydrologic Unit 03040203, 4 mi east of Lumberton on State Highway 41 at Littlefield School. Owner: DENR (North Carolina Department of Environment and Natural Resources).

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

WELL CHARACTERISTICS.--Drilled observation well, depth 330 ft, diameter 6 in. to 258 ft and 4 in. from 258 to 330 ft, cased to 300 ft and from 305 to 310 ft, 315 to 320 ft, and 325 to 330 ft, screened intervals from 300 to 305 ft, 310 to 315 ft, and 320 to 325 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 141 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 2.28 ft above land-surface datum.

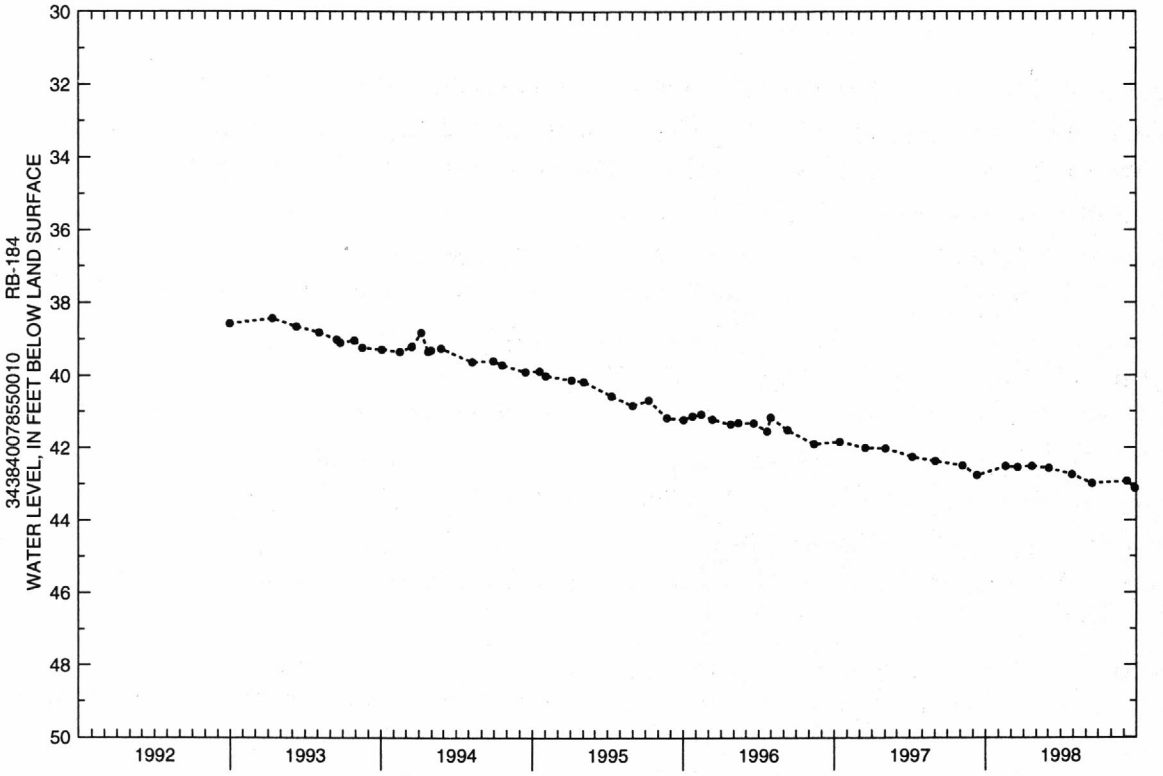
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 32.48 ft below land-surface datum, Aug. 18, 1981; lowest measured, 43.12 ft below land-surface datum, Sept. 28, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 19	42.51	JAN 22	42.51	APR 29	42.74	JUN 17	42.99	SEP 9	42.93	SEP 28	43.12
DEC 18	42.54	MAR 4	42.56								


343840078550010 RB-184
WATER LEVEL, IN FEET BELOW LAND SURFACE
30
32
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36
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42
44
46
48
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1992
1993
1994
1995
1996
1997
1998

ROBESON COUNTY--Continued

343840078550011. Local number, Rb-185; DENR Littlefield School Research Station well Y42f11.

LOCATION.--Lat 34°38'39", long 78°54'59", Hydrologic Unit 03040203, 4 mi east of Lumberton on State Highway 41 at Littlefield School. Owner: DENR (North Carolina Department of Environment and Natural Resources).

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

WELL CHARACTERISTICS.--Drilled observation well, depth 155 ft, diameter 6 in to 150 ft and 4 in from 150 to 155 ft, cased to 140 ft and from 145 to 150 ft, screened intervals from 140 to 145 ft and 150 to 155 ft.

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

DATUM.--Land-surface datum is 142 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 1.05 ft above land-surface datum.

REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--August 1981 to current year. Continuous record since March 1993.

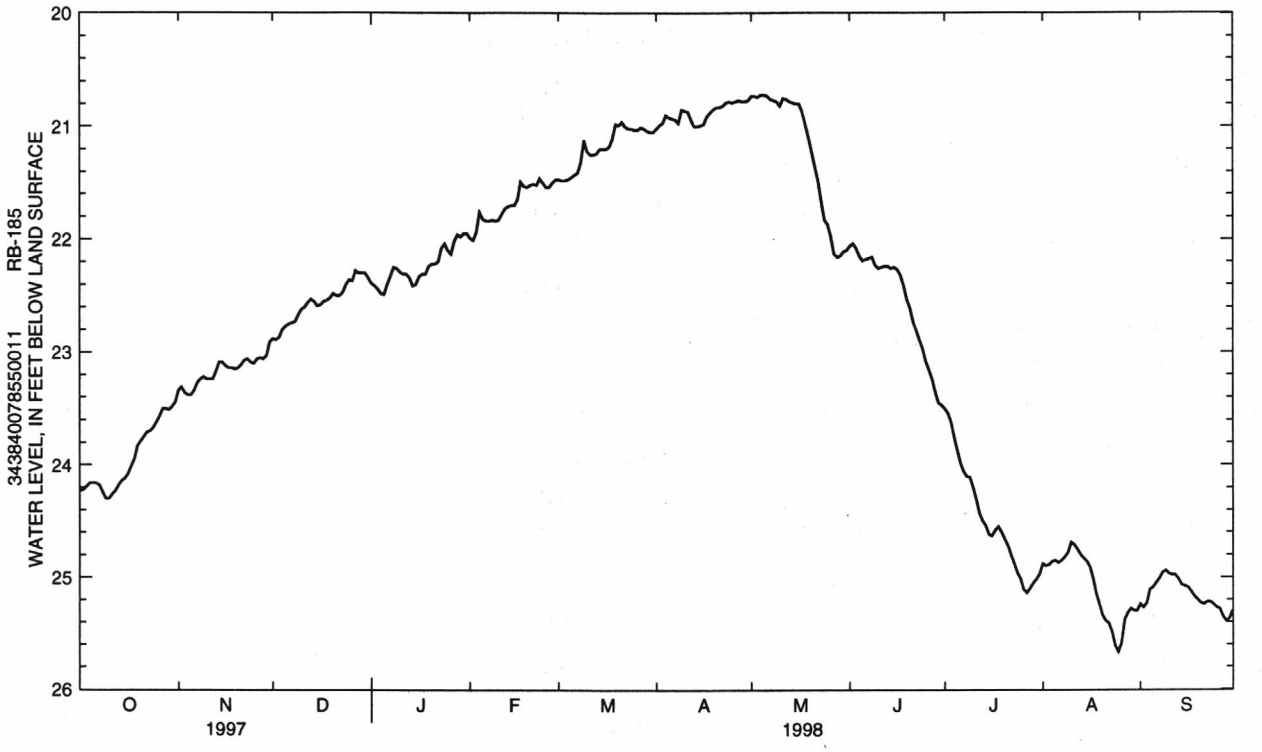
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 20.41 ft below land-surface datum, Feb. 28 and Mar. 1, 1997; lowest, 37.36 ft below land-surface datum, May 27 and 28, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.23	23.34	22.88	22.39	21.99	21.47	21.02	20.73	22.06	23.50	24.88	25.24
2	24.22	23.31	22.89	22.41	22.01	21.48	20.99	20.73	22.04	23.54	24.90	25.27
3	24.19	23.36	22.87	22.44	21.94	21.48	20.97	20.74	22.08	23.62	24.89	25.23
4	24.16	23.38	22.80	22.48	21.76	21.47	20.90	20.72	22.15	23.75	24.86	25.11
5	24.16	23.38	22.77	22.49	21.82	21.45	20.92	20.72	22.19	23.87	24.85	25.09
6	24.16	23.34	22.75	22.40	21.84	21.43	20.93	20.73	22.18	23.98	24.87	25.05
7	24.18	23.27	22.74	22.33	21.84	21.41	20.94	20.76	22.17	24.06	24.85	25.01
8	24.24	23.24	22.73	22.25	21.83	21.32	20.97	20.77	22.16	24.10	24.82	24.96
9	24.30	23.22	22.67	22.26	21.84	21.12	20.85	20.78	22.23	24.11	24.78	24.94
10	24.30	23.24	22.62	22.29	21.83	21.22	20.86	20.82	22.26	24.20	24.69	24.97
11	24.26	23.24	22.60	22.31	21.78	21.25	20.87	20.75	22.25	24.31	24.71	24.98
12	24.23	23.24	22.56	22.31	21.73	21.25	20.94	20.76	22.24	24.43	24.75	24.98
13	24.18	23.17	22.53	22.34	21.71	21.24	21.00	20.78	22.24	24.50	24.80	25.02
14	24.14	23.09	22.55	22.41	21.70	21.20	21.00	20.79	22.26	24.54	24.83	25.07
15	24.12	23.09	22.59	22.40	21.70	21.20	20.99	20.80	22.25	24.62	24.86	25.08
16	24.08	23.12	22.58	22.33	21.65	21.20	20.98	20.80	22.27	24.63	24.91	25.09
17	24.01	23.14	22.55	22.31	21.49	21.18	20.91	20.87	22.32	24.58	25.02	25.13
18	23.95	23.14	22.54	22.31	21.53	21.11	20.88	20.98	22.41	24.55	25.15	25.17
19	23.83	23.15	22.52	22.24	21.54	20.98	20.85	21.09	22.53	24.60	25.25	25.20
20	23.79	23.14	22.48	22.22	21.52	20.99	20.83	21.22	22.61	24.66	25.34	25.23
21	23.75	23.11	22.50	22.22	21.51	20.96	20.83	21.35	22.73	24.72	25.39	25.24
22	23.71	23.07	22.50	22.20	21.52	21.00	20.82	21.48	22.81	24.80	25.41	25.22
23	23.70	23.06	22.47	22.08	21.46	21.02	20.79	21.66	22.89	24.88	25.49	25.22
24	23.67	23.09	22.40	22.04	21.50	21.02	20.78	21.83	22.97	24.96	25.61	25.24
25	23.62	23.10	22.36	22.10	21.54	21.03	20.79	21.87	23.08	25.02	25.67	25.27
26	23.57	23.06	22.37	22.13	21.54	21.03	20.78	21.98	23.16	25.11	25.59	25.28
27	23.50	23.05	22.28	22.02	21.50	21.01	20.77	22.13	23.24	25.14	25.38	25.35
28	23.50	23.06	22.30	21.96	21.47	21.02	20.78	22.16	23.36	25.10	25.32	25.39
29	23.51	23.03	22.30	21.98	---	21.04	20.78	22.15	23.45	25.05	25.28	25.37
30	23.48	22.91	22.30	21.95	---	21.05	20.77	22.11	23.47	25.02	25.30	25.30
31	23.44	---	22.34	21.95	---	21.05	---	22.10	---	24.97	25.30	---

WTR YR 1998 MEAN 22.85 HIGH 20.72 LOW 25.67


343840078550011 RB-185
WATER LEVEL, IN FEET BELOW LAND SURFACE
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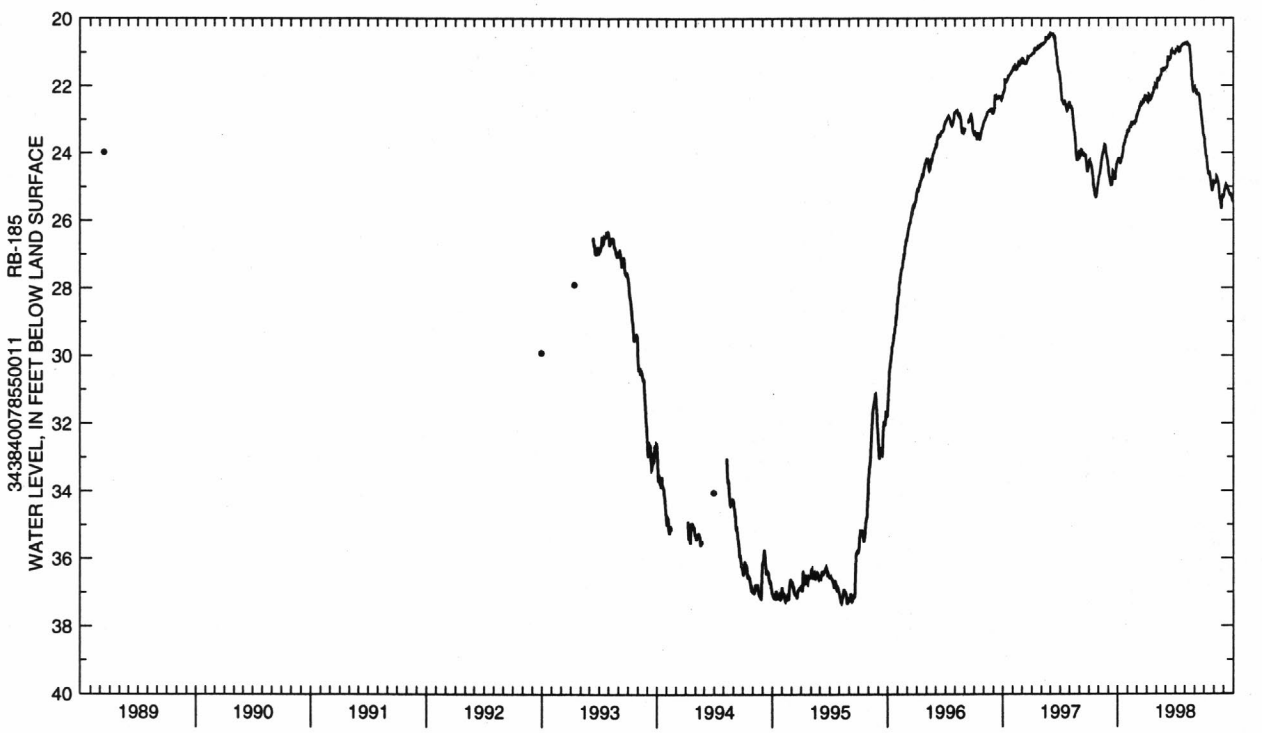
343840078550011 RB-185
WATER LEVEL, IN FEET BELOW LAND SURFACE
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ROBESON COUNTY--Continued

342620078581801. Local number, Rb-188; DENR Boardman Research Station well AA43q1.

LOCATION.--Lat 34°26'22", long 78°58'19", Hydrologic Unit 03040203, west of Boardman, 0.6 mi southwest of U.S. Highway 74 on Secondary Road 2245. 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 497 ft, diameter 4 in. to 220 ft and 2.5 in. from 214 to 497 ft, cased to 445 ft and from 455 to 497 ft, screened interval from 445 to 455 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 80.46 ft above sea level (levels by DENR). Measuring point: Top of collar on 4-inch casing, 4.46 ft above land-surface datum.

