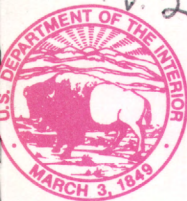
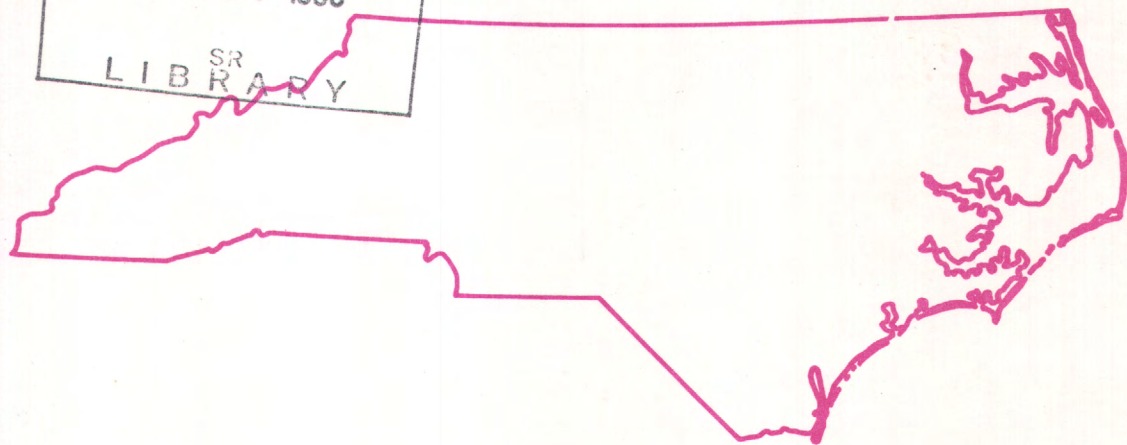
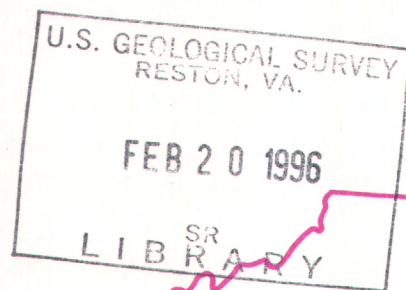


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Water Resources Data North Carolina Water Year 1994

Volume 2. Ground-Water Records



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NC-94-2

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

CALENDAR FOR WATER YEAR 1994

1993

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1994

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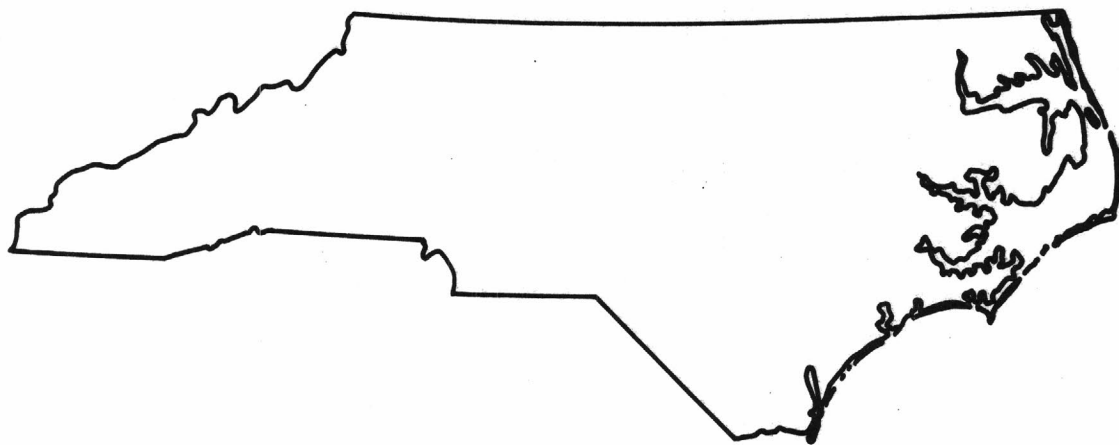
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Water Resources Data North Carolina Water Year 1994

Volume 2. Ground-Water Records

by D.G. Smith, E.D. George, and P.L. Breton



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NC-94-2

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

U. S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

GEOLOGICAL SURVEY

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U.S. Geological Survey
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Raleigh, NC 27622-0728**

1995

PREFACE

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 James F. Turner, District Chief; Michael W. Gaydos, Area Assistant Regional Hydrologist; and Phillip E. Greeson, Acting Regional Hydrologist, Southeastern Region.

REPORT DOCUMENTATION PAGE	1. REPORT NO. USGS/WRD/HD-94/245	2.	3. Recipient's Accession No.
	4. Title and Subtitle Water Resources Data, North Carolina, Water Year 1994 Volume 2: Ground-Water Records		5. Report Date April 1, 1995
7. Author(s) D.G. Smith, E.D. George, P.L. Breton		8. Performing Organization Rept. No. USGS-WDR-NC-94-2	
9. Performing Organization Name and Address U.S. Geological Survey Water Resources Division 3916 Sunset Ridge Road Raleigh, North Carolina 27607		10. Project/Task/Work Unit No.	
12. Sponsoring Organization Name and Address U.S. Geological Survey Water Resources Division 3916 Sunset Ridge Road Raleigh, North Carolina 27607		11. Contract(C) or Grant(G) No. (C) (G)	
		13. Type of Report & Period Covered Annual Data Oct. 1, 1993 thru Sept. 30, 1994	
15. Supplementary Notes Prepared in cooperation with the State of North Carolina and other agencies.		14.	
16. Abstract (Limit: 200 words) Water-resources data for the 1994 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 66 observation wells and ground-water quality data from 11 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.			
17. Document Analysis a. Descriptors *North Carolina, *Hydrologic data, *Groundwater, *Water quality, Chemical analysis, Water temperature, Sampling, Water level, Water analysis, Elevation b. Identifiers/Open-Ended Terms c. COSATI Field/Group			
18. Availability Statement No restriction on distribution. This report may be purchased from: National Technical Information Center Springfield, VA 22161		19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 166
		20. Security Class (This Page) UNCLASSIFIED	22. Price

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INTRODUCTION

Water-resources data for the 1994 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 66 observation wells and ground-water-quality data from 11 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-94-2. 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, Health, and Natural Resources
City of Charlotte
Mecklenburg County
Lumber River Council of Governments

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

U.S. Navy, Marine Corps, Department of the Navy

The following organizations aided in the collection of records;

Champion International Corporation

OBJECTIVE CONCEPT FOR GROUND-WATER-LEVEL DATA

The ground-water-level data collected during the 1994 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, Health, and Natural Resources (DEHNR). Observation wells for this program are so located 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 1994 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 (1989) into 10 aquifers separated by confining units.

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

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

[Adapted from Winner, 1981]

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

SUMMARY OF WATER-RESOURCES CONDITIONS

Precipitation

Most of North Carolina received less-than-average amounts of precipitation in the initial months of the 1994 water year. Rainfall data collected at key National Weather Service (NWS) stations (figs. 1 and 3) indicate that total precipitation during the fall months (October through December) of 1993 was below average throughout the central and western regions of the State and above average in the east. The southeastern portion of the Coastal Plain Province received the largest amounts of precipitation in October, as much as 5.60 inches above average.

Generally increasing precipitation during the winter months produced above-average totals throughout the State except in the southern Piedmont Province. Excessive amounts of precipitation during January through March were reported near Asheville (Blue Ridge Province) and Wilmington (southern Coastal Plain Province), 6.19 and 7.11 inches above average, respectively (fig. 3).

Total amounts of precipitation decreased statewide during the spring (April through June), with all key weather stations indicating below-average rainfall. The least amount of precipitation was reported near Wilmington (southern Coastal Plain Province), and the most precipitation was reported near Asheville (Blue Ridge Province). Total amounts of precipitation during the spring ranged from 7.06 to 1.09 inches below average (fig. 3).

Summer (July through September) rainfall was localized. Total amounts of precipitation were above average in the Blue Ridge Province with 5.02 inches above average reported near Asheville. After several days of showers and thunderstorms, the soils in the western region of the State were already saturated when remnants of Tropical Storm Beryl dropped as much as 8 inches of rain during August 16 and 17. Above-average precipitation also was reported near Greensboro and Elizabeth City, 0.05 and 0.58 inches above average, respectively. Total precipitation amounts reported near Charlotte, Raleigh and Wilmington were below average for the summer. The least amount of precipitation was reported near Wilmington where total rainfall for the summer was 2.23 inches below average.

Ground Water

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

Ground-water-level fluctuations were, for the most part, typical during the 1994 water year. Statewide, water levels in climatic- and terrane-effects wells generally were only slightly higher at the end of the water year than at the beginning, indicating that recharge to ground water was nearly equal to discharge from it during the year. The following discussion of ground-water levels across the State is organized by the index wells, the natural-effects wells, and the induced-effects wells.

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 the respective physiographic provinces. Figure 4 displays the hydrographs of month-end water levels in these index observation wells. Each hydrograph represents month-end water-levels for the 1994 water year, average month-end water levels for the period of record, and record high and low month-end water levels for each index well.

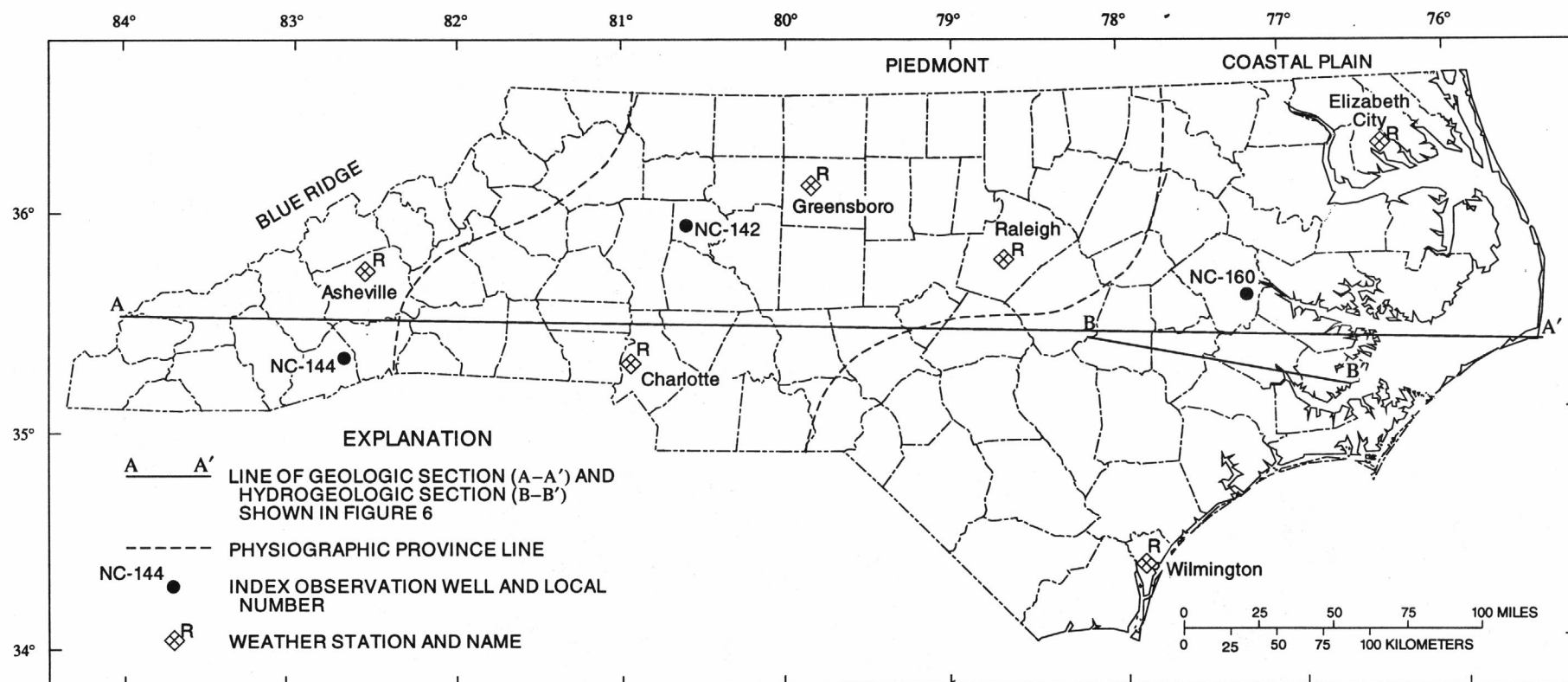


Figure 1.--Locations of weather stations and index wells in North Carolina.

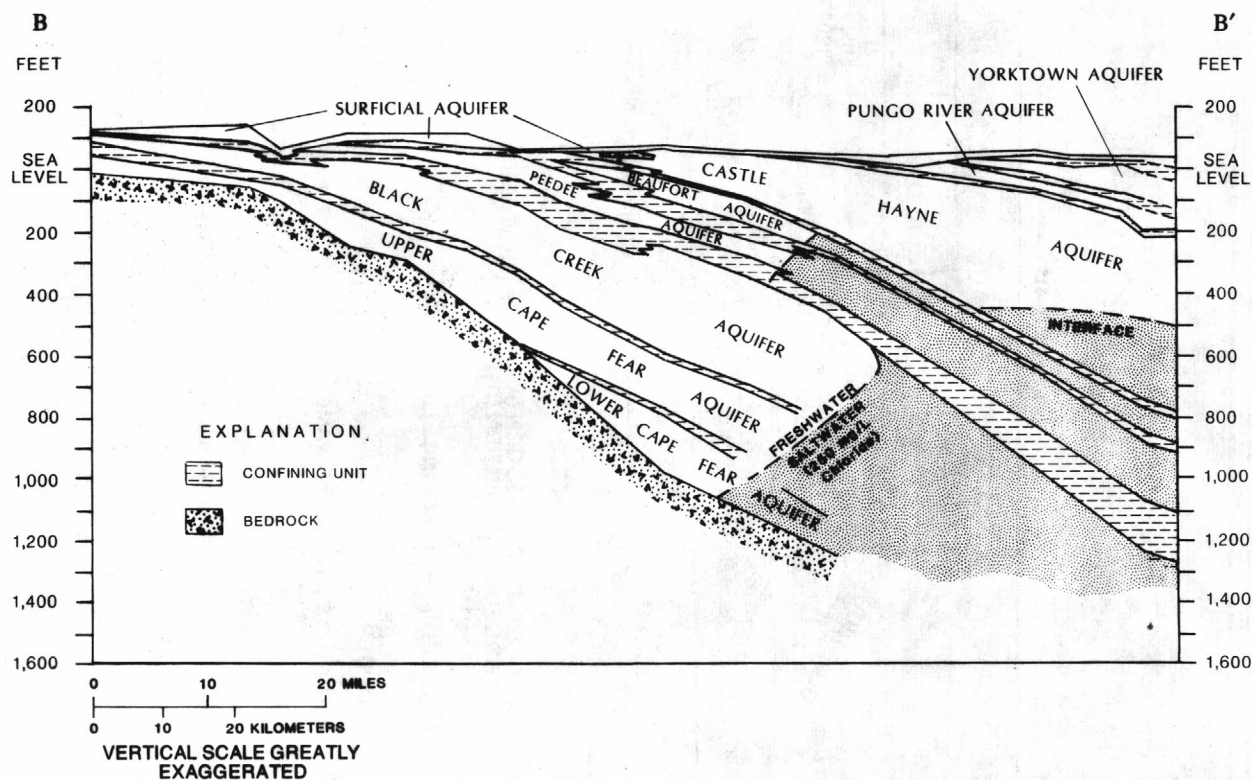
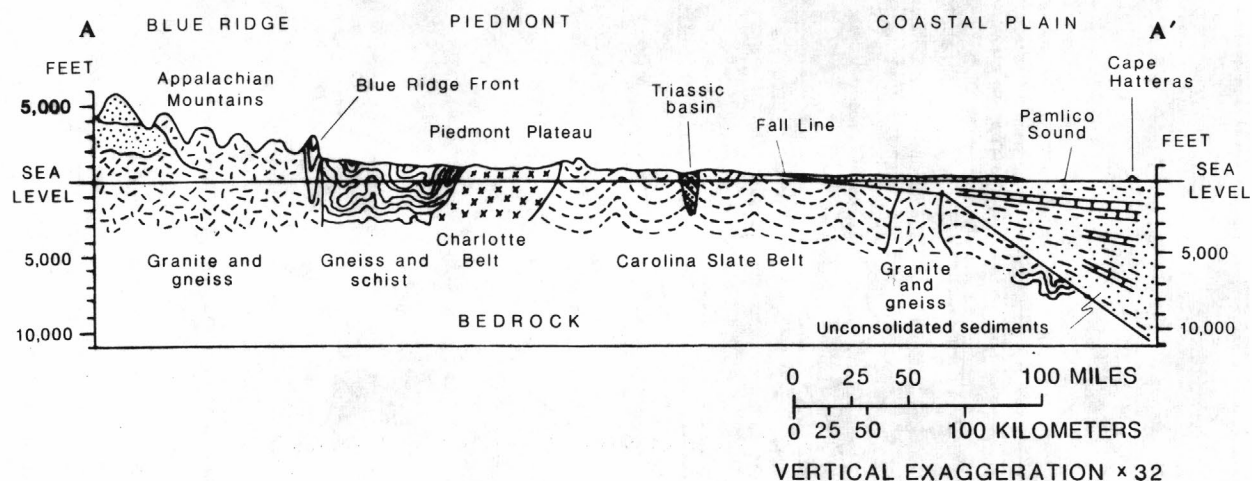


Figure 2.--Geologic section A-A' across North Carolina and hydrogeologic section B-B' in the Coastal Plain of North Carolina (as shown in figure 1).

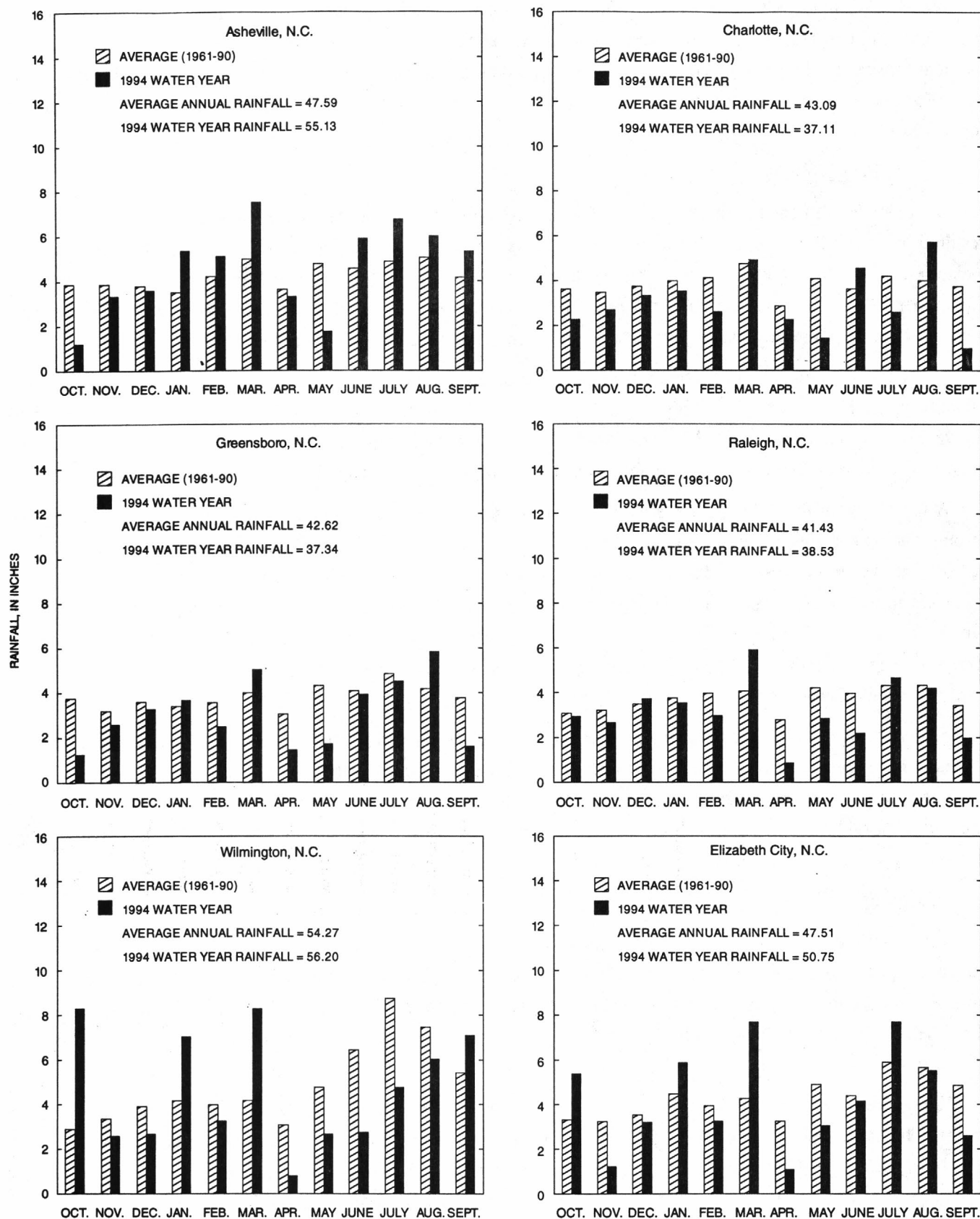


Figure 3.--Monthly rainfall at index stations for 1994 water year and average monthly rainfall for the period 1961-90 (data from National Oceanic and Atmospheric Administration reports).

Water levels in the Blue Ridge and Piedmont index wells (fig. 4) were above average for most of the water year; water levels in the Blue Ridge well were near or slightly above average levels during the first half of the water year whereas those in the Piedmont well were at or near record highs throughout the entire year. In the Coastal Plain index well (fig. 4), water levels were generally above average during the first half of the water year and below average for the last half.

Natural-Effects Wells

Deficient rainfall for the months of October and November 1993 in the Blue Ridge and Piedmont provinces, resulted in decreasing water levels in the natural-effects wells in these provinces. Some natural-effects wells in the western part of the State reached extreme low water levels for the period of record during October and November 1993. Excessive rainfall in the Coastal Plain during October 1993 produced rising water levels in the natural-effects wells in the eastern part of the State during October and November 1993.

Water levels in most natural-effects wells in the Blue Ridge and Piedmont Provinces generally began rising in November and December and continued to rise throughout the winter months, reaching the highest water levels for the year during March or April. Likewise, water levels in most natural-effects wells in the Coastal Plain Province generally increased during the winter months, reaching annual high-water levels during February or March.

Water levels in the natural-effects wells began to decrease in the spring and generally continued to decrease throughout the growing season for most of the State. Excessive amounts of rainfall throughout the summer months in the Blue Ridge Province resulted in less than average declines in water levels with many wells showing temporary increases in water levels during the summer. Although less rainfall in the Piedmont Province produced declines in ground-water levels from spring to the end of the water year, above average rainfall in the southwestern Piedmont (fig. 3) during the months of June and August produced increases in water levels during the summer at well NC-146 in Mecklenburg County.

Below average rainfall during spring and summer in the Coastal Plain Province produced decreases in water levels for most natural-effects wells in eastern North Carolina. Heavy rains in the northern Coastal Plain during July produced rises in water levels in some natural effects wells. Water levels in the natural-effects wells in the central and southern Coastal Plain for the most part, continued to decline through the end of the water year as less than average rainfall fell for much of the summer.

Induced-Effects Wells

Ground-water withdrawals in the Coastal Plain Province have resulted in declining water levels in some of the confined aquifers in some places for a number of years. This declining trend is evidenced 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 mi² (Coble and others, 1989). The limits of this regional cone of depression in the Castle Hayne aquifer are shown by the stabilized water levels and natural water-level fluctuations in wells NC-137, NC-156, NC-159, and NC-169 in Beaufort, Washington, Hyde, and

Pamlico 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. An observation well completed in the Castle Hayne aquifer in New Hanover County, NC-20, shows a similar long-term, gradual water-level decline.

Water levels in the Castle Hayne aquifer are not declining everywhere throughout the eastern Coastal Plain Province. 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 the U.S. Marine Corps Camp Geiger, no effects of withdrawals from those wells are seen in the long-term record. Short-term and minor pumping effects are seen at well NC-181; however, long-term data show no downward trend.

Ground-water withdrawals of over 29 Mgal/d have resulted in water-level declines in the State's central Coastal Plain (Eimers and others, 1990). The aquifers most affected in this 3,600-mi² area, which extends generally from Pitt County on the north to Onslow 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-44 is near the city of New Bern well field, where water has been withdrawn from the Black Creek and upper Cape Fear aquifers since 1968 (fig. 5). Well NC-183 shows the effect of pumpage from the upper Cape Fear aquifer in northern Pitt County (fig. 60). 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 (fig. 6) north of major pumping areas and for well NC-189 in Onslow County (fig. 5), several miles to the south, show water-level declines resulting from those withdrawals. Other observation wells in Jones and Onslow Counties also show these effects.

Withdrawals from the upper Cape Fear aquifer for public and industrial use in the Elizabethtown area in central Bladen County have caused water-level declines of about 1.3 ft per year in well NC-177 (fig. 6), which is in eastern Bladen County. Major withdrawals for industrial use from the same aquifer began in northwestern Bladen County in September 1993; as a result, the water level in well NC-177 declined at the rate of about 6 ft per year during the 1993-1994 water year.

Water-level decline in the lower Cape Fear aquifer shown for well NC-55 in Hertford County (fig. 6) results primarily from major withdrawals in Virginia which began in the 1940's; these withdrawals have resulted in a regional depression in that aquifer which extends several tens of miles into North Carolina (Coble and others, 1989). Records from some wells in Bertie and Gates Counties also show these declines in the upper Cape Fear aquifer.

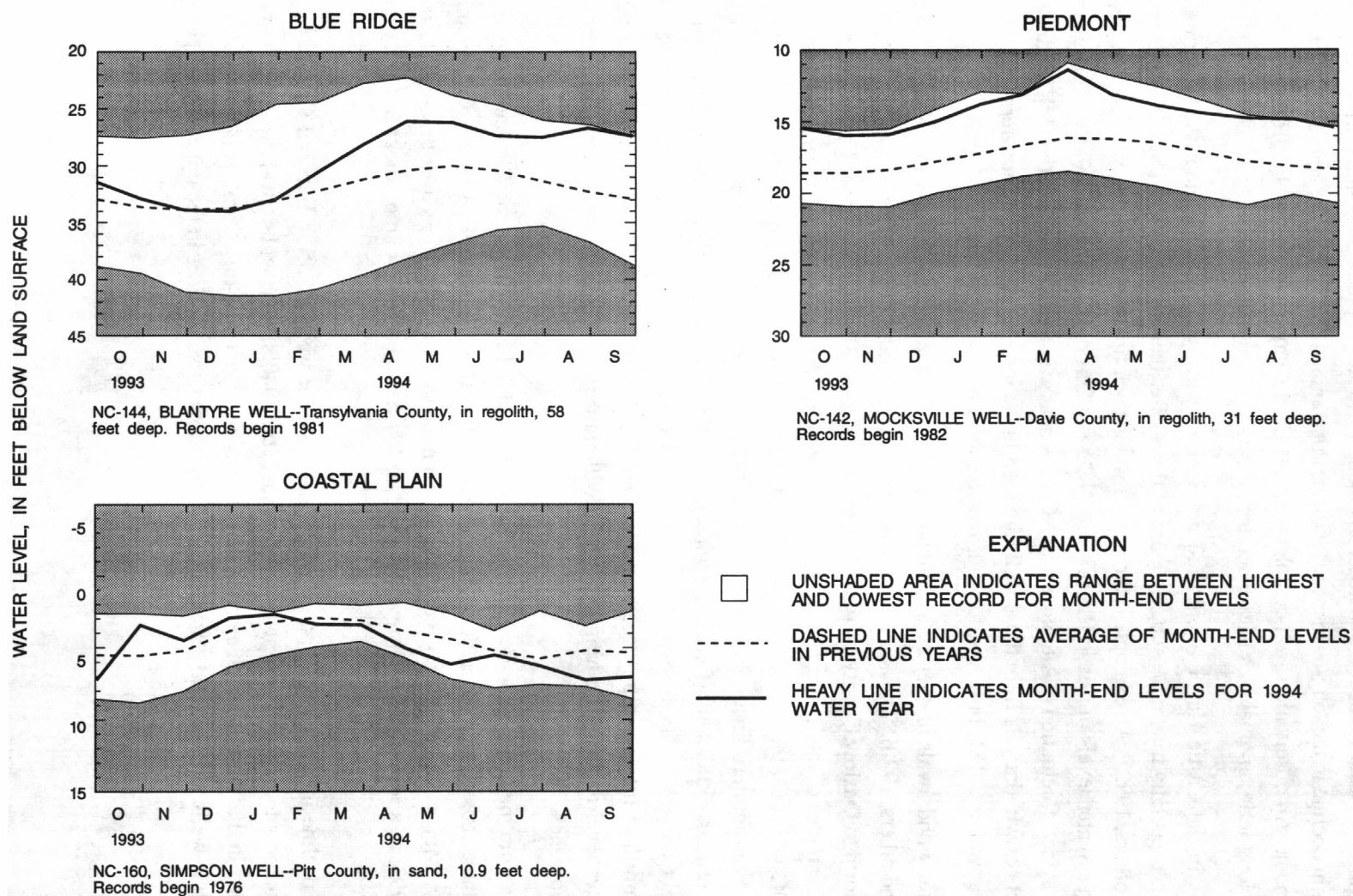


Figure 4.--Water levels in index observation wells in the Blue Ridge, Piedmont, and Coastal Plain Provinces.

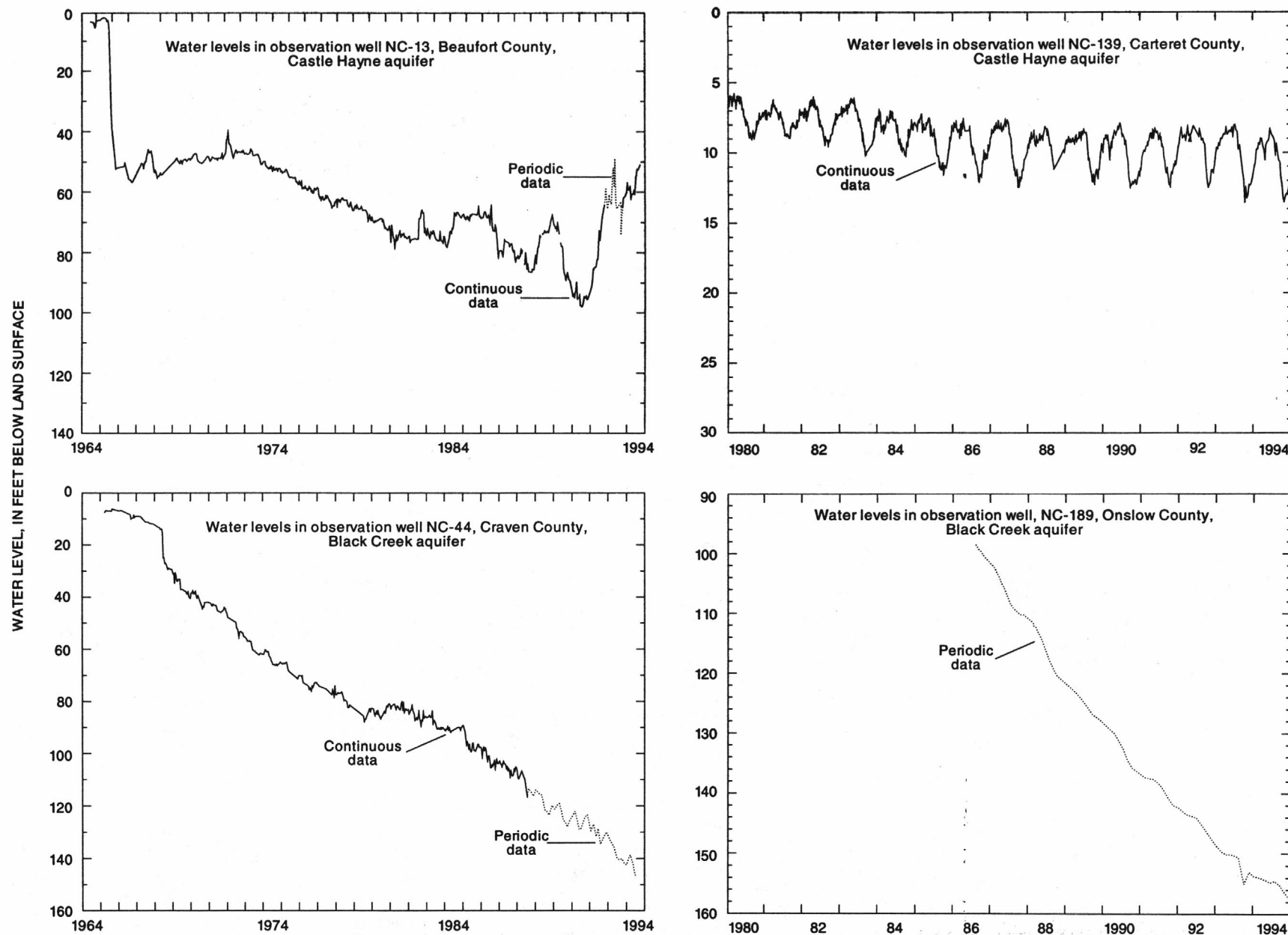


Figure 5.--Hydrographs of selected observation wells in the Castle Hayne, and Black Creek aquifers of the Coastal Plain Province.

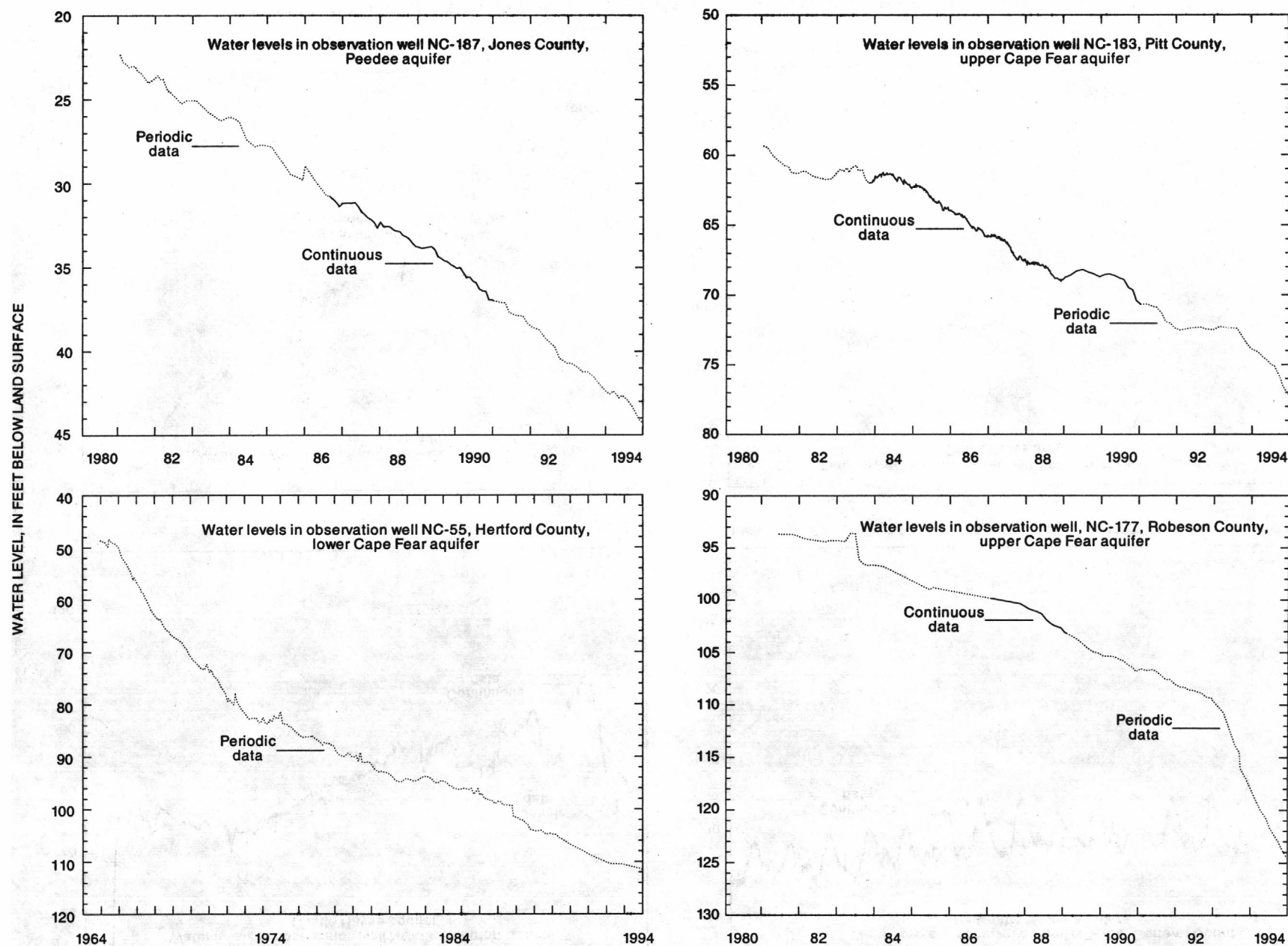


Figure 6.--Hydrographs of selected observation wells in the Peedee, upper Cape Fear, and lower Cape Fear aquifers of the Coastal Plain Province.

EXPLANATION OF RECORDS

Ground-Water-Level Data

The ground-water data published in this report are for the 1994 water year that began October 1, 1993, and ended September 30, 1994. 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). For some wells equipped with recorders, abbreviated tables are published with daily mean water-levels for only every fifth day and at the end of the month.

(eom); generally, complete tables of daily values are published for climatic-effects wells, and abbreviated tables are published for terrane-, local- and areal-effects wells. The highest and lowest daily mean water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all daily values are not published for some wells with recorders, the extreme daily values may not be listed in the table. 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.

WATER-RESOURCES DATA FOR NORTH CAROLINA, 1994**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)
&	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.

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- Coble, R. W., Strickland, A. G., and Bailey, M. C., 1989, Ground-water level data for North Carolina, 1987: U.S. Geological Survey Open-File Report 89-68, 152 p.
- Eimers, J. L., Lyke, W. L., and Brockman, A. R., 1990, Simulation of ground-water flow in aquifers in Cretaceous rocks in the central Coastal Plain, North Carolina: U.S. Geological Survey Water-Resources Investigations Report 89-4153, 101 p.
- Strickland, A. G., Coble, R. W., Edwards, L. A., and Pope, B. F., 1992, Ground-water level data for North Carolina, 1988-90: U.S. Geological Survey Open-File Report 92-57, 167 p.
- Winner, M. D., Jr., 1981, An observation-well network concept as applied to North Carolina: U.S. Geological Survey Water-Resources Investigations Report 81-13, 59 p.
- Winner, M.D., Jr., and Coble, R.W., 1989, Hydrogeologic framework of the North Carolina Coastal Plain Aquifer System: U.S. Geological Survey Open-File 87-690, 155p. + 44 pl.

ACCESS TO WATSTORE DATA

The National Water Data Storage and Retrieval System (WATSTORE) was established in 1972 to provide an effective and efficient means of processing and maintaining water data collected through the activities of the U.S. Geological Survey. A variety of useful products ranging from data tables to complex statistical analyses can be produced using WATSTORE. The system resides on the central computer facilities of the USGS at the National Center in Reston, Virginia, and consists of related files and databases.

- Station-Header File - Contains descriptive information from over 440,000 sites throughout the United States and its territories where the USGS collects or has collected data.
- Ground-Water Site-Inventory Data Base - Contains inventory data for over 900,000 wells, springs, and other sources of ground water. The data include site location, hydrogeologic characteristics, well-construction history, and one-time field measurements such as water temperature.
- Water-Quality File - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radiochemical characteristics of surface and ground water.