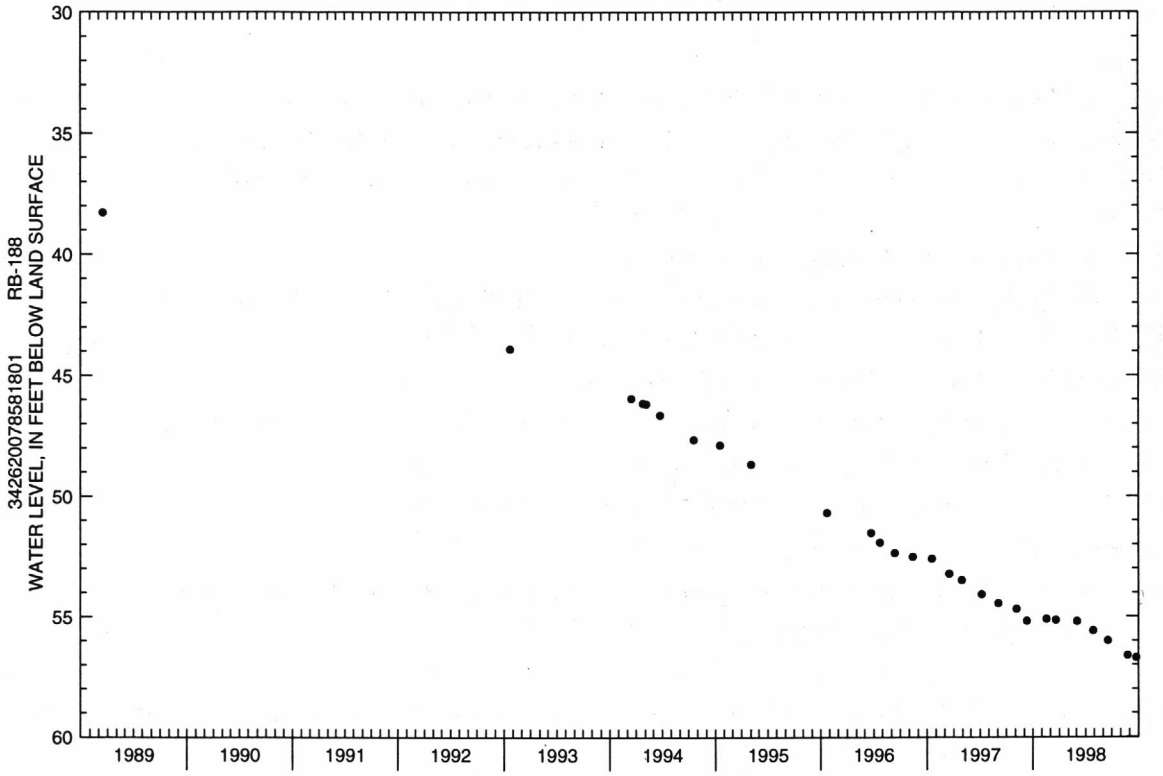
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.75 ft below land-surface datum, Aug. 18, 1981; lowest measured, 56.70 ft below land-surface datum, Sept. 25, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	55.10	MAR 2	55.20	APR 28	55.58	JUN 18	55.99	AUG 25	56.61	SEP 25	56.70
DEC 19	55.14										


342620078581801 RB-188
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1997
1998

ROBESON COUNTY--Continued

343800079015201. Local number, Rb-202.

LOCATION.--Lat 34°37'58", long 79°01'57", Hydrologic Unit 03040203, in Lumberton off Carthage Road at McMillan's Beach City Park. Owner: City of Lumberton.

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

WELL CHARACTERISTICS.--Drilled monitoring well, depth 98 ft, diameter 2.4 in., cased to 45.4 ft, screened interval from 45.4 to 98 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 105 ft above sea level (from topographic map). Measuring point: Top of 2.4-inch casing, 1.45 ft above land-surface datum.

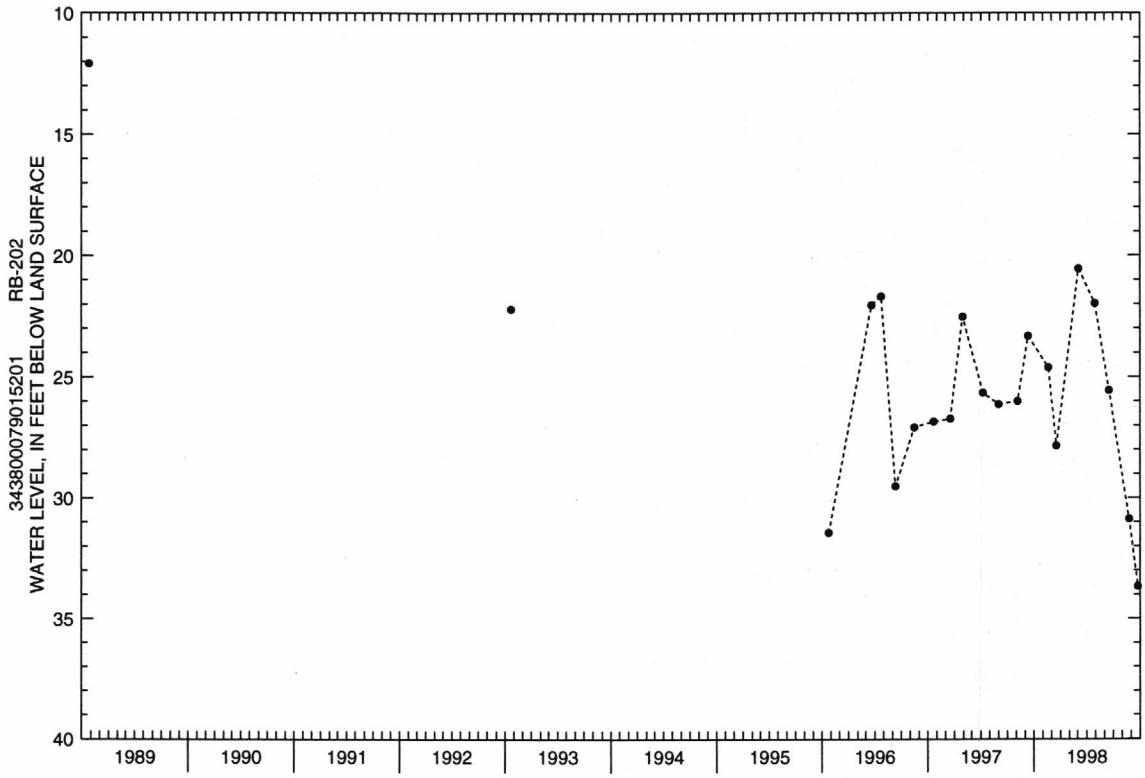
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--October 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.07 ft below land-surface datum, Oct. 25, 1988; lowest measured, 33.66 ft below land-surface datum, Sept. 25, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	24.61	MAR 4	20.54	APR 29	21.97	JUN 17	25.55	AUG 25	30.87	SEP 25	33.66
DEC 18	27.84										


RB-202
343800079015201
WATER LEVEL, IN FEET BELOW LAND SURFACE
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ROBESON COUNTY--Continued

344621079192401. Local number, Rb-264.

LOCATION.--Lat 34°46'21", long 79°19'24", Hydrologic Unit 03040203, 2.4 mi northeast of Maxton on State Highway 71 at Campbell Soup Company. Owner: Campbell Soup Company.

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

WELL CHARACTERISTICS.--Drilled well, measured depth 84.3 ft, diameter 4 in, cased to 59 ft, screened interval from 59 to 79 ft.

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

DATUM.--Land-surface datum is 195 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 1.37 ft above land-surface datum (since August 1996).

REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--December 1993 to current year. Continuous record since August 1996.

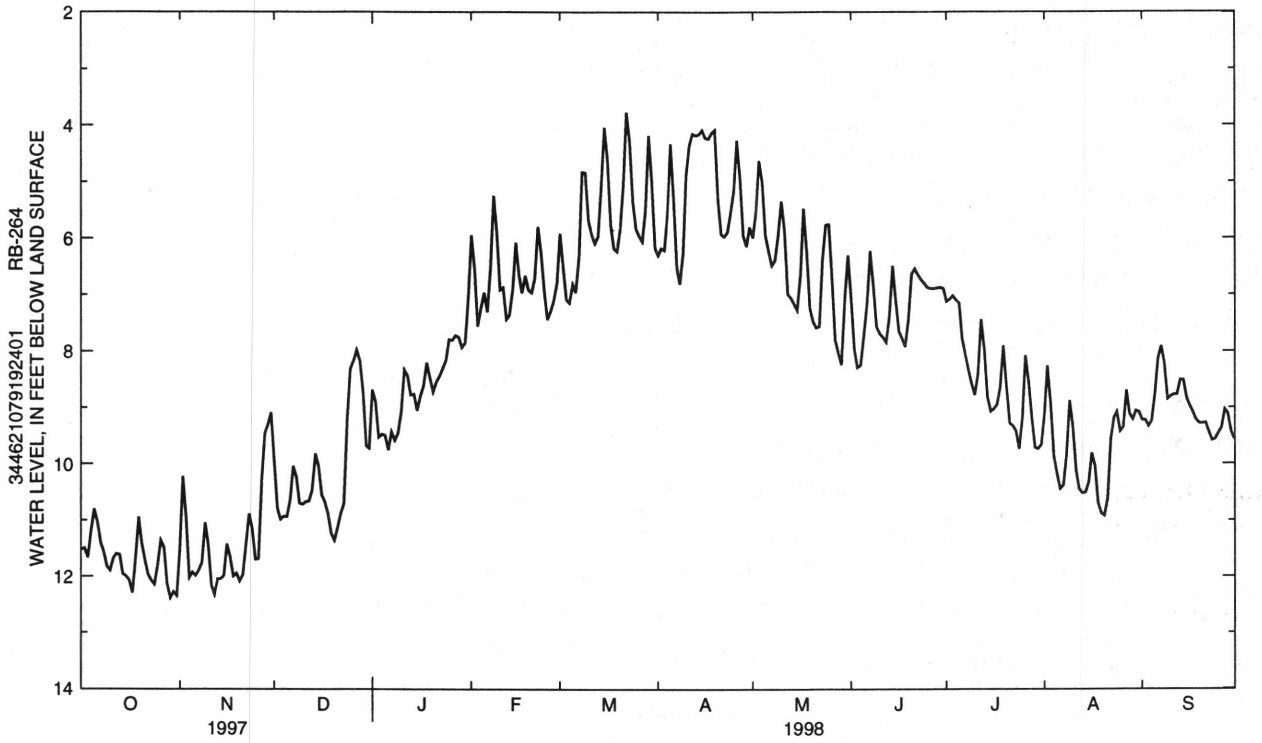
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 3.55 ft below land-surface datum, Mar. 22, 1998; lowest recorded, 12.54 ft below land-surface datum, Oct. 29, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.52	11.51	9.96	8.69	5.95	5.92	6.30	5.99	7.05	7.12	9.13	9.22
2	11.50	10.22	10.79	8.91	6.55	6.50	6.18	5.56	7.96	7.08	8.26	9.22
3	11.67	10.97	10.99	9.53	7.55	7.08	6.21	4.63	8.29	7.02	8.94	9.33
4	11.21	12.03	10.93	9.47	7.23	7.14	5.58	5.01	8.25	7.09	9.86	9.24
5	10.80	11.93	10.94	9.49	6.96	6.81	4.33	5.95	7.73	7.15	10.18	8.76
6	11.02	11.99	10.65	9.75	7.30	6.95	5.26	6.23	7.14	7.78	10.44	8.14
7	11.40	11.89	10.04	9.43	6.54	6.32	6.52	6.48	6.23	8.07	10.38	7.91
8	11.57	11.76	10.24	9.58	5.25	4.83	6.80	6.39	6.86	8.33	9.84	8.21
9	11.83	11.05	10.70	9.46	5.89	4.84	6.26	5.97	7.56	8.58	8.88	8.85
10	11.90	11.44	10.72	9.07	6.91	5.69	4.87	5.35	7.69	8.78	9.32	8.80
11	11.68	12.17	10.67	8.33	6.87	5.94	4.35	5.85	7.75	8.41	10.12	8.77
12	11.60	12.33	10.66	8.44	7.43	6.09	4.15	6.99	7.84	7.44	10.45	8.77
13	11.62	12.05	10.46	8.78	7.36	5.97	4.18	7.05	7.39	7.97	10.52	8.51
14	11.96	12.05	9.82	8.76	6.90	5.11	4.16	7.16	6.49	8.81	10.51	8.51
15	12.00	11.99	10.03	9.05	6.08	4.04	4.08	7.27	7.09	9.07	10.33	8.84
16	12.07	11.43	10.55	8.80	6.64	4.59	4.22	6.65	7.65	9.03	9.81	8.97
17	12.30	11.66	10.67	8.62	6.96	5.77	4.24	5.48	7.77	8.95	10.04	9.09
18	11.71	12.00	10.89	8.21	6.66	6.18	4.14	6.27	7.92	8.65	10.70	9.22
19	10.95	11.95	11.23	8.46	6.91	6.23	4.08	7.24	7.44	7.90	10.88	9.28
20	11.41	12.09	11.36	8.72	6.96	5.85	5.29	7.48	6.63	8.62	10.92	9.28
21	11.72	11.98	11.14	8.55	6.71	5.05	5.93	7.58	6.54	9.28	10.61	9.27
22	11.97	11.46	10.88	8.44	5.80	3.77	5.97	7.56	6.65	9.32	9.56	9.43
23	12.08	10.89	10.71	8.31	6.25	4.29	5.90	6.39	6.73	9.42	9.18	9.58
24	12.15	11.15	9.21	8.16	6.94	5.35	5.57	5.77	6.80	9.73	9.08	9.56
25	11.80	11.70	8.32	7.79	7.43	5.84	5.17	5.76	6.87	9.19	9.42	9.45
26	11.36	11.69	8.17	7.80	7.29	5.96	4.27	6.73	6.89	8.08	9.35	9.36
27	11.49	10.26	7.98	7.72	7.10	6.06	4.96	7.79	6.89	8.55	8.70	9.04
28	12.14	9.46	8.18	7.75	6.79	5.52	5.96	8.04	6.88	9.18	9.11	9.11
29	12.39	9.29	8.71	7.93	---	4.18	6.14	8.24	6.87	9.71	9.21	9.43
30	12.28	9.09	9.68	7.85	---	4.99	5.81	7.05	6.89	9.73	9.06	9.56
31	12.35	---	9.72	7.04	---	6.18	---	6.31	---	9.66	9.08	---

WTR YR 1998 MEAN 8.39 HIGH 3.77 LOW 12.39


344621079192401 RB-264
WATER LEVEL, IN FEET BELOW LAND SURFACE
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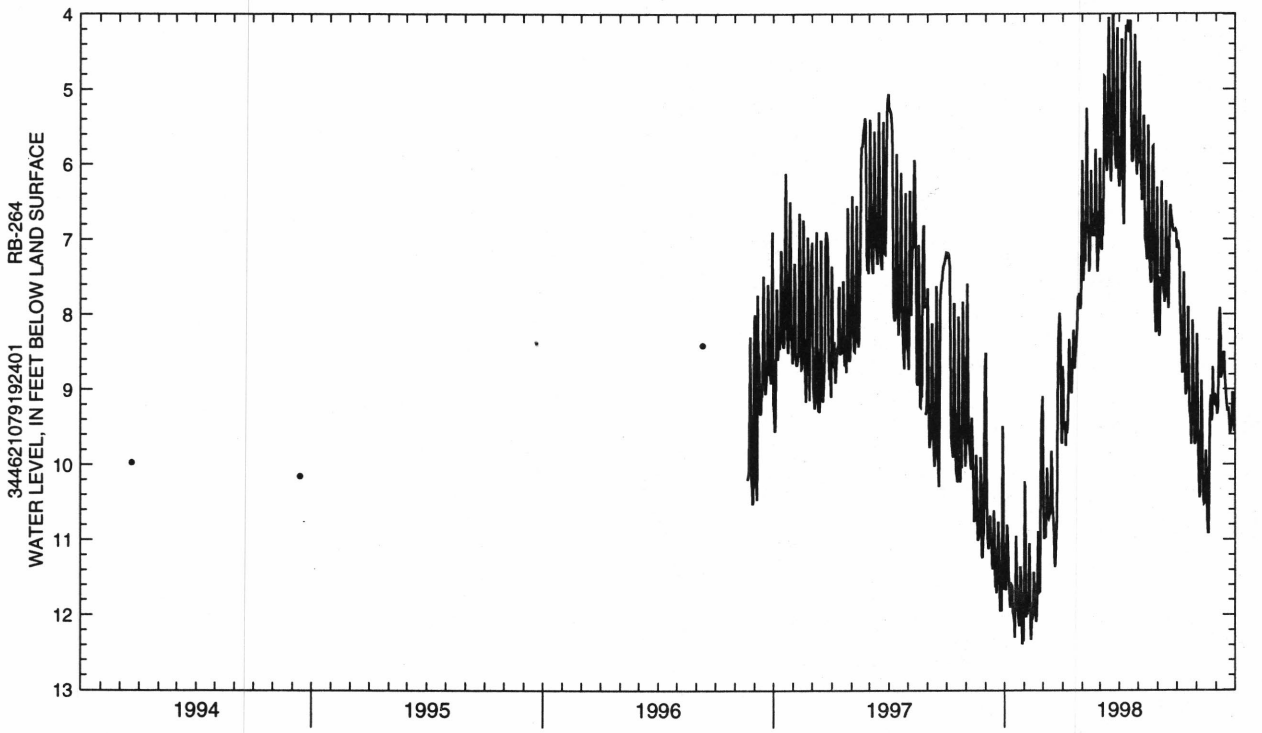
344621079192401 RB-264
WATER LEVEL, IN FEET BELOW LAND SURFACE
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ROWAN COUNTY

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.--Satellite telemetry with a 60-minute recording interval.

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.

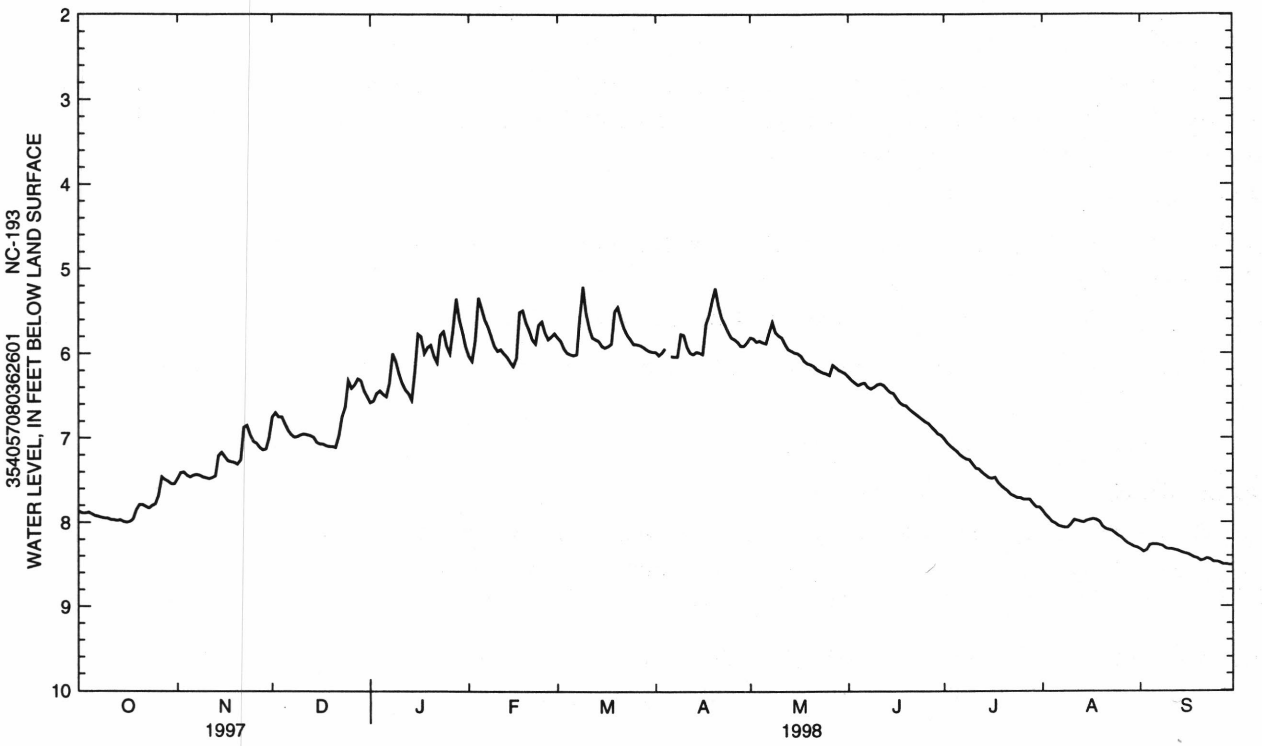
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.97 ft below land-surface datum, Mar. 30, 1993; lowest water level recorded, 8.51 ft below land-surface datum, Sept. 29, 30, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.87	7.48	6.75	6.58	6.03	5.81	5.98	5.81	6.28	7.01	7.86	8.32
2	7.89	7.41	6.70	6.56	6.09	5.85	6.02	5.82	6.32	7.06	7.91	8.35
3	7.89	7.40	6.75	6.47	5.85	5.94	5.99	5.86	6.35	7.10	7.95	8.33
4	7.88	7.44	6.75	6.44	5.34	5.99	5.94	5.85	6.38	7.13	7.99	8.27
5	7.90	7.46	6.83	6.48	5.46	6.01	---	5.87	6.36	7.16	8.01	8.26
6	7.92	7.44	6.91	6.51	5.60	6.02	6.03	5.88	6.35	7.20	8.04	8.26
7	7.93	7.43	6.96	6.35	5.68	6.01	6.04	5.75	6.40	7.23	8.05	8.27
8	7.94	7.44	6.99	6.00	5.80	5.58	6.04	5.63	6.42	7.25	8.06	8.28
9	7.95	7.46	6.98	6.09	5.91	5.21	5.77	5.75	6.40	7.26	8.06	8.31
10	7.95	7.47	6.96	6.24	5.97	5.52	5.78	5.79	6.37	7.31	8.02	8.32
11	7.97	7.48	6.95	6.35	5.95	5.70	5.92	5.81	6.36	7.36	7.97	8.32
12	7.97	7.47	6.96	6.43	6.00	5.81	5.99	5.89	6.38	7.37	7.98	8.33
13	7.98	7.45	6.97	6.47	6.04	5.83	6.01	5.95	6.42	7.41	7.99	8.34
14	7.97	7.21	6.99	6.55	6.10	5.85	5.98	5.97	6.46	7.44	8.00	8.36
15	7.99	7.17	7.05	6.22	6.15	5.91	5.99	5.99	6.47	7.47	7.98	8.37
16	8.00	7.22	7.07	5.77	6.05	5.93	6.01	6.00	6.53	7.48	7.97	8.38
17	7.99	7.27	7.07	5.80	5.51	5.91	5.65	6.03	6.58	7.47	7.96	8.40
18	7.96	7.28	7.09	6.00	5.49	5.88	5.55	6.09	6.61	7.53	7.97	8.42
19	7.85	7.29	7.10	5.93	5.63	5.50	5.37	6.12	6.62	7.57	7.99	8.43
20	7.79	7.31	7.10	5.90	5.72	5.45	5.23	6.13	6.66	7.60	8.05	8.46
21	7.79	7.26	7.11	6.03	5.83	5.59	5.44	6.15	6.69	7.63	8.08	8.45
22	7.81	6.87	6.97	6.11	5.88	5.70	5.58	6.19	6.72	7.67	8.09	8.43
23	7.83	6.85	6.75	5.78	5.66	5.78	5.66	6.21	6.75	7.69	8.10	8.44
24	7.80	6.96	6.63	5.74	5.62	5.83	5.74	6.23	6.78	7.71	8.13	8.47
25	7.78	7.04	6.32	5.91	5.75	5.89	5.81	6.24	6.81	7.71	8.16	8.47
26	7.68	7.06	6.41	6.00	5.83	5.89	5.83	6.26	6.83	7.73	8.18	8.48
27	7.46	7.11	6.37	5.72	5.80	5.90	5.86	6.14	6.87	7.73	8.22	8.50
28	7.49	7.14	6.30	5.35	5.76	5.92	5.91	6.17	6.91	7.73	8.25	8.50
29	7.51	7.13	6.32	5.59	---	5.95	5.91	6.20	6.95	7.78	8.27	8.51
30	7.54	6.99	6.44	5.75	---	5.97	5.87	6.22	6.97	7.82	8.29	8.51
31	7.54	---	6.51	5.92	---	5.98	---	6.24	---	7.82	8.30	---

WTR YR 1998 MEAN 6.84 HIGH 5.21 LOW 8.51


354057080362601 NC-193
WATER LEVEL, IN FEET BELOW LAND SURFACE
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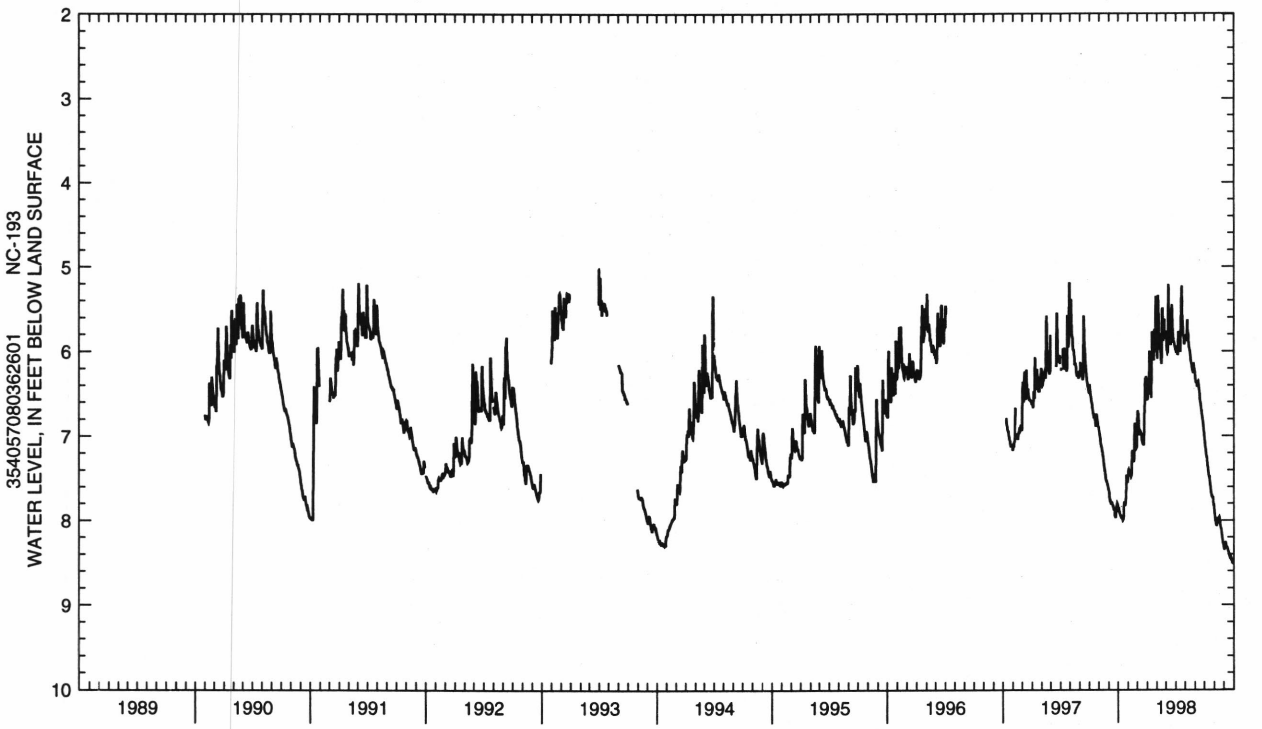
354057080362601 NC-193
WATER LEVEL, IN FEET BELOW LAND SURFACE
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SCOTLAND COUNTY

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.