In 1976, the USGS opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the USGS is required to obtain direct access to WATSTORE. The system can be accessed either synchronously or asynchronously. The requestor will be expected to pay all computer costs incurred. Direct access can be arranged by contacting:

U.S. Geological Survey
National Water Data Exchange
National Center, Mail Stop 421
Reston, VA 22092

WATER-RESOURCES DATA FOR NORTH CAROLINA, 1994

In addition to providing direct access to WATSTORE, National Water Data Exchange (NAWDEX) services include data-search assistance, data dissemination, and data referrals. Data can be provided in various machine-readable formats on magnetic tape or 5 1/4-in. floppy diskette. Requests for water data should be directed to the local USGS District office:

District Chief
U.S. Geological Survey
P.O. Box 30728
Raleigh, NC 27622

Water-data requests that cannot be filled by the District office will be referred to the National Water Data Exchange (NAWDEX) office in Reston, Virginia.

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, others perform an essential role in nature in the recycling of materials; such as, 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. 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 within 24 hours when incubated at 35 °C plus or minus 0.5 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines 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 which produce blue colonies within 24 hours when incubated at 44.5 °C plus or minus 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in intestines 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 0.5 °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 natural water color 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.

Dissolved is 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 detergent compounds.

Micrograms per liter (UG/L, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in solution as the weight (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent 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 computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The U.S. 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.

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 about 65 percent of the specific conductance (in microsiemens). This relation is not constant from aquifer to aquifer, and it can vary in the same aquifer 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 determines 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; 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 would be 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 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."

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

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. Ficken, 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. McCary: 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 measurements 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-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by 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. Rathburn, Nobuhiro Yotsukura, G. W. Parker, and L. L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52 pages.
- 3-A19. *Levels of streamflow gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 31 pages.
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- 3-B2. *Introduction to ground-water hydraulics, a programmed 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.
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- 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.
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- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

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- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
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- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
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- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L. C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 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.
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- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S. A. Leake and D. E. Prudic: USGS--TWRI Book 6, Chapter A2. 1991. 68 pages.
- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L. J. Torak: USGS--TWRI Book 6, Chapter A3. 1993. 136 pages.
- 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 problems, Part 3: Design philosophy and programming details*, by L. J. Torak: USGS--TWRI Book 6, Chapter A5. 1993. 243 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.

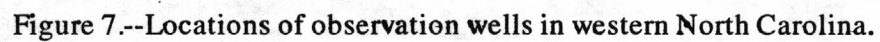


Figure 7.--Locations of observation wells in western North Carolina.

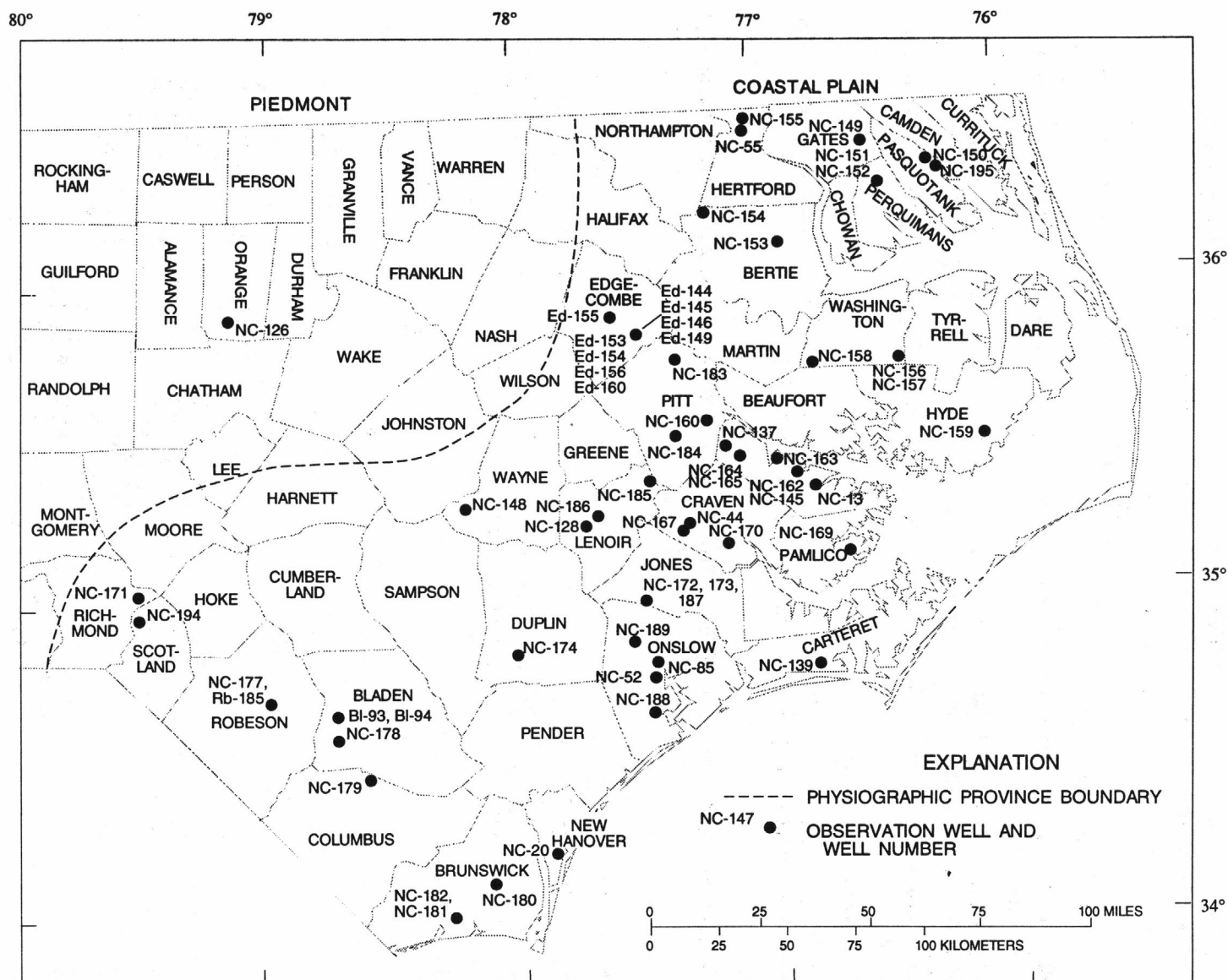


Figure 8.--Locations of observation wells in eastern North Carolina.

WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

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: Texasgulf Chemicals Company.

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.--Digital recorder with a 60-minute punch interval. Measured periodically with steel tape October 1992 to September 1993.

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.

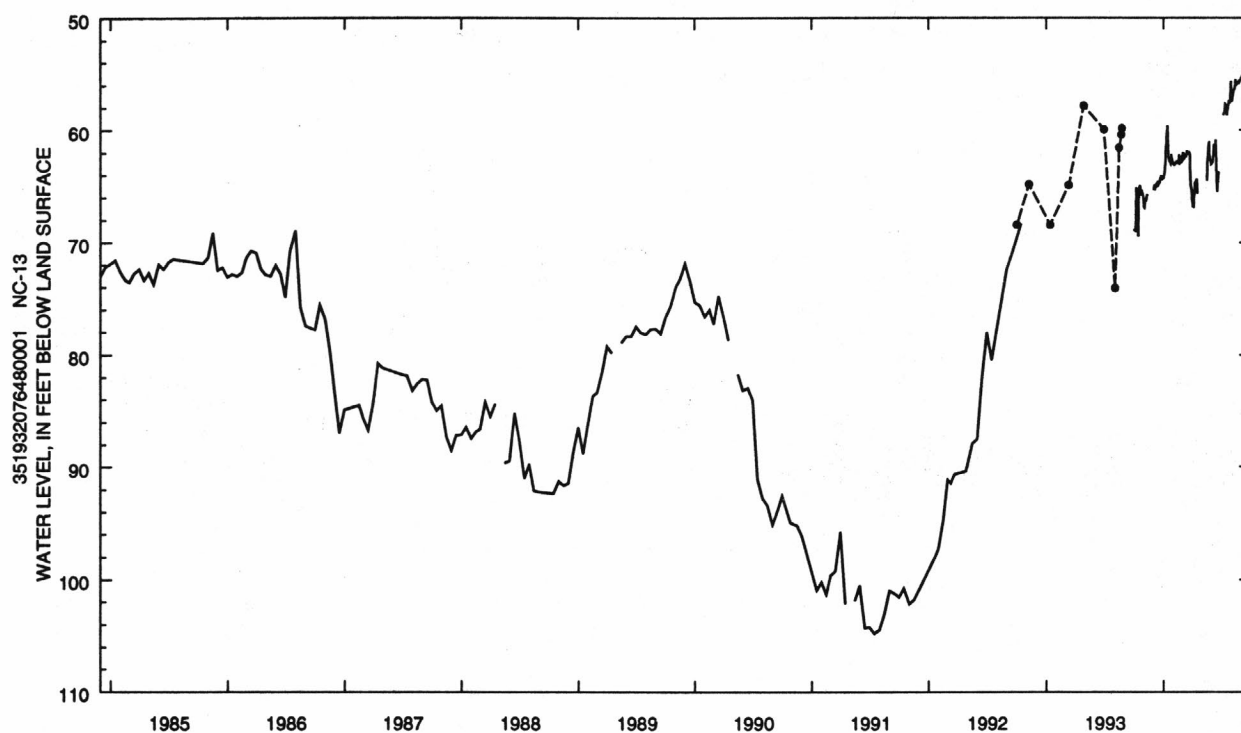
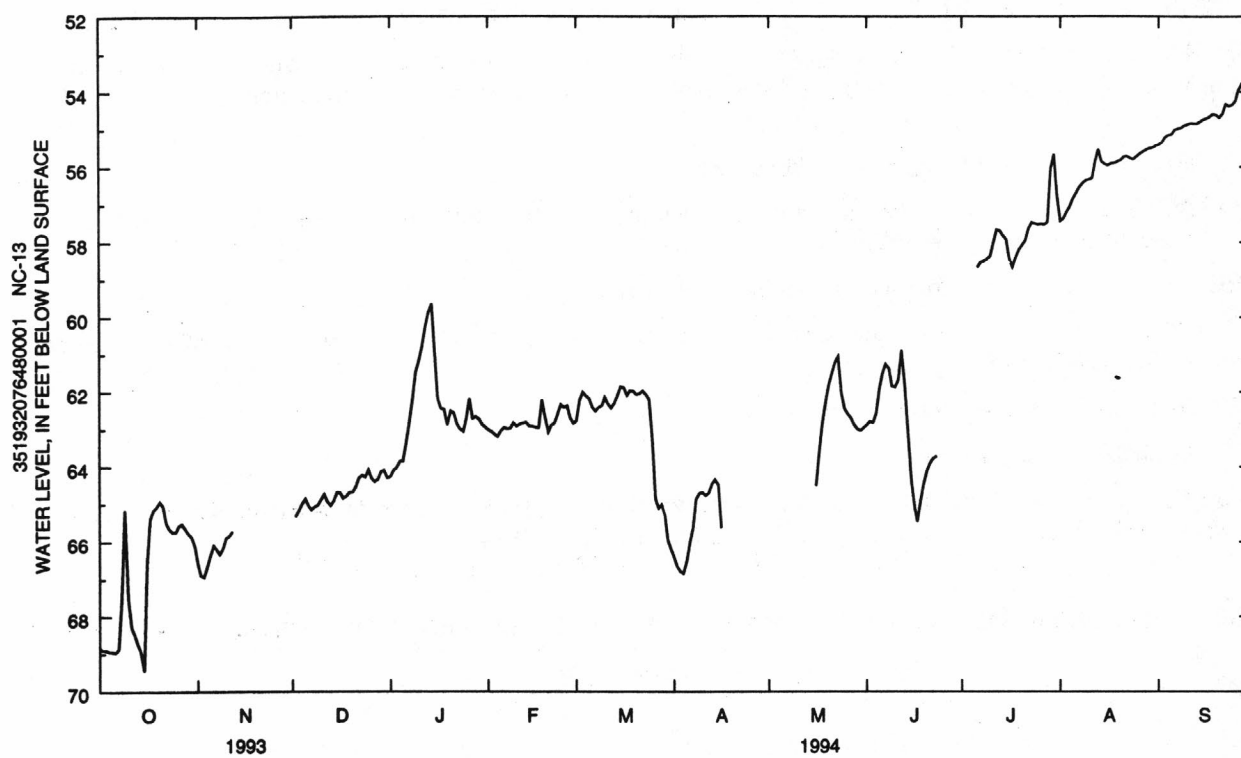
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.38 ft below land-surface datum, Apr. 9, 1965; lowest water level recorded, 107.25 ft below land-surface datum, July 11, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	68.93	66.36	64.86	63.86	63.03	62.18	66.52	---	61.91	---	56.84	55.12
10	67.49	65.91	64.88	61.18	62.92	62.13	64.68	---	61.88	58.37	56.32	54.87
15	69.45	---	64.68	60.88	62.92	61.86	64.48	---	64.30	57.93	55.91	54.73
20	64.94	---	64.68	62.51	63.07	62.07	---	61.82	64.11	58.08	55.81	54.68
25	65.74	---	64.08	62.73	62.41	63.24	---	62.45	---	57.53	55.71	54.25
EOM	66.10	---	64.29	62.94	62.83	66.19	---	62.97	---	56.78	55.42	54.04

WTR YR 1994 MEAN 61.74 HIGH 53.79 SEP 27 LOW 69.45 OCT 15



BEAUFORT COUNTY--Continued

352615077083401. Local number, NC-137; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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.--Digital recorder with a 60-minute punch interval.

DATUM.--Land-surface datum is 56.84 ft above sea level (levels by DEHNR). Measuring point: Top of collar on casing, 0.8 ft above land-surface datum.

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

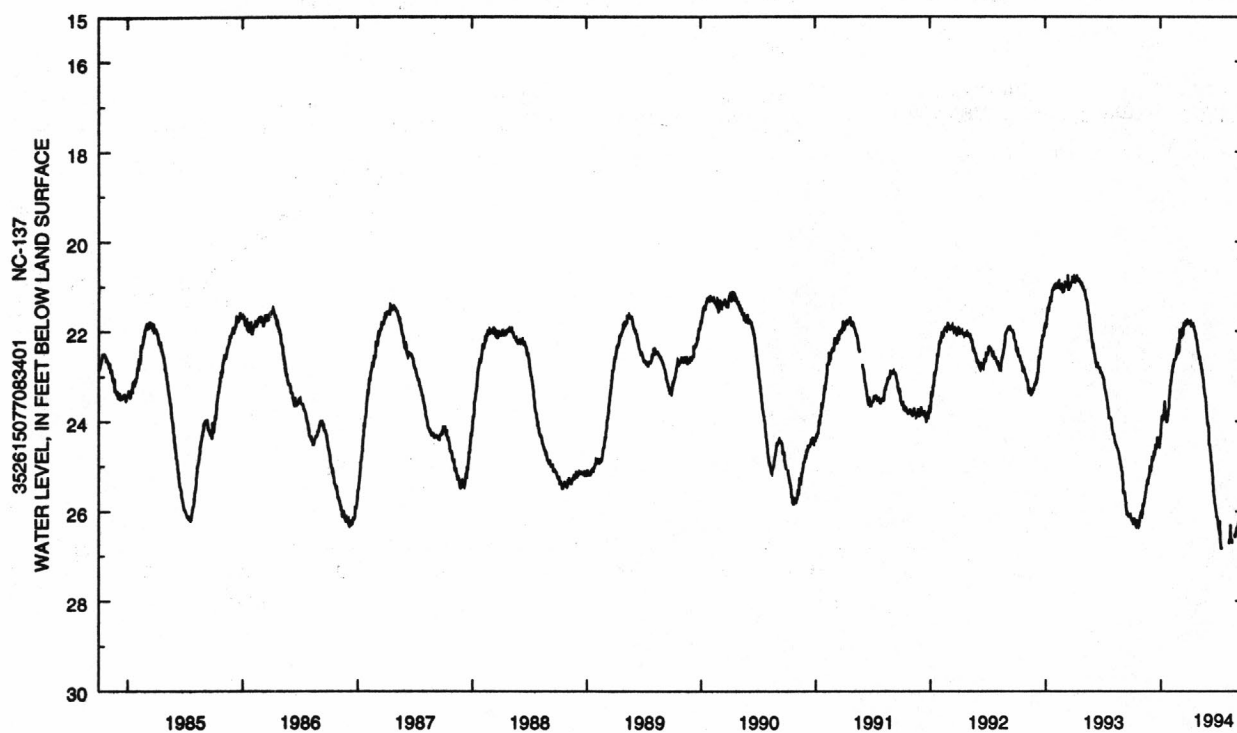
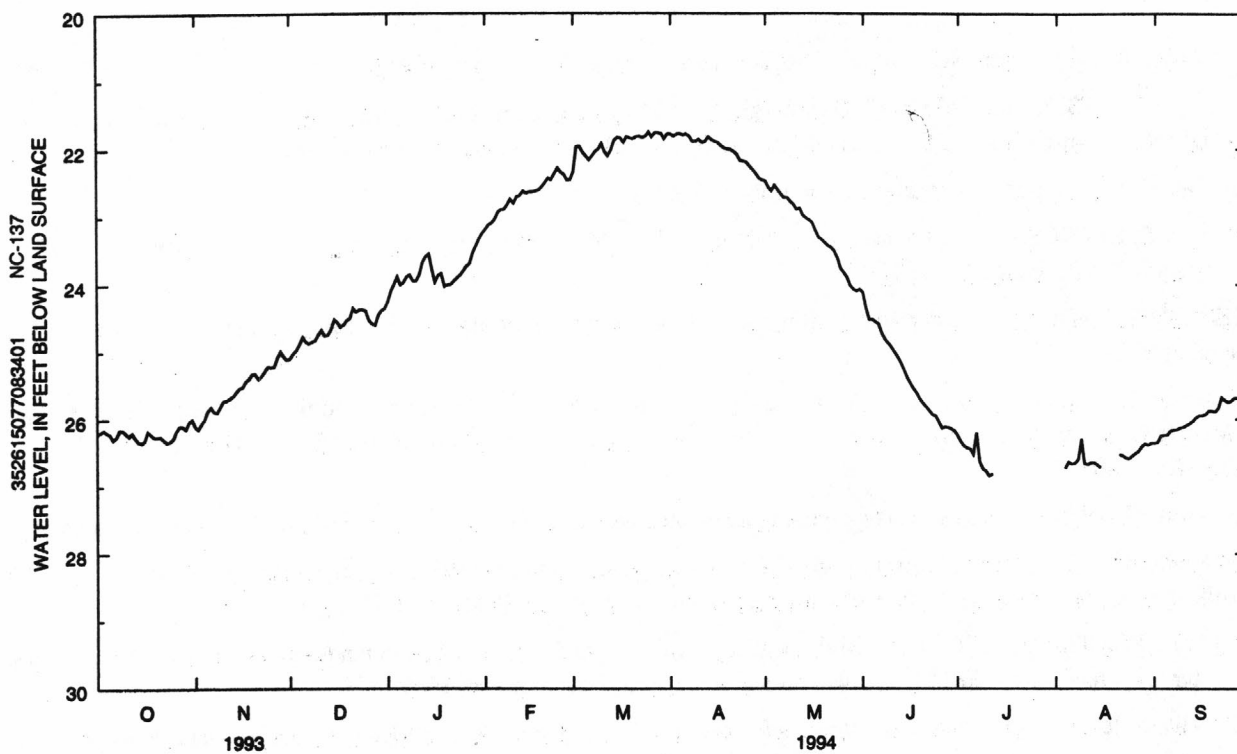
PERIOD OF RECORD.--January 1972 to current year.

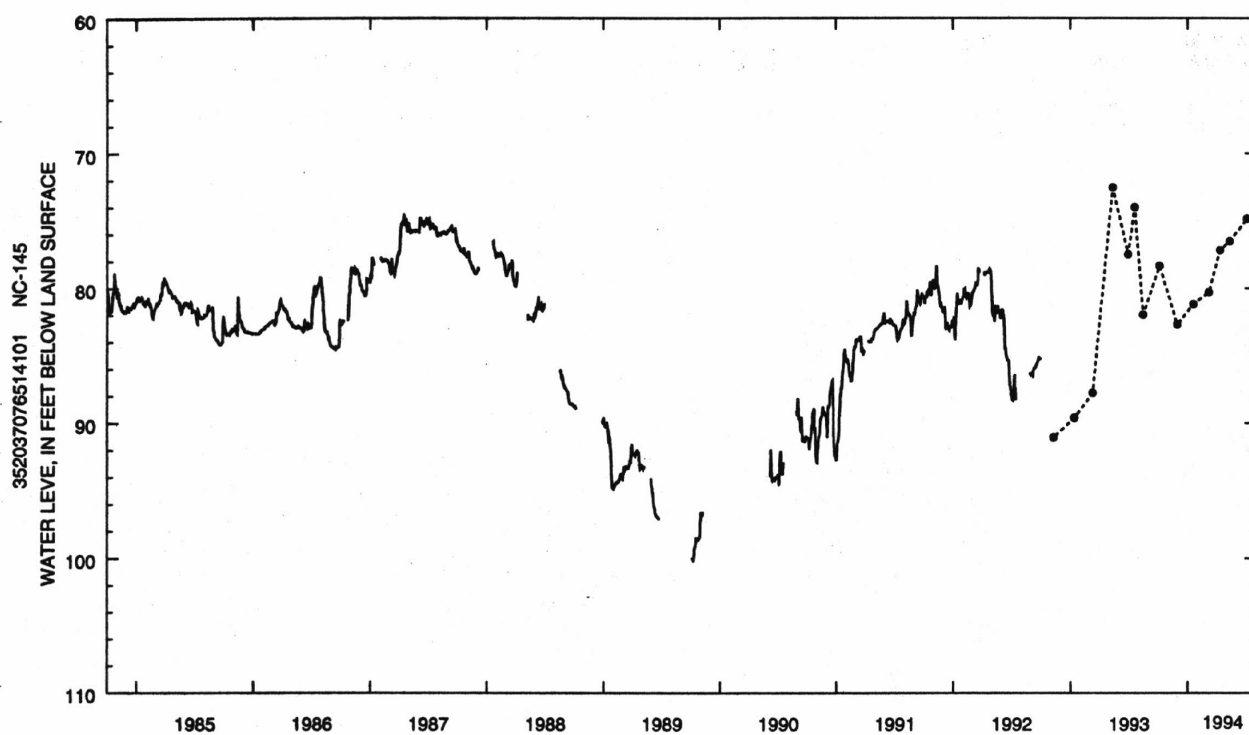
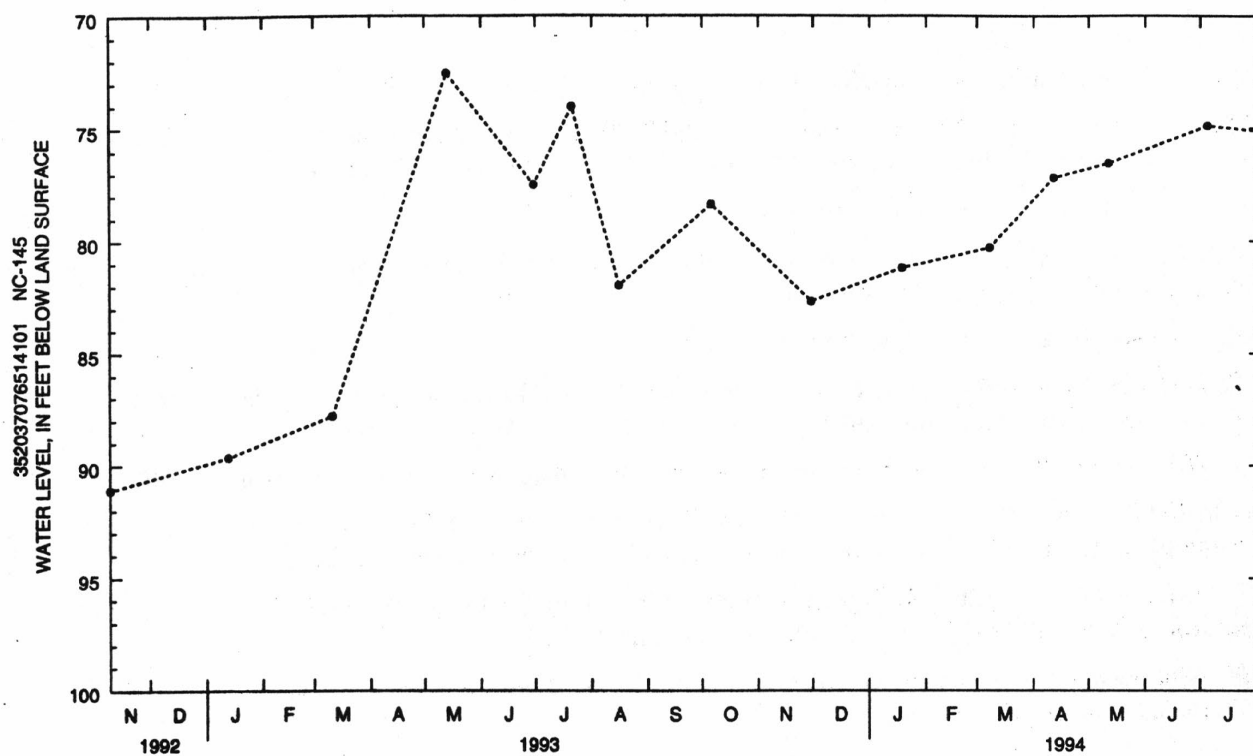
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 19.90 ft below land-surface datum, Feb. 3, 1972; lowest water level recorded, 26.99 ft below land-surface datum, July 13, 1994.

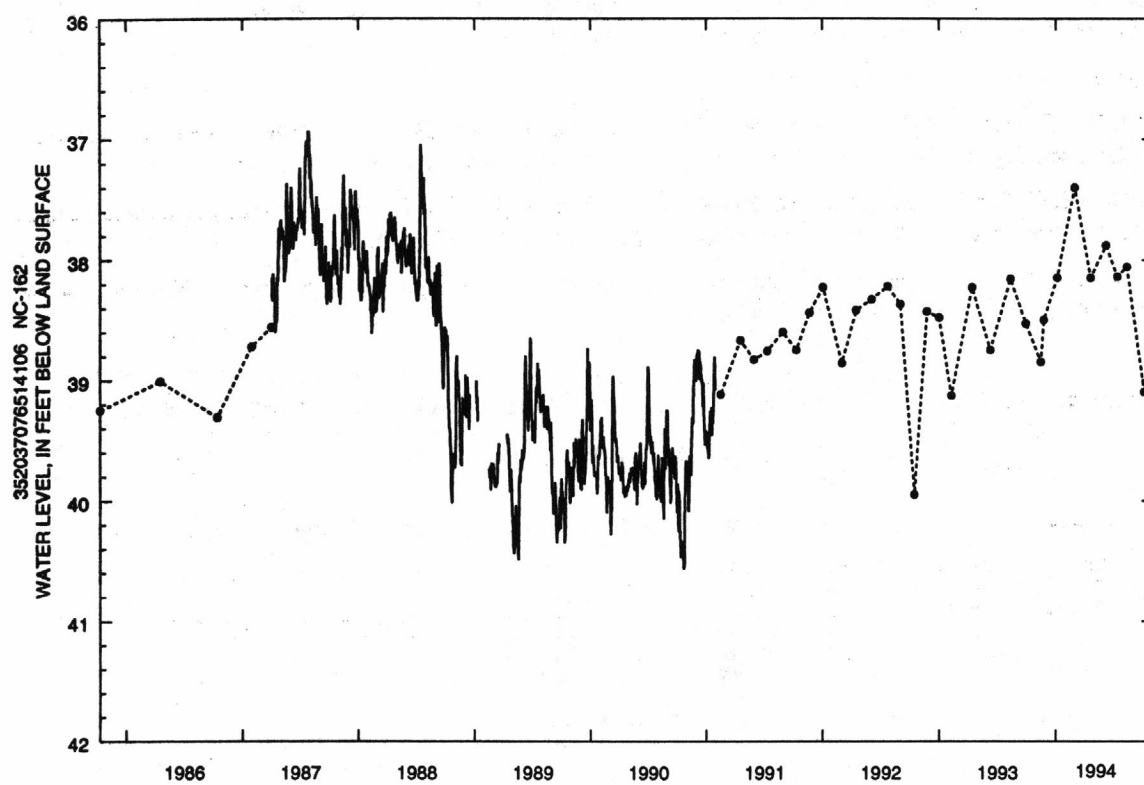
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

[illegible]







WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

BEAUFORT COUNTY--Continued

352224076570403. Local number, NC-163; DEHNR Coxs Crossroads Research Station well P19m3.

LOCATION.--Lat 35°22'24", long 76°57'04", Hydrologic Unit 03020104, at North Carolina Department of Transportation Maintenance Yard near Coxs Crossroads, and 0.25 mi north of State Highway 32 on Secondary Road 1100. Owner: DEHNR (North Carolina Department of Environment, Health, and Natural Resources).

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

WELL CHARACTERISTICS.--Drilled observation well, drilled to 250 ft, diameter 4 in., cased to 81 ft, open hole to 250 ft, measured depth 236.5 ft, September 1981.

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

DATUM.--Land-surface datum is 25.38 ft above sea level (levels by DEHNR). Measuring point: Top of plastic sleeve on instrument shelf, 2.07 ft above land-surface datum (since July 1990).

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

PERIOD OF RECORD.--June 1967 to current year. Continuous record began November 1986. Records from June 1967 to November 1986 are unpublished and available in the files of the Groundwater Section, DEHNR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 21.14 ft below land-surface datum, Feb. 23, 1972; lowest water level recorded, 31.36 ft below land-surface datum, Feb. 4 and 5, 1989.

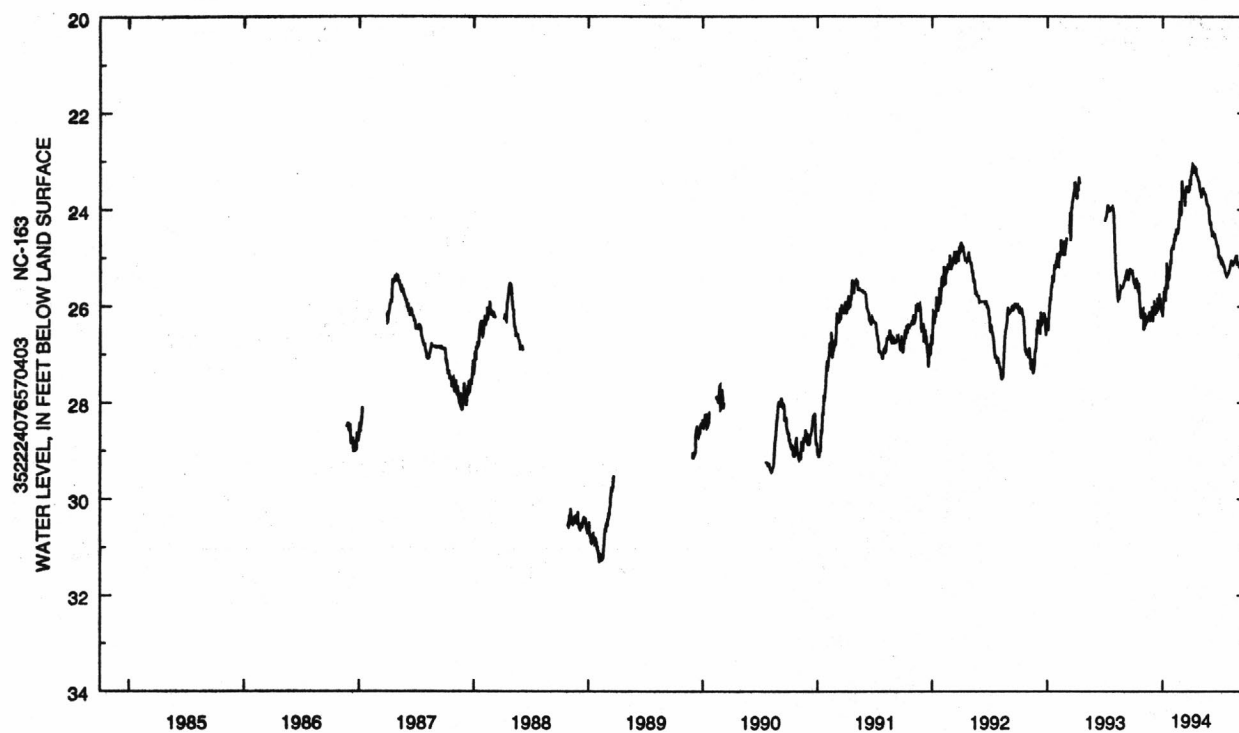
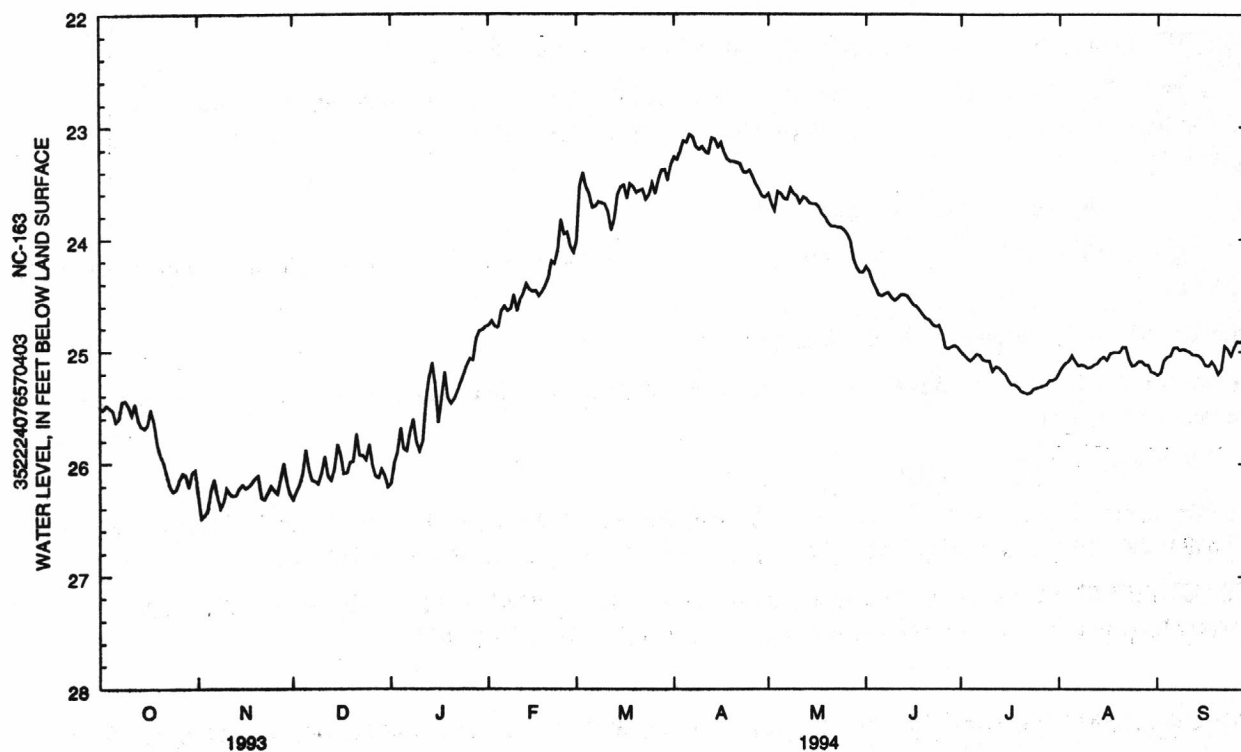
REVISIONS.--Water-level mean values and extremes for period of record published in Water Resources Data, North Carolina, NC-87-1, should be adjusted by -0.1 ft.

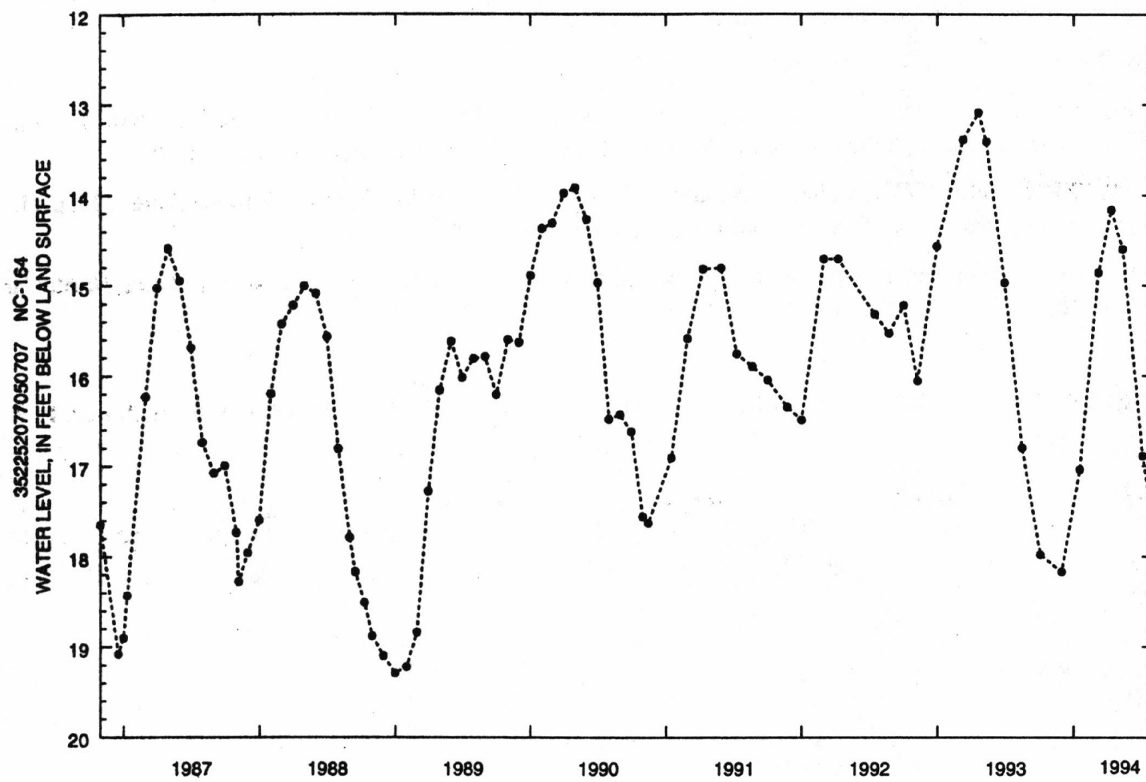
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

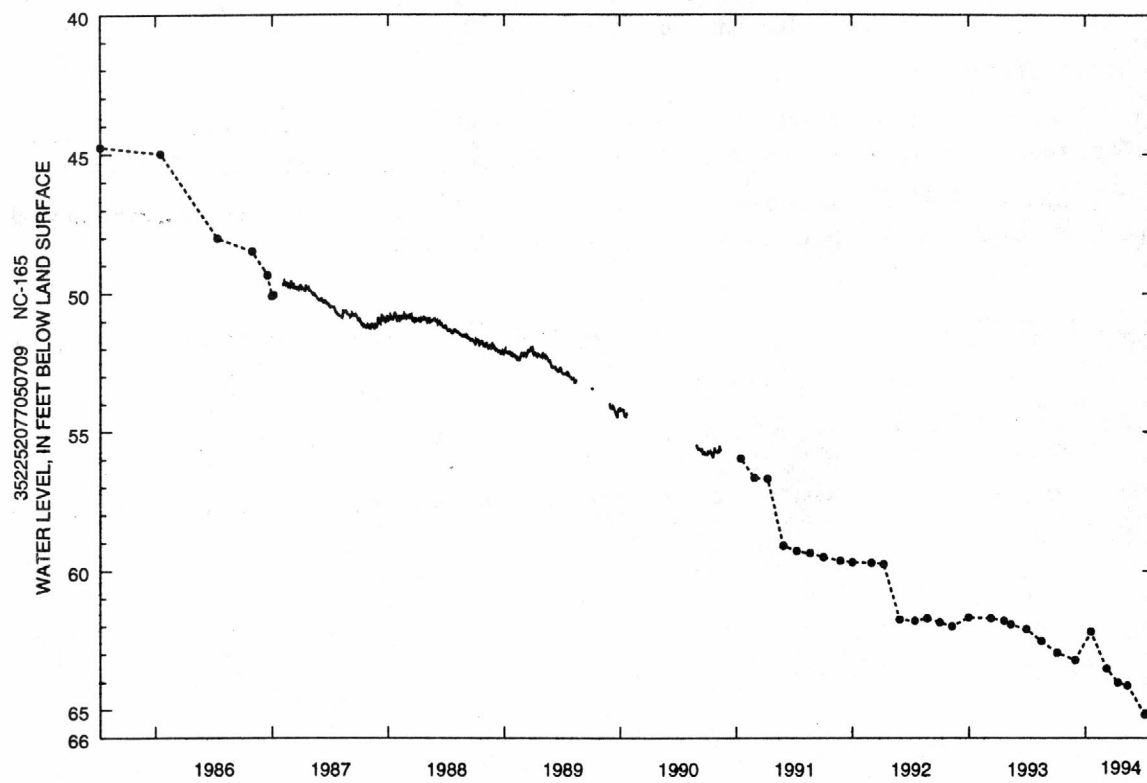
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	25.53	26.24	25.88	25.87	24.64	23.60	23.14	23.60	24.50	25.06	25.04	25.04
10	25.49	26.22	26.08	25.89	24.64	23.69	23.18	23.62	24.55	25.09	25.15	24.99
15	25.69	26.19	25.83	25.30	24.47	23.54	23.18	23.69	24.55	25.21	25.05	25.07
20	25.93	26.11	25.98	25.47	24.34	23.59	23.31	23.86	24.71	25.36	25.01	25.20
25	26.23	26.24	25.83	25.13	23.96	23.50	23.39	23.92	24.84	25.33	25.12	24.96
EOM	26.06	26.27	26.21	24.78	24.12	23.34	23.63	24.30	24.97	25.24	25.19	24.96

WTR YR 1994 MEAN 24.89 HIGH 23.07 APR 6 LOW 26.49 NOV 2







WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

BERTIE COUNTY

361002076562106. Local number, NC-153; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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 DEHNR). Measuring point: Top of casing, 1.25 ft above land-surface datum; revised from 3.01 ft above land-surface datum July 2, 1994.