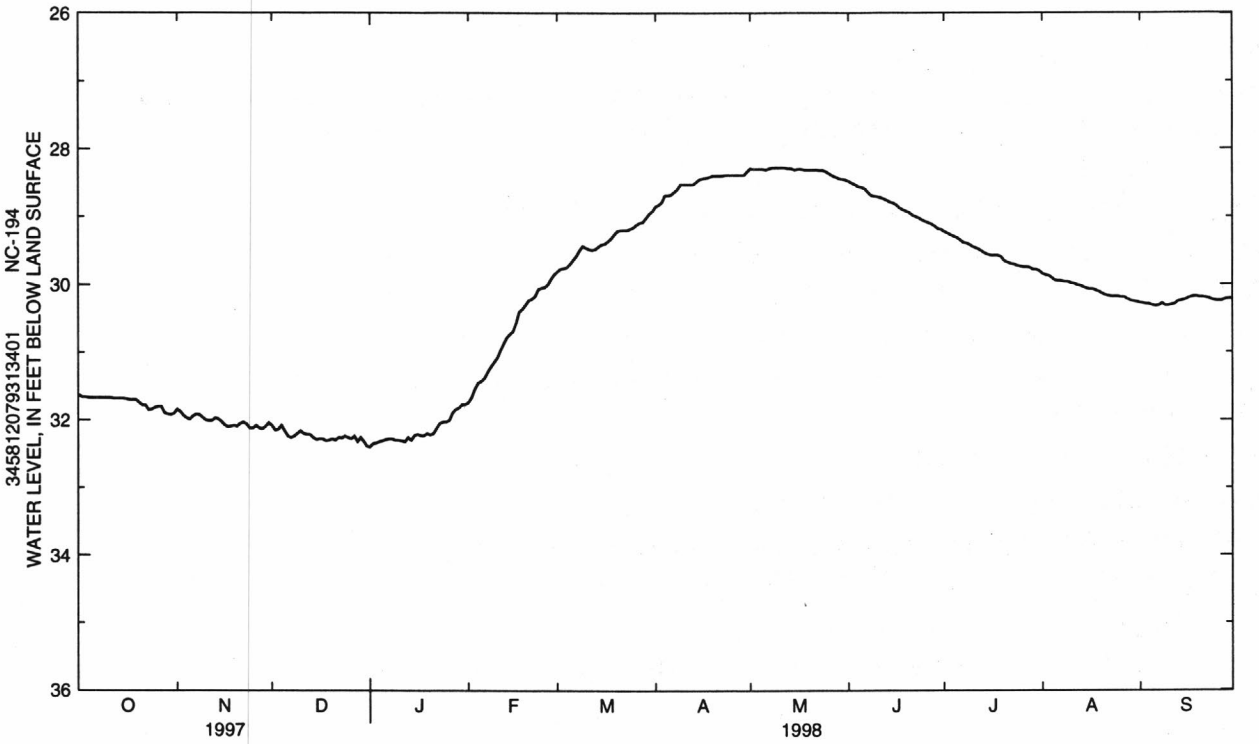
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 28.28 ft below land-surface datum, May 7-12, 1998; lowest water level recorded, 33.08 ft below land-surface datum, Mar. 24, 1992 and Feb. 27, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.63	31.84	32.08	32.40	31.74	29.81	28.85	28.29	28.48	29.22	29.84	30.27
2	31.66	31.87	32.15	32.35	31.66	29.77	28.83	28.30	28.51	29.24	29.86	30.28
3	31.66	31.93	32.14	32.34	31.54	29.76	28.79	28.30	28.53	29.27	29.87	30.29
4	31.67	31.97	32.08	32.32	31.45	29.75	28.69	28.30	28.56	29.29	29.90	30.29
5	31.67	31.99	32.16	32.31	31.43	29.70	28.69	28.30	28.57	29.31	29.94	30.31
6	31.67	31.94	32.24	32.29	31.38	29.64	28.68	28.31	28.59	29.34	29.95	30.32
7	31.67	31.91	32.26	32.28	31.29	29.58	28.64	28.29	28.64	29.38	29.95	30.31
8	31.67	31.92	32.24	32.28	31.21	29.50	28.60	28.28	28.69	29.39	29.96	30.28
9	31.67	31.96	32.20	32.30	31.15	29.43	28.53	28.28	28.70	29.41	29.96	30.31
10	31.67	32.00	32.16	32.30	31.08	29.46	28.53	28.28	28.71	29.44	29.98	30.31
11	31.67	32.01	32.20	32.31	30.97	29.48	28.53	28.28	28.72	29.46	29.99	30.30
12	31.68	32.01	32.21	32.32	30.87	29.49	28.53	28.28	28.74	29.48	30.01	30.29
13	31.68	31.97	32.21	32.26	30.78	29.48	28.53	28.29	28.76	29.51	30.02	30.25
14	31.68	31.98	32.26	32.30	30.73	29.44	28.49	28.29	28.79	29.54	30.04	30.24
15	31.68	32.02	32.29	32.23	30.69	29.41	28.45	28.31	28.80	29.56	30.06	30.23
16	31.69	32.07	32.28	32.21	30.56	29.40	28.44	28.30	28.83	29.57	30.07	30.21
17	31.70	32.10	32.28	32.23	30.40	29.36	28.43	28.30	28.87	29.57	30.07	30.19
18	31.70	32.09	32.31	32.23	30.36	29.32	28.42	28.31	28.90	29.57	30.09	30.18
19	31.70	32.08	32.30	32.20	30.30	29.26	28.40	28.31	28.92	29.59	30.11	30.18
20	31.74	32.09	32.28	32.22	30.23	29.21	28.40	28.31	28.94	29.65	30.14	30.19
21	31.78	32.05	32.30	32.20	30.21	29.20	28.40	28.31	28.98	29.67	30.16	30.19
22	31.78	32.03	32.26	32.12	30.17	29.20	28.40	28.31	29.00	29.69	30.17	30.20
23	31.85	32.06	32.27	32.05	30.07	29.20	28.39	28.32	29.02	29.70	30.18	30.21
24	31.84	32.12	32.24	32.03	30.05	29.18	28.39	28.32	29.05	29.72	30.18	30.23
25	31.81	32.12	32.26	32.03	30.04	29.16	28.39	28.34	29.07	29.73	30.18	30.24
26	31.80	32.08	32.28	32.00	30.00	29.12	28.39	28.37	29.09	29.74	30.19	30.24
27	31.80	32.12	32.24	31.89	29.92	29.09	28.39	28.40	29.11	29.74	30.19	30.24
28	31.89	32.13	32.32	31.84	29.85	29.08	28.39	28.42	29.14	29.75	30.22	30.22
29	31.91	32.09	32.26	31.82	---	29.02	28.39	28.44	29.18	29.78	30.24	30.21
30	31.92	32.04	32.32	31.77	---	28.96	28.34	28.45	29.19	29.78	30.25	30.21
31	31.90	---	32.39	31.77	---	28.92	---	28.46	---	29.80	30.26	---

WTR YR 1998 MEAN 30.32 HIGH 28.28 LOW 32.40


345812079313401 NC-194
WATER LEVEL, IN FEET BELOW LAND SURFACE
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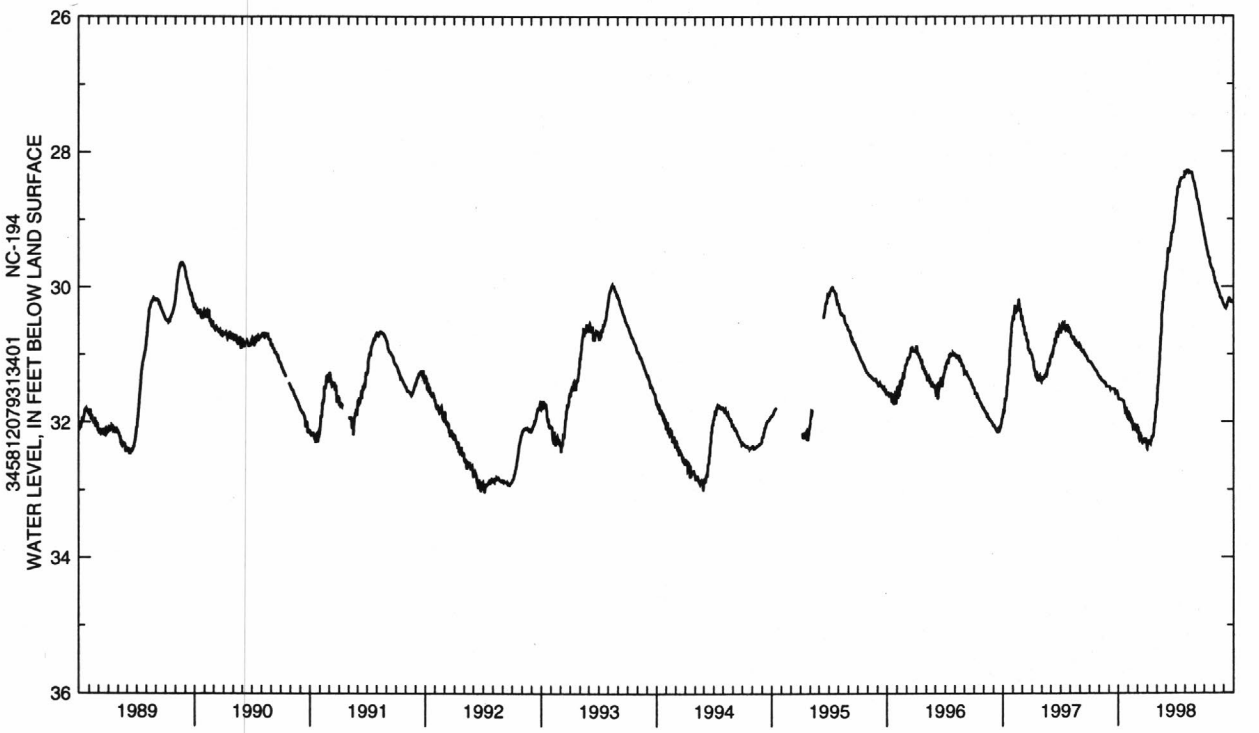
345812079313401 NC-194
WATER LEVEL, IN FEET BELOW LAND SURFACE
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SCOTLAND COUNTY--Continued

344522079273601. Local number, Sc-68; Laurinburg well 5.

LOCATION.--Lat 34°45'21", long 79°27'37", Hydrologic Unit 03040204, in Laurinburg, southeast of intersection of Baker and Knox Streets. Owner: City of Laurinburg.

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

WELL CHARACTERISTICS.--Drilled supply well, depth 140 ft, diameter 12 in., cased to 80 ft and from 130 to 140 ft, screened interval from 80 to 130 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 215 ft above sea level (from topographic map). Measuring point: Top of collar on well access pipe in pump pedestal, 1.95 ft above land-surface datum.

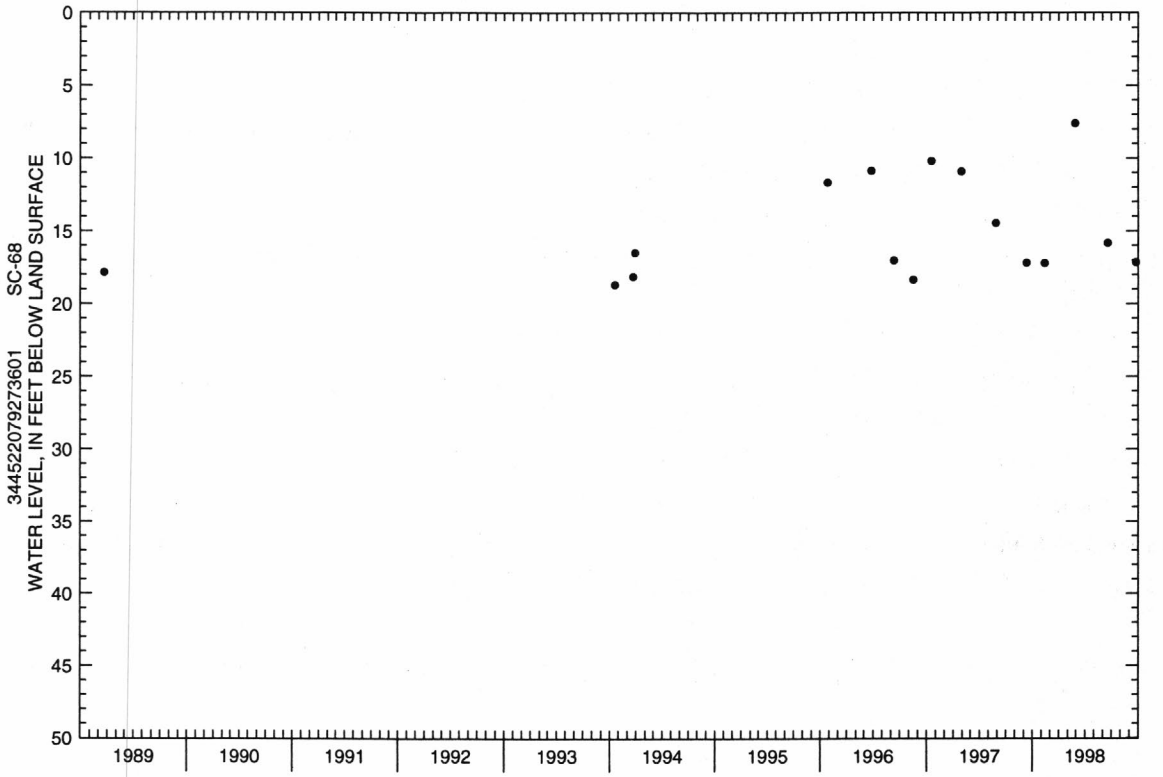
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--December 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.60 ft below land-surface datum, Feb. 26, 1998; lowest measured, 18.66 ft below land-surface datum, Oct. 20, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 13	17.19	FEB 26	7.60	JUN 19	15.81	SEP 24	17.74


SC-68
344522079273601
WATER LEVEL, IN FEET BELOW LAND SURFACE
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SCOTLAND COUNTY--Continued

345313079220901. Local number, Sc-106; Wagram well 3.

LOCATION.--Lat 34°53'13", long 79°22'09", Hydrologic Unit 03040204, in Wagram, northwest of intersection of First and Richmond Streets. Owner: Town of Wagram.