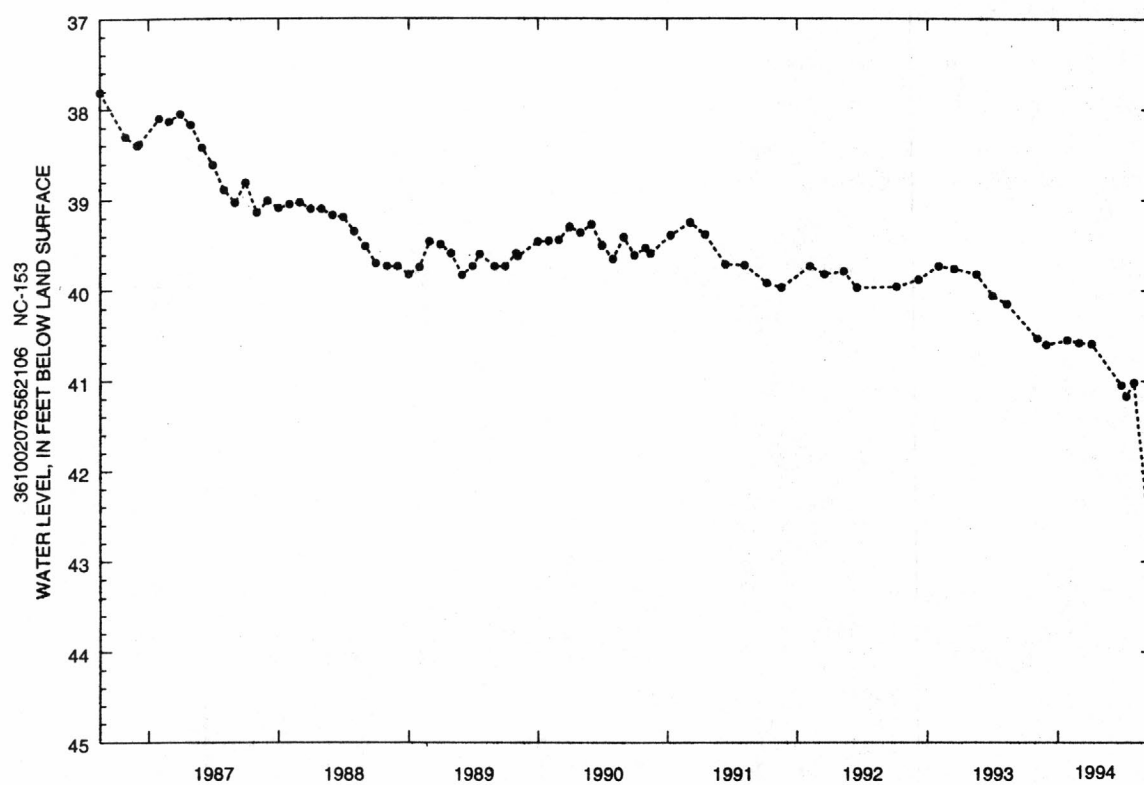
REMARKS.--Well is part of areal-effects network.

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, DEHNR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 31.51 ft below land-surface datum, July 30, 1975; lowest water level measured, 43.03 ft below land-surface datum, Sept. 22, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 4	40.53	JAN 27	40.55	APR 5	40.59	JUL 11	41.17	AUG 1	41.02	SEP 22	43.03
NOV 29	40.60	MAR 1	40.58	JUN 27	41.05						



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

BERTIE COUNTY--Continued

361420077111407. Local number, NC-154; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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.--Digital recorder with a 60-minute punch interval.

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.

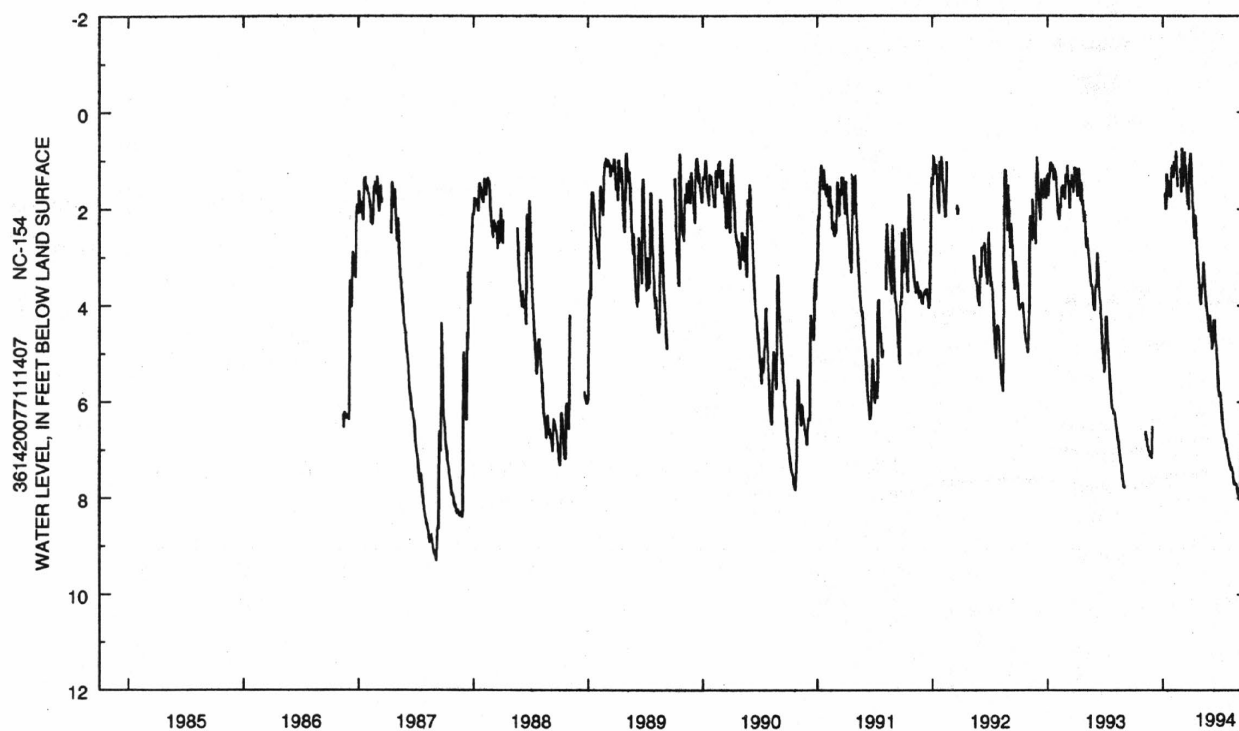
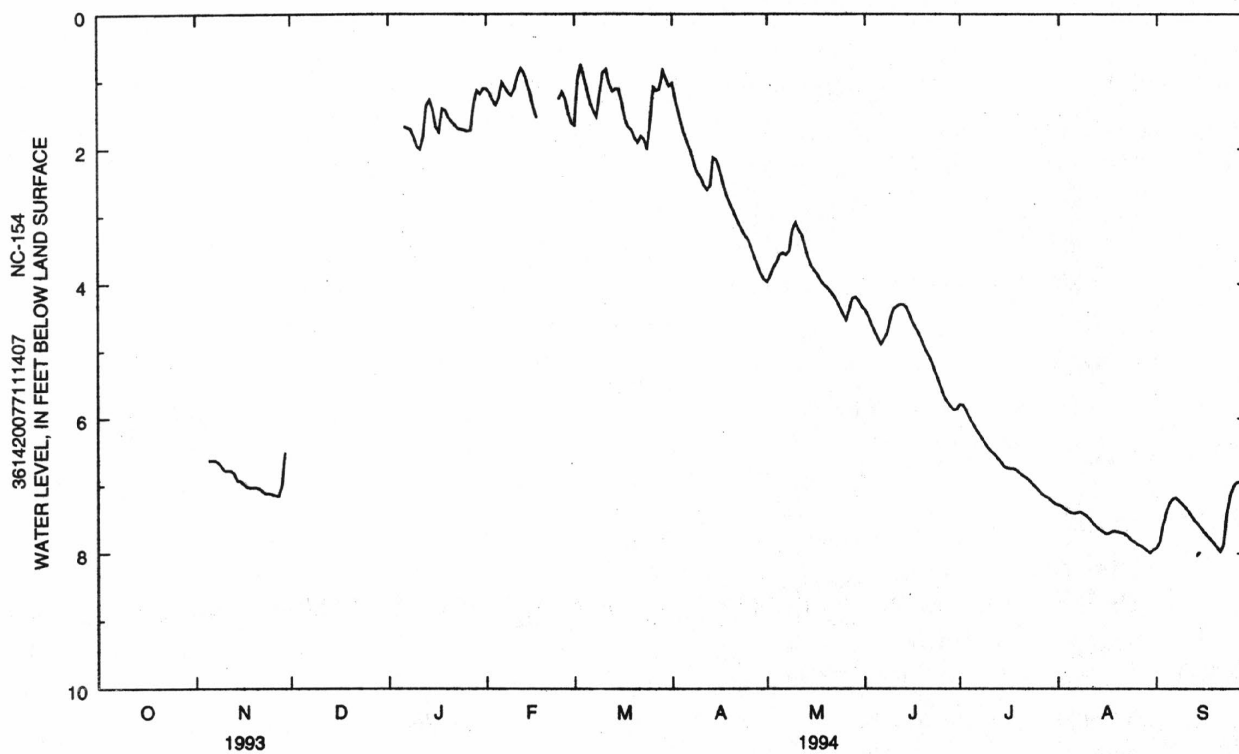
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.69 ft below land-surface datum, Mar. 2, 3, 1994; lowest water level recorded, 9.31 ft below land-surface datum, Sept. 5, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	1.11	1.65	1.03	3.98	4.39	5.80	7.29	7.92
2	---	---	---	---	1.17	.97	1.27	3.88	4.48	5.81	7.30	7.84
3	---	---	---	---	1.28	.75	1.47	3.77	4.60	5.89	7.34	7.59
4	---	---	---	---	1.35	.94	1.64	3.69	4.71	5.99	7.37	7.40
5	---	6.63	---	---	1.25	1.13	1.81	3.58	4.81	6.08	7.40	7.27
6	---	6.63	---	1.68	1.02	1.32	1.93	3.55	4.90	6.16	7.41	7.20
7	---	6.63	---	1.69	1.09	1.44	2.05	3.57	4.83	6.23	7.40	7.18
8	---	6.66	---	1.71	1.17	1.53	2.23	3.52	4.73	6.30	7.39	7.22
9	---	6.72	---	1.82	1.21	1.16	2.36	3.20	4.53	6.38	7.42	7.27
10	---	6.78	---	1.97	1.10	.87	2.42	3.10	4.38	6.45	7.45	7.32
11	---	6.78	---	2.01	.93	.82	2.54	3.20	4.34	6.50	7.50	7.38
12	---	6.78	---	1.80	.81	1.04	2.61	3.28	4.31	6.54	7.56	7.45
13	---	6.82	---	1.37	.88	1.15	2.55	3.44	4.31	6.60	7.61	7.52
14	---	6.93	---	1.28	1.03	1.11	2.13	3.61	4.35	6.65	7.65	7.57
15	---	6.93	---	1.40	1.19	1.12	2.17	3.74	4.46	6.72	7.68	7.63
16	---	6.98	---	1.68	1.40	1.32	2.30	3.81	4.58	6.74	7.71	7.69
17	---	7.02	---	1.75	1.54	1.57	2.49	3.87	4.66	6.75	7.71	7.75
18	---	7.03	---	1.41	---	1.67	2.67	3.96	4.75	6.75	7.68	7.79
19	---	7.03	---	1.43	---	1.72	2.79	4.02	4.85	6.77	7.68	7.85
20	---	7.03	---	1.54	---	1.83	2.89	4.06	4.97	6.82	7.69	7.91
21	---	7.05	---	1.60	---	1.91	3.01	4.11	5.06	6.86	7.70	7.97
22	---	7.09	---	1.65	---	1.81	3.11	4.18	5.16	6.89	7.71	7.88
23	---	7.12	---	1.70	---	1.86	3.21	4.25	5.29	6.93	7.75	7.44
24	---	7.12	---	1.71	1.26	2.01	3.29	4.35	5.42	6.98	7.80	7.16
25	---	7.13	---	1.72	1.16	1.59	3.36	4.45	5.56	7.03	7.83	7.02
26	---	7.15	---	1.74	1.26	1.09	3.48	4.54	5.69	7.08	7.87	6.96
27	---	7.16	---	1.73	1.48	1.14	3.61	4.39	5.76	7.13	7.89	6.94
28	---	7.00	---	1.34	1.62	1.12	3.74	4.22	5.83	7.16	7.92	6.97
29	---	6.51	---	1.14	---	.85	3.86	4.20	5.88	7.19	7.96	7.00
30	---	---	---	1.19	---	.96	3.94	4.26	5.87	7.23	7.99	7.07
31	---	---	---	1.11	---	1.07	---	4.34	---	7.27	7.95	---

WTR YR 1994 MEAN 4.50 HIGH .75 LOW 7.99



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

AQUIFER.--Peedee aquifer of Late Cretaceous age.

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

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.

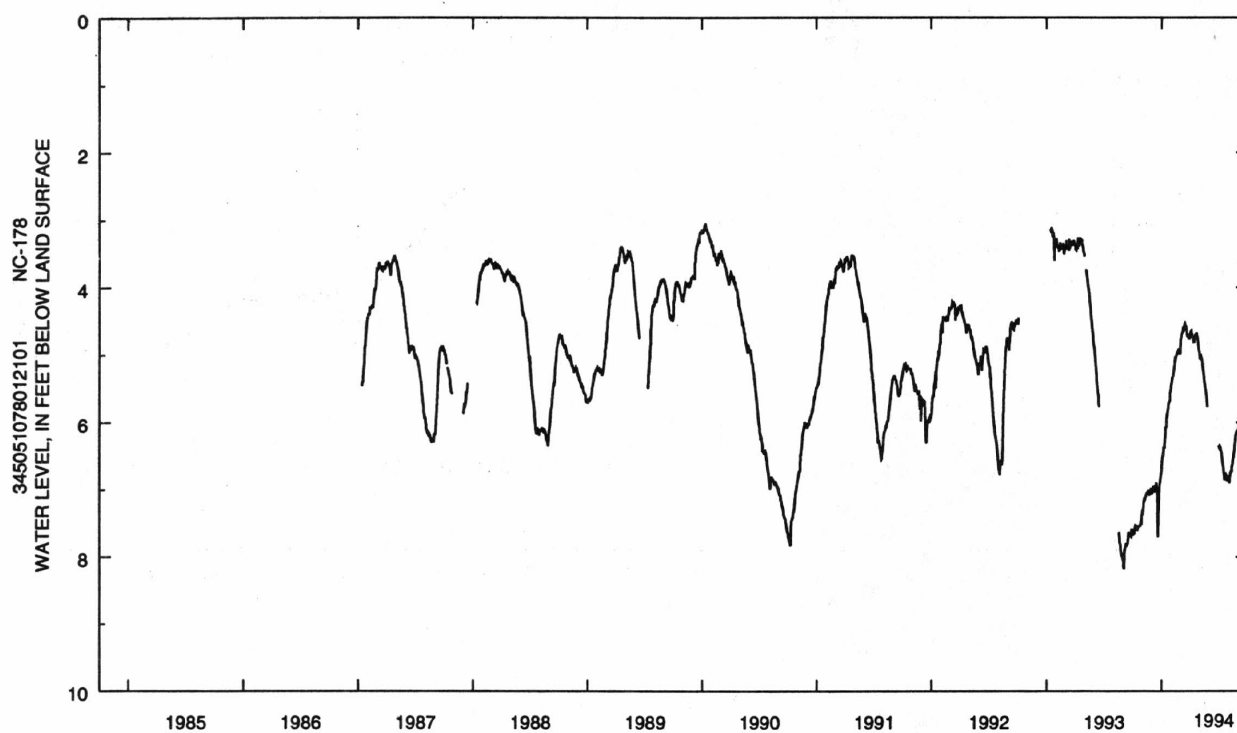
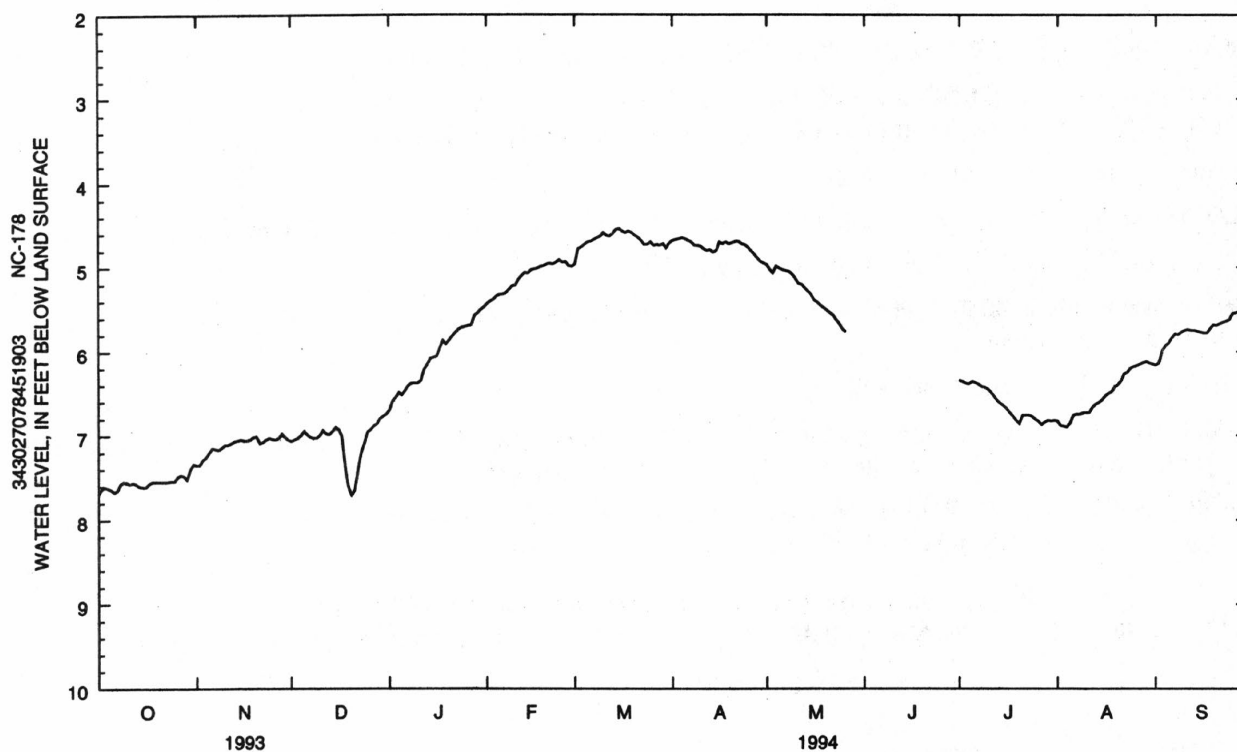
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.73 ft below land-surface datum, Apr. 19, 1978; lowest water level recorded, 8.21 ft below land-surface datum, Sept. 4, 1993.

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 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

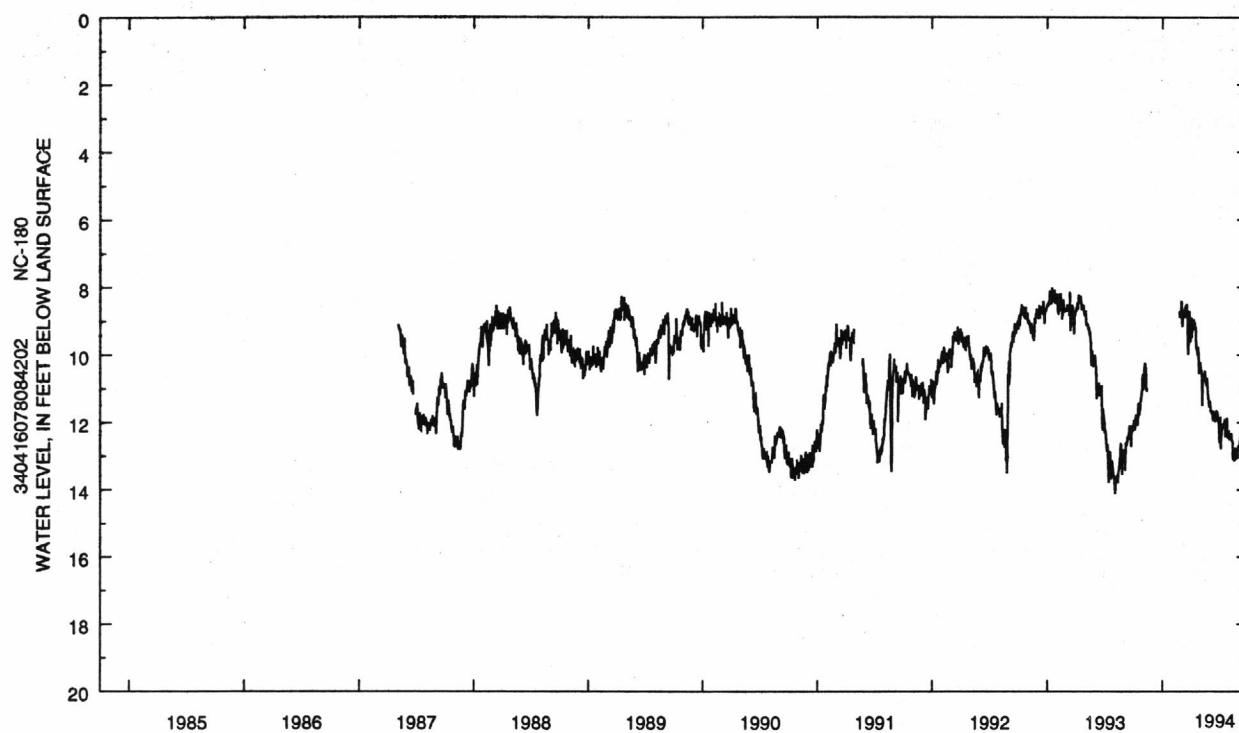
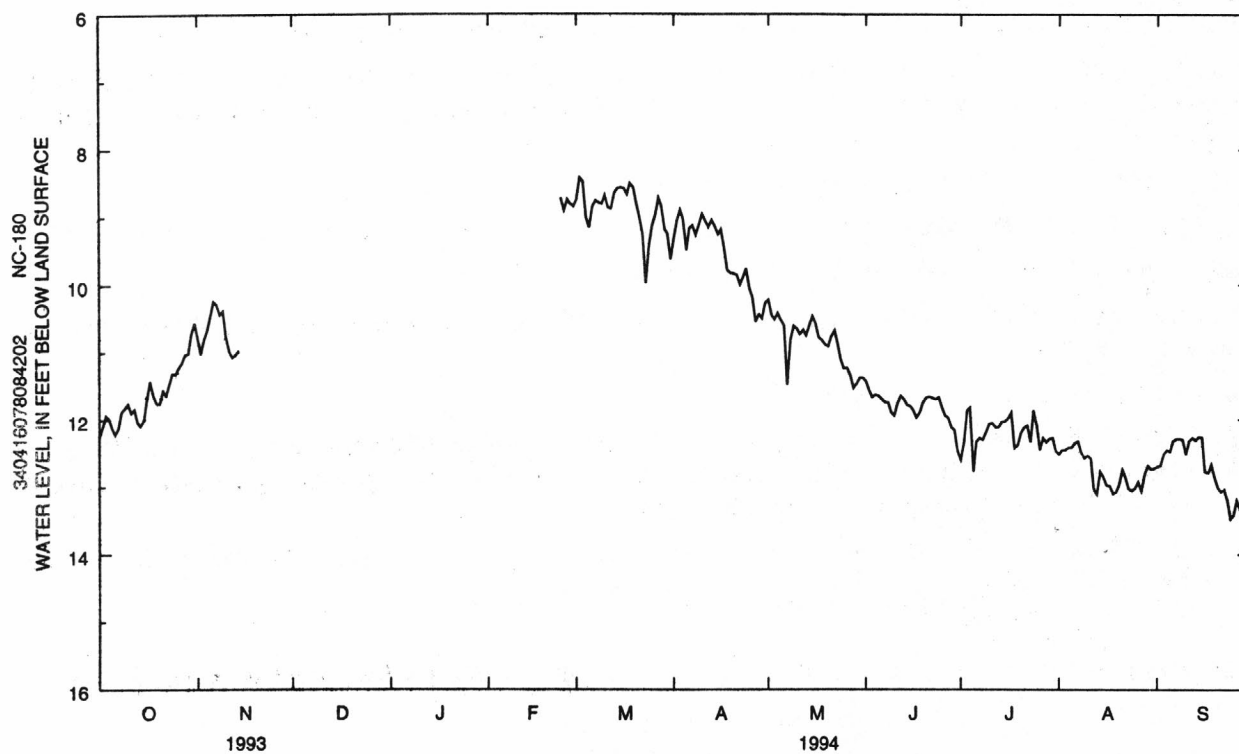
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.64	7.20	6.95	6.52	5.32	4.70	4.66	5.01	---	6.36	6.85	5.90
10	7.56	7.11	7.00	6.38	5.21	4.59	4.75	5.13	---	6.45	6.73	5.75
15	7.61	7.05	6.90	6.07	5.03	4.54	4.80	5.32	---	6.65	6.58	5.77
20	7.55	7.01	7.71	5.86	4.96	4.62	4.71	5.51	---	6.86	6.40	5.69
25	7.54	7.04	6.96	5.70	4.94	4.70	4.76	5.73	---	6.81	6.18	5.55
EOM	7.34	7.05	6.75	5.47	4.99	4.71	4.95	---	---	6.82	6.15	5.56
WTR YR 1994		MEAN 6.07	HIGH 4.54	MAR 15	LOW 7.71	DEC 20						



EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 5.52 ft below land-surface datum, Aug. 14, 1973; lowest water level recorded, 14.54 ft below land-surface datum, Oct. 22, 1990.

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.13	10.47	---	---	---	9.16	9.49	10.53	11.66	12.77	12.42	12.48
10	11.77	10.77	---	---	---	8.68	8.96	10.66	11.95	12.07	12.54	12.52
15	12.01	---	---	---	---	8.57	9.26	10.48	11.81	12.03	12.86	12.27
20	11.77	---	---	---	---	8.79	9.84	10.92	11.69	12.20	12.98	13.01
25	11.32	---	---	---	8.90	9.13	10.07	11.25	11.83	12.11	13.02	13.41
EOM	10.57	---	---	---	8.84	9.62	10.27	11.39	12.48	12.47	12.73	13.57
WTR YR 1994		MEAN 11.24	HIGH 8.42 MAR 2		LOW 13.57 SEP 30							



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

BRUNSWICK COUNTY--Continued

335629078115406. Local number, NC-181; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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.--Digital recorder with a 60-minute punch interval.

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

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

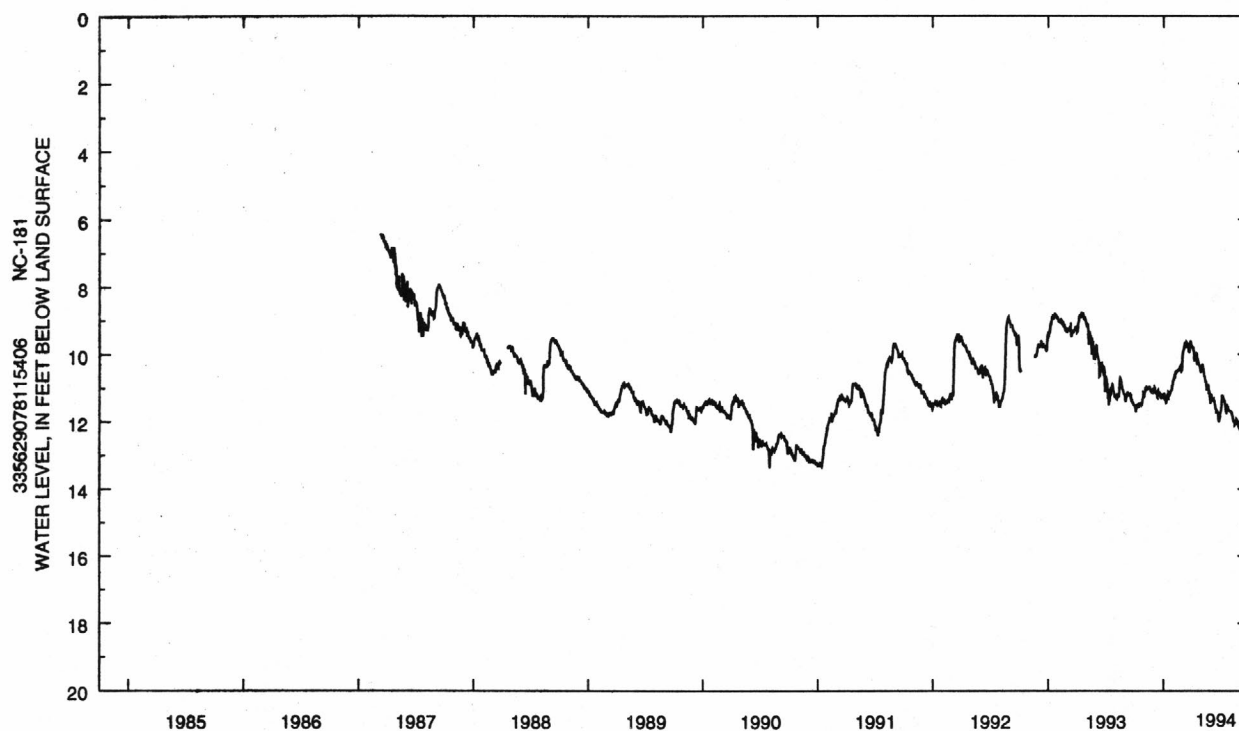
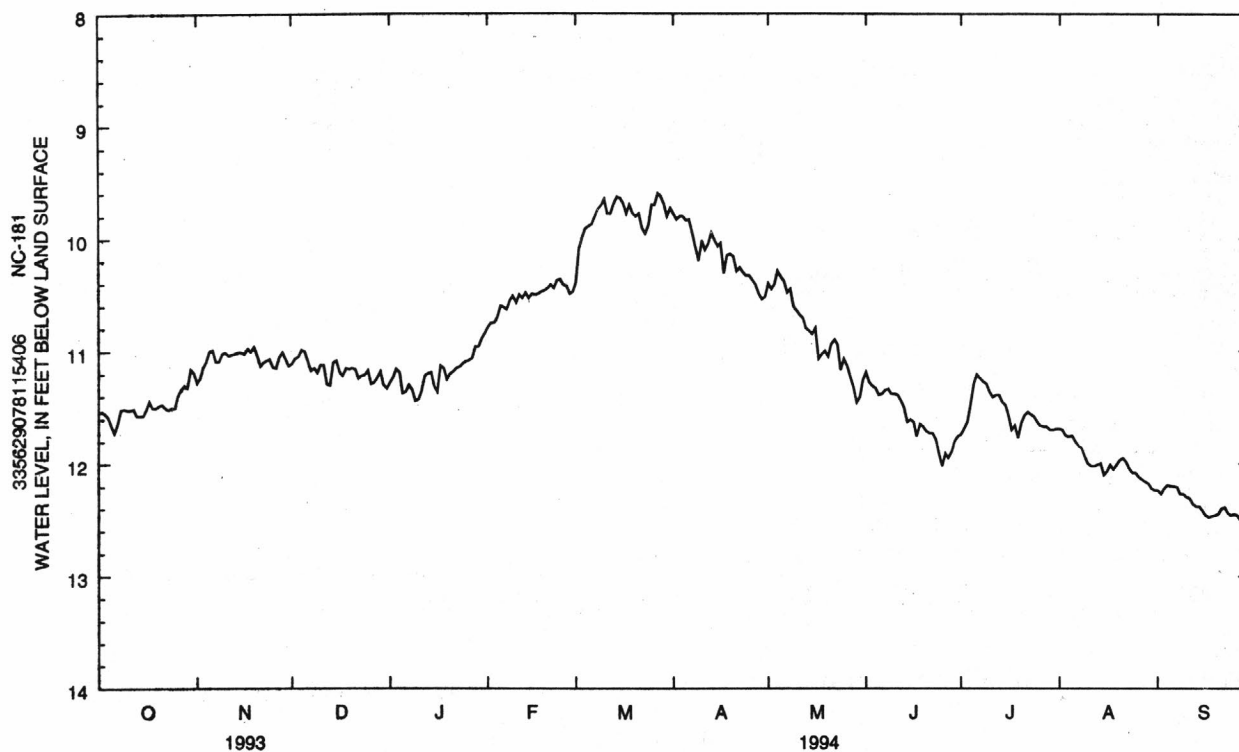
PERIOD OF RECORD.--September 1974 to current year. Records from September 1974 to March 1986 are unpublished and available in the files of the Groundwater Section, DEHNR. U.S. Geological Survey periodic water-level measurements began December 1986 and continuous record began March 1987.

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 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.66	11.00	11.00	11.37	10.60	9.89	9.84	10.34	11.39	11.29	11.75	12.20
10	11.52	11.01	11.12	11.43	10.57	9.65	10.02	10.64	11.38	11.36	12.00	12.30
15	11.57	11.01	11.08	11.31	10.49	9.64	10.07	10.85	11.61	11.48	12.10	12.42
20	11.48	11.03	11.15	11.20	10.44	9.80	10.16	11.05	11.71	11.64	11.97	12.45
25	11.50	11.14	11.17	11.09	10.41	9.70	10.33	11.07	12.02	11.63	12.08	12.45
EOM	11.19	11.13	11.33	10.84	10.47	9.73	10.52	11.26	11.76	11.69	12.24	12.62
WTR YR 1994	MEAN 11.15		HIGH 9.60 MAR 27		LOW 12.62 SEP 30							



BRUNSWICK COUNTY--Continued

335629078115407. Local number, NC-182; DEHNR Sunset Harbor Research Station well GG34s7.

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: DEHNR (North Carolina Department of Environment, Health, and Natural Resources).

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

DATUM.--Land-surface datum is 28.06 ft above sea level (levels by DEHNR). Measuring point: Top of collar on casing, 2.65 ft above land-surface datum.