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

WELL CHARACTERISTICS.--Drilled supply well, depth 63 ft, diameter 8 in., cased to 47 ft, screened interval from 47 to 57 ft (reported by owner).

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 235 ft above sea level (from topographic map). Measuring point: Top of nipple in well sanitary seal, 1.35 ft above land-surface datum.

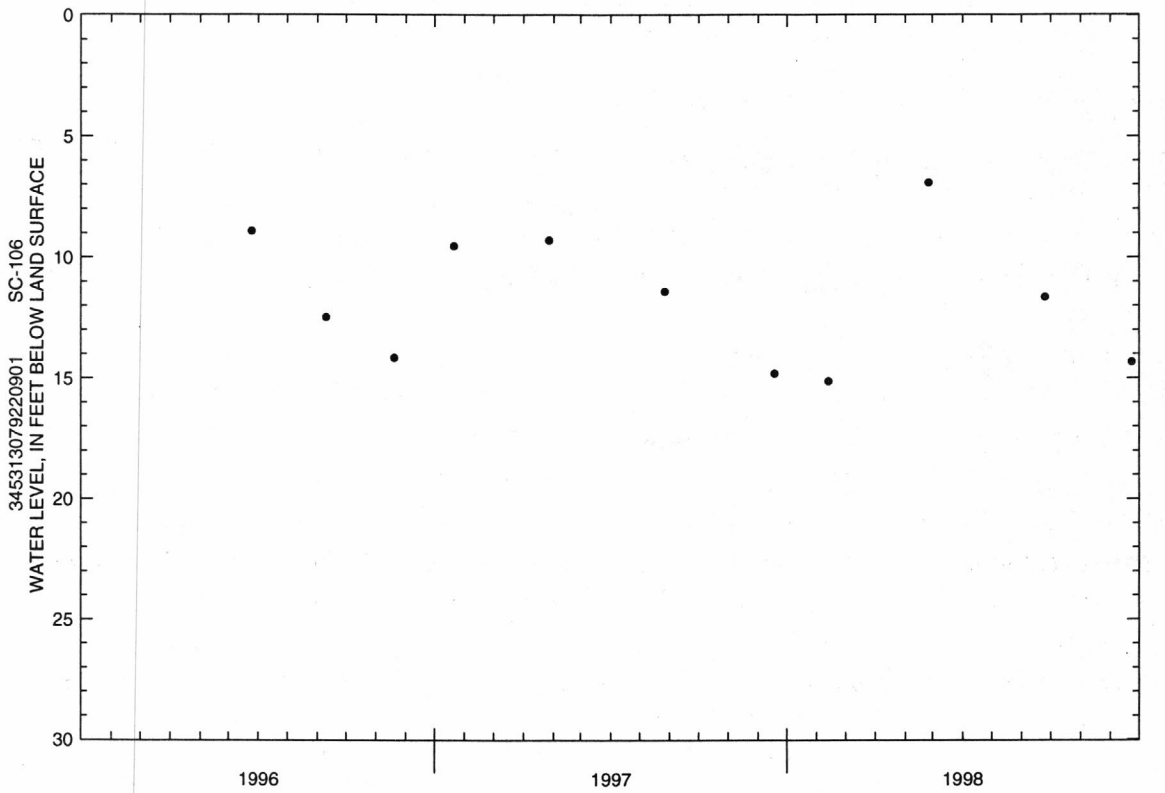
REMARKS.--Well is part of southern Coastal Plain ground-water level monitoring study.

PERIOD OF RECORD.--December 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.93 ft below land-surface datum, Feb. 25, 1998; lowest measured, 15.12 ft below land-surface datum, Nov. 13, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 13	15.12	FEB 25	6.93	JUN 25	11.64	SEP 23	14.34


345313079220901 SC-106
WATER LEVEL, IN FEET BELOW LAND SURFACE
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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.--Digital recorder with a 60-minute punch interval. Digital recorder replaced with electronic data logger on Dec. 10, 1996.

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.

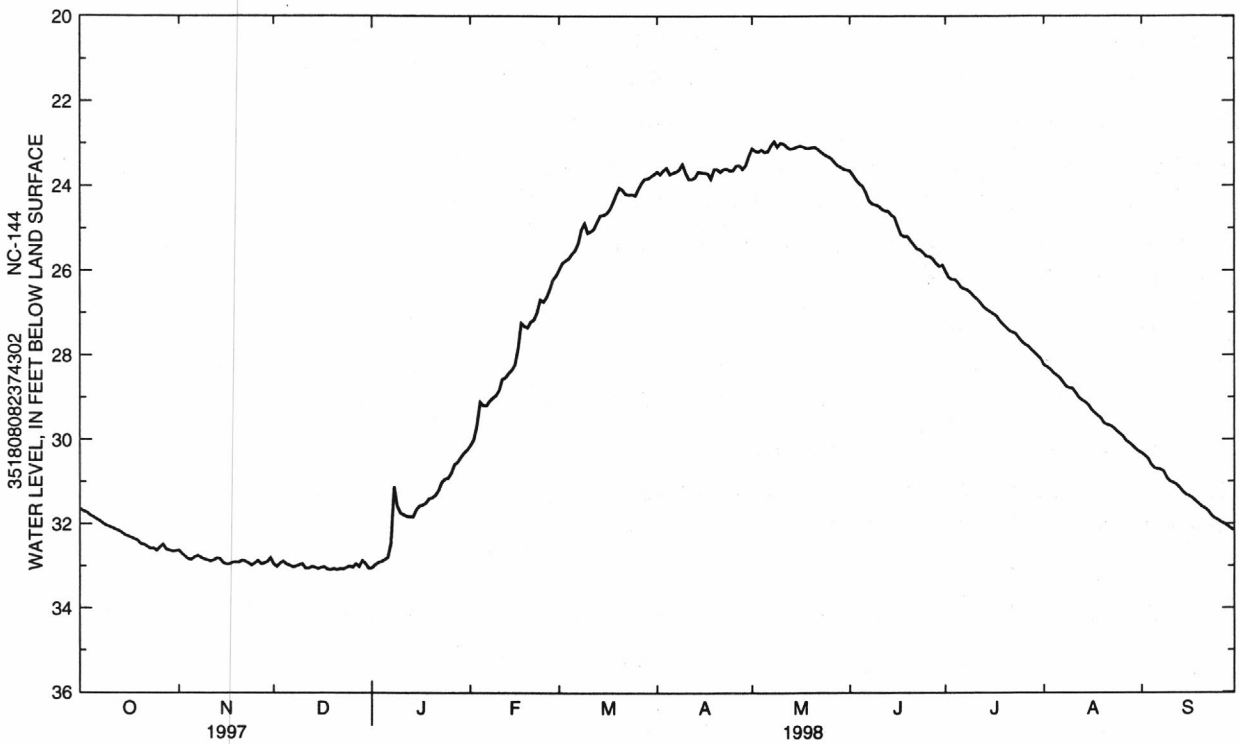
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 22.20 ft below land-surface datum, Apr. 26, 1993; lowest water level recorded, 37.95 ft below land-surface datum, Dec. 23 and 24, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.65	32.62	32.95	33.05	30.14	25.97	23.67	23.12	23.65	26.02	28.24	30.32
2	31.70	32.70	33.01	32.97	30.00	25.82	23.73	23.18	23.76	26.16	28.28	30.38
3	31.72	32.77	32.93	32.92	29.67	25.76	23.64	23.20	23.87	26.21	28.34	30.45
4	31.79	32.83	32.88	32.89	29.11	25.71	23.58	23.15	23.96	26.21	28.42	30.59
5	31.83	32.84	32.95	32.85	29.20	25.60	23.73	23.21	24.02	26.29	28.48	30.68
6	31.88	32.78	32.98	32.80	29.20	25.52	23.70	23.19	24.17	26.40	28.54	30.70
7	31.92	32.75	33.02	32.46	29.09	25.35	23.67	23.05	24.36	26.43	28.64	30.71
8	31.98	32.79	33.00	31.11	29.01	25.03	23.62	22.95	24.43	26.46	28.74	30.76
9	32.03	32.83	32.97	31.57	28.95	24.88	23.49	23.08	24.45	26.53	28.78	30.92
10	32.06	32.85	32.94	31.74	28.83	25.11	23.69	22.99	24.48	26.61	28.79	31.00
11	32.09	32.88	33.05	31.78	28.57	25.07	23.85	23.01	24.55	26.68	28.89	31.03
12	32.13	32.86	33.05	31.82	28.53	25.01	23.85	23.08	24.59	26.76	29.00	31.07
13	32.16	32.81	33.01	31.83	28.43	24.84	23.80	23.13	24.60	26.86	29.07	31.15
14	32.20	32.82	33.03	31.83	28.35	24.70	23.67	23.12	24.69	26.92	29.11	31.24
15	32.26	32.92	33.06	31.66	28.23	24.69	23.69	23.09	24.74	26.97	29.18	31.31
16	32.29	32.95	33.03	31.57	27.83	24.65	23.70	23.06	24.97	27.02	29.29	31.34
17	32.32	32.95	33.02	31.55	27.24	24.55	23.71	23.07	25.15	27.07	29.37	31.39
18	32.35	32.91	33.08	31.50	27.32	24.39	23.84	23.11	25.20	27.18	29.43	31.46
19	32.39	32.90	33.09	31.40	27.35	24.20	23.61	23.12	25.19	27.27	29.49	31.53
20	32.47	32.91	33.06	31.38	27.21	24.05	23.61	23.10	25.30	27.34	29.61	31.60
21	32.48	32.86	33.09	31.32	27.17	24.10	23.68	23.09	25.39	27.42	29.65	31.64
22	32.53	32.88	33.06	31.20	26.98	24.20	23.61	23.15	25.49	27.46	29.67	31.70
23	32.58	32.93	33.07	31.01	26.69	24.21	23.60	23.21	25.51	27.49	29.72	31.81
24	32.57	32.98	33.03	30.93	26.74	24.20	23.65	23.27	25.58	27.59	29.79	31.87
25	32.63	32.93	33.00	30.91	26.63	24.23	23.64	23.31	25.66	27.68	29.86	31.91
26	32.55	32.87	33.03	30.79	26.43	24.08	23.53	23.35	25.67	27.75	29.92	31.97
27	32.48	32.95	32.94	30.59	26.21	23.93	23.52	23.44	25.73	27.79	30.03	32.00
28	32.60	32.93	33.01	30.53	26.11	23.84	23.61	23.52	25.83	27.87	30.08	32.05
29	32.62	32.89	32.87	30.41	---	23.83	23.52	23.56	25.90	27.94	30.15	32.11
30	32.65	32.80	32.94	30.31	---	23.78	23.30	23.61	25.87	28.02	30.22	32.16
31	32.64	---	33.05	30.24	---	23.73	---	23.63	---	28.09	30.28	---

WTR YR 1998 MEAN 28.49 HIGH 22.95 LOW 33.09


351808082374302 NC-144
WATER LEVEL, IN FEET BELOW LAND SURFACE
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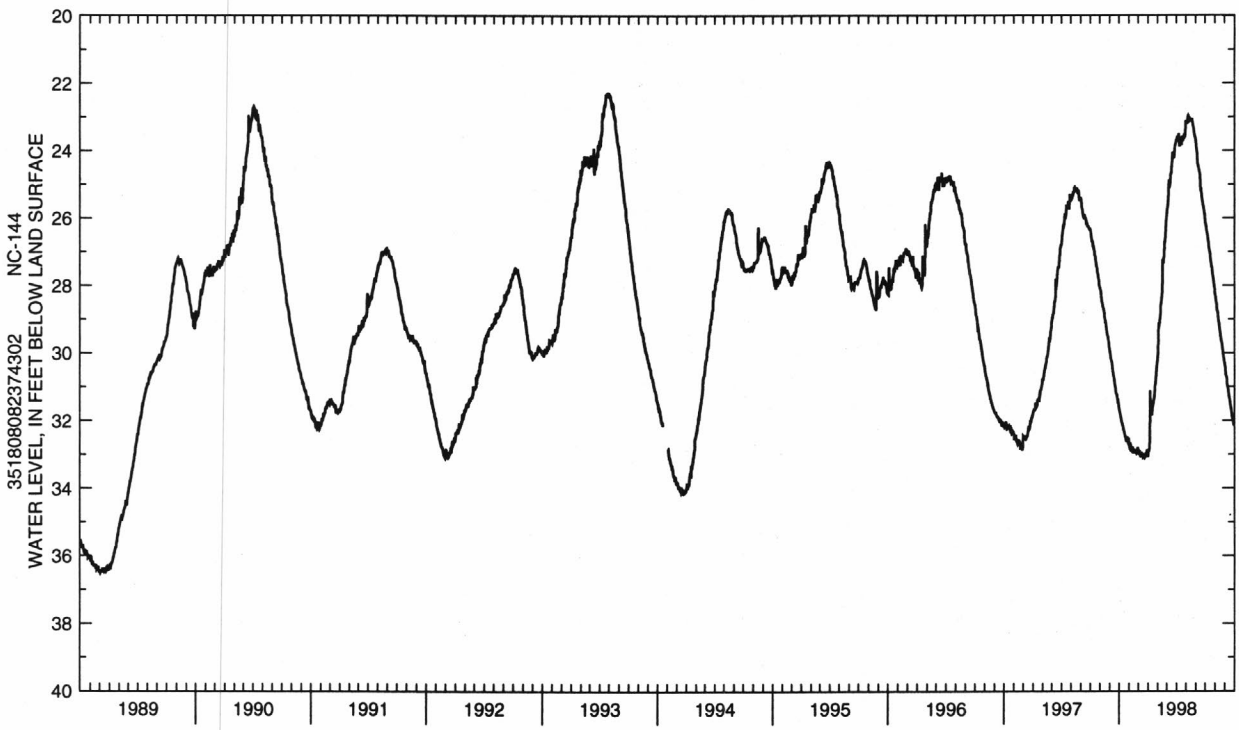
351808082374302 NC-144
WATER LEVEL, IN FEET BELOW LAND SURFACE
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TRANSYLVANIA COUNTY--Continued

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.--Digital recorder with a 60-minute punch interval. Digital recorder replaced with electronic data logger on Dec. 10, 1996.