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

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

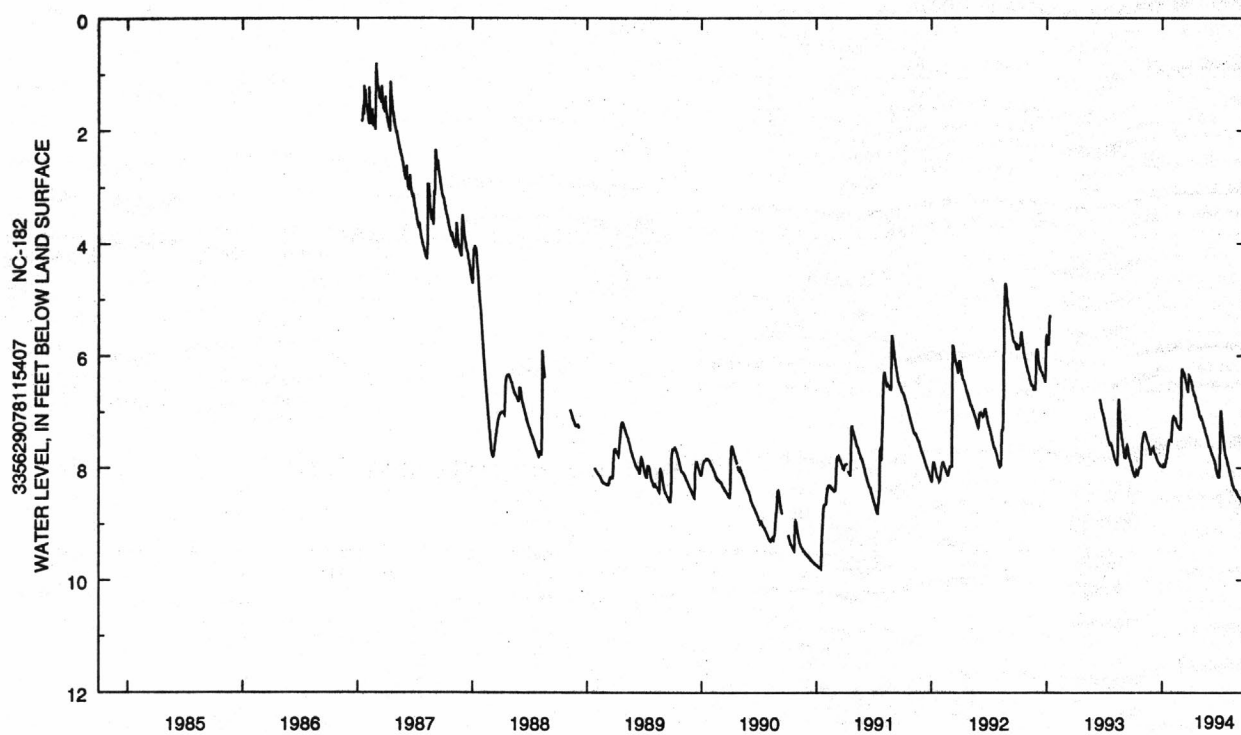
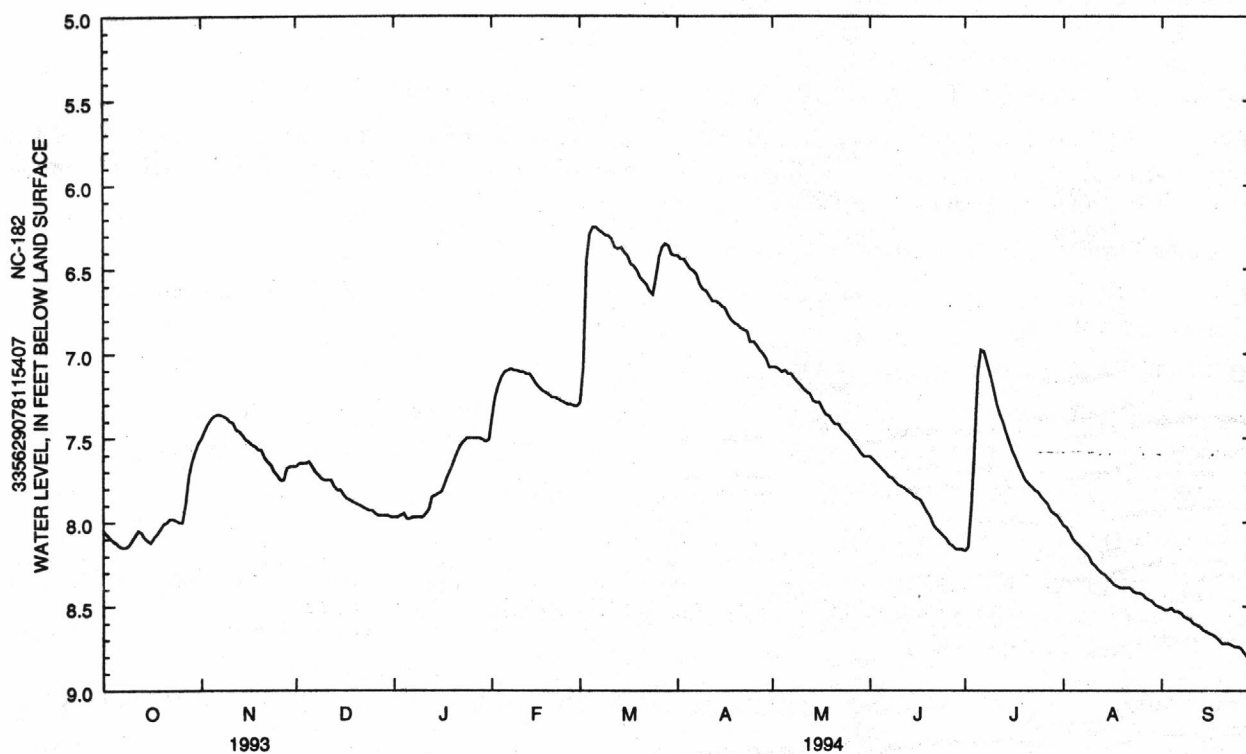
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.65 ft below land-surface datum, Apr. 15, 1987; lowest water level recorded, 9.80 ft below land-surface datum, Jan. 15 and 16, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

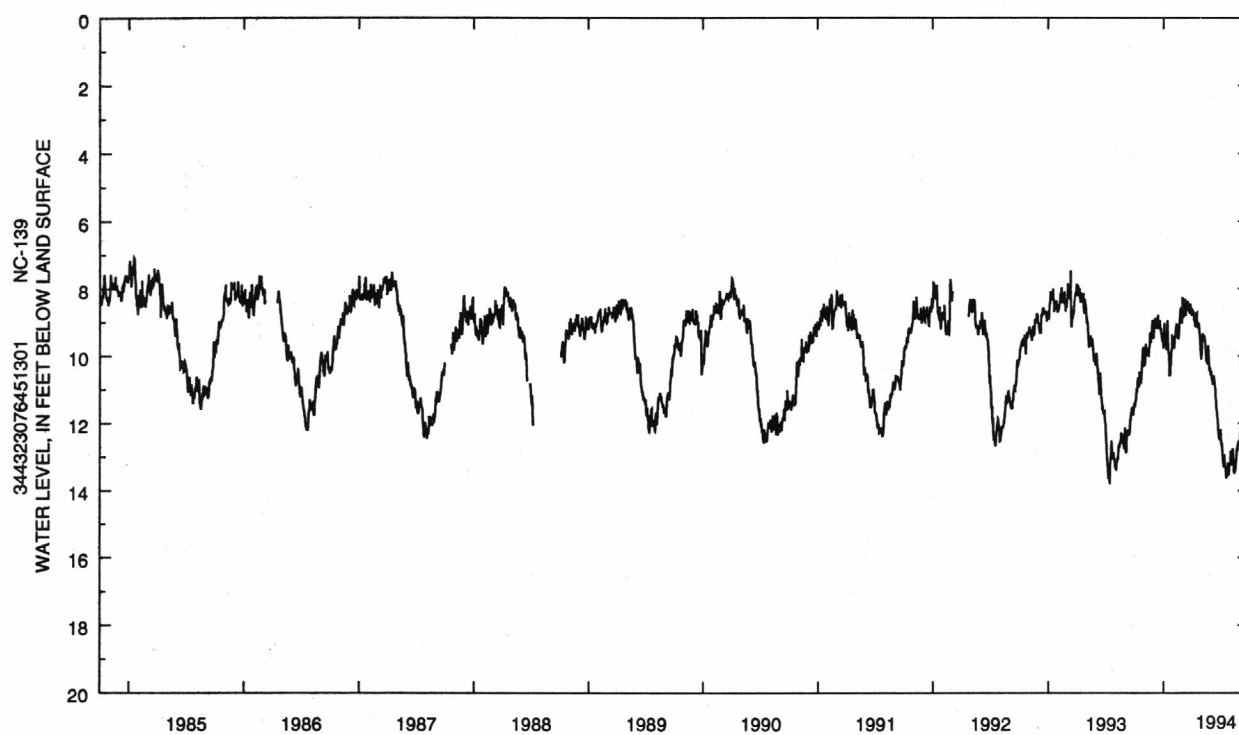
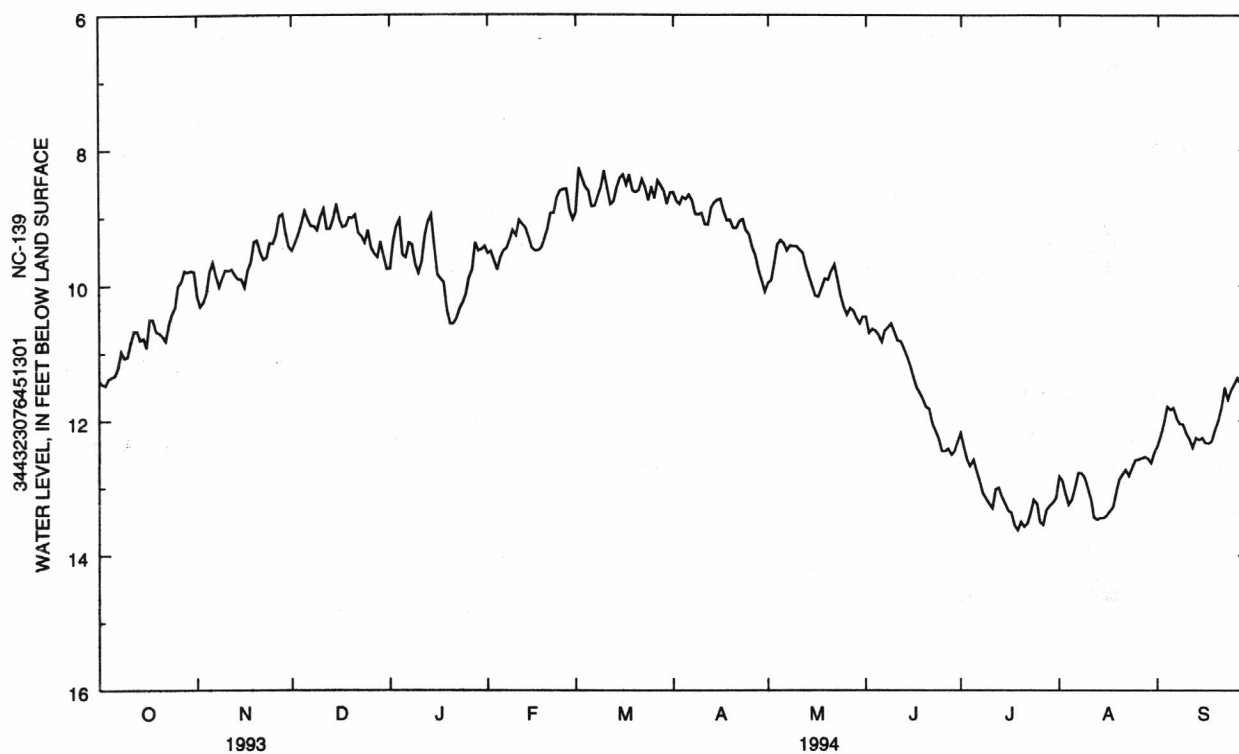
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.05	7.50	7.67	7.97	7.38	7.29	6.42	7.08	7.61	8.17	8.02	8.51
2	8.07	7.46	7.65	7.97	7.26	7.08	6.44	7.08	7.63	8.15	8.03	8.52
3	8.09	7.42	7.65	7.96	7.19	6.45	6.44	7.09	7.65	7.90	8.06	8.52
4	8.11	7.39	7.65	7.95	7.14	6.29	6.47	7.11	7.67	7.59	8.10	8.51
5	8.12	7.37	7.64	7.98	7.11	6.25	6.50	7.10	7.69	7.11	8.12	8.53
6	8.14	7.36	7.67	7.98	7.10	6.25	6.51	7.12	7.71	6.98	8.14	8.53
7	8.15	7.36	7.70	7.97	7.09	6.27	6.53	7.12	7.73	6.99	8.16	8.54
8	8.15	7.37	7.72	7.97	7.10	6.28	6.59	7.15	7.74	7.06	8.18	8.56
9	8.14	7.38	7.74	7.97	7.10	6.30	6.62	7.17	7.76	7.13	8.20	8.57
10	8.11	7.40	7.75	7.97	7.11	6.30	6.63	7.19	7.78	7.21	8.24	8.58
11	8.08	7.41	7.75	7.95	7.11	6.32	6.66	7.21	7.79	7.30	8.26	8.60
12	8.05	7.45	7.75	7.92	7.12	6.37	6.69	7.23	7.80	7.36	8.28	8.61
13	8.06	7.46	7.79	7.85	7.12	6.38	6.69	7.24	7.82	7.41	8.30	8.62
14	8.09	7.48	7.81	7.84	7.15	6.37	6.70	7.28	7.83	7.47	8.31	8.64
15	8.11	7.51	7.81	7.83	7.18	6.40	6.72	7.29	7.85	7.53	8.33	8.65
16	8.12	7.52	7.84	7.82	7.20	6.42	6.73	7.29	7.86	7.58	8.35	8.66
17	8.09	7.54	7.86	7.77	7.22	6.47	6.77	7.33	7.87	7.62	8.37	8.67
18	8.07	7.55	7.87	7.72	7.23	6.48	6.80	7.36	7.91	7.67	8.38	8.68
19	8.04	7.57	7.88	7.68	7.24	6.51	6.82	7.37	7.94	7.71	8.39	8.70
20	8.01	7.57	7.89	7.63	7.26	6.55	6.83	7.40	7.97	7.75	8.39	8.72
21	8.00	7.62	7.90	7.58	7.26	6.57	6.85	7.42	8.02	7.77	8.39	8.72
22	7.98	7.64	7.91	7.54	7.27	6.59	6.86	7.42	8.04	7.79	8.39	8.72
23	7.98	7.66	7.92	7.52	7.28	6.63	6.87	7.45	8.06	7.81	8.41	8.73
24	7.99	7.70	7.93	7.50	7.29	6.65	6.93	7.47	8.08	7.82	8.42	8.74
25	8.00	7.72	7.93	7.50	7.30	6.55	6.93	7.49	8.10	7.85	8.42	8.74
26	8.00	7.75	7.95	7.50	7.30	6.43	6.95	7.51	8.13	7.87	8.43	8.75
27	7.89	7.75	7.96	7.50	7.31	6.37	6.98	7.54	8.14	7.89	8.45	8.78
28	7.73	7.68	7.96	7.50	7.31	6.35	7.00	7.56	8.16	7.93	8.46	8.80
29	7.64	7.67	7.96	7.51	---	6.36	7.03	7.59	8.16	7.95	8.47	8.83
30	7.58	7.67	7.96	7.52	---	6.41	7.08	7.61	8.16	7.96	8.49	8.85
31	7.53	---	7.97	7.51	---	6.42	---	7.61	---	7.99	8.50	---

WTR YR 1994 MEAN 7.61 HIGH 6.25 LOW 8.85



CARTERET COUNTY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.35	9.81	8.90	9.55	9.59	8.61	8.73	9.34	10.74	12.59	13.17	11.84
10	11.05	9.78	8.99	9.82	9.27	8.31	8.94	9.43	10.69	13.24	12.99	12.19
15	10.78	9.91	8.80	9.39	9.45	8.42	8.74	10.01	11.20	13.24	13.45	12.26
20	10.70	9.34	9.01	10.57	9.16	8.63	9.16	9.92	11.80	13.51	12.88	12.01
25	10.32	9.39	9.19	10.14	8.59	8.55	9.26	10.32	12.46	13.24	12.59	11.46
EOM	9.80	9.43	9.77	9.43	9.03	8.64	10.10	10.47	12.32	13.15	12.47	11.55
WTR YR 1994		MEAN 10.47	HIGH 8.27 MAR 2		LOW 13.63 JUL 19							



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.

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

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

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

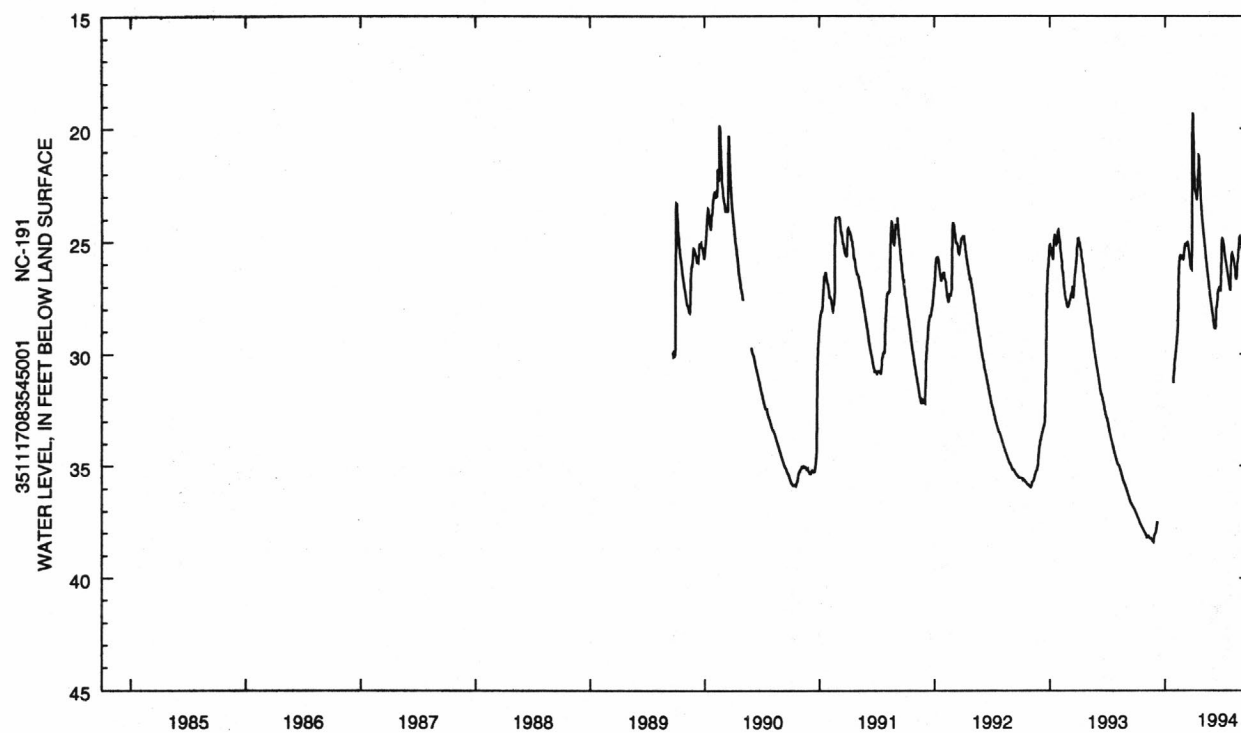
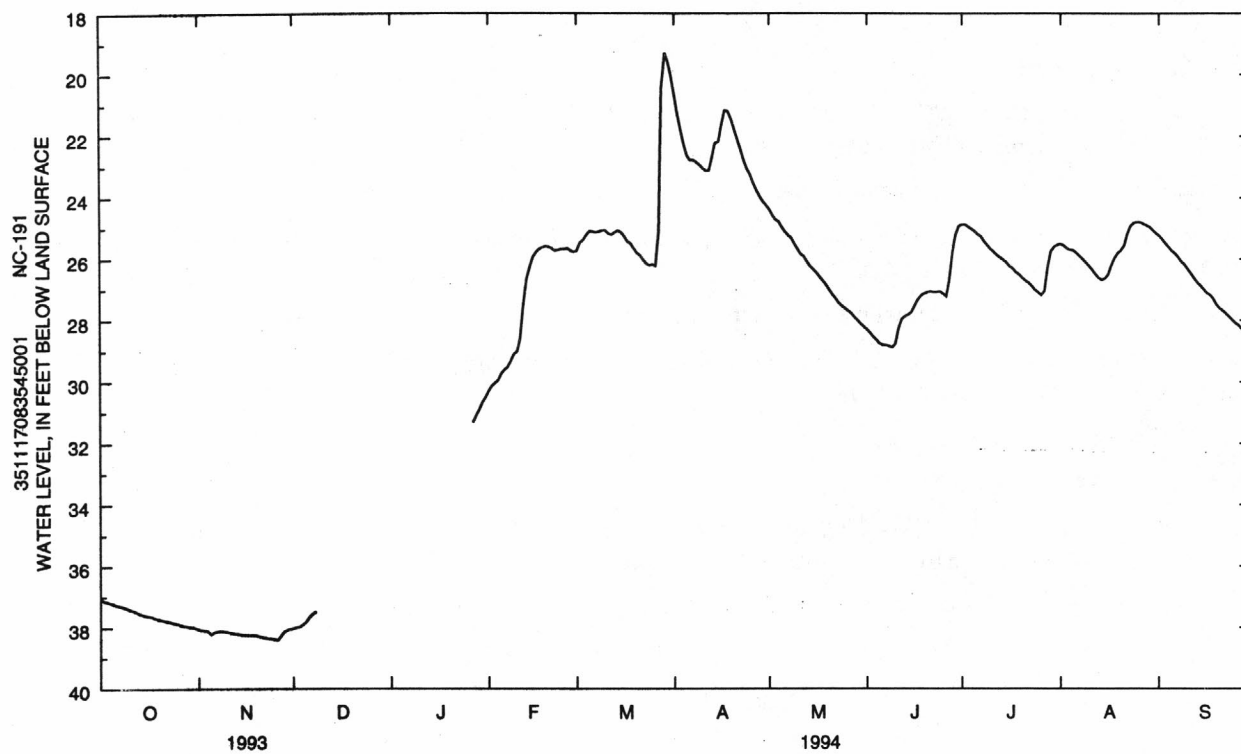
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 19.26 ft below land-surface datum, Mar. 29, 1994; lowest water level recorded, 38.41 ft below land-surface datum, Nov. 25 and 26, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37.07	38.07	38.04	---	30.30	25.75	20.66	24.38	28.30	24.88	25.52	25.25
2	37.11	38.09	38.00	---	30.14	25.48	21.27	24.57	28.42	24.89	25.56	25.36
3	37.14	38.10	37.98	---	30.04	25.40	21.78	24.72	28.55	24.96	25.65	25.49
4	37.17	38.12	37.91	---	29.94	25.23	22.23	24.78	28.65	25.03	25.70	25.61
5	37.22	38.23	37.81	---	29.73	25.11	22.64	24.96	28.76	25.11	25.72	25.74
6	37.26	38.15	37.66	---	29.61	25.12	22.78	25.12	28.82	25.20	25.80	25.81
7	37.28	38.13	37.57	---	29.53	25.14	22.78	25.23	28.82	25.28	25.91	25.94
8	37.31	38.12	37.49	---	29.33	25.12	22.84	25.33	28.84	25.43	26.01	26.08
9	37.35	38.13	---	---	29.11	25.09	22.94	25.52	28.89	25.56	26.12	26.17
10	37.39	38.14	---	---	29.01	25.08	23.05	25.68	28.78	25.67	26.23	26.32
11	37.43	38.17	---	---	28.61	25.18	23.14	25.84	28.27	25.77	26.36	26.47
12	37.47	38.19	---	---	27.53	25.22	23.12	25.92	27.98	25.87	26.49	26.62
13	37.52	38.21	---	---	26.69	25.15	22.70	26.08	27.88	25.95	26.61	26.76
14	37.56	38.23	---	---	26.29	25.09	22.24	26.24	27.83	26.02	26.69	26.87
15	37.60	38.24	---	---	25.96	25.14	22.19	26.35	27.74	26.13	26.65	26.98
16	37.61	38.24	---	---	25.79	25.28	21.68	26.45	27.54	26.24	26.53	27.10
17	37.63	38.24	---	---	25.68	25.44	21.18	26.58	27.35	26.31	26.23	27.17
18	37.68	38.25	---	---	25.63	25.49	21.19	26.71	27.20	26.42	25.98	27.28
19	37.71	38.25	---	---	25.60	25.66	21.44	26.85	27.14	26.51	25.82	27.47
20	37.74	38.29	---	---	25.61	25.80	21.78	27.00	27.10	26.62	25.73	27.60
21	37.76	38.32	---	---	25.65	25.88	22.11	27.15	27.07	26.71	25.58	27.68
22	37.79	38.34	---	---	25.73	26.03	22.43	27.29	27.08	26.79	25.22	27.78
23	37.82	38.36	---	---	25.71	26.15	22.78	27.42	27.09	26.89	24.94	27.89
24	37.85	38.36	---	---	25.69	26.22	23.05	27.52	27.07	27.00	24.84	27.99
25	37.87	38.39	---	---	25.69	26.19	23.27	27.61	27.14	27.10	24.80	28.09
26	37.90	38.41	---	---	25.66	26.23	23.51	27.69	27.22	27.18	24.80	28.16
27	37.93	38.27	---	31.31	25.73	25.13	23.75	27.78	26.71	27.06	24.85	28.28
28	37.95	38.14	---	31.09	25.78	20.47	23.95	27.90	25.76	26.27	24.91	28.41
29	37.98	38.08	---	30.89	---	19.30	24.12	28.01	25.23	25.75	24.96	28.52
30	37.98	38.06	---	30.66	---	19.55	24.25	28.12	24.94	25.61	25.05	28.64
31	38.02	---	---	30.49	---	20.05	---	28.21	---	25.54	25.16	---

WTR YR 1994 MEAN 28.60 HIGH 19.30 LOW 38.41



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

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.

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.

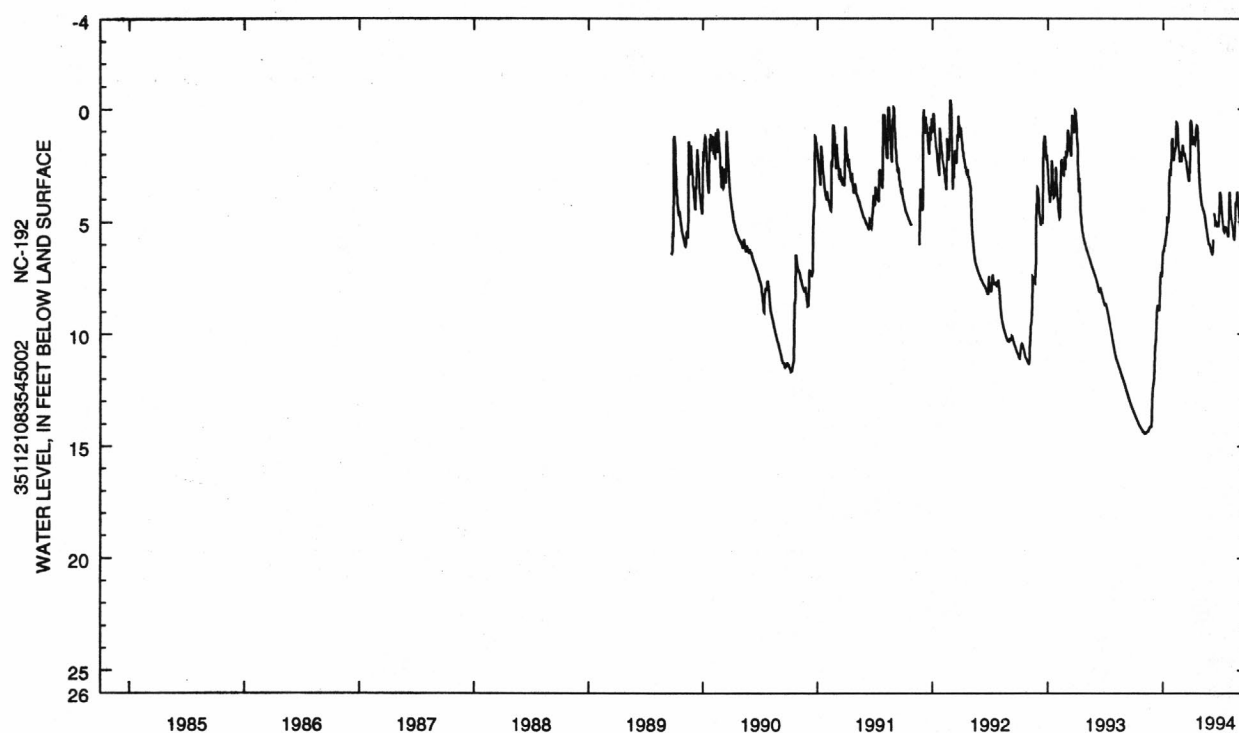
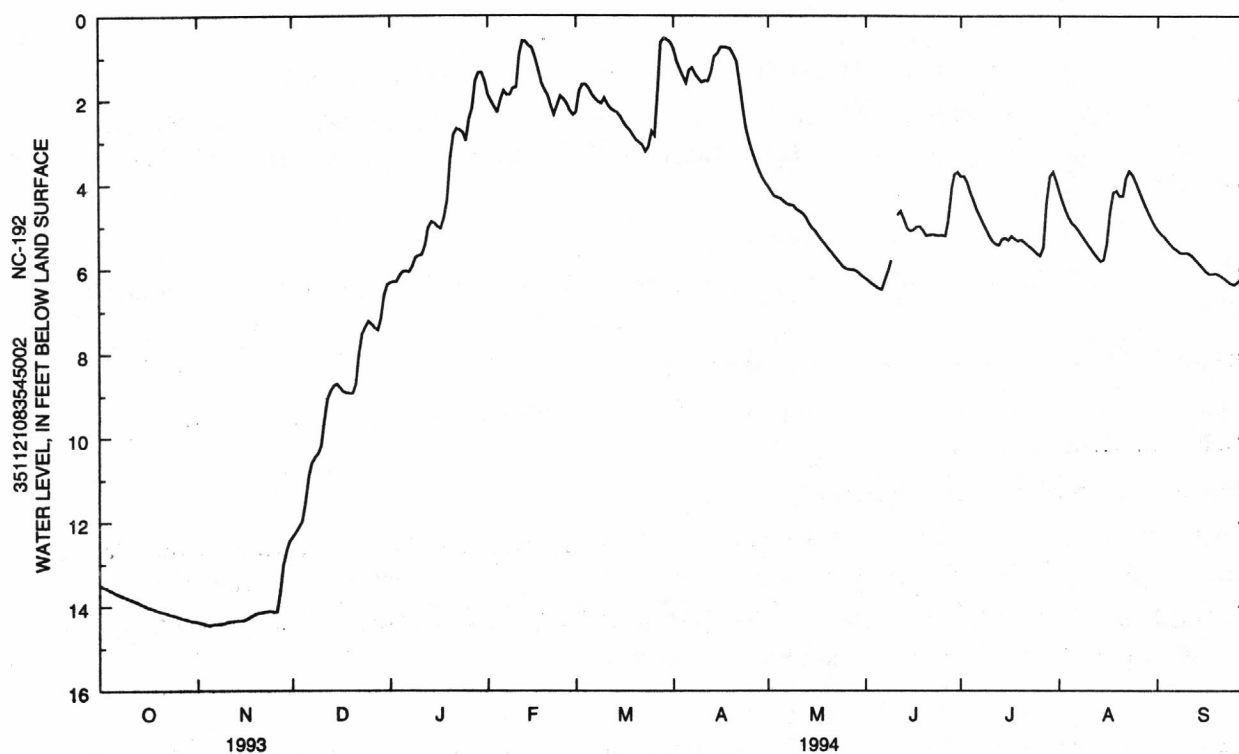
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.09 ft above land-surface datum, Mar. 28, 1993; lowest recorded, 14.44 ft below land-surface datum, Nov. 4, 5, and 6, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.49	14.37	12.35	6.32	1.87	2.29	.78	4.04	6.23	3.81	4.18	5.08
2	13.53	14.39	12.24	6.30	2.02	1.80	1.08	4.17	6.29	3.80	4.39	5.16
3	13.56	14.41	12.11	6.30	2.16	1.63	1.26	4.27	6.35	3.95	4.60	5.23
4	13.60	14.43	11.97	6.14	2.30	1.63	1.43	4.30	6.40	4.17	4.78	5.33
5	13.64	14.44	11.51	6.06	1.99	1.73	1.60	4.33	6.46	4.39	4.91	5.42
6	13.68	14.42	10.92	6.05	1.78	1.87	1.30	4.40	6.48	4.58	4.98	5.50
7	13.71	14.42	10.61	6.07	1.88	1.97	1.24	4.46	6.28	4.74	5.08	5.55
8	13.74	14.41	10.45	5.92	1.88	2.04	1.39	4.48	6.04	4.91	5.19	5.61
9	13.78	14.40	10.38	5.73	1.73	2.08	1.50	4.50	5.80	5.06	5.30	5.62
10	13.81	14.38	10.20	5.68	1.70	1.95	1.59	4.59	---	5.21	5.41	5.61
11	13.84	14.36	9.59	5.66	.95	2.10	1.54	4.63	4.71	5.34	5.52	5.64
12	13.87	14.35	9.08	5.43	.61	2.21	1.56	4.69	4.63	5.41	5.62	5.71
13	13.90	14.34	8.88	5.03	.62	2.26	1.32	4.77	4.82	5.43	5.72	5.79
14	13.94	14.33	8.76	4.88	.72	2.30	.97	4.92	5.03	5.29	5.81	5.88
15	13.98	14.33	8.72	4.91	.77	2.39	.89	5.03	5.10	5.26	5.77	5.96
16	14.01	14.31	8.80	4.99	1.00	2.53	.75	5.10	5.07	5.31	5.41	6.05
17	14.04	14.27	8.89	5.04	1.28	2.64	.75	5.21	5.00	5.21	4.64	6.11
18	14.06	14.23	8.93	4.78	1.60	2.71	.76	5.31	4.99	5.28	4.18	6.11
19	14.09	14.19	8.94	4.37	1.75	2.83	.79	5.41	5.08	5.33	4.14	6.10
20	14.12	14.16	8.94	3.37	1.90	2.94	.93	5.51	5.20	5.30	4.26	6.13
21	14.14	14.15	8.72	2.81	2.12	3.00	1.09	5.59	5.19	5.36	4.26	6.17
22	14.16	14.13	8.01	2.68	2.35	3.06	1.62	5.69	5.18	5.43	3.84	6.23
23	14.19	14.12	7.53	2.70	2.12	3.22	2.18	5.78	5.19	5.49	3.67	6.30
24	14.21	14.11	7.37	2.77	1.91	3.10	2.64	5.87	5.20	5.55	3.75	6.34
25	14.23	14.14	7.23	2.96	1.98	2.74	2.98	5.95	5.19	5.63	3.92	6.37
26	14.25	14.13	7.29	2.45	2.08	2.85	3.22	6.00	5.21	5.68	4.11	6.31
27	14.28	13.66	7.38	2.19	2.25	1.75	3.43	6.01	4.85	5.48	4.31	6.22
28	14.30	13.01	7.44	1.54	2.35	.63	3.64	6.01	4.08	4.40	4.50	6.18
29	14.32	12.67	7.17	1.35	---	.54	3.81	6.05	3.75	3.80	4.66	6.20
30	14.34	12.46	6.62	1.35	---	.57	3.94	6.11	3.70	3.69	4.81	6.27
31	14.35	---	6.37	1.57	---	.63	---	6.17	---	3.91	4.96	---

WTR YR 1994 MEAN 6.12 HIGH .54 LOW 14.44



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

COLUMBUS COUNTY

342508078360802. Local number, NC-179; DEHNR Carver Moore Research Station well AA39v2.

LOCATION.--Lat 34°25'08", long 78°36'08", Hydrologic Unit 03040206, 6.7 mi north of Hallsboro, east of Secondary Road 1001 at abandoned school on Secondary Road 1724. Owner: DEHNR (North Carolina Department of Environment, Health, 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 DEHNR). Measuring point: Top of instrument shelf, 2.10 ft above land-surface datum.

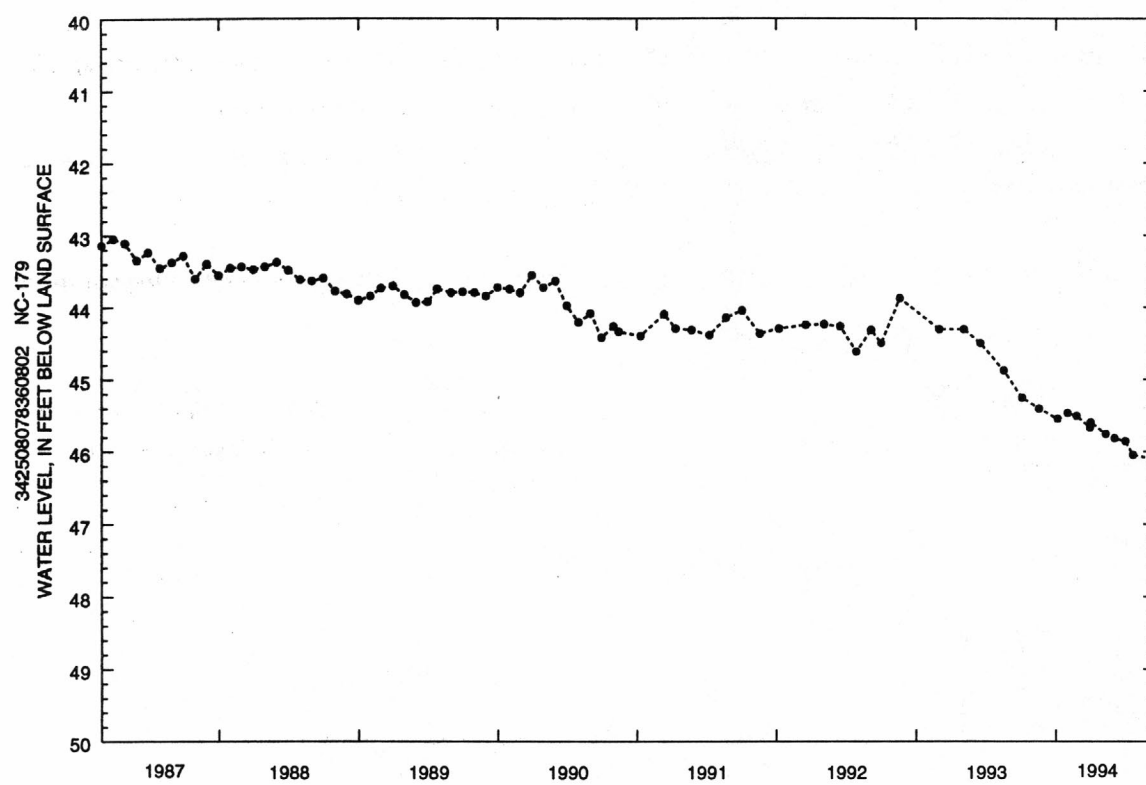
REMARKS.--Well is part of areal-effects network.

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, DEHNR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 39.11 ft below land-surface datum, July 20, 1976; lowest water level measured, 46.11 ft below land-surface datum, Sept. 15, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	45.26	JAN 5	45.55	FEB 23	45.51	APR 1	45.60	JUN 2	45.82	JUL 20	46.05
NOV 17	45.41	JAN 31	45.47	MAR 30	45.67	MAY 10	45.76	JUN 30	45.86	SEP 15	46.11



351049077175501. Local number, NC-44.

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

INSTRUMENTATION.--Beginning July 1988, measured periodically with steel tape.

DATUM.--Land-surface datum is 36.73 ft above sea level. **Measuring point:** Top of instrument shelf, 2.06 ft above land-surface datum.

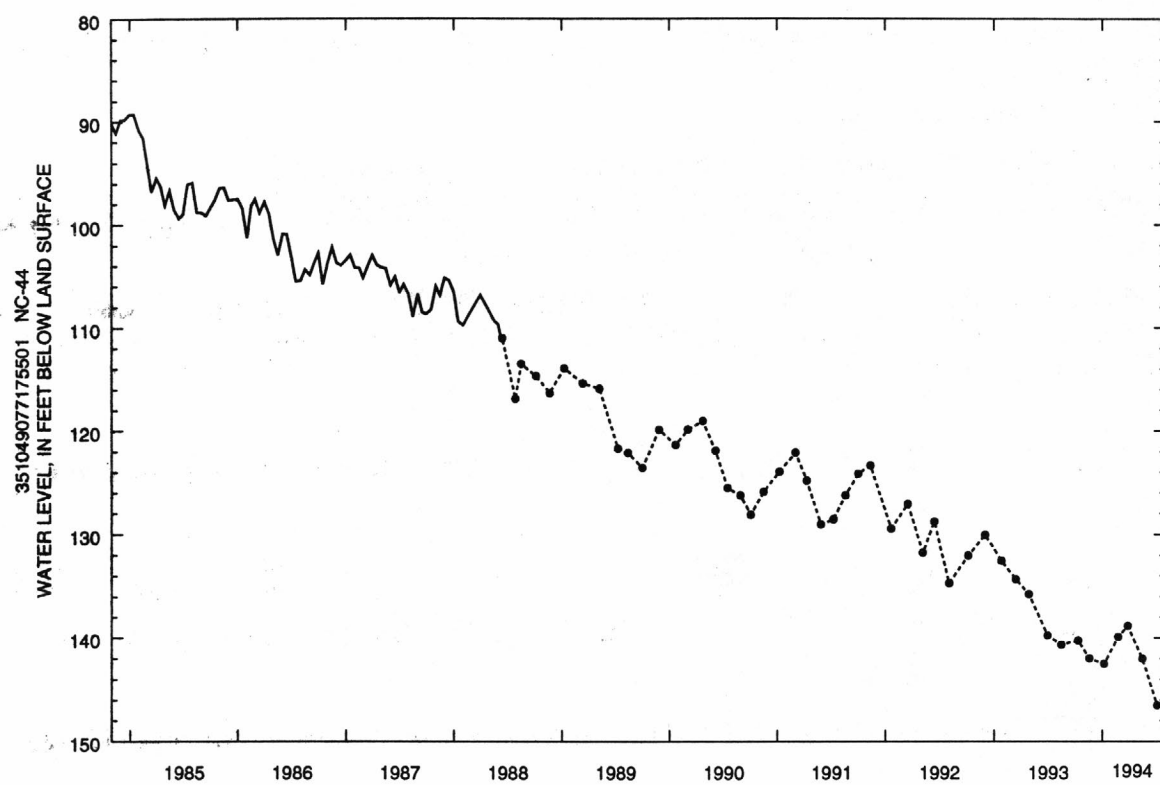
REMARKS.--Water levels affected by pumping at nearby City of New Bern well field. Well is part of local-effects network.