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.

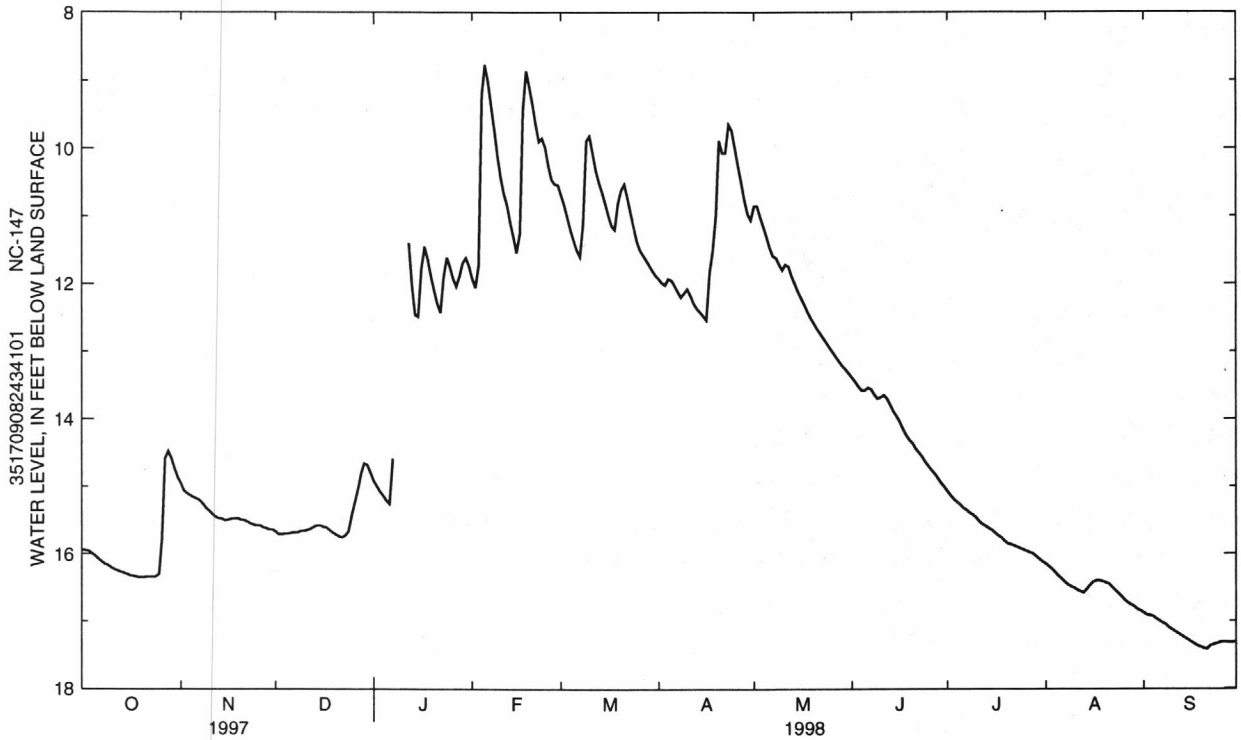
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 7.43 ft below land-surface datum, Oct. 2, 1989; lowest water level recorded, 17.66 ft below land-surface datum, Oct. 8 and 9, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.95	14.96	15.67	14.92	11.92	10.69	11.93	10.85	13.39	15.07	16.15	16.88
2	15.95	15.06	15.71	15.00	12.06	10.83	11.99	10.85	13.45	15.13	16.19	16.91
3	15.96	15.10	15.71	15.07	11.74	11.02	12.02	11.01	13.52	15.19	16.23	16.92
4	15.99	15.13	15.70	15.14	9.22	11.20	11.93	11.16	13.58	15.23	16.28	16.93
5	16.03	15.16	15.70	15.21	8.77	11.36	11.95	11.30	13.58	15.27	16.33	16.97
6	16.07	15.18	15.69	15.26	9.01	11.50	12.03	11.47	13.54	15.32	16.37	17.00
7	16.11	15.21	15.68	14.59	9.36	11.60	12.12	11.59	13.56	15.35	16.42	17.03
8	16.15	15.26	15.68	---	9.73	11.11	12.20	11.62	13.64	15.39	16.46	17.05
9	16.17	15.32	15.66	---	10.11	9.89	12.14	11.72	13.70	15.42	16.49	17.10
10	16.20	15.36	15.66	---	10.44	9.82	12.08	11.80	13.68	15.46	16.51	17.13
11	16.23	15.41	15.65	---	10.67	10.07	12.18	11.72	13.65	15.52	16.54	17.16
12	16.25	15.45	15.63	11.40	10.84	10.32	12.29	11.75	13.70	15.56	16.56	17.19
13	16.27	15.47	15.60	12.00	11.09	10.51	12.37	11.89	13.79	15.59	16.58	17.22
14	16.28	15.48	15.58	12.46	11.31	10.65	12.42	12.01	13.89	15.62	16.53	17.25
15	16.30	15.50	15.58	12.49	11.54	10.82	12.48	12.12	13.96	15.65	16.47	17.28
16	16.32	15.49	15.60	11.77	11.26	10.99	12.54	12.22	14.05	15.69	16.42	17.31
17	16.33	15.48	15.61	11.45	9.44	11.15	11.84	12.31	14.15	15.73	16.40	17.34
18	16.34	15.48	15.65	11.64	8.86	11.20	11.52	12.42	14.24	15.76	16.40	17.37
19	16.35	15.47	15.68	11.88	9.08	10.81	10.99	12.51	14.31	15.81	16.41	17.39
20	16.35	15.49	15.71	12.10	9.34	10.62	9.89	12.59	14.36	15.85	16.43	17.41
21	16.34	15.50	15.74	12.29	9.63	10.53	10.07	12.67	14.44	15.86	16.45	17.42
22	16.34	15.52	15.75	12.43	9.90	10.73	10.07	12.74	14.50	15.88	16.50	17.37
23	16.34	15.55	15.73	11.91	9.85	10.96	9.65	12.81	14.56	15.90	16.55	17.35
24	16.34	15.57	15.67	11.61	9.99	11.16	9.73	12.88	14.64	15.92	16.59	17.34
25	16.30	15.58	15.43	11.75	10.25	11.37	10.00	12.95	14.70	15.94	16.64	17.32
26	15.79	15.58	15.23	11.93	10.46	11.50	10.26	13.02	14.76	15.96	16.69	17.31
27	14.58	15.61	15.05	12.04	10.53	11.58	10.51	13.09	14.81	15.98	16.73	17.31
28	14.48	15.62	14.80	11.89	10.54	11.65	10.76	13.16	14.88	16.00	16.76	17.32
29	14.59	15.64	14.66	11.69	---	11.73	10.97	13.22	14.95	16.04	16.79	17.32
30	14.74	15.64	14.68	11.62	---	11.81	11.06	13.27	15.01	16.08	16.83	17.31
31	14.87	---	14.80	11.74	---	11.88	---	13.33	---	16.12	16.85	---

WTR YR 1998 MEAN 14.03 HIGH 8.77 LOW 17.42


351709082434101 NC-147
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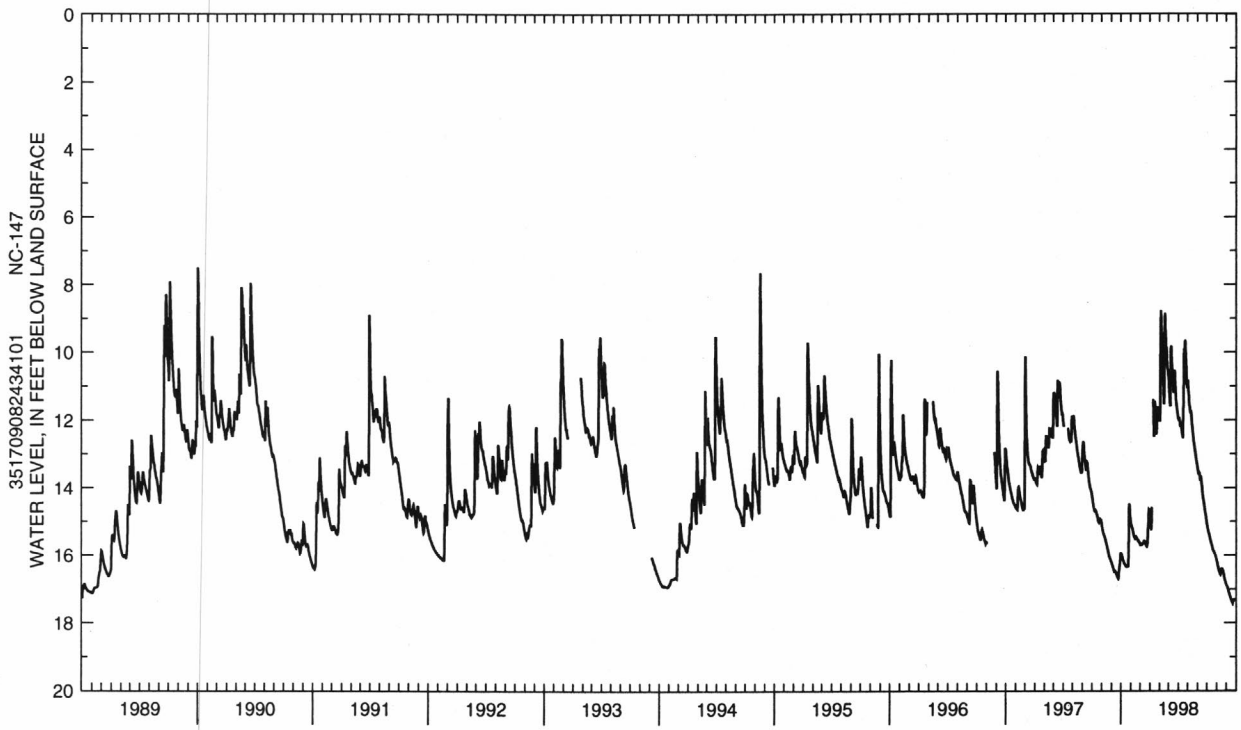
351709082434101 NC-147
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WASHINGTON COUNTY

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, drilled to 510 ft, diameter 6 in., cased to 390 ft, open hole 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.

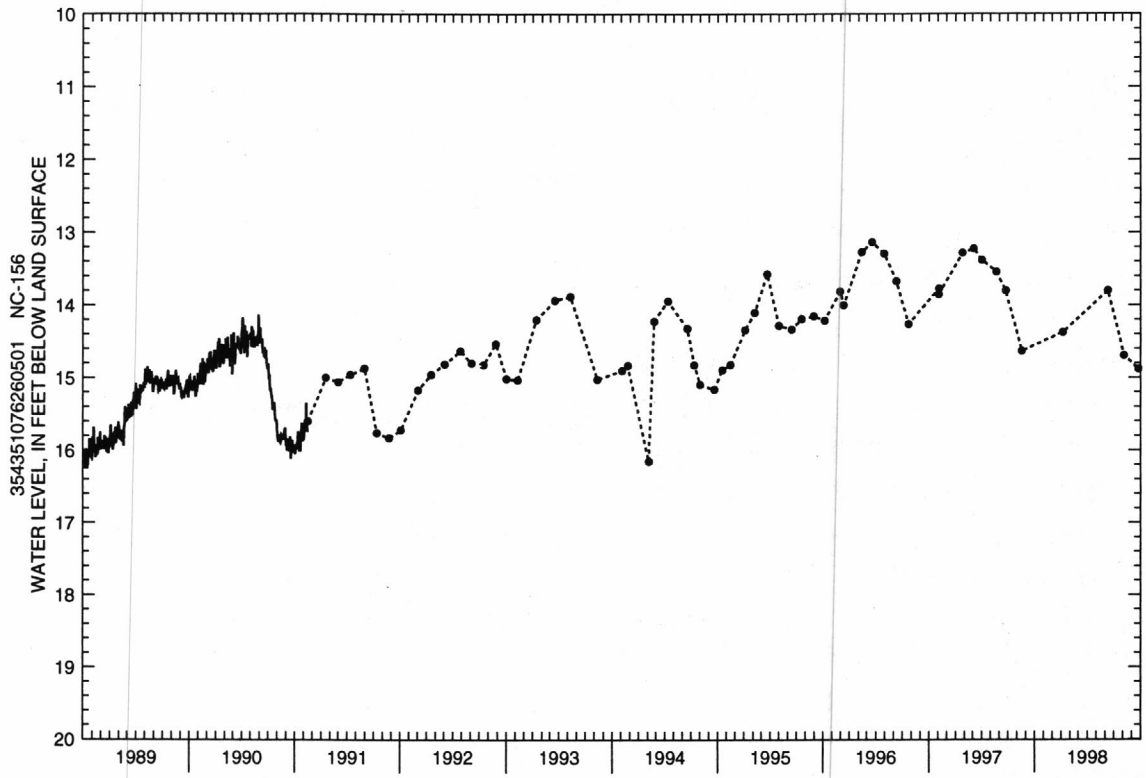
PERIOD OF RECORD.--August 1977 to current year. Continuous record November 1986 to November 1990. Records from August 1977 to September 1986 are unpublished and available in the files of the Groundwater Section, DENR.

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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 7	14.37	JUN 11	13.80	AUG 6	14.69	SEP 24	14.88


354351076260501 NC-156
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1996
1997
1998

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, drilled to 130 ft, diameter 4 in., cased to 110 ft, 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.

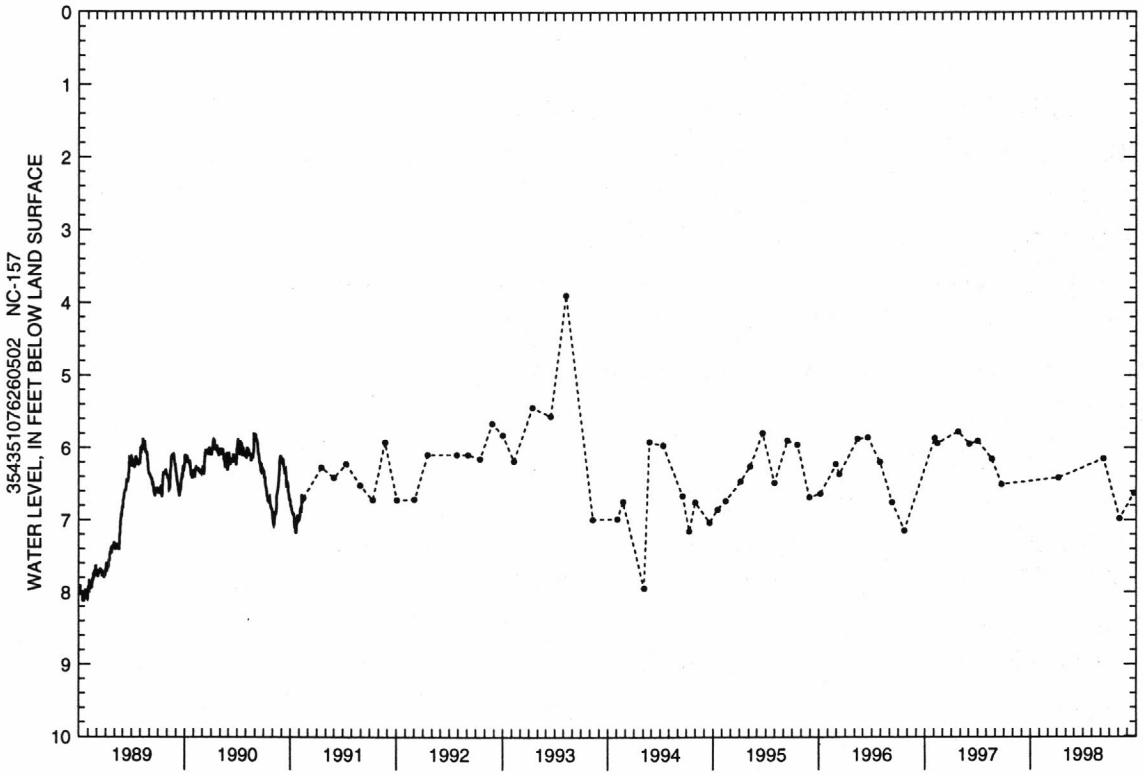
PERIOD OF RECORD.--October 1977 to current year. Continuous record November 1986 to November 1990. Records from October 1977 to July 1986 are unpublished and available in the files of the Groundwater Section, DENR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.89 ft below land-surface datum, May 10, 1993; lowest water level recorded, 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 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 7	6.41	JUN 11	6.15	AUG 6	6.98	SEP 24	6.63


354351076260502 NC-157
WATER LEVEL, IN FEET BELOW LAND SURFACE
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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, drilled to 15 ft, diameter 4 in., cased to 10 ft, 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.

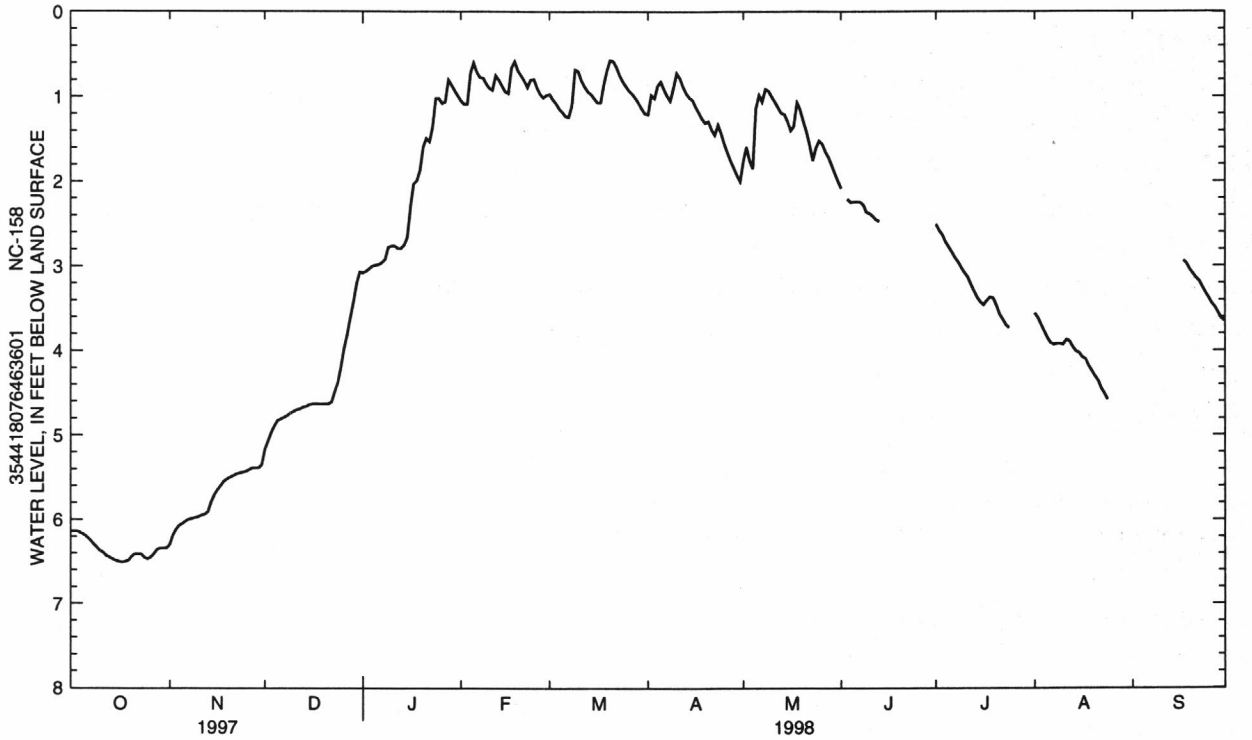
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.50 ft below land-surface datum, Mar. 2, 3, 1994; lowest water level recorded, 6.51 ft below land-surface datum, Sept. 17, 18, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.14	6.30	5.17	3.08	1.05	.97	1.21	1.75	2.08	2.51	3.56	---
2	6.14	6.19	5.07	3.06	1.09	1.03	.98	1.59	---	2.58	3.61	---
3	6.14	6.12	4.97	3.03	1.09	1.08	1.02	1.75	2.21	2.63	3.69	---
4	6.16	6.07	4.89	3.00	.72	1.14	.87	1.85	2.25	2.71	3.77	---
5	6.18	6.05	4.83	2.99	.60	1.18	.82	1.14	2.24	2.78	3.85	---
6	6.21	6.02	4.81	2.98	.71	1.23	.91	.98	2.24	2.83	3.91	---
7	6.25	6.00	4.79	2.96	.77	1.24	.99	1.06	2.24	2.90	3.93	---
8	6.29	5.99	4.77	2.92	.78	1.10	1.05	.91	2.28	2.95	3.92	---
9	6.33	5.98	4.74	2.78	.85	.68	.89	.93	2.36	3.02	3.92	---
10	6.37	5.97	4.72	2.76	.90	.70	.72	1.00	2.38	3.08	3.93	---
11	6.39	5.95	4.70	2.76	.92	.81	.78	1.06	2.41	3.13	3.87	---
12	6.43	5.94	4.69	2.79	.75	.88	.88	1.13	2.45	3.22	3.89	---
13	6.45	5.91	4.67	2.79	.80	.94	.96	1.19	2.47	3.30	3.96	---
14	6.47	5.80	4.66	2.75	.87	.97	1.01	1.21	---	3.37	4.01	---
15	6.49	5.71	4.64	2.66	.94	1.02	1.04	1.29	---	3.43	4.03	---
16	6.50	5.65	4.63	2.30	.96	1.07	1.12	1.40	---	3.46	4.08	---
17	6.51	5.60	4.63	2.03	.66	1.07	1.19	1.35	---	3.41	4.10	2.94
18	6.50	5.55	4.63	1.99	.58	.86	1.26	1.07	---	3.37	4.18	2.97
19	6.49	5.52	4.63	1.87	.69	.69	1.31	1.15	---	3.38	4.24	3.04
20	6.44	5.50	4.63	1.59	.75	.57	1.29	1.29	---	3.47	4.30	3.09
21	6.41	5.48	4.63	1.49	.81	.58	1.39	1.41	---	3.57	4.36	3.14
22	6.41	5.46	4.61	1.53	.89	.65	1.45	1.57	---	3.63	4.44	3.18
23	6.41	5.45	4.49	1.36	.80	.75	1.33	1.75	---	3.70	4.51	3.25
24	6.45	5.44	4.38	1.02	.79	.82	1.43	1.60	---	3.73	4.58	3.32
25	6.47	5.43	4.20	1.02	.89	.88	1.56	1.52	---	---	---	3.38
26	6.45	5.41	3.97	1.08	.97	.93	1.66	1.56	---	---	---	3.44
27	6.41	5.39	3.81	1.06	1.01	.97	1.76	1.65	---	---	---	3.49
28	6.36	5.39	3.60	.80	.98	1.02	1.84	1.72	---	---	---	3.55
29	6.34	5.39	3.42	.86	---	1.08	1.93	1.81	---	---	---	3.62
30	6.34	5.35	3.20	.93	---	1.14	2.00	1.91	---	---	---	3.65
31	6.34	---	3.07	.99	---	1.20	---	2.00	---	---	---	---

WTR YR 1998 MEAN 3.01 HIGH .57 LOW 6.51


354418076463601 NC-158
WATER LEVEL, IN FEET BELOW LAND SURFACE
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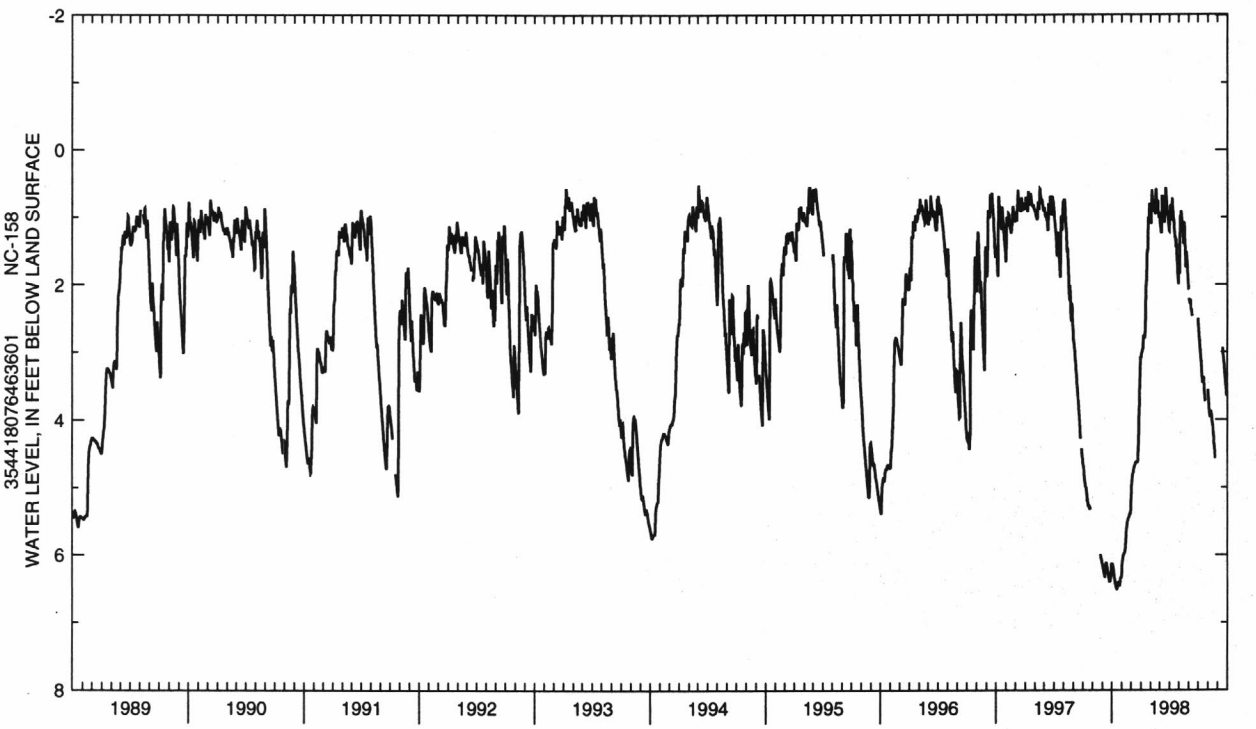
354418076463601 NC-158
WATER LEVEL, IN FEET BELOW LAND SURFACE
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WAYNE COUNTY

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.