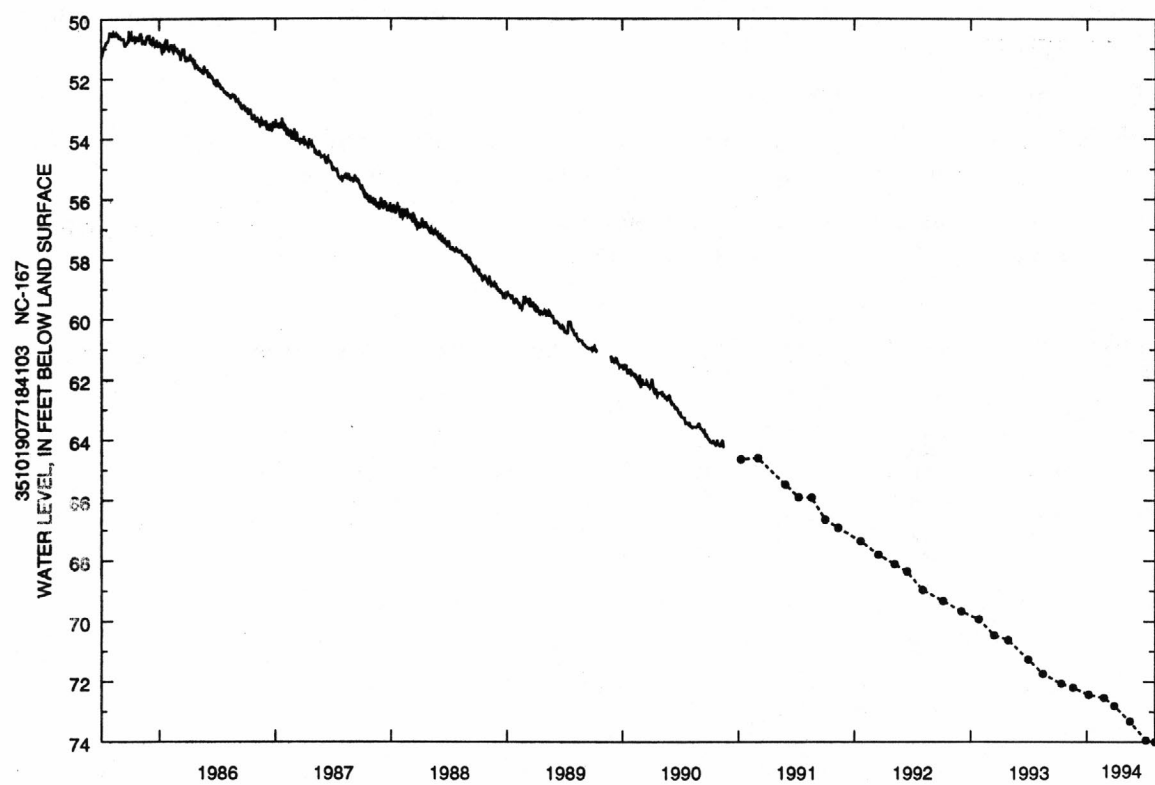
PERIOD OF RECORD.--March 1965 to current year. Continuous record from March 1965 to June 1988.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 6.01 ft below land-surface datum, Aug. 25 and 26, 1965; lowest water level measured, 146.62 ft below land-surface datum, Aug. 2, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	140.26	JAN 7	142.51	MAR 28	138.86	MAY 16	142.01	JUL 5	146.51	AUG 2	146.62
NOV 19	141.98	FEB 24	139.91								





WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

CRAVEN COUNTY--Continued

350816077101810. Local number, NC-170; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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 DEHNR). Measuring point: Top of instrument shelf, 1.70 ft above land-surface datum.

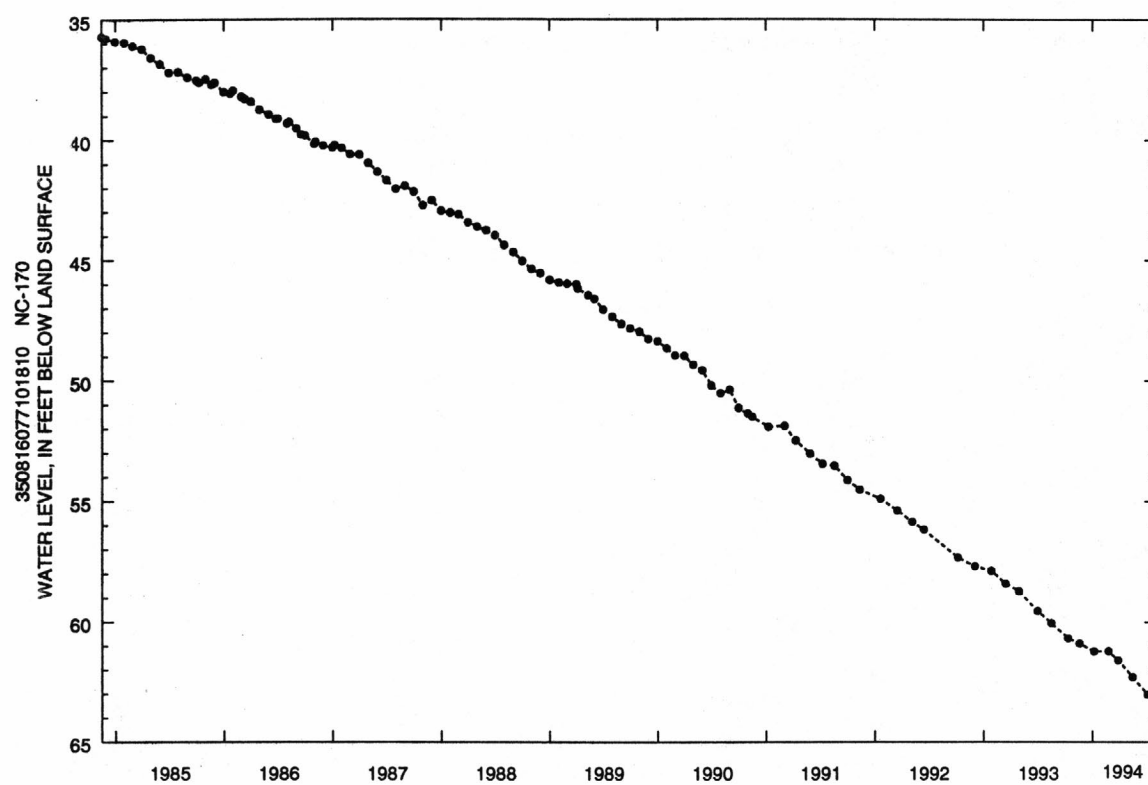
REMARKS.--Well is part of areal-effects network.

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, DEHNR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 25.14 ft below land-surface datum, July 18, 1979; lowest water level measured, 63.26 ft below land-surface datum, Aug. 2, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	60.68	JAN 7	61.23	MAR 28	61.60	MAY 16	62.30	JUL 5	63.03	AUG 2	63.26
NOV 19	60.90	FEB 24	61.22								



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

DATUM.--Land-surface datum is 835 ft above sea level (from topographic map). Measuring point: Top of casing, 1.0 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.

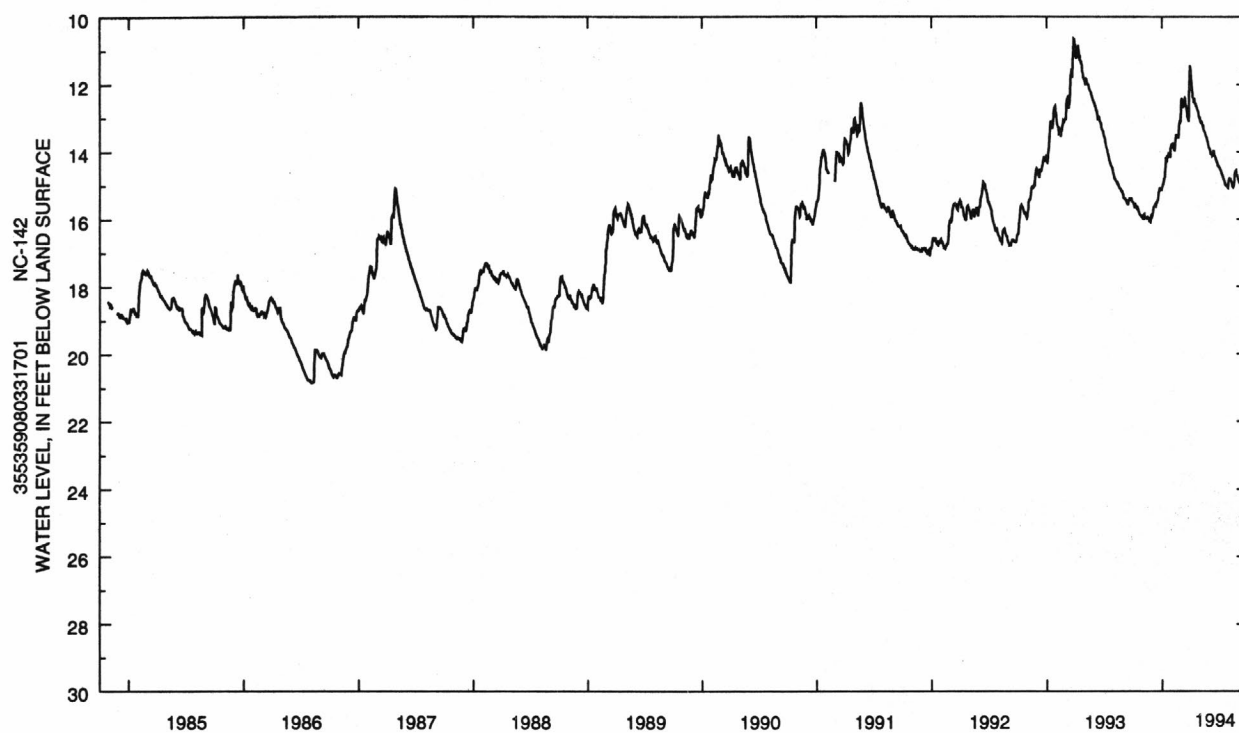
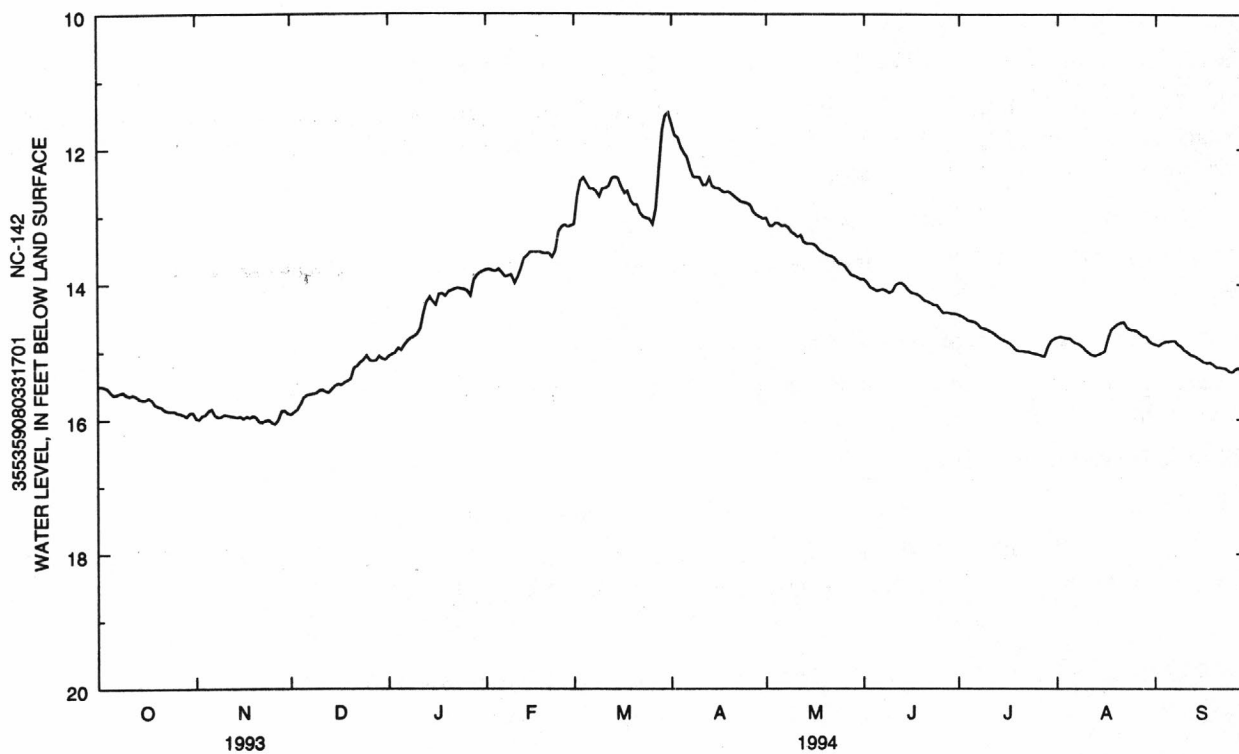
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 10.64 ft below land-surface datum, Mar. 28, 1993; lowest water level recorded, 20.98 ft below land-surface datum, Oct. 24, 25, and 26, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.50	15.99	15.93	15.07	13.79	13.11	11.62	13.02	13.93	14.46	14.79	14.89
2	15.50	16.00	15.89	15.04	13.78	12.70	11.79	13.13	13.98	14.48	14.78	14.91
3	15.51	15.95	15.86	15.02	13.80	12.47	11.83	13.14	14.05	14.51	14.79	14.87
4	15.53	15.93	15.78	14.95	13.81	12.42	11.96	13.09	14.07	14.54	14.80	14.85
5	15.59	15.87	15.68	14.97	13.78	12.51	12.06	13.10	14.10	14.55	14.80	14.85
6	15.63	15.85	15.64	14.90	13.83	12.59	12.12	13.14	14.09	14.56	14.85	14.84
7	15.62	15.94	15.63	14.84	13.89	12.59	12.29	13.13	14.08	14.59	14.87	14.84
8	15.60	15.97	15.62	14.80	13.88	12.62	12.41	13.16	14.10	14.65	14.89	14.89
9	15.59	15.96	15.61	14.78	13.86	12.70	12.41	13.23	14.13	14.66	14.93	14.92
10	15.63	15.93	15.57	14.74	13.99	12.59	12.42	13.26	14.11	14.68	14.98	14.98
11	15.65	15.94	15.56	14.66	13.90	12.58	12.53	13.30	14.02	14.70	15.02	15.01
12	15.63	15.95	15.59	14.43	13.78	12.55	12.53	13.28	13.99	14.73	15.05	15.05
13	15.65	15.96	15.60	14.27	13.62	12.43	12.42	13.38	13.99	14.77	15.06	15.06
14	15.69	15.97	15.55	14.19	13.58	12.41	12.55	13.40	14.03	14.80	15.04	15.09
15	15.71	15.96	15.50	14.26	13.52	12.43	12.58	13.40	14.09	14.83	15.02	15.12
16	15.71	15.99	15.48	14.31	13.52	12.56	12.58	13.41	14.13	14.85	14.99	15.15
17	15.68	15.96	15.49	14.15	13.52	12.65	12.62	13.44	14.14	14.87	14.81	15.17
18	15.71	15.98	15.45	14.14	13.52	12.62	12.64	13.50	14.16	14.92	14.67	15.16
19	15.78	15.95	15.43	14.18	13.54	12.77	12.63	13.53	14.19	14.97	14.63	15.19
20	15.80	15.97	15.40	14.11	13.54	12.82	12.66	13.56	14.24	14.99	14.59	15.23
21	15.81	16.04	15.24	14.09	13.54	12.82	12.70	13.58	14.26	14.99	14.57	15.23
22	15.86	16.04	15.21	14.07	13.60	12.95	12.74	13.59	14.28	15.00	14.56	15.24
23	15.87	16.02	15.16	14.06	13.50	13.00	12.78	13.63	14.31	15.00	14.64	15.25
24	15.88	16.01	15.12	14.07	13.22	13.02	12.79	13.69	14.31	15.02	14.67	15.29
25	15.88	16.05	15.06	14.08	13.15	13.03	12.80	13.70	14.37	15.03	14.68	15.30
26	15.90	16.07	15.13	14.10	13.12	13.11	12.83	13.74	14.43	15.04	14.69	15.26
27	15.91	16.01	15.14	14.17	13.15	12.88	12.93	13.81	14.42	15.06	14.73	15.24
28	15.93	15.88	15.13	13.94	13.13	12.35	12.98	13.87	14.43	15.07	14.77	15.29
29	15.96	15.87	15.07	13.87	---	11.72	13.00	13.88	14.44	14.93	14.78	15.33
30	15.90	15.91	15.11	13.83	---	11.51	13.03	13.91	14.44	14.84	14.84	15.39
31	15.90	---	15.12	13.81	---	11.46	---	13.93	---	14.81	14.88	---

WTR YR 1994 MEAN 14.38 HIGH 11.46 LOW 16.07



DUPLIN COUNTY

345051078012101. Local number, NC-174; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, and Natural Resources).

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

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

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

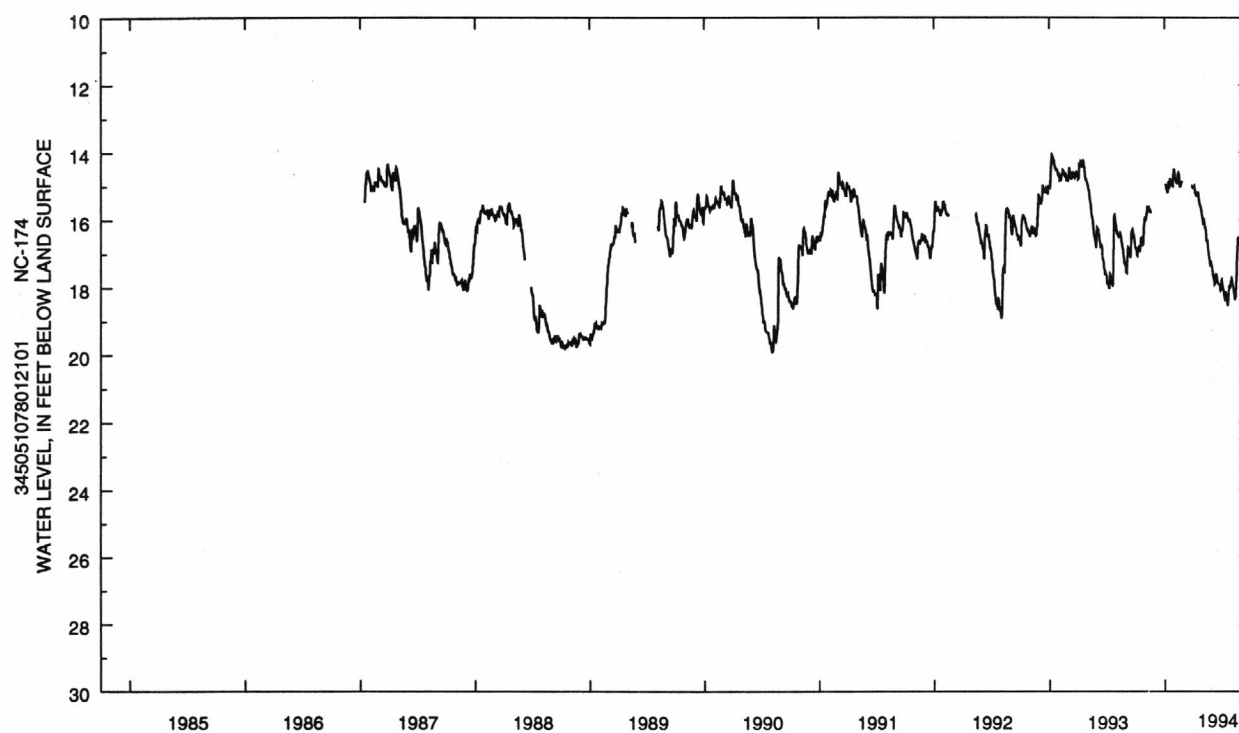
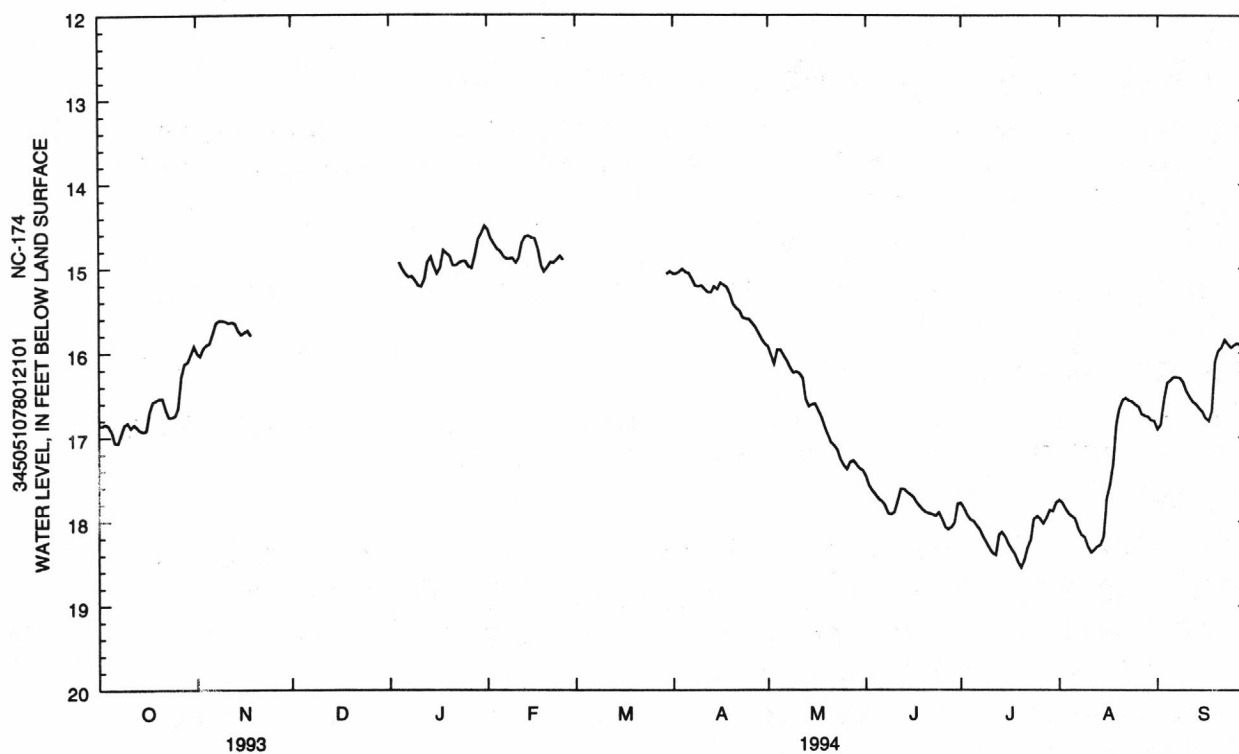
PERIOD OF RECORD.--March 1982 to current year. Continuous record began January 1987.

EXTREMES FOR PERIOD OF RECORD.—Highest water level recorded, 14.07 ft below land-surface datum, Jan. 9, 1993; 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 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

[illegible]



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

GATES COUNTY

362646076361405. Local number, NC-149; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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 DEHNR). 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.

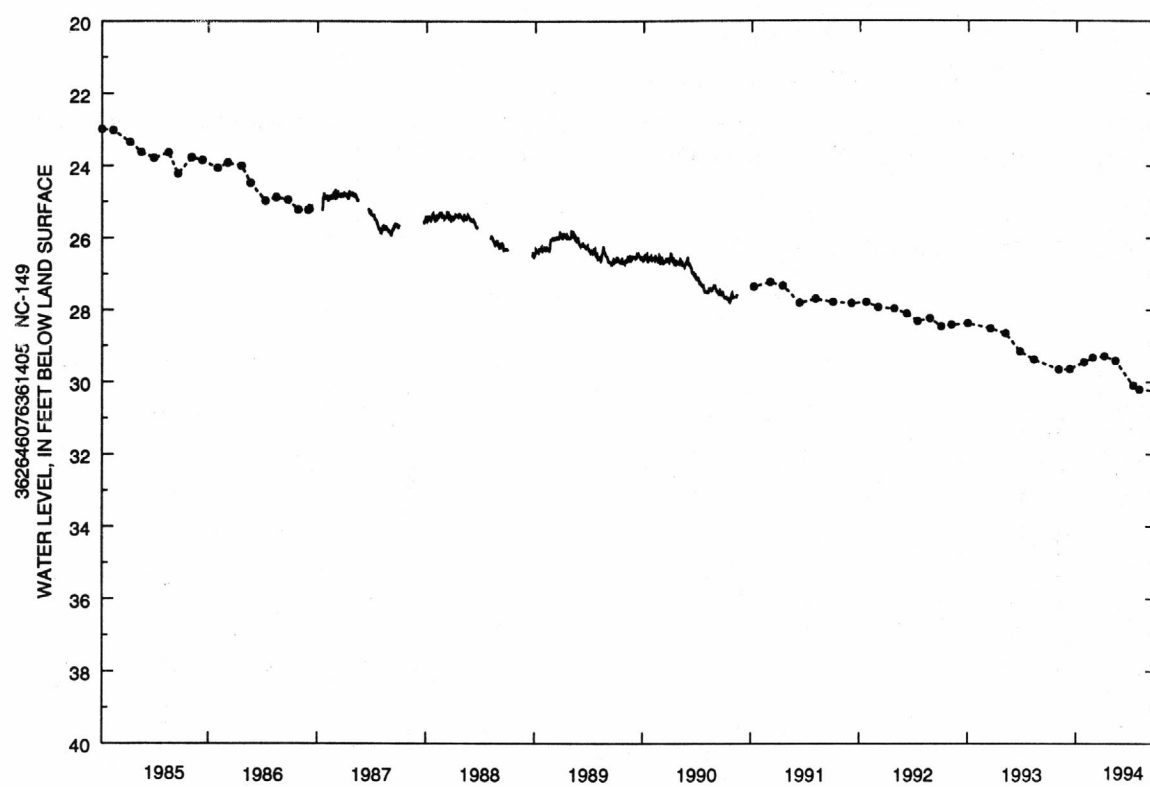
PERIOD OF RECORD.--October 1967 to current year. Continuous record November 1986 to November 1990. Records from October 1967 to September 1986 are unpublished and available in the files of the Groundwater Section, DEHNR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.37 ft below land-surface datum, Dec. 30, 1968; lowest water level measured, 30.26 ft below land-surface datum, Sept. 30, 1994.

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 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 3	29.66	JAN 27	29.46	APR 5	29.29	JUL 11	30.10	AUG 1	30.21	SEP 30	30.26
DEC 10	29.65	FEB 25	29.33	MAY 12	29.42						



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

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.

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.

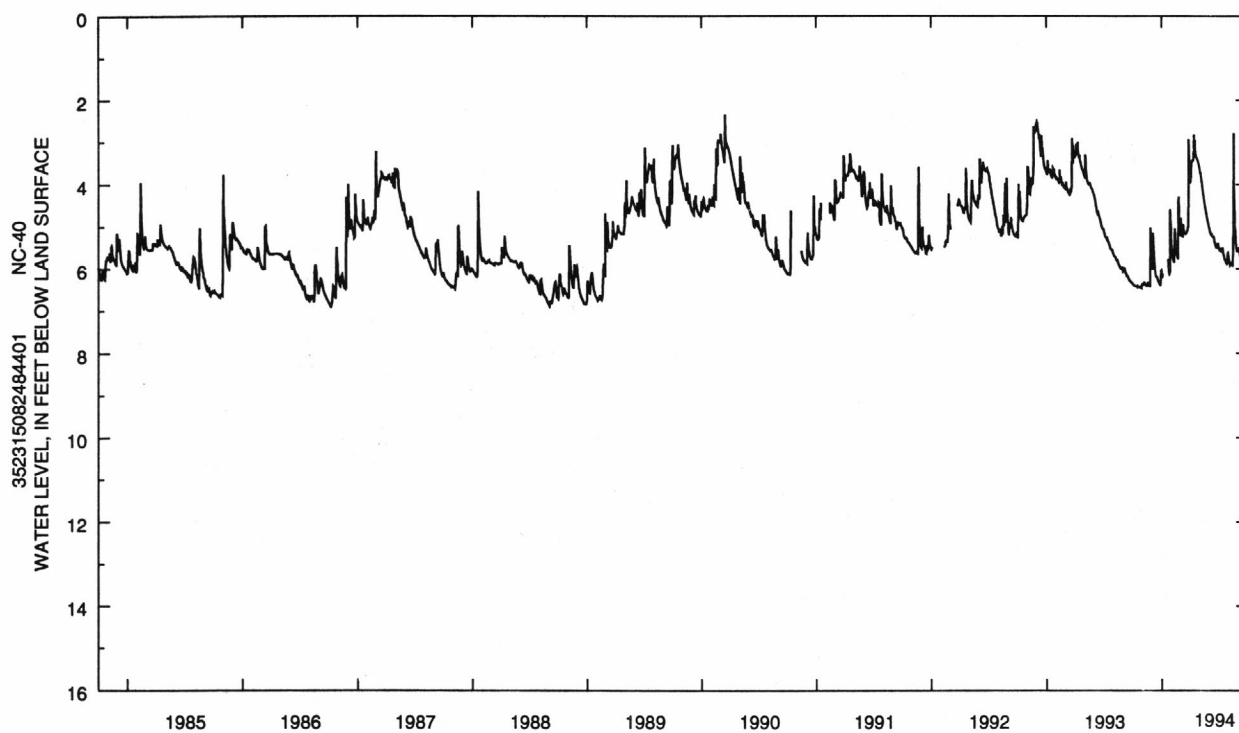
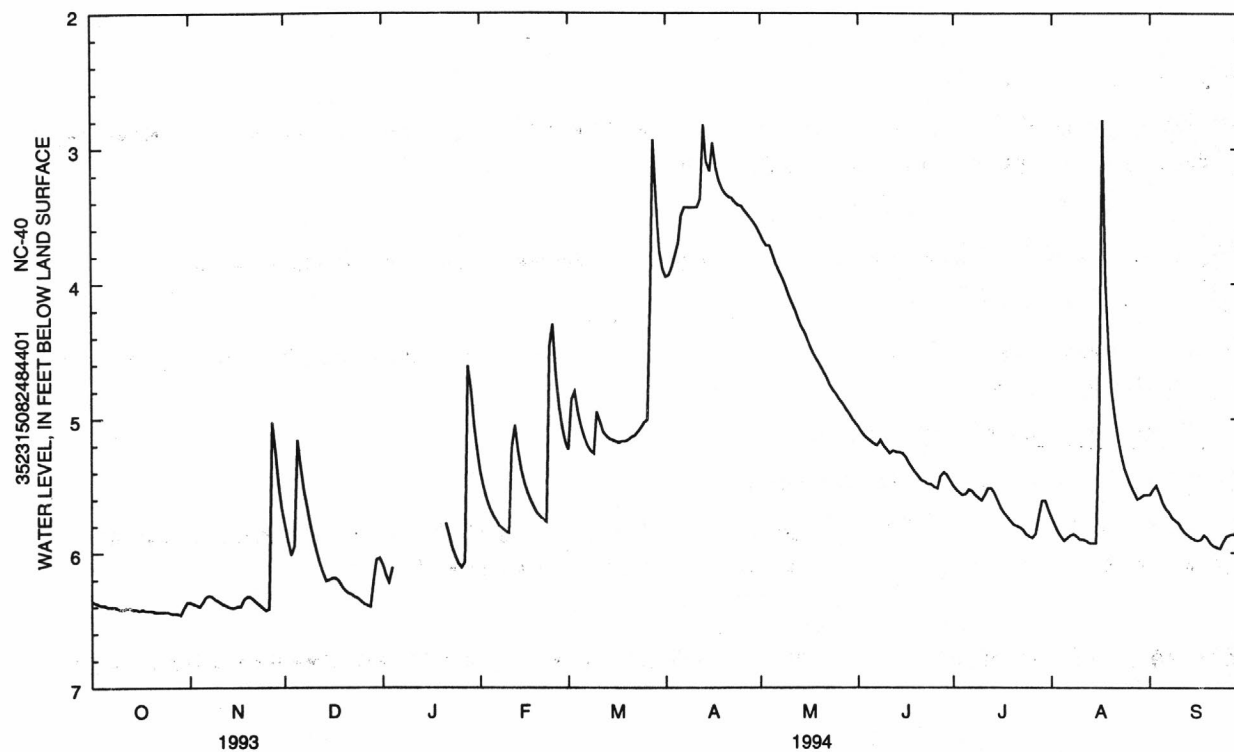
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.24 ft below land-surface datum, Mar. 12, 1977; lowest water level recorded, 6.90 ft below land-surface datum, Oct. 7, 8, and 9, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.36	6.37	5.79	6.09	5.40	5.23	3.95	3.64	5.06	5.50	5.74	5.57
2	6.37	6.38	5.91	6.17	5.51	4.86	3.94	3.69	5.10	5.53	5.79	5.53
3	6.38	6.39	6.02	6.22	5.60	4.80	3.88	3.72	5.13	5.55	5.84	5.50
4	6.39	6.40	5.95	6.11	5.67	4.95	3.80	3.72	5.15	5.57	5.88	5.56
5	6.39	6.37	5.16	---	5.72	5.06	3.70	3.79	5.17	5.56	5.91	5.63
6	6.40	6.33	5.36	---	5.76	5.14	3.50	3.86	5.19	5.53	5.89	5.67
7	6.40	6.32	5.52	---	5.80	5.20	3.44	3.91	5.20	5.54	5.87	5.70
8	6.40	6.33	5.66	---	5.82	5.24	3.44	3.96	5.16	5.57	5.86	5.74
9	6.41	6.35	5.78	---	5.84	5.26	3.44	4.02	5.20	5.59	5.88	5.76
10	6.42	6.36	5.89	---	5.85	4.95	3.44	4.09	5.23	5.61	5.90	5.78
11	6.42	6.38	5.99	---	5.22	5.02	3.44	4.14	5.26	5.57	5.90	5.82
12	6.41	6.39	6.08	---	5.05	5.10	3.38	4.20	5.24	5.52	5.91	5.85
13	6.41	6.40	6.15	---	5.24	5.13	2.83	4.26	5.25	5.52	5.93	5.87
14	6.42	6.41	6.21	---	5.38	5.15	3.10	4.32	5.25	5.55	5.93	5.89
15	6.42	6.41	6.20	---	5.48	5.16	3.17	4.36	5.26	5.61	5.93	5.90
16	6.43	6.40	6.19	---	5.55	5.17	2.96	4.42	5.29	5.66	5.01	5.91
17	6.42	6.40	6.19	---	5.61	5.18	3.14	4.48	5.33	5.70	2.79	5.90
18	6.43	6.35	6.21	---	5.66	5.17	3.24	4.53	5.37	5.73	4.00	5.87
19	6.43	6.33	6.25	---	5.70	5.17	3.30	4.57	5.40	5.76	4.48	5.89
20	6.43	6.33	6.28	---	5.73	5.16	3.34	4.61	5.43	5.79	4.79	5.93
21	6.44	6.35	6.30	5.78	5.75	5.14	3.36	4.65	5.46	5.80	5.00	5.95
22	6.44	6.37	6.31	5.87	5.77	5.13	3.37	4.70	5.47	5.81	5.14	5.96
23	6.44	6.39	6.33	5.96	4.47	5.10	3.40	4.75	5.49	5.83	5.27	5.97
24	6.44	6.41	6.34	6.03	4.30	5.07	3.42	4.79	5.49	5.86	5.37	5.92
25	6.44	6.43	6.36	6.08	4.68	5.03	3.43	4.82	5.51	5.88	5.44	5.88
26	6.45	6.42	6.38	6.11	4.91	5.01	3.46	4.86	5.52	5.89	5.50	5.87
27	6.45	5.03	6.39	6.07	5.07	4.09	3.49	4.89	5.43	5.86	5.55	5.86
28	6.45	5.24	6.40	4.61	5.18	2.94	3.52	4.93	5.40	5.73	5.60	5.87
29	6.46	5.49	6.22	4.78	---	3.43	3.55	4.96	5.42	5.61	5.59	5.89
30	6.41	5.66	6.05	5.06	---	3.75	3.59	5.00	5.46	5.61	5.57	5.91
31	6.37	---	6.04	5.25	---	3.89	---	5.03	---	5.68	5.57	---

WTR YR 1994 MEAN 5.38 HIGH 2.79 LOW 6.46



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

HERTFORD COUNTY

362845077005501. Local number, NC-55.

LOCATION.--Lat 36°28'45", long 77°00'55", Hydrologic Unit 03010203, 1.7 mi southwest of Como, south of Secondary Road 1306 on Secondary Road 1307. Owner: Charles Deloatch.

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

WELL CHARACTERISTICS.--Drilled observation well, depth 340 ft, diameter 2 in, screen depth unknown.

INSTRUMENTATION.--Measured annually with steel tape.

DATUM.--Land-surface datum is 28.40 ft above sea level. Measuring point: Top of instrument shelf, 2.79 ft above land-surface datum (since December 1975).

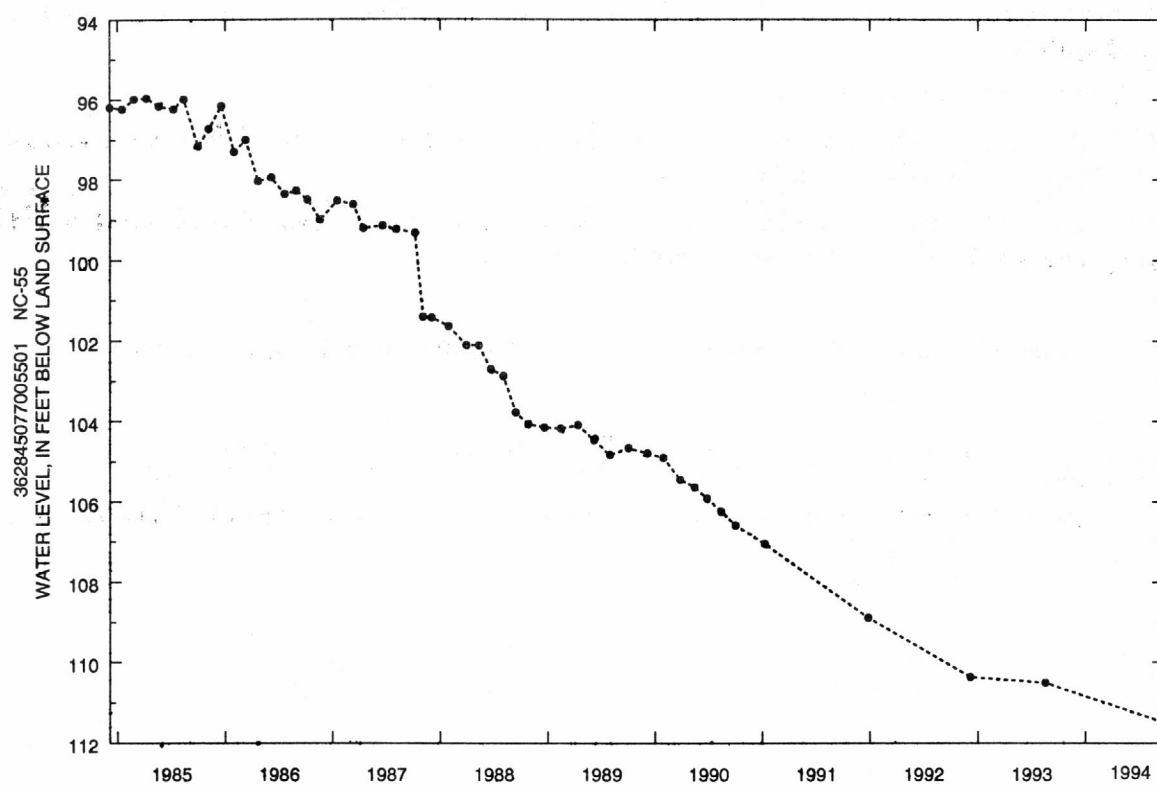
REMARKS.--Well is part of areal-effects network.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 48.36 ft below land-surface datum, May 30 and 31, 1966; lowest water level measured, 111.49 ft below land-surface datum, Sept. 22, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL
SEP 22	111.49



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

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

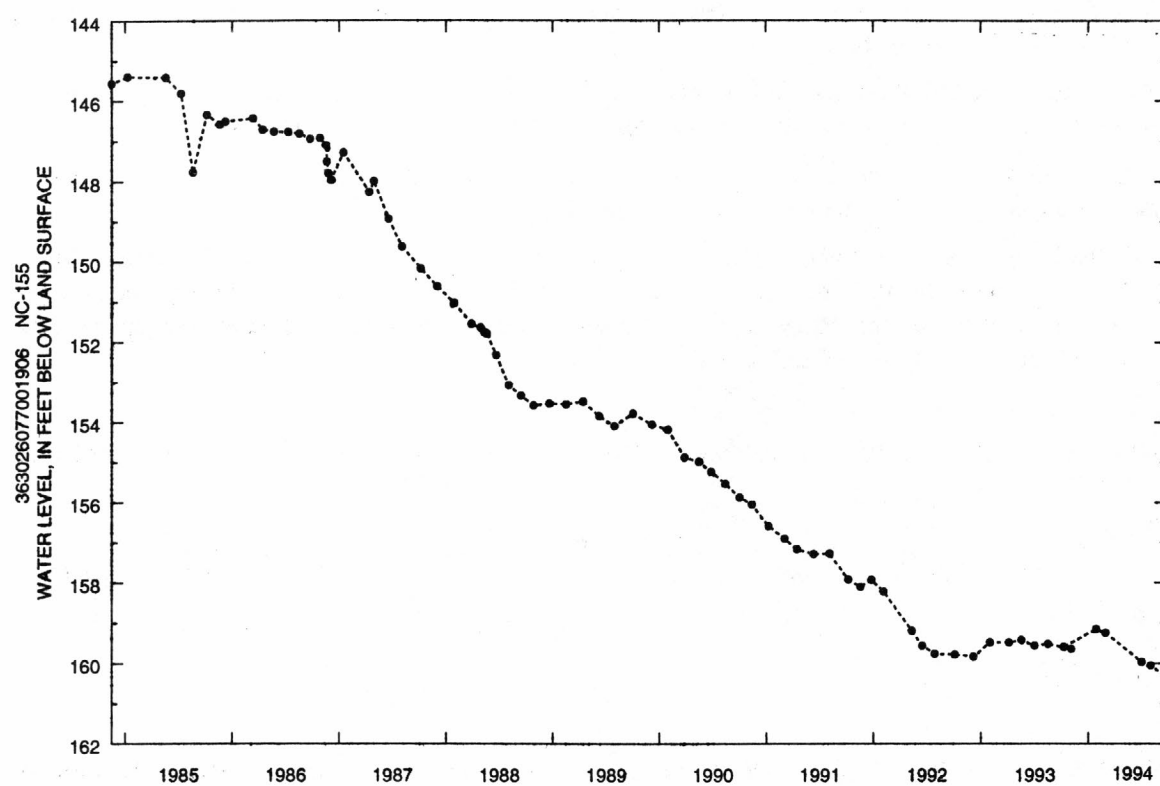
INSTRUMENTATION.--Measured periodically with steel tape.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 143.04 ft below land-surface datum, Feb. 9, 1983; lowest water level measured, 160.34 ft below land-surface datum, Sept. 22, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

[illegible]



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

HYDE COUNTY

352527076123103. Local number, NC-159; DEHNR Hydeland Research Station well O10w3.

LOCATION.--Lat 35°25'27", long 76°12'31", Hydrologic Unit 03020105, 0.7 mi east of Secondary Road 1121 on Secondary Road 1122. Owner: DEHNR (North Carolina Department of Environment, Health, and Natural Resources).