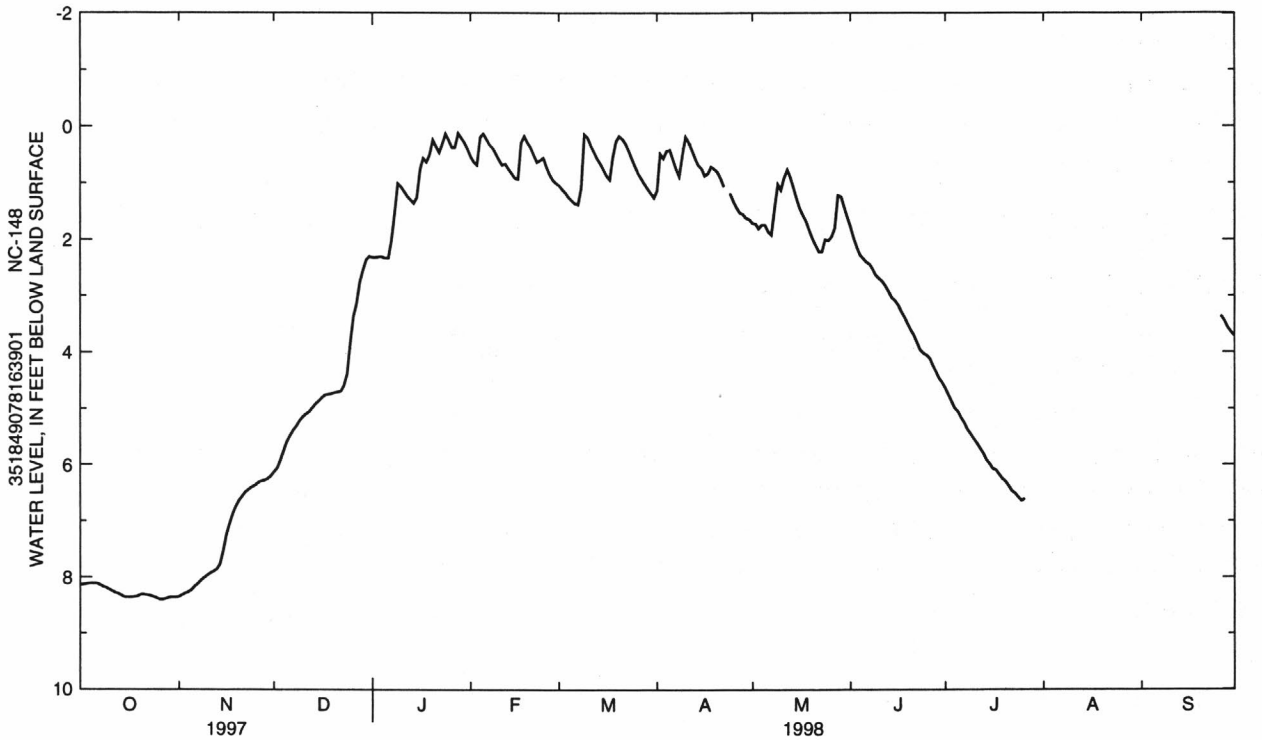
REVISED RECORD.--See PERIOD OF RECORD.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.14	8.35	6.13	2.32	.53	1.04	1.13	1.71	1.77	4.64	---	---
2	8.13	8.32	6.06	2.32	.63	1.11	.48	1.72	1.97	4.76	---	---
3	8.12	8.29	5.92	2.31	.68	1.17	.56	1.81	2.14	4.88	---	---
4	8.11	8.27	5.75	2.31	.19	1.25	.43	1.74	2.28	4.99	---	---
5	8.11	8.23	5.59	2.33	.13	1.31	.41	1.74	2.34	5.06	---	---
6	8.11	8.17	5.48	2.33	.23	1.36	.58	1.86	2.40	5.16	---	---
7	8.14	8.12	5.39	2.02	.32	1.38	.75	1.92	2.43	5.25	---	---
8	8.17	8.06	5.31	1.53	.38	1.09	.88	1.45	2.53	5.37	---	---
9	8.19	8.01	5.22	1.01	.48	.14	.49	1.02	2.63	5.45	---	---
10	8.22	7.97	5.15	1.07	.59	.19	.18	1.12	2.69	5.54	---	---
11	8.25	7.93	5.10	1.15	.68	.33	.28	.92	2.74	5.62	---	---
12	8.28	7.90	5.06	1.24	.66	.44	.41	.76	2.82	5.71	---	---
13	8.30	7.86	4.99	1.30	.75	.56	.56	.88	2.92	5.80	---	---
14	8.33	7.77	4.92	1.36	.83	.65	.68	1.07	3.03	5.91	---	---
15	8.36	7.53	4.87	1.26	.91	.76	.74	1.27	3.08	5.99	---	---
16	8.36	7.25	4.81	.76	.93	.87	.87	1.45	3.16	6.07	---	---
17	8.36	7.05	4.76	.56	.29	.94	.83	1.57	3.27	6.09	---	---
18	8.35	6.88	4.75	.63	.17	.54	.71	1.68	3.38	6.17	---	---
19	8.34	6.74	4.74	.50	.28	.26	.75	1.84	3.49	6.25	---	---
20	8.31	6.64	4.72	.24	.37	.17	.80	1.99	3.60	6.30	---	---
21	8.31	6.56	4.71	.35	.50	.22	.92	2.10	3.70	6.38	---	---
22	8.32	6.49	4.70	.46	.63	.30	1.06	2.22	3.83	6.47	---	---
23	8.33	6.44	4.60	.31	.60	.43	---	2.22	3.96	6.51	---	---
24	8.35	6.40	4.39	.13	.55	.57	1.18	2.00	4.02	6.57	---	---
25	8.37	6.37	3.85	.24	.71	.71	1.33	2.02	4.05	6.64	---	---
26	8.40	6.32	3.36	.37	.85	.83	1.43	1.95	4.11	6.61	---	3.36
27	8.40	6.29	3.14	.37	.94	.92	1.52	1.80	4.23	---	---	3.45
28	8.38	6.28	2.76	.12	1.00	1.01	1.55	1.22	4.35	---	---	3.56
29	8.36	6.25	2.55	.20	---	1.10	1.62	1.24	4.46	---	---	3.64
30	8.36	6.20	2.36	.29	---	1.18	1.64	1.44	4.54	---	---	3.71
31	8.36	---	2.30	.40	---	1.26	---	1.60	---	---	---	---

WTR YR 1998 MEAN 3.39 HIGH .12 LOW 8.40


351849078163901 NC-148
WATER LEVEL, IN FEET BELOW LAND SURFACE
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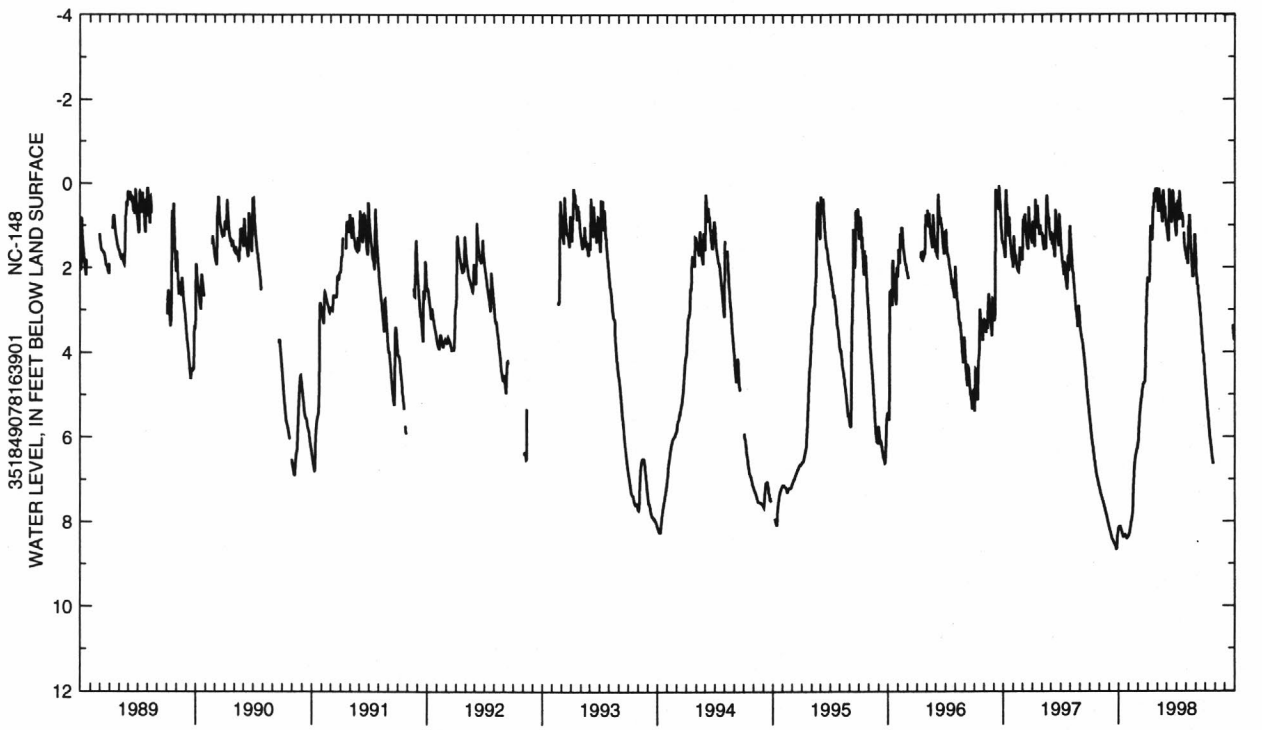
351849078163901 NC-148
WATER LEVEL, IN FEET BELOW LAND SURFACE
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1997
1998

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 1575 on SR 1556, 0.7 mi north of road. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Upper Cape Fear.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 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.

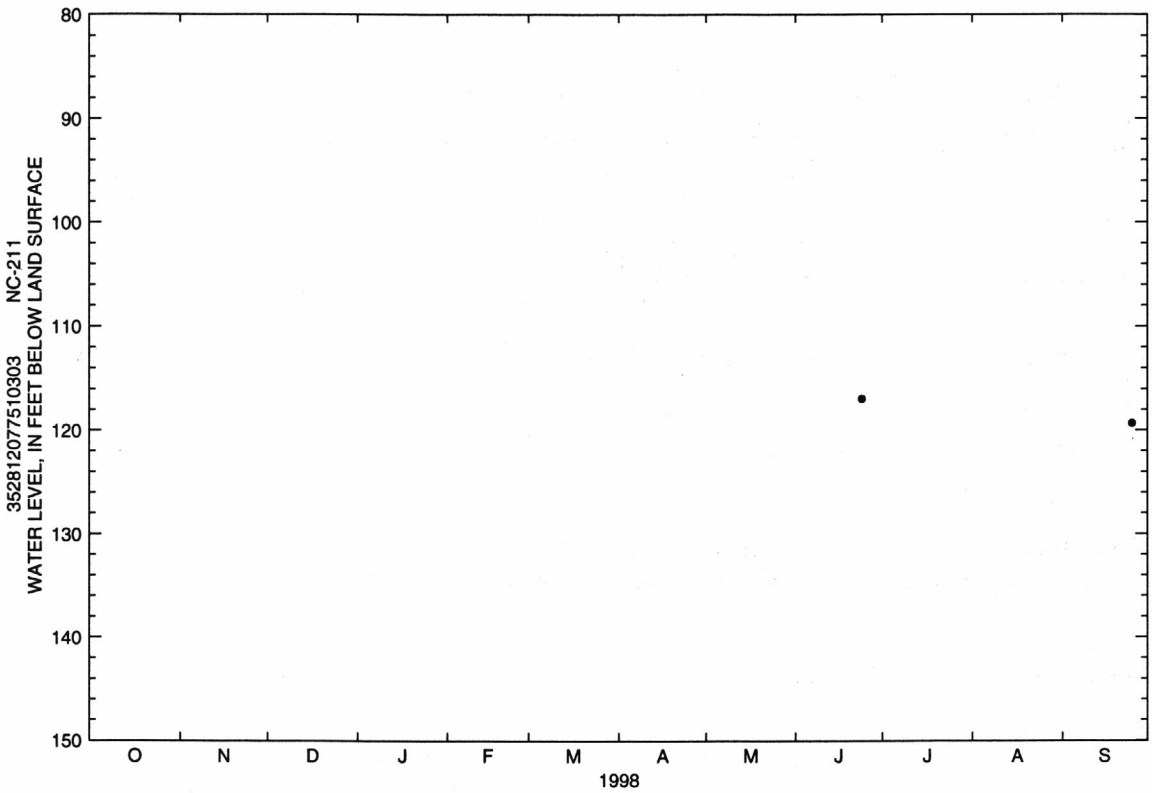
REMARKS.--Well is part of areal-effects network.

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, 119.34 ft below land-surface datum, Sept. 25, 1998.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 24	116.95	SEP 25	119.34


352812077510303 NC-211
WATER LEVEL, IN FEET BELOW LAND SURFACE
80
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130
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S
1998

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Bl-72 60
Bl-86 62
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Bl-100 66
Bl-121 68
Bl-131 70
Bl-142 72
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DENR Bonnerton Research Station well P18v6 38
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DENR Clarks Research Station well S22j10 94
DENR Clarks Research Station well S22j11 96
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DENR Dixon Tower Research Station well Y25q3 152
DENR Dixon Tower Research Station well Y25q6 154
DENR Elizabeth City Forest Service Research Station well D11v5 180
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DENR Kinston Yard Research Station well Q27r5 136
DENR Lake Phelps Research Station well L13i1 230
DENR Lake Phelps Research Station well L13i2 232
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DENR Lewiston Research Station well H22i5 56
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DENR Littlefield School Research Station well Y42f10 208
DENR Littlefield School Research Station well Y42f11 210
DENR McCain Research Station well T48i2 120
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DENR Morgans Corner Research Station well C12w4 186
DENR Morgans Corner Research Station well C12w5 188
DENR Moss Hill Research Station well R29t2 138
DENR Parkville Research Station well E13m1 194
DENR Parkville Research Station well E13m2 190
DENR Parkville Research Station well E13m3 192
DENR Piedmont Research Station well L63t1 218
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DENR Raeford Research Station well U46e6 122
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DENR Rose Hill Research Station well V32v6 104

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DENR Roxobel Research Station well F22b7 52
DENR Saulston Research Station well O30j3 238
DENR Snow Hill Research Station well O28k1 112
DENR Southport Research Station well GG32t4 80
DENR Southport Research Station well GG32t5 82
DENR Southport Research Station well GG32t6 84
DENR Sunbury Research Station well C15s4 108
DENR Sunbury Research Station well C15s5 106
DENR Sunbury Research Station well C15s6 110
DENR Sunset Harbor Research Station well GG34s6 78
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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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