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

WELL CHARACTERISTICS.--Drilled observation well, drilled to 700 ft, diameter 6 in., cased to 640 ft, open hole to 700 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 3.17 ft above sea level (levels by DEHNR). Measuring point: Top of instrument shelf, 1.58 ft above land-surface datum; revised from 1.83 ft above land-surface datum, October 1987.

REMARKS.--Well is part of areal-effects network. Negative values of water levels in feet below land surface indicate groundwater levels that are above land surface.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.15 ft above land-surface datum, Mar. 18, 1993; lowest water level recorded, 1.14 ft below land-surface datum, Sept. 14, 1982.

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 +0.25 ft. Water-level values for the 1993 water year are given below. An incomplete table of water levels was published for the 1993 water year. The water levels below for the 1993 water year supersede those published in Water Resources Data, North Carolina, NC-93-2.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

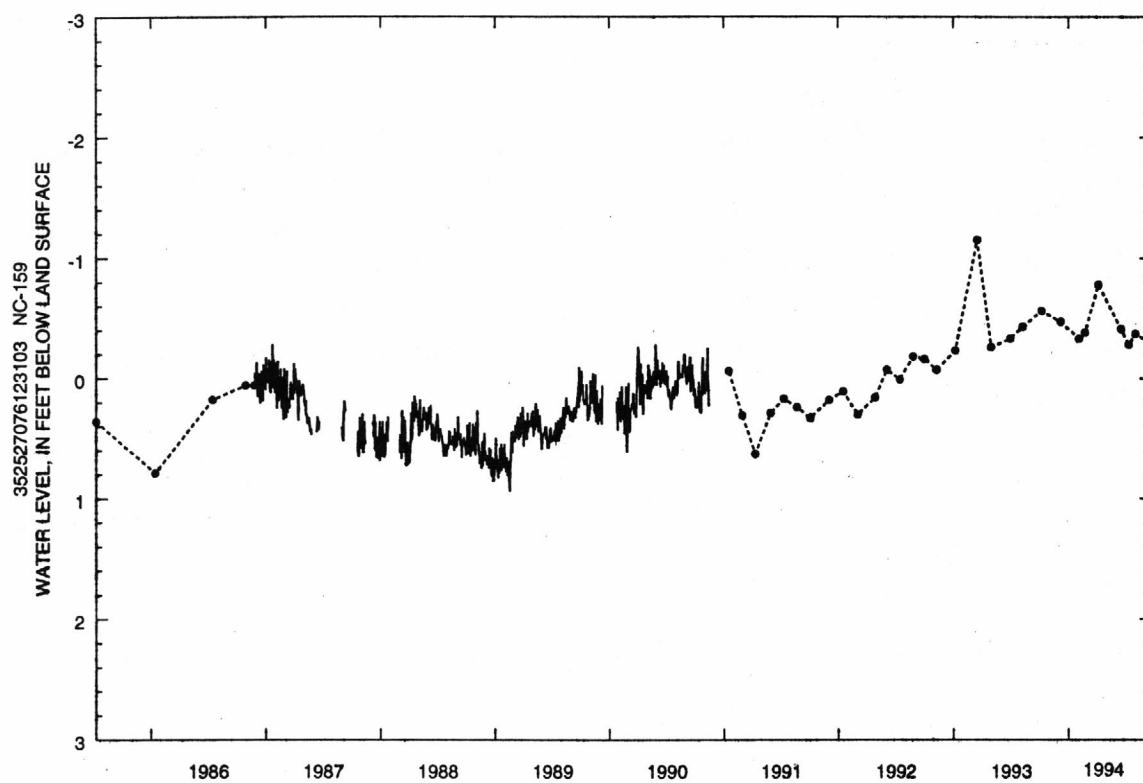
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	LEVEL
OCT 1	-0.16	JAN 7	-0.23	MAR 18	-1.15	MAY 10	-0.26	JUL 1	-0.33	AUG 9	-0.43
NOV 9	-0.07										

See REMARKS.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	-0.56	FEB 4	-0.33	APR 6	-0.78	JUL 11	-0.28	AUG 1	-0.37	SEP 20	-0.29
DEC 8	-0.47	FEB 22	-0.38	JUN 17	-0.41						

See REMARKS.



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

JONES COUNTY

345809077301404. Local number, NC-172; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, and Natural Resources).

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

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

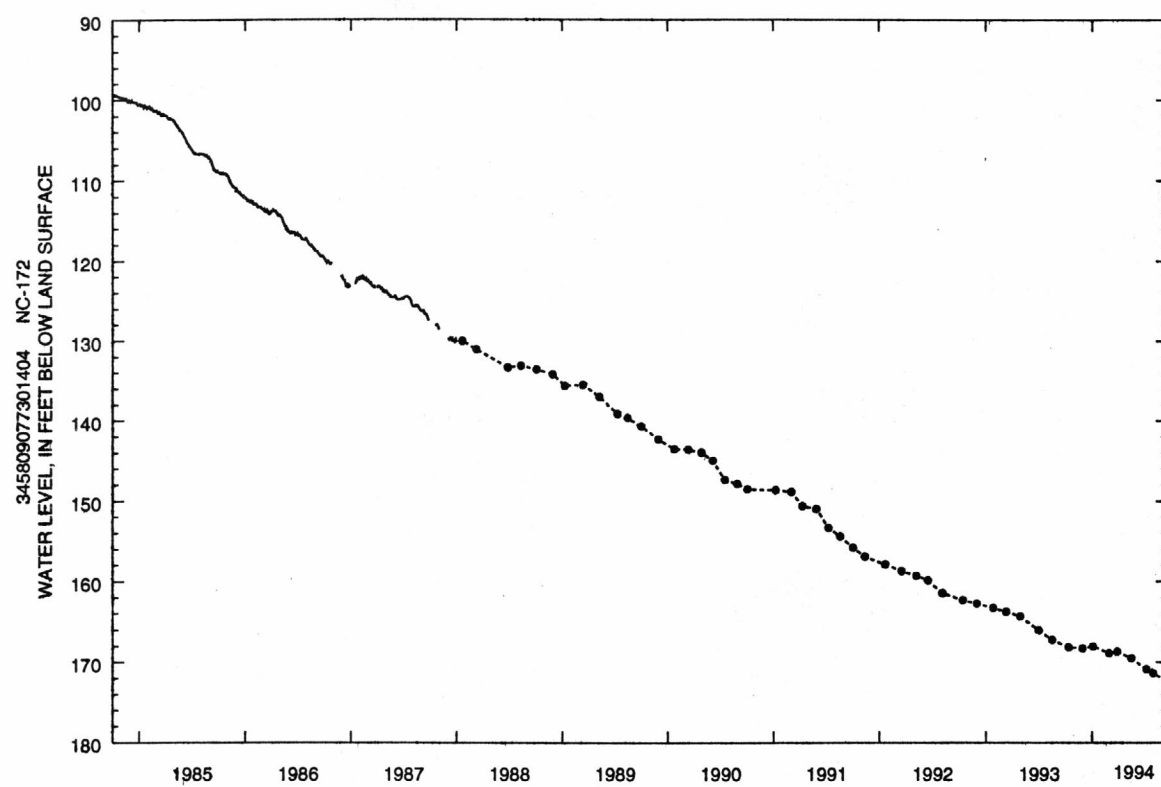
REMARKS.--Well is part of areal-effects network.

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, DEHNR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 67.56 ft below land-surface datum, Mar. 18, 1980; lowest water level measured, 172.47 ft below land-surface datum, Sept. 16, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	168.21	JAN 4	168.03	MAR 28	168.67	JUL 6	170.86	JUL 29	171.38	SEP 16	172.47
NOV 29	168.26	FEB 28	168.87	MAY 16	169.50						



JONES COUNTY--Continued

345809077301408. Local number, NC-173; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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.--Digital recorder with a 60-minute punch 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.

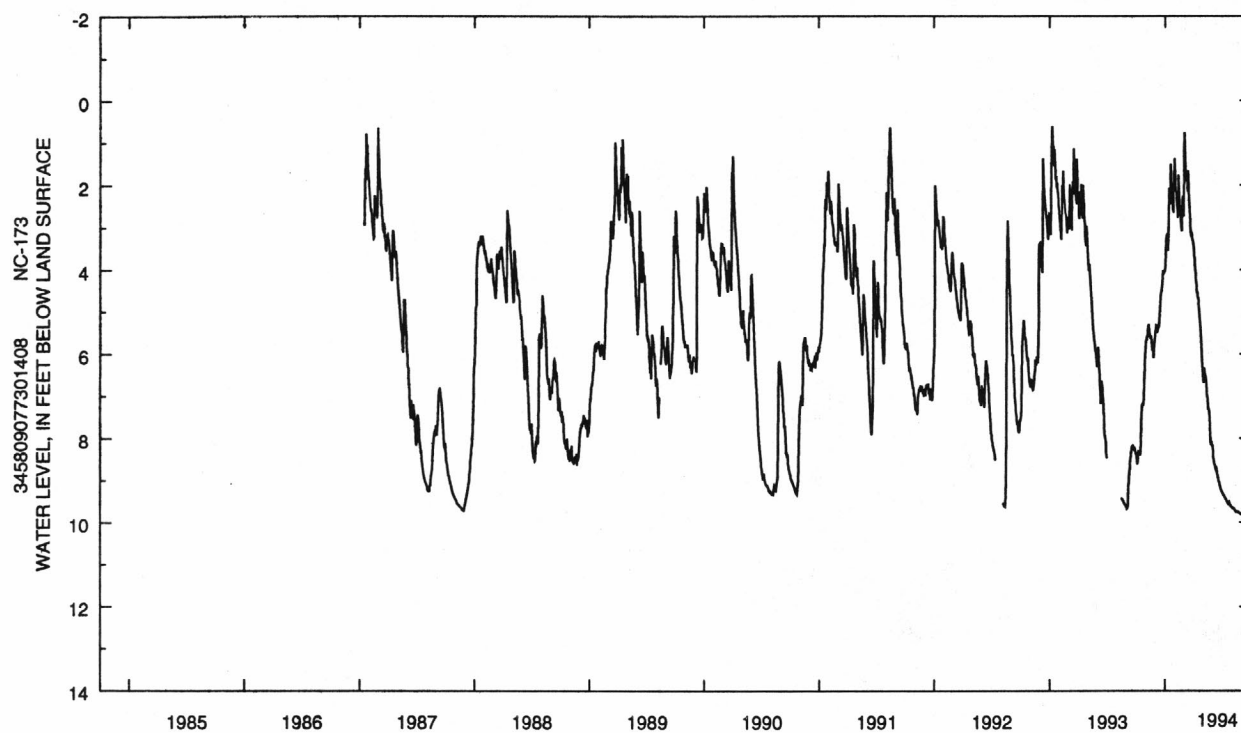
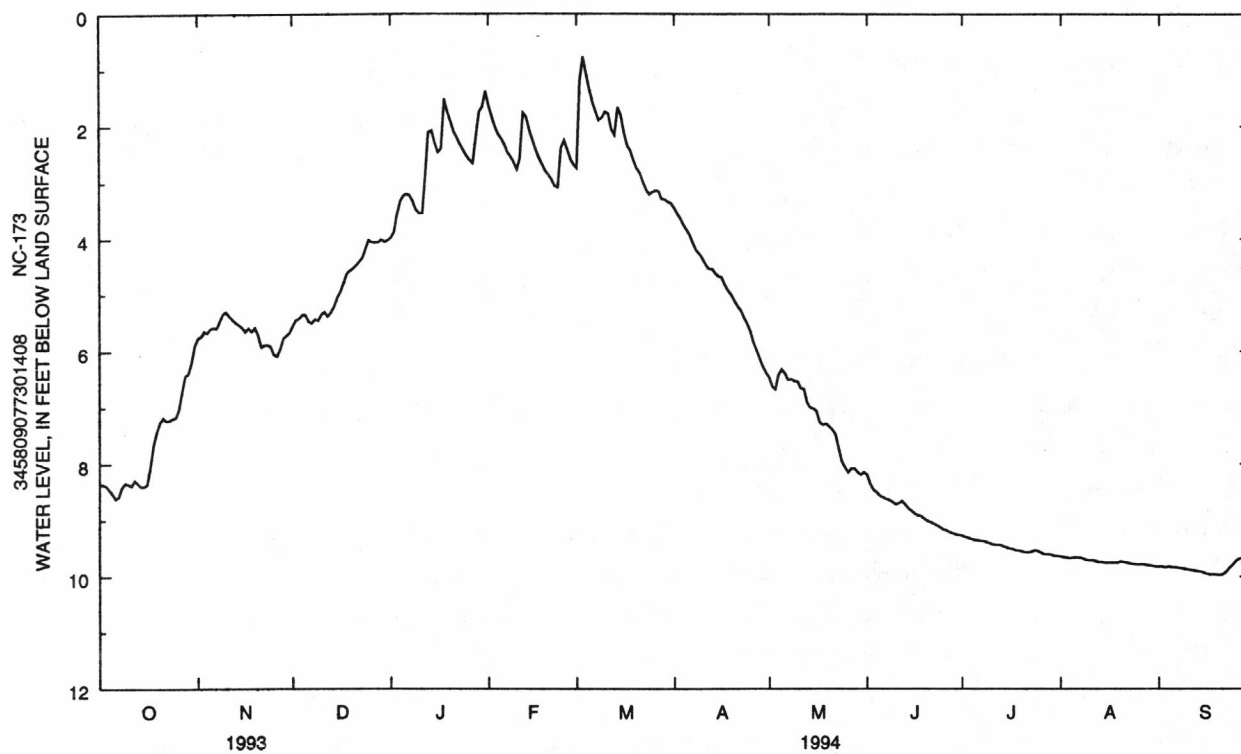
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.34 ft below land-surface datum, Aug. 14, 1991; lowest water level recorded, 9.97 ft below land-surface datum, Sept. 19, 20, 21, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.36	5.76	5.55	3.98	1.60	2.74	3.45	6.47	8.19	9.27	9.64	9.82
2	8.36	5.74	5.44	3.88	1.81	1.20	3.56	6.63	8.35	9.29	9.65	9.82
3	8.38	5.65	5.42	3.58	1.99	.76	3.64	6.68	8.45	9.31	9.66	9.83
4	8.44	5.67	5.35	3.33	2.13	1.06	3.75	6.42	8.50	9.33	9.67	9.82
5	8.52	5.60	5.36	3.23	2.21	1.34	3.85	6.33	8.56	9.35	9.66	9.83
6	8.61	5.58	5.47	3.20	2.31	1.56	3.94	6.39	8.59	9.35	9.66	9.83
7	8.57	5.59	5.50	3.22	2.45	1.73	4.08	6.51	8.62	9.36	9.66	9.84
8	8.41	5.45	5.43	3.33	2.53	1.89	4.21	6.50	8.64	9.37	9.68	9.85
9	8.33	5.33	5.45	3.48	2.62	1.84	4.27	6.53	8.67	9.39	9.70	9.86
10	8.35	5.30	5.35	3.54	2.77	1.74	4.36	6.54	8.72	9.41	9.71	9.87
11	8.38	5.38	5.30	3.54	2.56	1.77	4.47	6.65	8.70	9.43	9.71	9.88
12	8.29	5.43	5.38	2.81	1.76	2.05	4.54	6.68	8.66	9.44	9.72	9.89
13	8.34	5.49	5.31	2.10	1.83	2.15	4.54	6.91	8.72	9.44	9.74	9.90
14	8.39	5.53	5.20	2.07	2.06	1.66	4.61	7.00	8.79	9.46	9.74	9.91
15	8.39	5.57	5.05	2.29	2.24	1.80	4.67	7.02	8.83	9.48	9.75	9.93
16	8.35	5.65	4.94	2.45	2.41	2.12	4.69	7.06	8.88	9.50	9.75	9.95
17	8.05	5.59	4.80	2.39	2.55	2.34	4.82	7.26	8.91	9.51	9.75	9.96
18	7.66	5.65	4.62	1.51	2.67	2.42	4.92	7.31	8.92	9.53	9.75	9.96
19	7.43	5.58	4.57	1.74	2.78	2.61	5.00	7.29	8.97	9.54	9.75	9.96
20	7.26	5.69	4.53	1.91	2.86	2.74	5.10	7.34	9.01	9.56	9.73	9.97
21	7.18	5.92	4.47	2.09	2.93	2.82	5.20	7.39	9.03	9.57	9.74	9.96
22	7.23	5.89	4.41	2.20	3.05	2.98	5.27	7.48	9.06	9.57	9.75	9.92
23	7.22	5.88	4.34	2.31	3.08	3.12	5.40	7.71	9.09	9.56	9.76	9.85
24	7.19	5.91	4.18	2.42	2.38	3.21	5.50	7.95	9.12	9.53	9.77	9.79
25	7.17	6.05	4.02	2.51	2.25	3.16	5.65	8.06	9.16	9.55	9.78	9.73
26	7.04	6.09	4.06	2.59	2.40	3.14	5.83	8.15	9.18	9.58	9.78	9.69
27	6.72	5.96	4.06	2.65	2.58	3.15	5.98	8.08	9.21	9.60	9.78	9.67
28	6.44	5.77	4.06	2.19	2.68	3.28	6.13	8.08	9.23	9.60	9.79	9.65
29	6.39	5.72	4.01	1.74	---	3.30	6.27	8.15	9.25	9.61	9.80	9.65
30	6.20	5.67	4.05	1.65	---	3.34	6.38	8.19	9.26	9.63	9.81	9.65
31	5.89	---	4.03	1.37	---	3.36	---	8.15	---	9.63	9.82	---

WTR YR 1994 MEAN 6.31 HIGH .76 LOW 9.97



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

JONES COUNTY--Continued

345809077301405. Local number, NC-187; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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, 1.3 ft above land-surface datum.

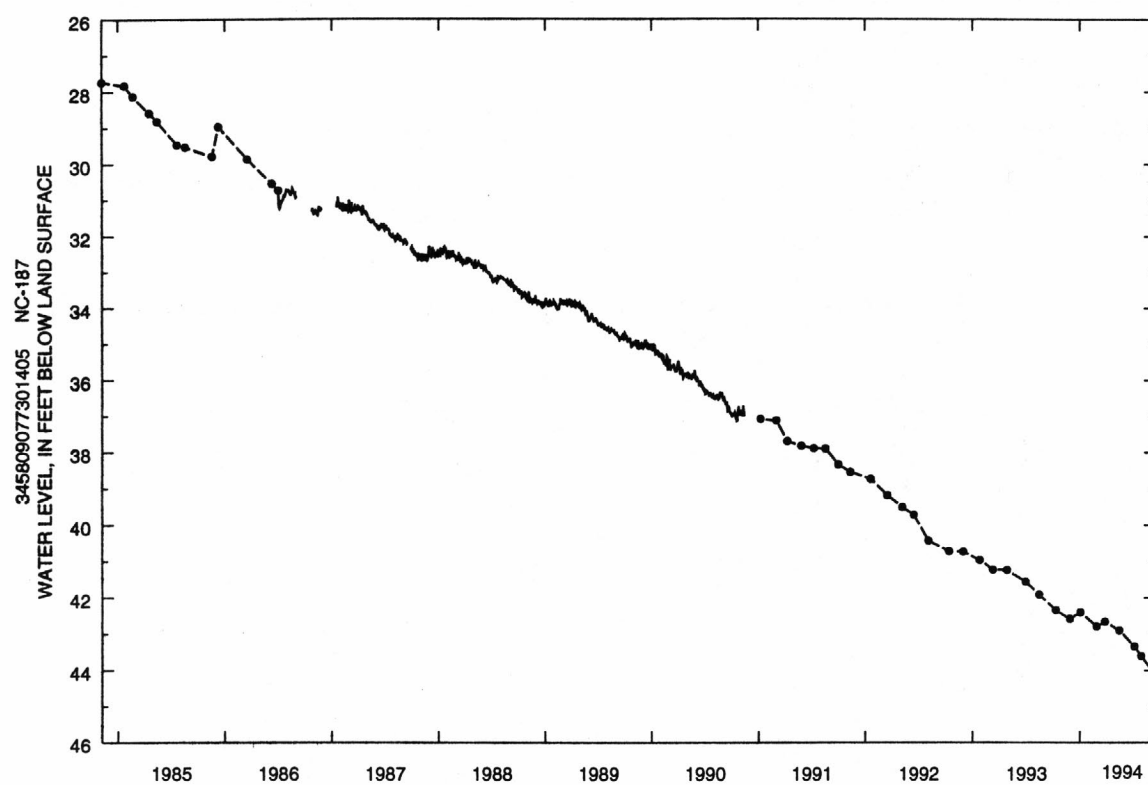
REMARKS.--Well is part of areal-effects network.

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, DEHNR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 21.53 ft below land-surface datum, Oct. 29, 1980; lowest water level measured, 44.15 ft below land-surface datum, Sept. 16, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	42.34	JAN 4	42.40	MAR 28	42.66	JUL 6	43.34	JUL 29	43.60	SEP 16	44.15
NOV 29	42.58	FEB 28	42.79	MAY 16	42.90						



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

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 intervals unknown.

INSTRUMENTATION.--Digital recorder with a 30-minute punch interval. Measured periodically with steel tape October 1993 to September 1994.

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 measured 112.62 ft below land-surface datum, July 6, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	106.82	JAN 10	108.41	MAR 29	106.17	JUN 28	111.93	JUL 25	109.86	SEP 12	111.70
NOV 18	110.37	FEB 22	106.80	MAY 9	107.38	JUL 6	112.62				



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

LENOIR COUNTY--Continued

351937077284201. Local number, NC-185; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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.--Digital recorder with a 60-minute punch interval.

DATUM.--Land-surface datum is 66 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 3.1 ft above land-surface datum.

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

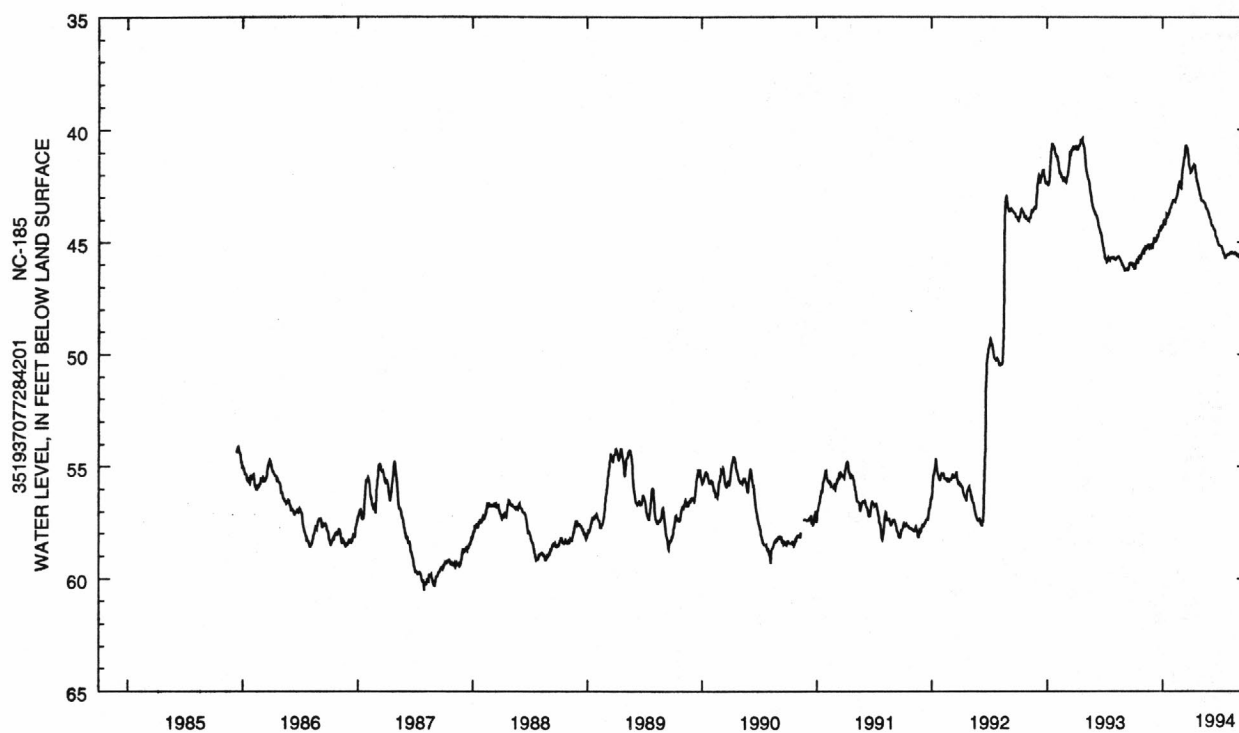
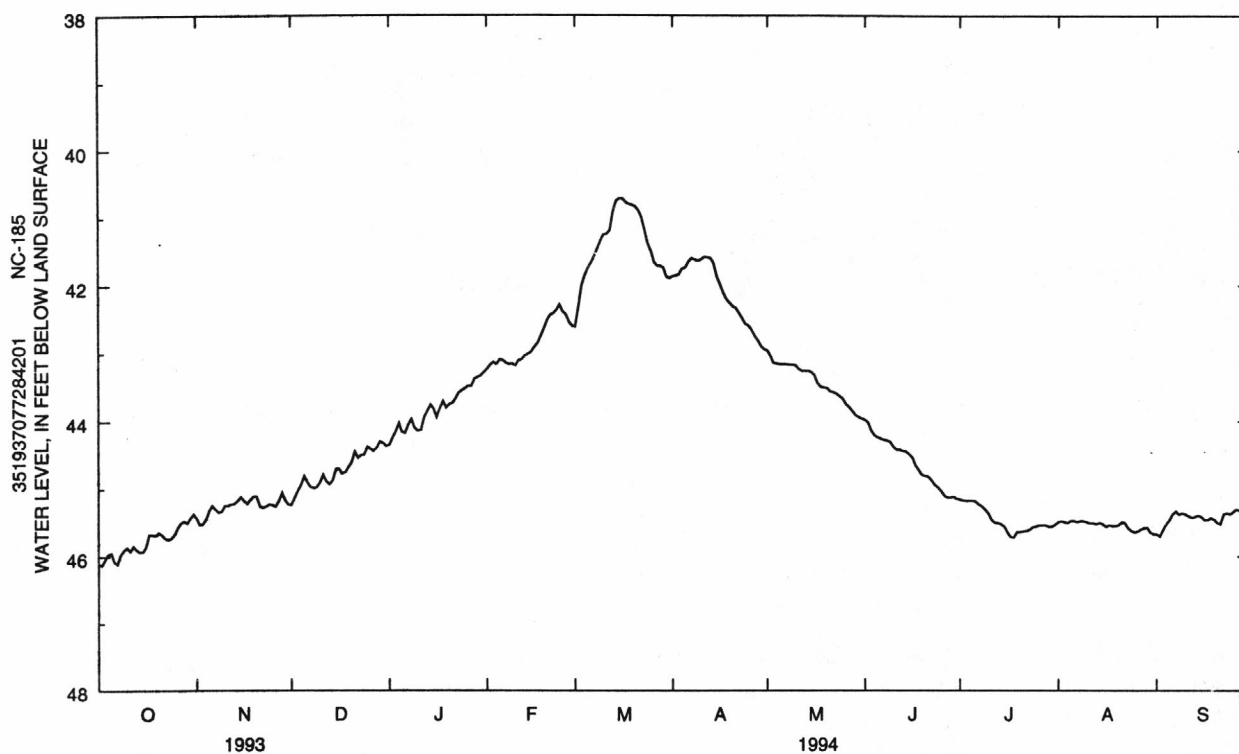
PERIOD OF RECORD.--December 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 40.37 ft below land-surface datum, Apr. 22, 1993; 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 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	45.95	45.32	44.81	44.16	43.09	41.74	41.73	43.16	44.24	45.18	45.47	45.46
10	45.87	45.25	44.91	44.14	43.18	41.24	41.61	43.18	44.38	45.36	45.49	45.37
15	45.93	45.12	44.71	43.81	42.97	40.71	41.87	43.27	44.49	45.56	45.52	45.41
20	45.65	45.11	44.61	43.75	42.51	40.82	42.30	43.51	44.81	45.64	45.54	45.50
25	45.67	45.24	44.38	43.51	42.38	41.48	42.59	43.67	45.03	45.56	45.64	45.34
EOM	45.37	45.23	44.37	43.27	42.59	41.89	42.94	43.96	45.15	45.53	45.67	45.50
WTR YR 1994	MEAN 44.21	HIGH 40.71	MAR 15	LOW 46.13	OCT 2							



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

LENOIR COUNTY--Continued

351609077370605. Local number, NC-186; DEHNR 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 DEHNR Supply Yard. Owner: DEHNR (North Carolina Department of Environment, Health 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 DEHNR). Measuring point: Top of instrument shelf, 1.85 ft above land-surface datum.

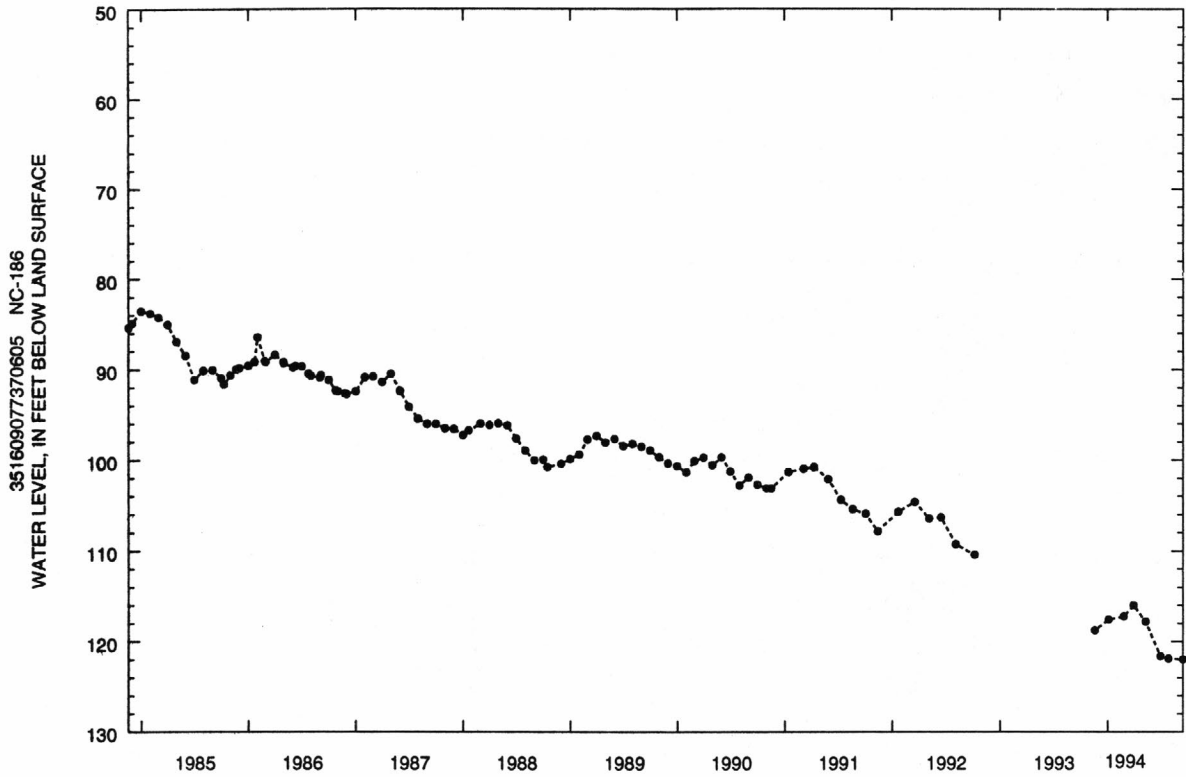
REMARKS.--Well is part of areal-effects network.

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, DEHNR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 68.78 ft below land-surface datum, Aug. 12, 1974; lowest water level measured 121.98 ft below land-surface datum, Sept. 12, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	118.18	JAN 4	117.57	MAR 29	116.00	JUN 28	121.63	JUL 25	121.89
NOV 18	118.78	FEB 24	117.23	MAY 9	117.81			SEP 12	121.98



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

MECKLENBURG COUNTY

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.

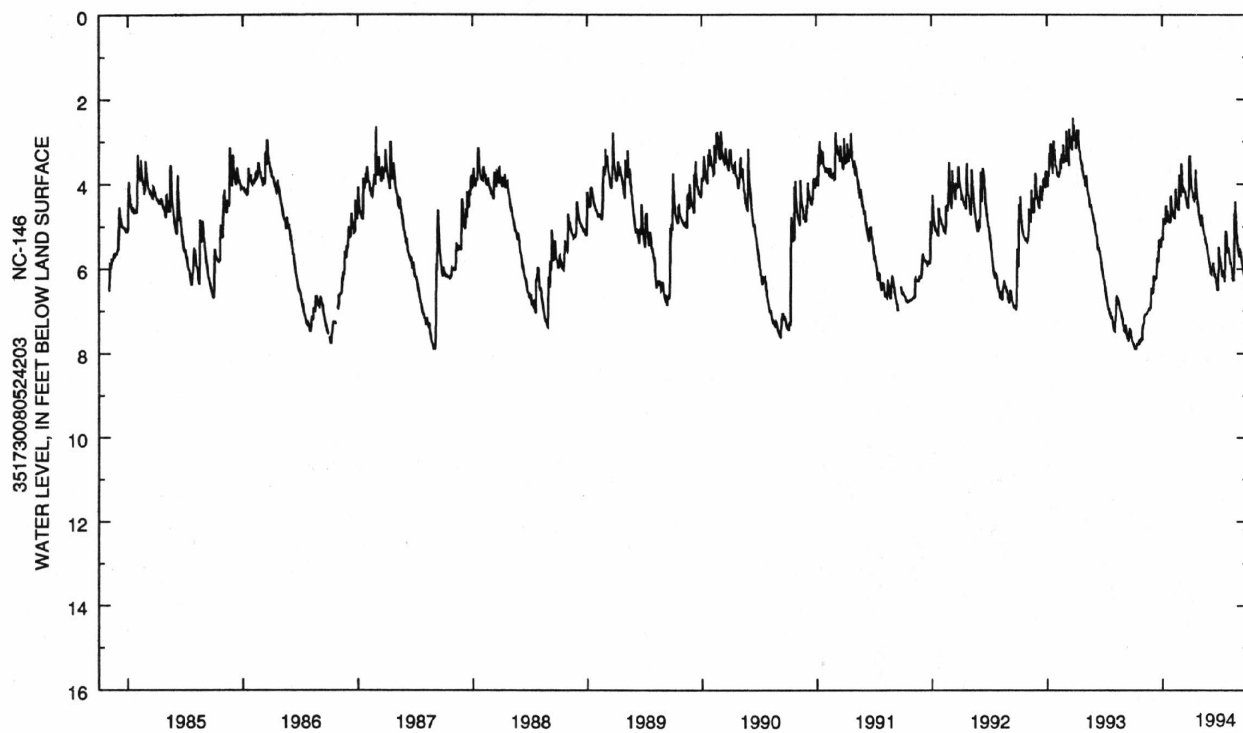
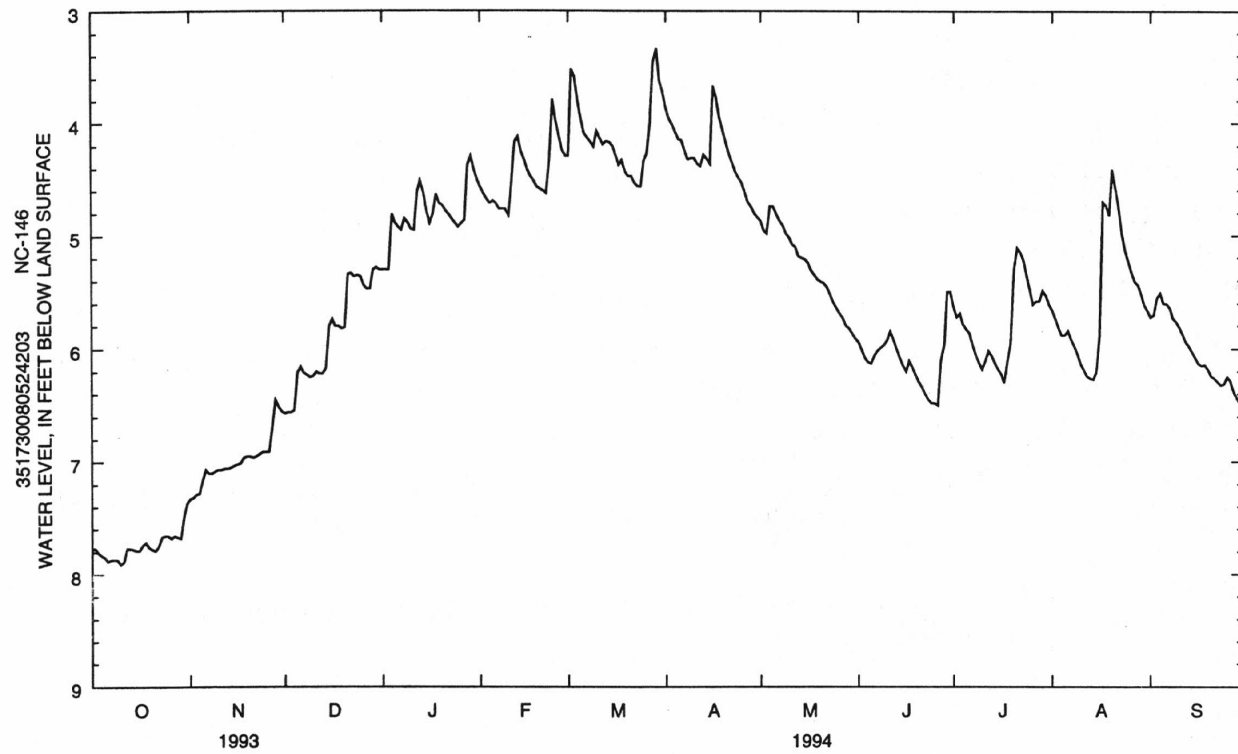
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.28 ft below land-surface datum, Mar. 24, 1993; lowest water level recorded, 7.93 ft below land-surface datum, Oct. 10 and 11, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.77	7.33	6.57	5.30	4.56	4.29	3.86	4.87	5.94	5.63	5.66	5.72
2	7.77	7.32	6.56	5.30	4.62	3.52	3.96	4.96	6.01	5.72	5.73	5.70
3	7.81	7.29	6.56	5.30	4.67	3.59	4.01	4.98	6.08	5.69	5.81	5.55
4	7.83	7.28	6.54	4.81	4.71	3.80	4.07	4.74	6.12	5.78	5.88	5.51
5	7.85	7.17	6.21	4.88	4.69	3.96	4.14	4.74	6.13	5.83	5.88	5.60
6	7.88	7.07	6.16	4.92	4.71	4.09	4.15	4.81	6.06	5.86	5.84	5.60
7	7.87	7.10	6.21	4.95	4.76	4.13	4.24	4.87	6.02	5.96	5.92	5.64
8	7.87	7.10	6.23	4.85	4.76	4.16	4.32	4.91	5.99	6.05	5.98	5.73
9	7.87	7.08	6.25	4.88	4.76	4.21	4.31	4.98	5.97	6.12	6.05	5.76
10	7.91	7.07	6.24	4.94	4.82	4.07	4.31	5.02	5.93	6.18	6.13	5.81
11	7.89	7.07	6.20	4.95	4.54	4.13	4.36	5.08	5.85	6.11	6.19	5.87
12	7.77	7.06	6.22	4.61	4.16	4.19	4.38	5.10	5.92	6.02	6.24	5.94
13	7.77	7.06	6.22	4.51	4.12	4.16	4.28	5.18	6.00	6.06	6.26	5.98
14	7.78	7.05	6.17	4.62	4.25	4.17	4.31	5.20	6.08	6.12	6.27	6.03
15	7.79	7.03	5.80	4.78	4.32	4.20	4.36	5.21	6.15	6.18	6.20	6.08
16	7.79	7.02	5.74	4.89	4.41	4.28	3.67	5.24	6.20	6.22	5.88	6.13
17	7.74	7.01	5.80	4.81	4.47	4.37	3.77	5.31	6.11	6.30	4.70	6.15
18	7.72	6.96	5.80	4.63	4.51	4.33	3.95	5.35	6.17	6.11	4.73	6.14
19	7.76	6.95	5.82	4.71	4.56	4.43	4.06	5.39	6.23	5.95	4.82	6.18
20	7.78	6.95	5.81	4.73	4.58	4.47	4.17	5.41	6.29	5.31	4.41	6.24
21	7.79	6.96	5.34	4.78	4.60	4.47	4.27	5.42	6.34	5.11	4.59	6.26
22	7.75	6.95	5.33	4.81	4.62	4.53	4.35	5.46	6.40	5.15	4.75	6.29
23	7.67	6.93	5.36	4.85	4.33	4.56	4.43	5.52	6.45	5.22	4.98	6.32
24	7.66	6.91	5.35	4.89	3.79	4.56	4.48	5.59	6.48	5.35	5.13	6.31
25	7.66	6.91	5.36	4.92	3.98	4.33	4.53	5.64	6.48	5.49	5.23	6.25
26	7.68	6.91	5.44	4.89	4.11	4.27	4.61	5.69	6.50	5.61	5.33	6.28
27	7.66	6.70	5.47	4.86	4.24	3.99	4.70	5.73	6.11	5.58	5.41	6.38
28	7.67	6.45	5.47	4.37	4.29	3.46	4.74	5.80	5.96	5.58	5.44	6.43
29	7.68	6.51	5.30	4.29	---	3.34	4.80	5.82	5.50	5.49	5.52	6.48
30	7.49	6.55	5.28	4.41	---	3.62	4.84	5.87	5.50	5.53	5.61	6.52
31	7.37	---	5.30	4.50	---	3.72	---	5.91	---	5.61	5.66	---

WTR YR 1994 MEAN 5.59 HIGH 3.34 LOW 7.91



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

MECKLENBURG COUNTY--Continued

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. 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.

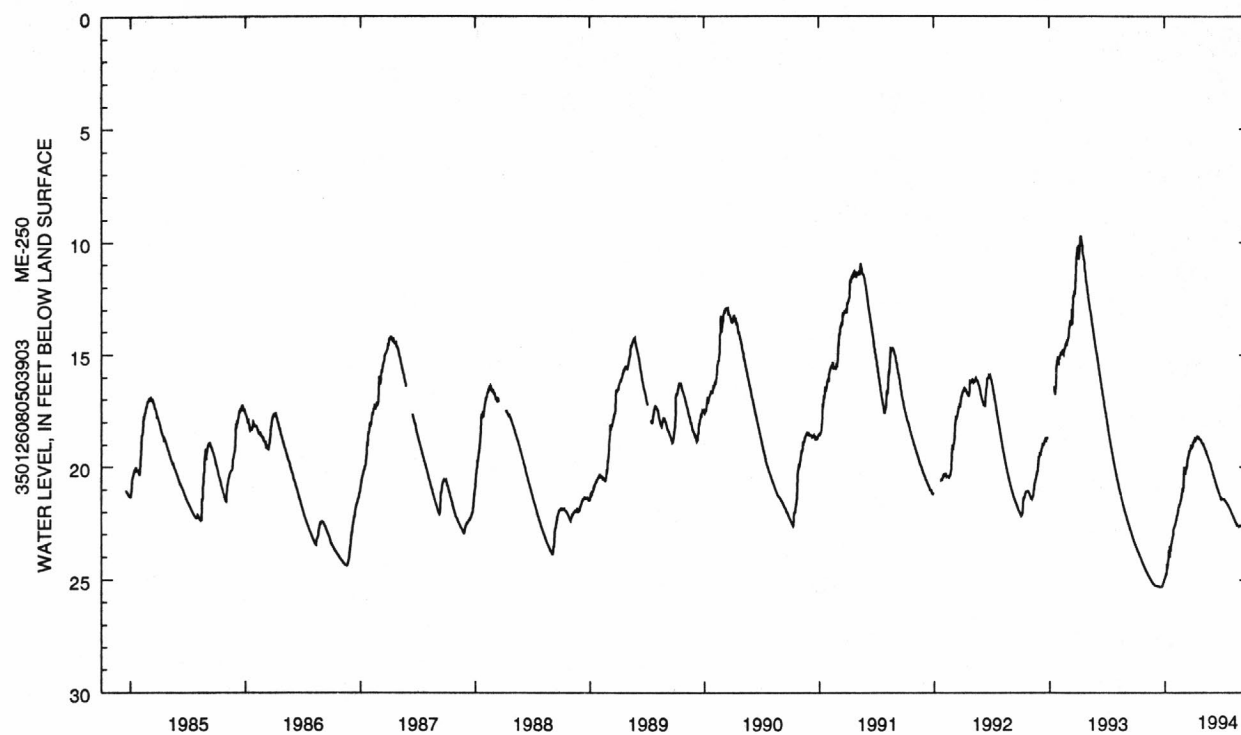
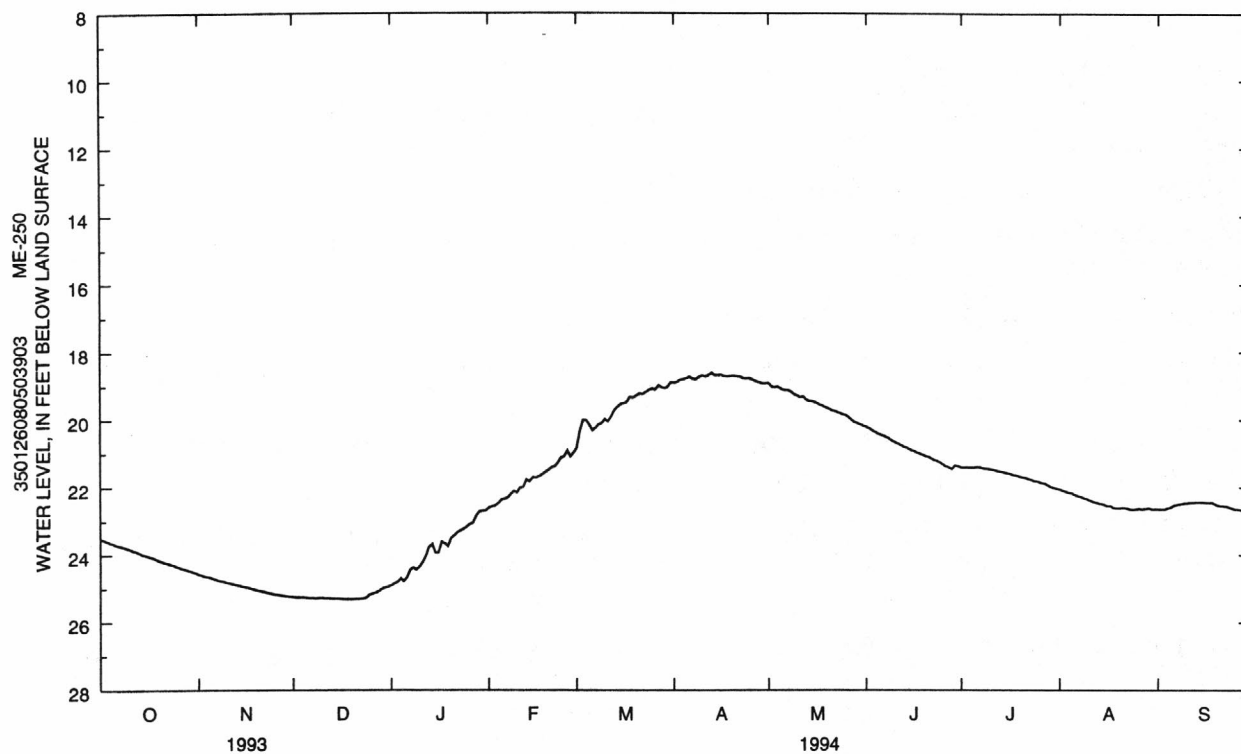
PERIOD OF RECORD.--December 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.63 ft below land-surface datum, Apr. 10, 1993; lowest water level recorded, 25.32 ft below land-surface datum Dec. 17, 18, 19, 20 and 21, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.66	24.68	25.27	24.78	22.37	20.15	18.77	19.09	20.43	21.41	22.17	22.59
10	23.82	24.82	25.28	24.36	22.16	19.99	18.69	19.28	20.66	21.46	22.36	22.46
15	24.00	24.94	25.30	23.94	21.71	19.54	18.68	19.46	20.90	21.57	22.51	22.44
20	24.17	25.06	25.32	23.51	21.49	19.29	18.70	19.67	21.09	21.70	22.61	22.54
25	24.34	25.17	25.18	23.17	21.09	19.08	18.77	19.85	21.31	21.83	22.64	22.64
EOM	24.53	25.24	24.95	22.70	20.97	18.90	18.93	20.17	21.38	22.03	22.64	22.75
WTR YR 1994	MEAN 22.11		HIGH 18.61 APR 13		LOW 25.32 DEC 17							



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

MECKLENBURG COUNTY--Continued

351023080542703. Local number, Me-251.

LOCATION.--Lat 35°10'23", long 80°54'27", Hydrologic Unit 03050103, at York Road landfill, at Charlotte. Owner: U.S. Geological Survey.

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

WELL CHARACTERISTICS.--Drilled observation well, depth 25.0 ft, diameter 4 in., cased to 20.0 ft, screened and sand filter packed from 20.0 to 25.0 ft.

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

DATUM.--Land-surface datum is 612.42 ft (revised) above sea level (levels by City of Charlotte). Measuring point: Top of casing, 0.50 ft above land-surface datum.

REMARKS.--Well is part of the Charlotte-Mecklenburg urban hydrology study, York Road landfill well YRW-B.

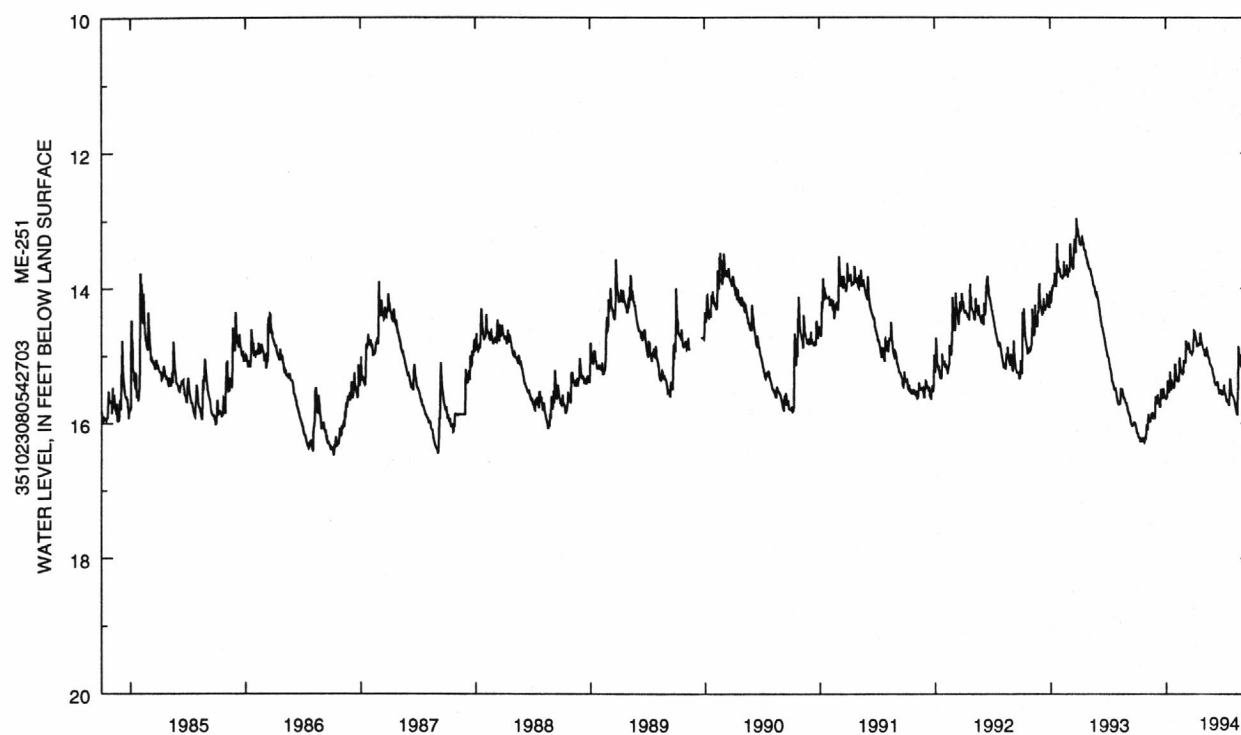
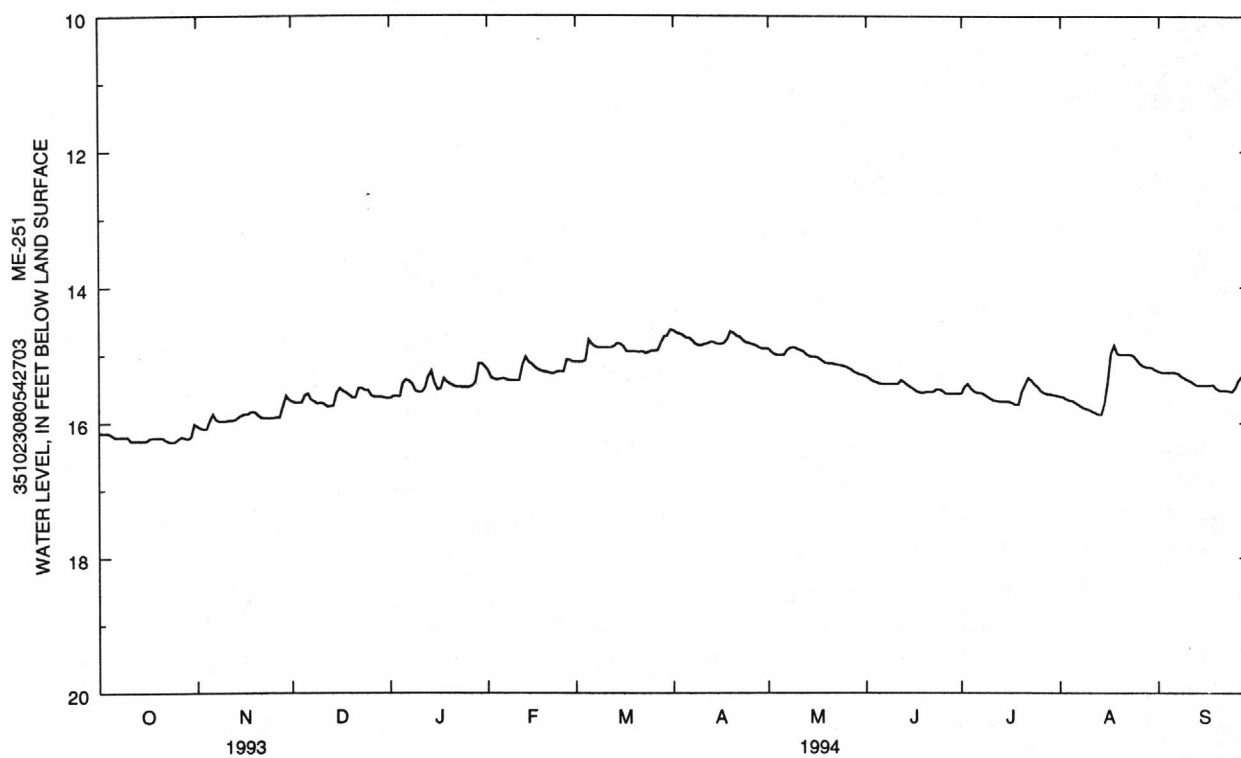
PERIOD OF RECORD.--October 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 12.87 ft below land-surface datum, Mar. 24, 1993; lowest water level recorded, 16.49 ft below land-surface datum, Oct. 7, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.18	15.97	15.59	15.42	15.36	14.78	14.75	15.00	15.42	15.54	15.68	15.26
10	16.21	15.98	15.71	15.55	15.38	14.89	14.86	14.91	15.43	15.64	15.80	15.37
15	16.27	15.89	15.56	15.41	15.14	14.84	14.84	15.03	15.48	15.69	15.72	15.45
20	16.22	15.87	15.63	15.43	15.26	14.95	14.68	15.13	15.55	15.54	14.99	15.52
25	16.28	15.93	15.52	15.48	15.25	14.94	14.83	15.17	15.53	15.47	15.06	15.48
EOM	16.02	15.66	15.64	15.18	15.10	14.63	14.91	15.30	15.57	15.60	15.22	15.41
WTR YR 1994	MEAN 15.42		HIGH 14.63 MAR 31		LOW 16.29 OCT 24							



351331080411603. Local number, Me-252.

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

INSTRUMENTATION.--Digital recorder with a 60-minute punch interval Nov. 1984 through July 9, 1990, and Dec. 10, 1990, to present. Measured periodically with steel tape during interruption of continuous record, July 9, 1990 to Dec. 10, 1990.

DATUM.--Land-surface datum is 780.6 ft above sea level from Dec. 10, 1990, to present; was 756.3 ft from Nov. 1984 to July 9, 1990. Land-surface datum changed many times during the period from July 9 to Dec. 10, 1990, as a result of landfill activities. Measuring point: Top of casing, 1.50 ft above land-surface datum Nov. 1984 through July 9, 1990, and 1.40 ft from Dec. 10, 1990, to present.

REMARKS.--Well is part of the Charlotte-Mecklenburg landfill hydrology study, Harrisburg Road landfill well HBW 2101-A. Continuous record was interrupted July 9, 1990, when recorder was removed for landfill operations. Continuous record resumed Dec. 10, 1990. Land-surface datum has increased as the landfill has been filled. Use extremes for period of record with care, noting datum changes as described above. In this report, hydrographs of water-level data from this well are shown in feet above sea level to compensate for changes in land-surface datum.

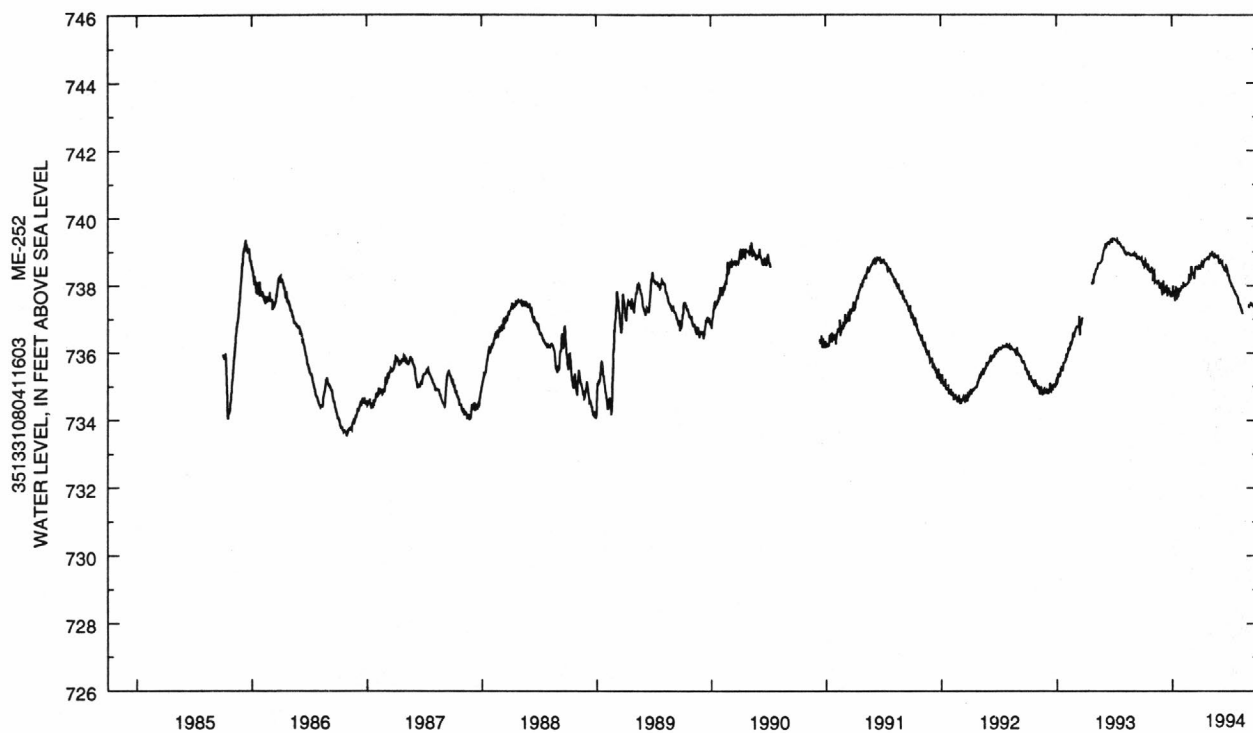
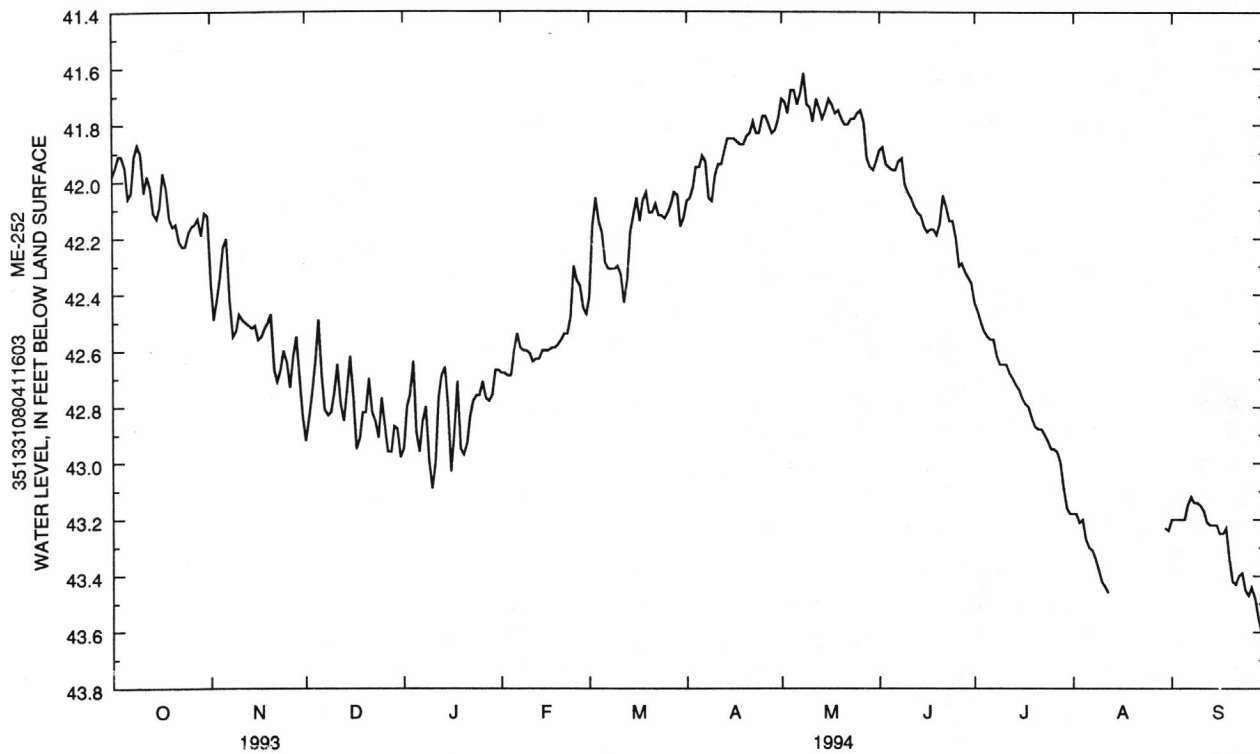
PERIOD OF RECORD.--November 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 16.80 ft below land-surface datum, May 10, 1990; lowest water level recorded, 46.16 ft below land-surface datum, March 1, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	41.95	42.23	42.49	42.89	42.60	42.18	41.95	41.68	41.96	42.55	43.27	43.20
10	41.90	42.47	42.75	43.09	42.61	42.30	41.98	41.74	42.04	42.65	43.42	43.15
15	42.13	42.51	42.62	42.79	42.60	42.12	41.85	41.75	42.16	42.74	---	43.22
20	42.16	42.47	42.82	42.97	42.56	42.11	41.84	41.78	42.15	42.87	---	43.42
25	42.18	42.64	42.77	42.76	42.35	42.13	41.77	41.76	42.20	42.95	---	43.47
EOM	42.12	42.83	42.98	42.67	42.47	42.13	41.78	41.93	42.36	43.18	43.24	43.68
WTR YR 1994		MEAN	42.47	HIGH	41.62	MAY 8	LOW	43.68	SEP 30			



MECKLENBURG COUNTY--Continued

LOCATION.--Lat 35°13'33", long 80°40'55", Hydrologic Unit 03050103, at Harrisburg Road landfill, near Mint Hill.
Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well, depth 52.7 ft, diameter 4 in., cased to 42.7 ft, screened from 42.7 to 52.7 ft; Dec. 18, 1985. Sand filter packed from 42.7 to 52.7 ft. Land-surface elevation and, thus, well depth has increased several times since 1985. See datum corrections and remarks below.

DATUM.--Land-surface datum is 759.7 ft above sea level from Apr. 21, 1988, to present; and was 742.1 ft from Dec. 18, 1985, to Sept. 29, 1986; 748.3 ft from Sept. 29 to Dec. 19, 1986; 758.1 ft from Dec. 19, 1986, to Apr. 21, 1988. Measuring point to land-surface datum was -4.4 ft from Dec. 18, 1985, to Sept. 29, 1986; -3.2 ft from Sept. 29, 1986, to Oct. 6, 1986; 0.0 ft from Oct. 6, 1986, to Apr. 21, 1988; -3.4 ft from Apr. 21, 1988, to Dec. 10, 1990; -2.2 ft from Dec. 10, 1990, to present. Finished grade completed about Sept. 30, 1988.

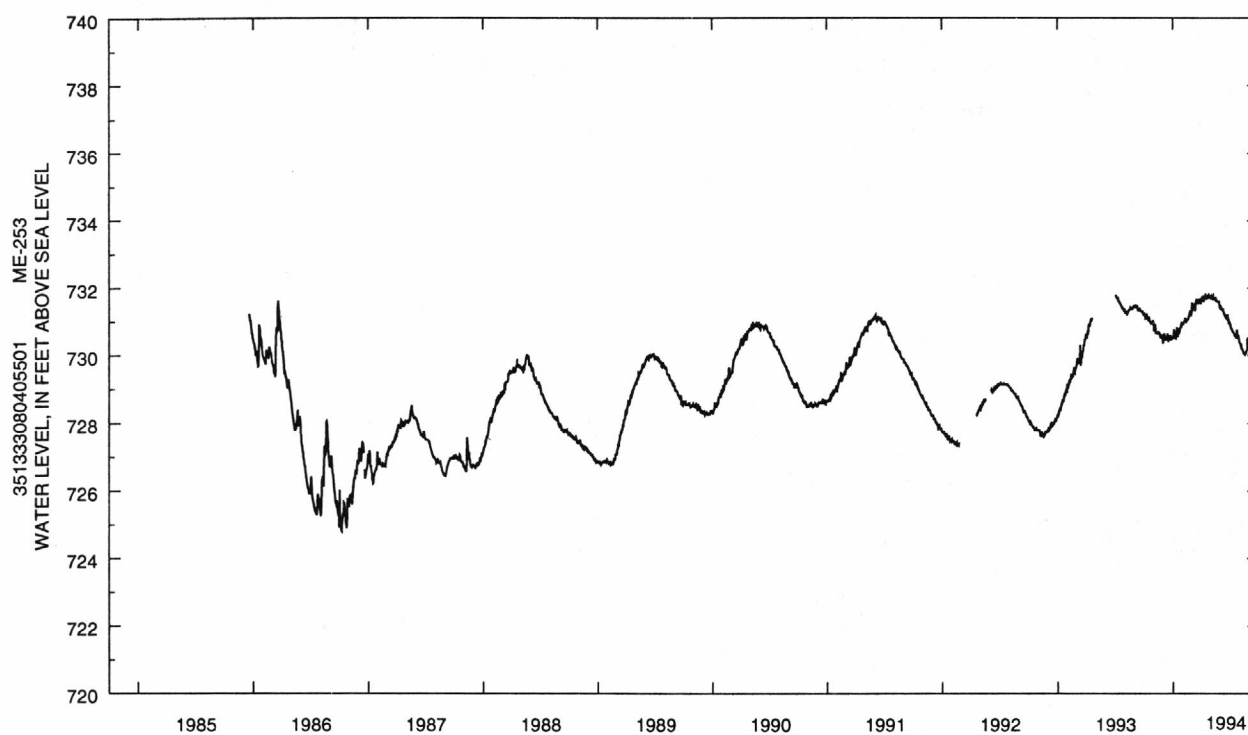
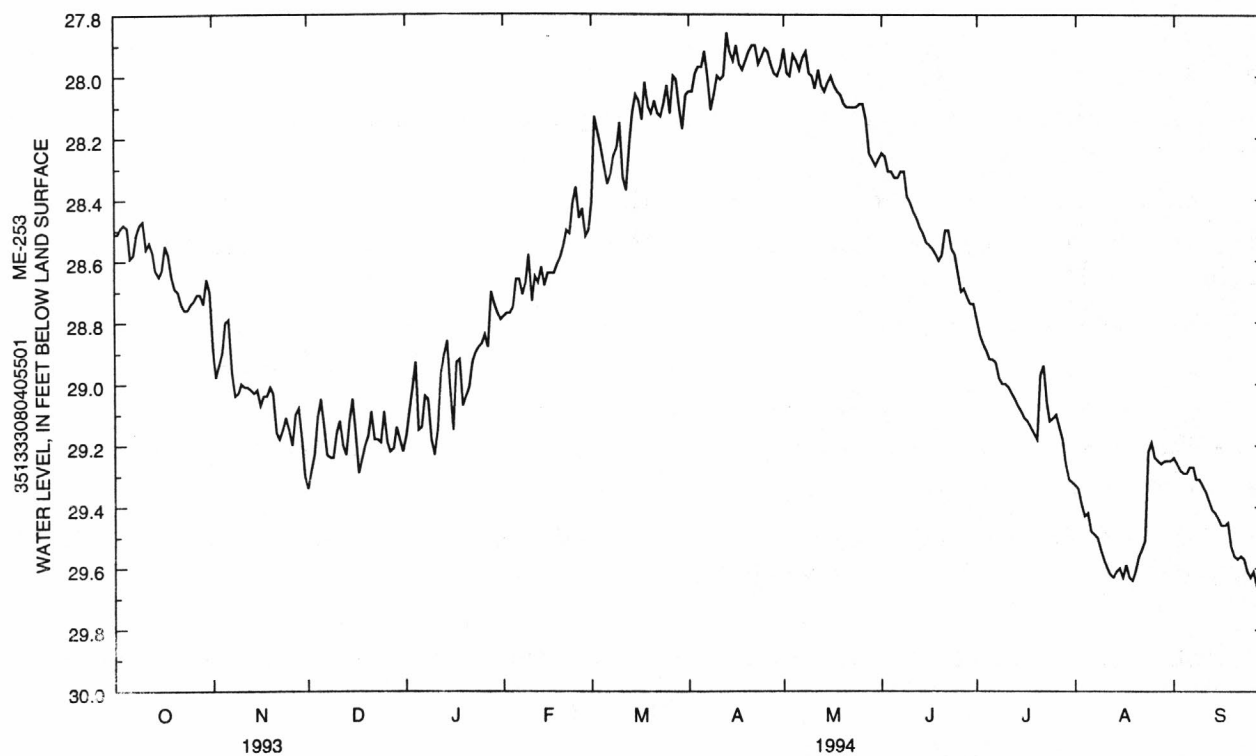
PERIOD OF RECORD.--December 1985 to current year.

REVISIONS.--The elevation of land-surface datum published in previous annual-data reports has been revised to 759.7 ft above sea level.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

[illegible]



MECKLENBURG COUNTY--Continued

351327080404401. Local number, Me-254.

LOCATION.--Lat 35°13'27", long 80°40'44", Hydrologic Unit 03050103, at Harrisburg Road landfill, near Mint Hill.
Owner: U.S. Geological Survey.

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

WELL CHARACTERISTICS.--Drilled observation well, depth 56 ft, diameter 4 in., cased 35.0 ft, screened and sand filter packed from 35.0 to 55.0 ft.

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

DATUM.--Land-surface datum is 768.5 ft above sea level (levels by U.S. Geological Survey); revised from 768.0 ft above sea level. Measuring point: Top of casing, 1.20 ft above land-surface datum.

REMARKS.--Well is part of the Charlotte-Mecklenburg urban hydrology study, Harrisburg Road landfill well HBW 2301.

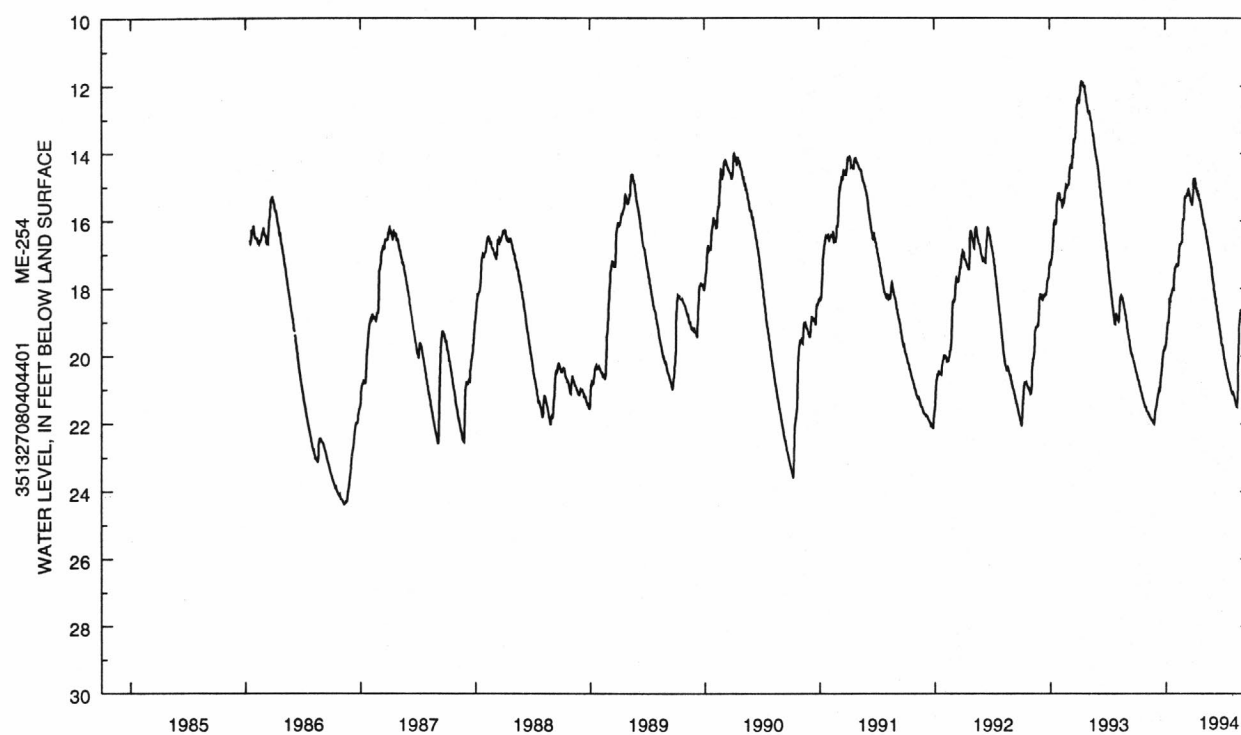
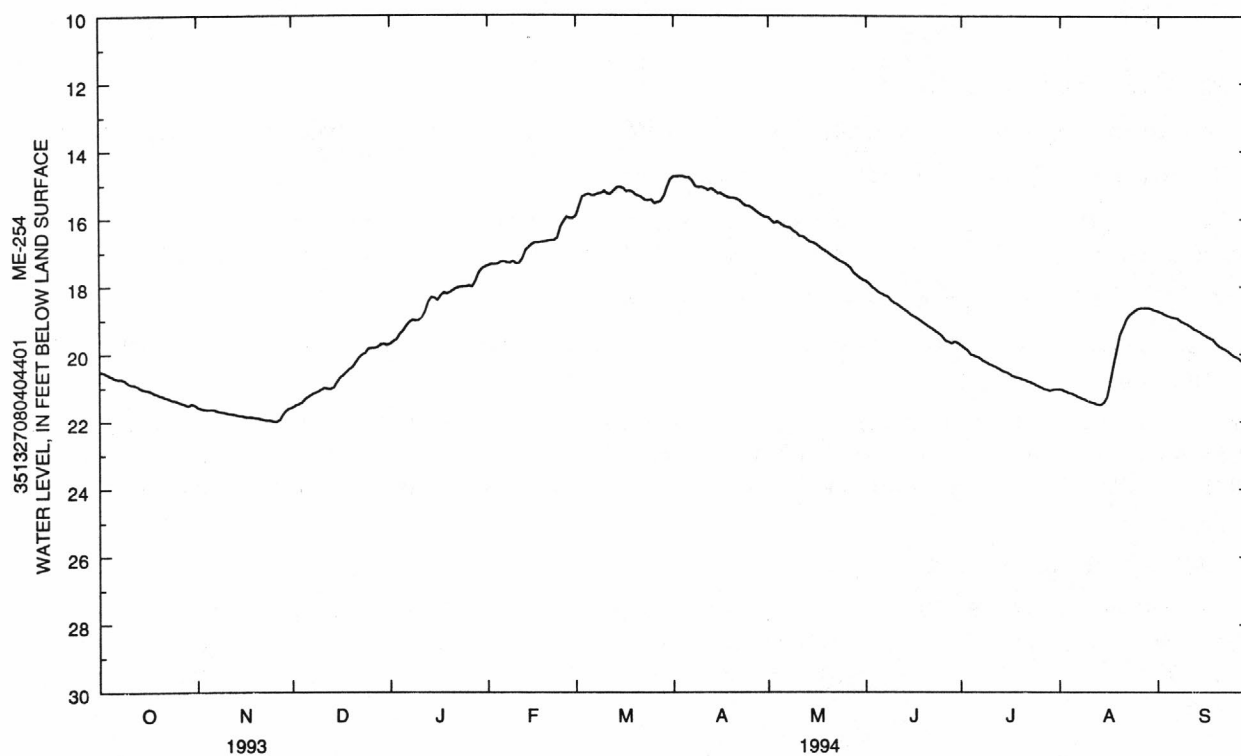
PERIOD OF RECORD.--January 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 11.87 ft below land-surface datum, Apr. 16, 1993; lowest water level recorded, 24.37 ft below land-surface datum, Nov. 10-12, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	20.67	21.65	21.33	19.33	17.28	15.27	14.78	16.14	18.18	20.06	21.18	18.92
10	20.86	21.74	21.07	19.01	17.33	15.19	15.06	16.41	18.50	20.32	21.40	19.13
15	21.05	21.84	20.84	18.34	16.75	15.07	15.25	16.70	18.84	20.55	21.44	19.43
20	21.23	21.91	20.40	18.17	16.66	15.30	15.39	17.01	19.15	20.75	19.44	19.77
25	21.39	22.00	19.85	18.02	16.08	15.44	15.63	17.31	19.49	20.94	18.70	20.09
EOM	21.51	21.62	19.74	17.42	15.98	14.84	15.94	17.82	19.69	21.05	18.72	20.50
WTR YR 1994		MEAN 18.80	HIGH 14.74	APR 4	LOW 22.02	NOV 26						



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

MECKLENBURG COUNTY--Continued

350639080405401. Local Number, Me-255

LOCATION.--Lat 35°06'39", long 80°40'54", Hydrologic Unit 35050103, near Matthews. Owner: U.S. Geological Survey.

ACQUIFER.--Unconfined saprolite derived from metavolcanic rock.

WELL CHARACTERISTICS.--Drilled observation well; construction depth 33.8 ft; measured depth in 1988, 33.18 ft; measured depth in 1993, 33.10 ft; diameter 4 in., cased to 28.8 ft, screened and sand filter packed from 28.8 to 33.8 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 3.2 ft above land-surface datum.

REMARKS.--Well is part of Charlotte-Mecklenburg urban hydrology study, Ridge Road landfill well No. 1. Due to the infiltration of mud in bottom of well, depth has decreased over time. As a result, well was dry at water levels below 33.18 ft from Aug. 29, 1988 to Jan. 19, 1989. Well also was dry at water levels below 33.04 ft from Nov. 19, 1993 to Jan. 12, 1994.

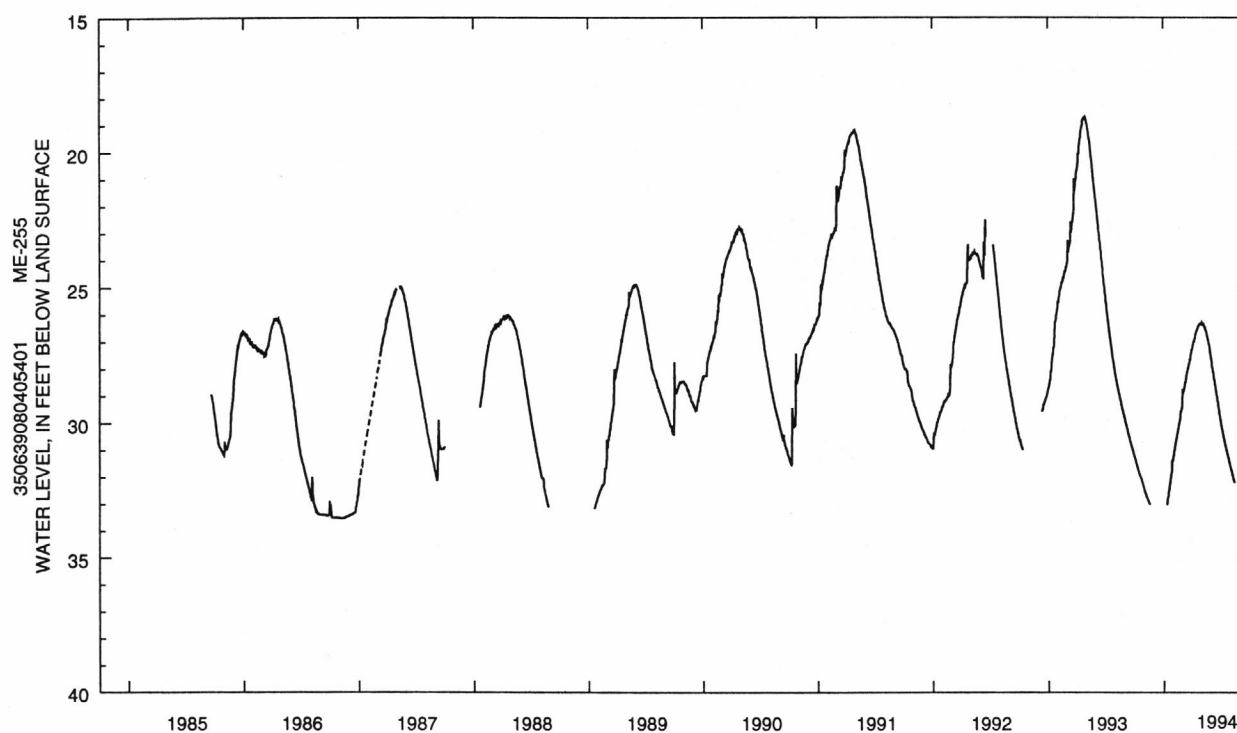
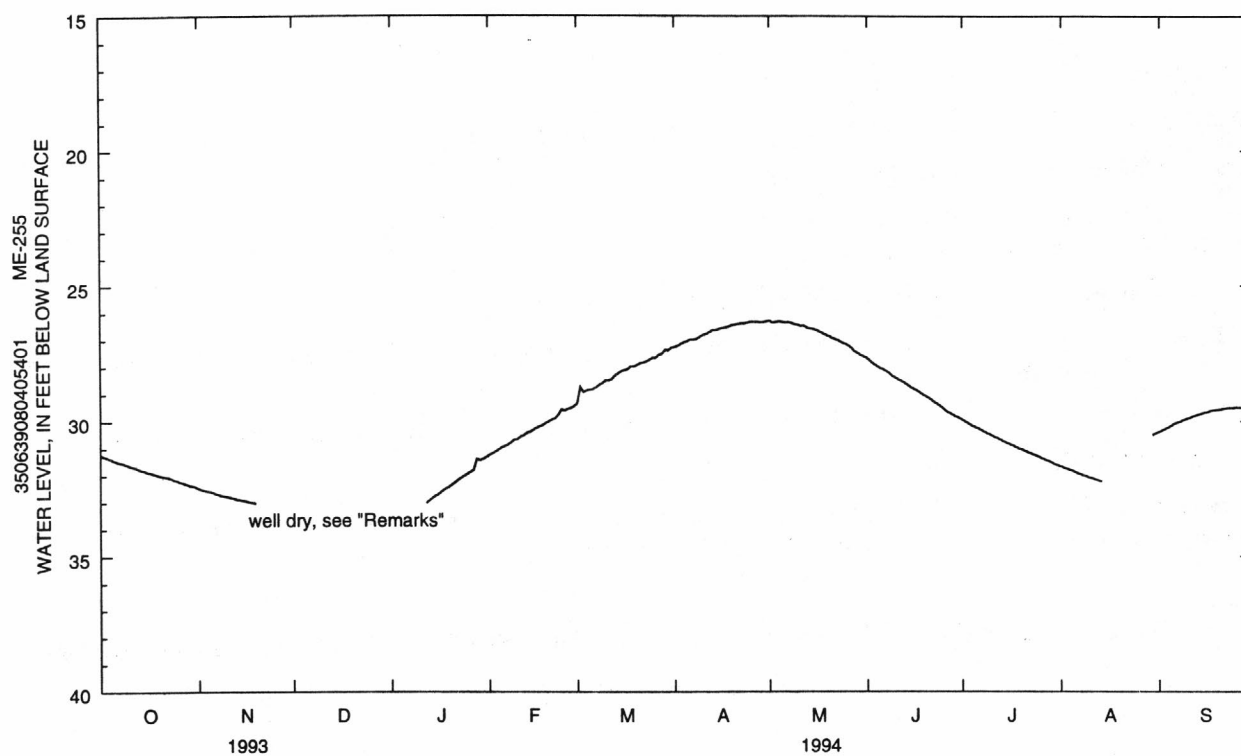
PERIOD OF RECORD.--September 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level recorded, 18.67 ft below land-surface datum, Apr. 26, 1993; lowest water level recorded, 33.53 ft below land-surface datum, Nov. 3-14, 1986. Well was dry from Aug. 27, 1988, to Jan. 19, 1989 (water level below 33.18 ft) and from Nov. 19, 1993 to Jan. 12, 1994 (water level below 33.04 ft). See "Remarks".

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	31.42	32.60	---	---	30.97	28.85	27.05	26.34	28.05	30.22	31.84	30.15
10	31.62	32.78	---	---	30.67	28.51	26.82	26.45	28.41	30.51	32.07	29.89
15	31.83	32.92	---	32.76	30.32	28.17	26.61	26.61	28.78	30.80	---	29.69
20	32.01	---	---	32.35	30.00	27.94	26.44	26.87	29.13	31.06	---	29.58
25	32.18	---	---	31.95	29.61	27.67	26.34	27.14	29.54	31.31	---	29.51
EOM	32.42	---	---	31.33	29.44	27.30	26.33	27.62	29.88	31.62	30.45	29.56
WTR YR 1994	MEAN 29.73		HIGH 26.30 MAY 1		LOW 33.03 NOV 19							



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

MECKLENBURG COUNTY--Continued

351003080544201. Local Number Me-256.

LOCATION.--Lat 35°10'03", long 80°54'42", Hydrologic Unit 03050103, near Charlotte. Owner: U.S. Geological Survey.

AQUIFER.--Unconfined saprolite derived from intrusive granite.

WELL CHARACTERISTICS.--Drilled observation well, depth 24.5 ft, diameter 3 in., cased to 19.5 ft, screened from 19.5 to 24.5 ft. Sand filter packed from 19.5 to 24.5 ft.

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

DATUM.--Land-surface datum is 586.30 ft (revised) above sea level (levels by City of Charlotte). Measuring point: Top of casing, 1.70 ft above land-surface datum.

REMARKS.--Well is part of the Charlotte-Mecklenburg urban hydrology study, York Road landfill well YRW-6.

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

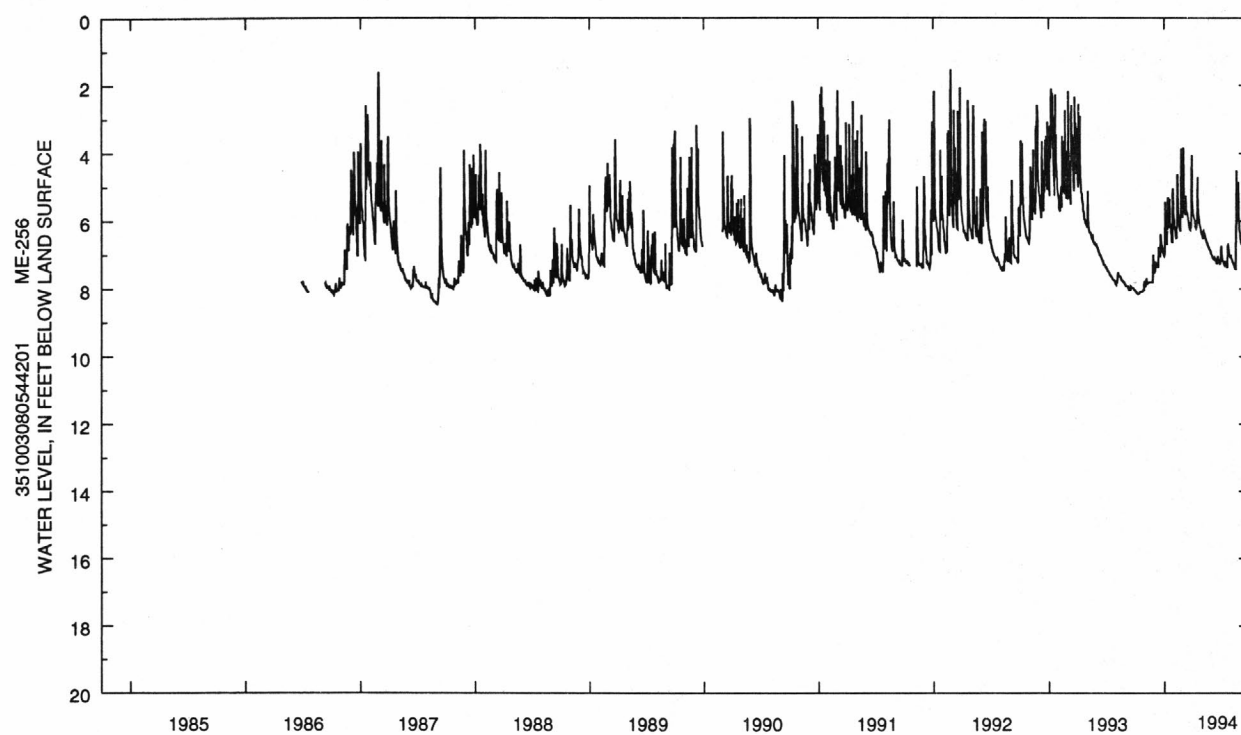
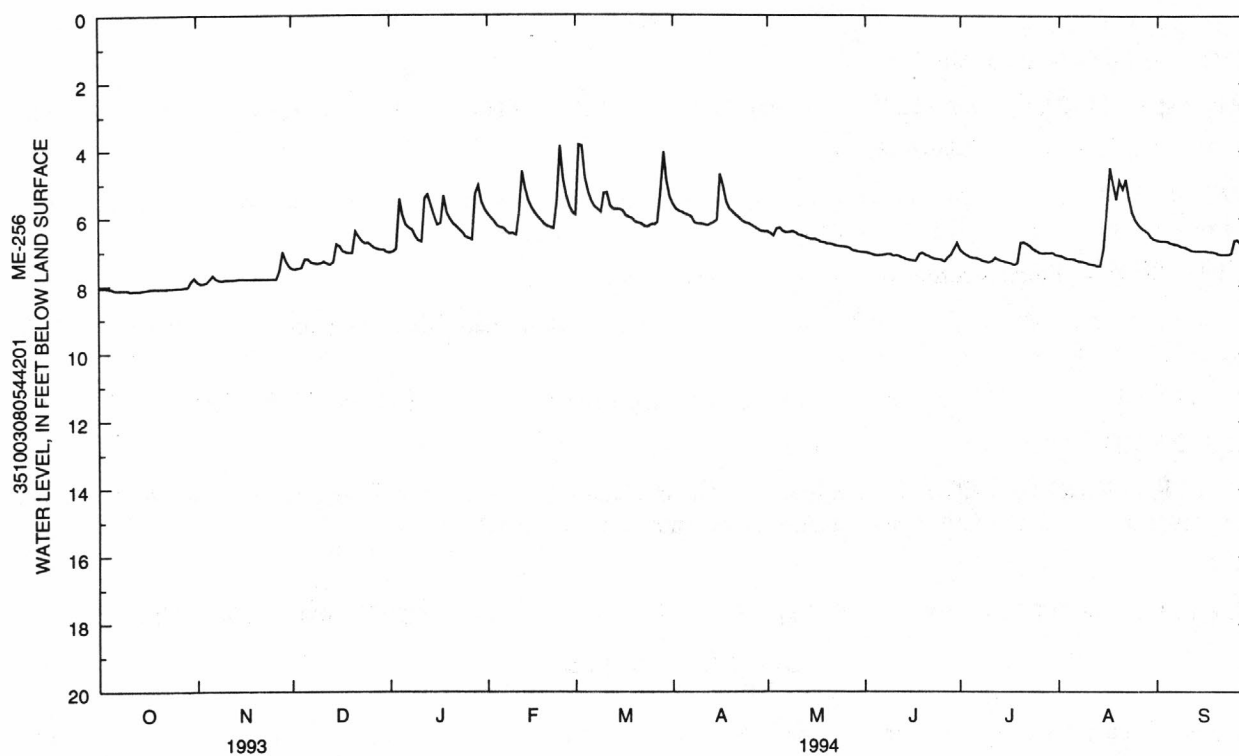
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.93 ft below land-surface datum, Aug. 14 and 15, 1991; lowest water level recorded, 8.49 ft below land-surface datum, Sept. 4 and 5, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.08	7.81	7.22	5.93	6.29	5.23	5.90	6.31	7.12	7.18	7.21	6.75
10	8.13	7.83	7.35	6.68	6.52	5.29	6.19	6.45	7.13	7.31	7.34	6.89
15	8.13	7.82	6.79	5.94	5.72	5.76	6.07	6.64	7.25	7.30	6.93	6.98
20	8.09	7.82	7.04	6.04	6.25	6.13	5.83	6.77	7.10	6.74	4.90	7.07
25	8.07	7.81	6.74	6.57	4.87	6.20	6.17	6.86	7.24	6.99	6.06	6.67
EOM	7.78	7.42	7.02	5.76	5.85	5.39	6.42	7.02	6.75	7.10	6.64	6.97

WTR YR 1994 MEAN 6.73 HIGH 3.85 MAR 2 LOW 8.16 OCT 11



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

MECKLENBURG COUNTY--Continued

352422080560303. Local Number Me-257.

LOCATION.--Lat 35°24'22", long 80°56'03", Hydrologic Unit 03050101, near Huntersville. Owner: U.S. Geological Survey.

AQUIFER.--Weathered granite of Paleozoic age.

WELL CHARACTERISTICS.--Drilled observation well, depth 23.0 ft, diameter 4 in., casing to 20.5 ft with slotted well screen from 10.5 to 20.5 ft. Sand-filled around well screen, with clay above.

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

DATUM.--Land-surface datum is 734 ft above sea level, from topographic map. Measuring point:: Top of casing, 1.40 ft above land-surface datum.

REMARKS.--Well constructed to determine ground-water level at proposed Stephens Road landfill site, SRW-N15A.

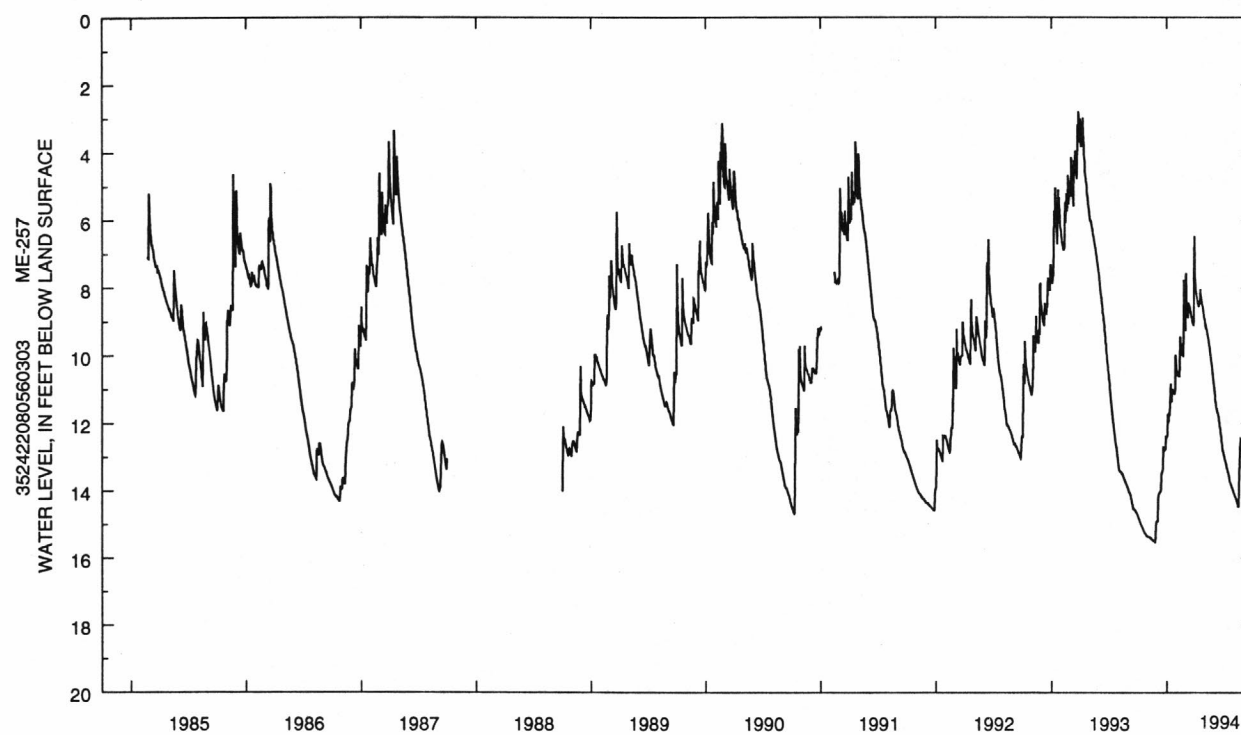
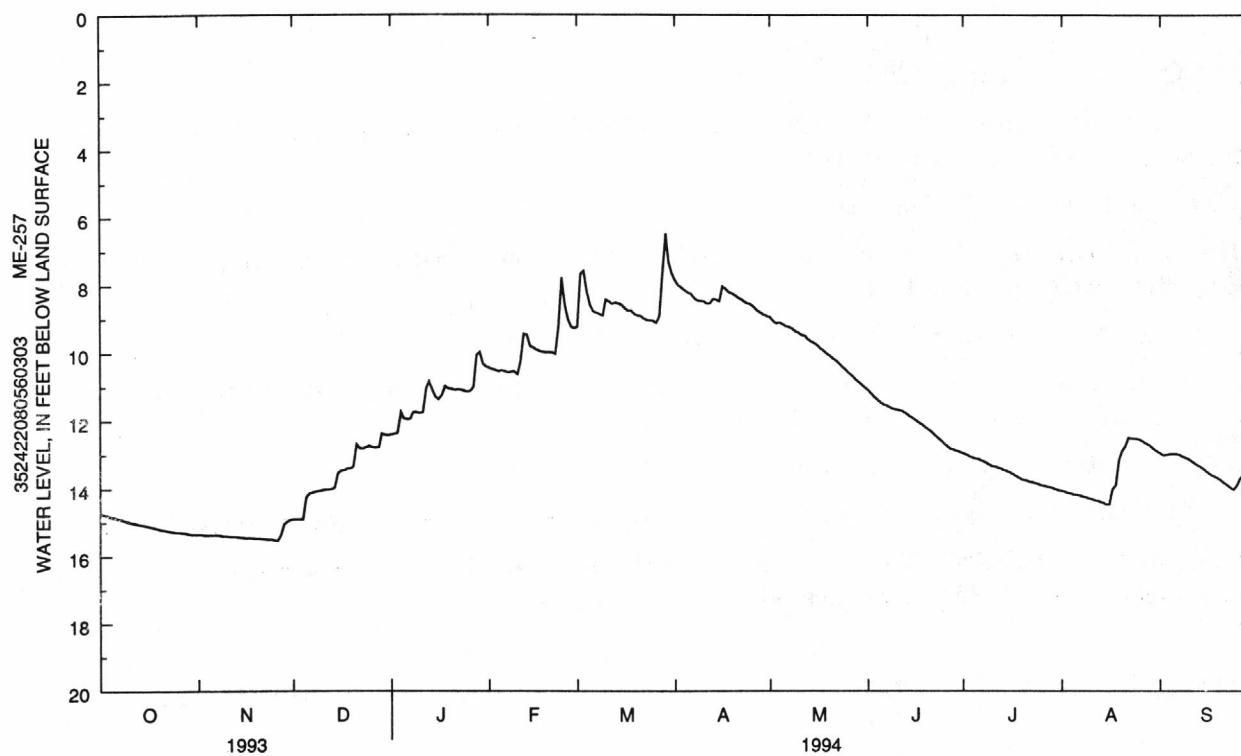
PERIOD OF RECORD.--February 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.76 ft below land-surface datum, Mar. 28, 1993; lowest water level recorded, 15.54 ft below land-surface datum Nov. 26 and 27, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	14.84	15.38	14.26	11.93	10.52	8.59	8.22	9.16	11.47	13.11	14.17	12.97
10	14.97	15.40	14.05	11.77	10.63	8.43	8.48	9.42	11.68	13.33	14.30	13.14
15	15.08	15.45	13.55	11.30	9.84	8.58	8.48	9.72	11.92	13.49	14.46	13.46
20	15.20	15.48	13.36	11.06	9.99	8.90	8.31	10.10	12.25	13.74	12.90	13.76
25	15.29	15.53	12.74	11.14	8.58	9.05	8.58	10.51	12.67	13.88	12.54	13.91
EOM	15.36	14.93	12.42	10.40	9.27	7.65	8.92	11.02	12.91	14.04	12.90	13.53
WTR YR 1994	MEAN 12.06	HIGH 6.48	MAR 29	LOW 15.54	NOV 26							



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

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).

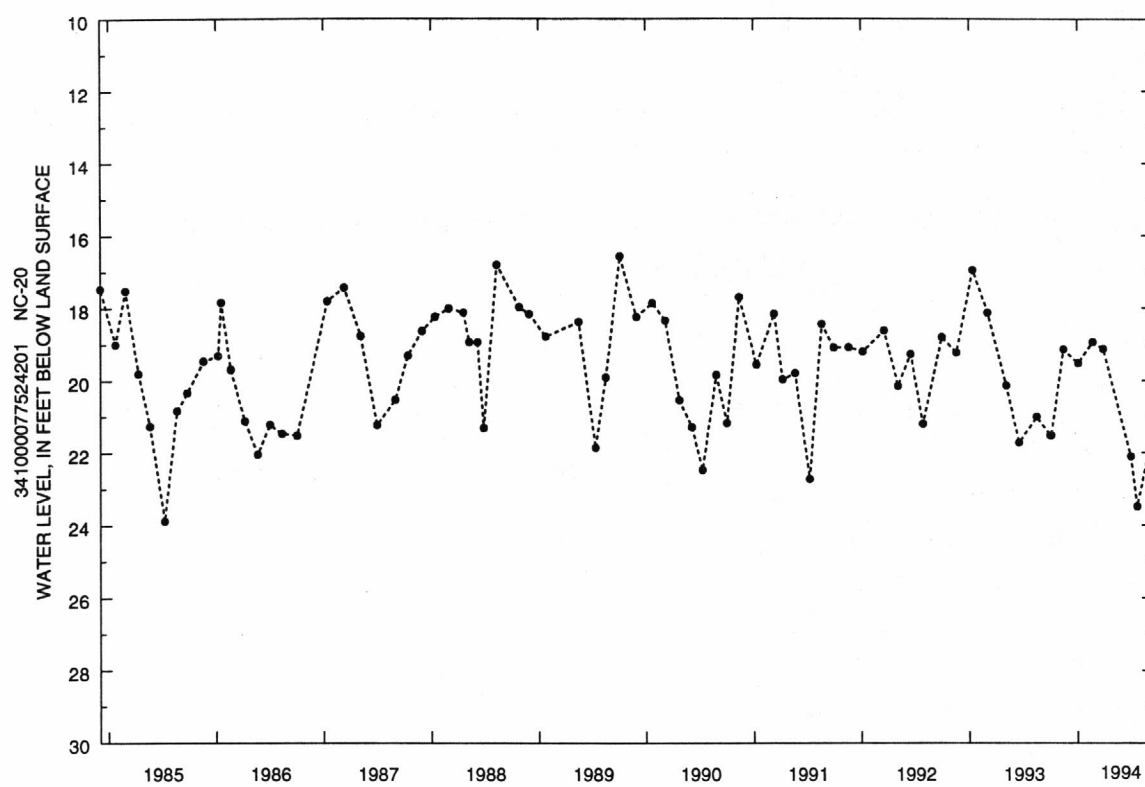
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--November 1963 to current year. USGS 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, 23.89 ft below land-surface datum, July 10, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	21.53	JAN 4	19.53	MAR 29	19.14	JUL 1	22.11	JUL 22	23.49	SEP 14	21.37
NOV 15	19.15	FEB 22	18.95								



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

ON SLOW 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.--Digital recorder with a 60-minute punch interval.

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.

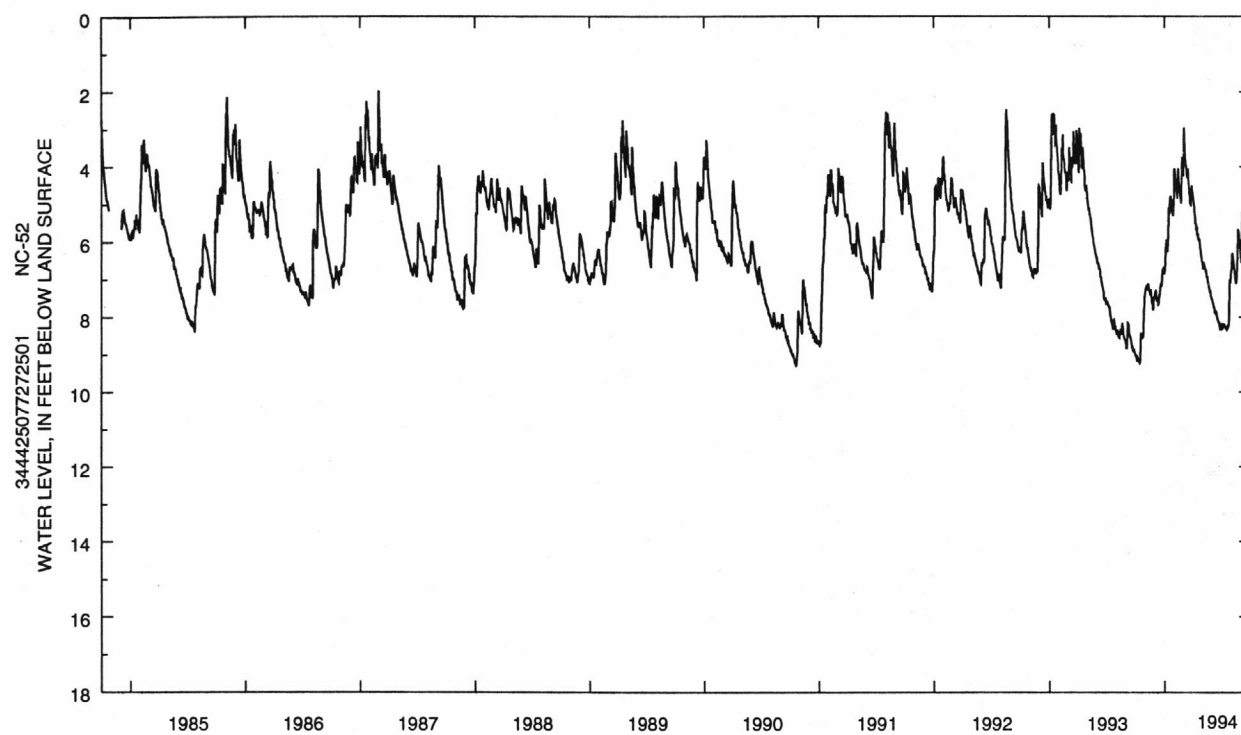
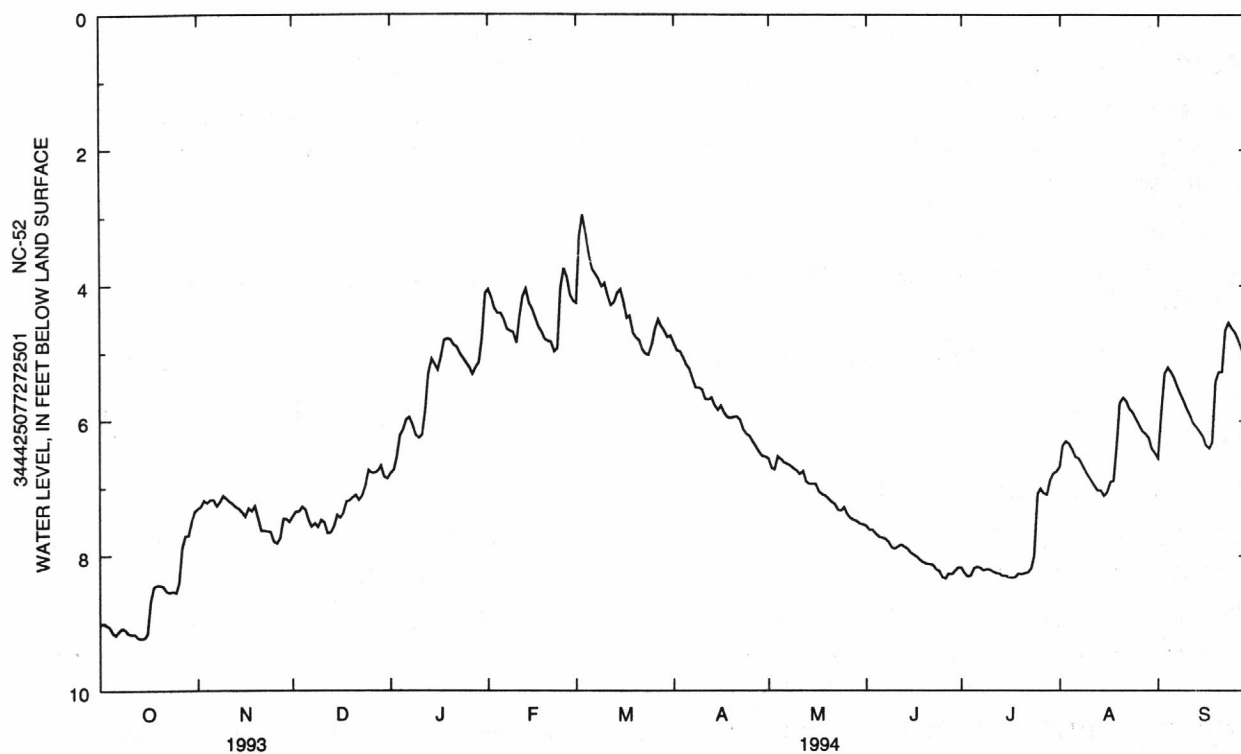
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.67 ft below land-surface datum, Sept. 14, 1984; lowest water level recorded, 10.44 ft below land-surface datum, Jan. 3, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.15	7.17	7.32	6.14	4.41	3.53	5.18	6.57	7.72	8.19	6.42	5.28
10	9.16	7.15	7.47	6.26	4.85	3.97	5.54	6.74	7.90	8.21	6.81	5.82
15	9.22	7.36	7.40	5.16	4.35	4.06	5.84	6.94	7.96	8.30	7.11	6.23
20	8.44	7.43	7.14	4.80	4.82	4.77	5.95	7.16	8.12	8.28	5.73	5.28
25	8.55	7.79	6.73	5.14	3.75	4.88	6.23	7.29	8.32	7.08	5.97	4.69
EOM	7.35	7.50	6.86	4.11	4.23	4.74	6.53	7.54	8.18	6.75	6.47	5.41

WTR YR 1994 MEAN 6.53 HIGH 2.96 MAR 3 LOW 9.23 OCT 14



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

ONslow COUNTY--Continued

343641077290104. Local number, NC-188; DEHNR Dixon Tower Research Station well Y25q4.

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: DEHNR (North Carolina Department of Environment, Health, and Natural Resources).

AQUIFER.--Peedee aquifer of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 550 ft, diameter 4 in., cased to 524 ft, screened interval from 524 to 534 ft.

INSTRUMENTATION.--Measured periodically with steel tape.

DATUM.--Land-surface datum is 67.44 ft above sea level (levels by DEHNR). Measuring point: Top of instrument shelf, 2.53 ft above land-surface datum.

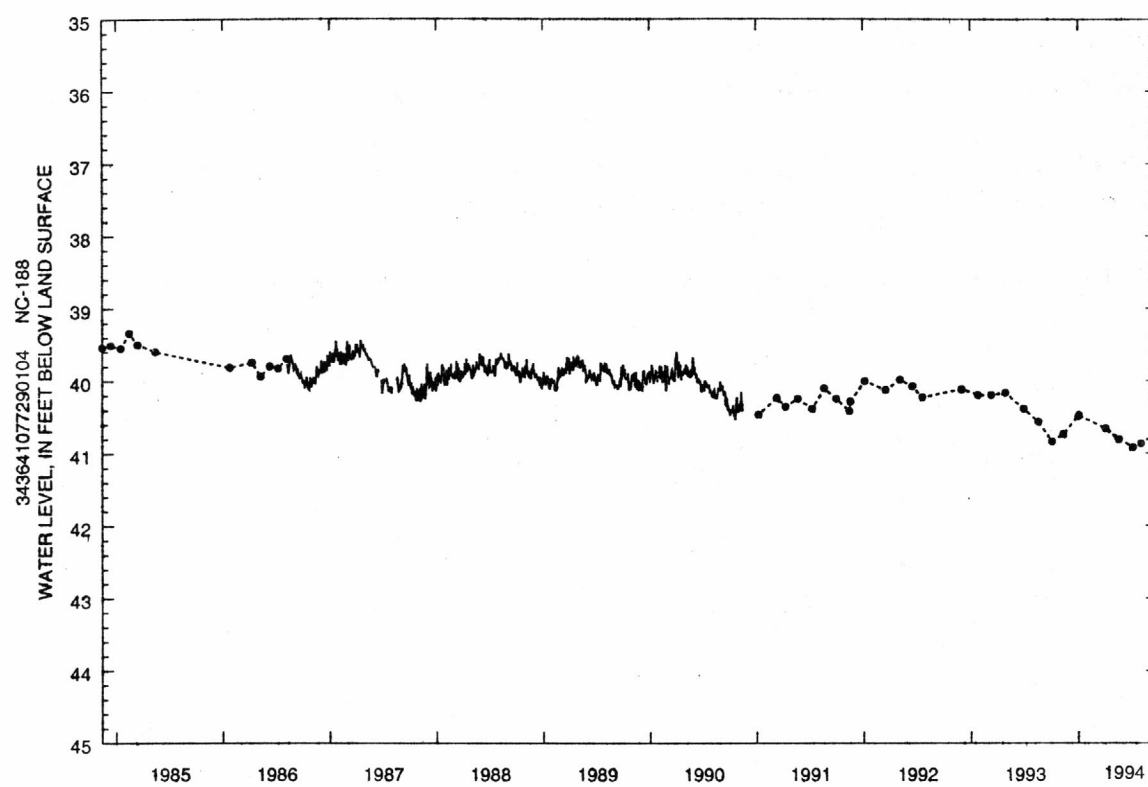
REMARKS.--Well is part of areal-effects network.

PERIOD OF RECORD.--April 1982 to current year. Continuous record August 1986 to November 1990. Records from May 1983 to July 1986 are unpublished and available in the files of the Groundwater Section, DEHNR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 38.86 ft below land-surface datum, May 12, 1983; lowest water level measured, 40.92 ft below land-surface datum, July 7, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	40.84	JAN 4	40.48	MAY 20	40.81	JUL 7	40.92	AUG 3	40.87	SEP 26	40.72
NOV 12	40.74	APR 5	40.66								



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

ONslow COUNTY--Continued

344837077291607. Local number, NC-189; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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 DEHNR). Measuring point: Top of instrument shelf, 3.78 ft above land-surface datum.

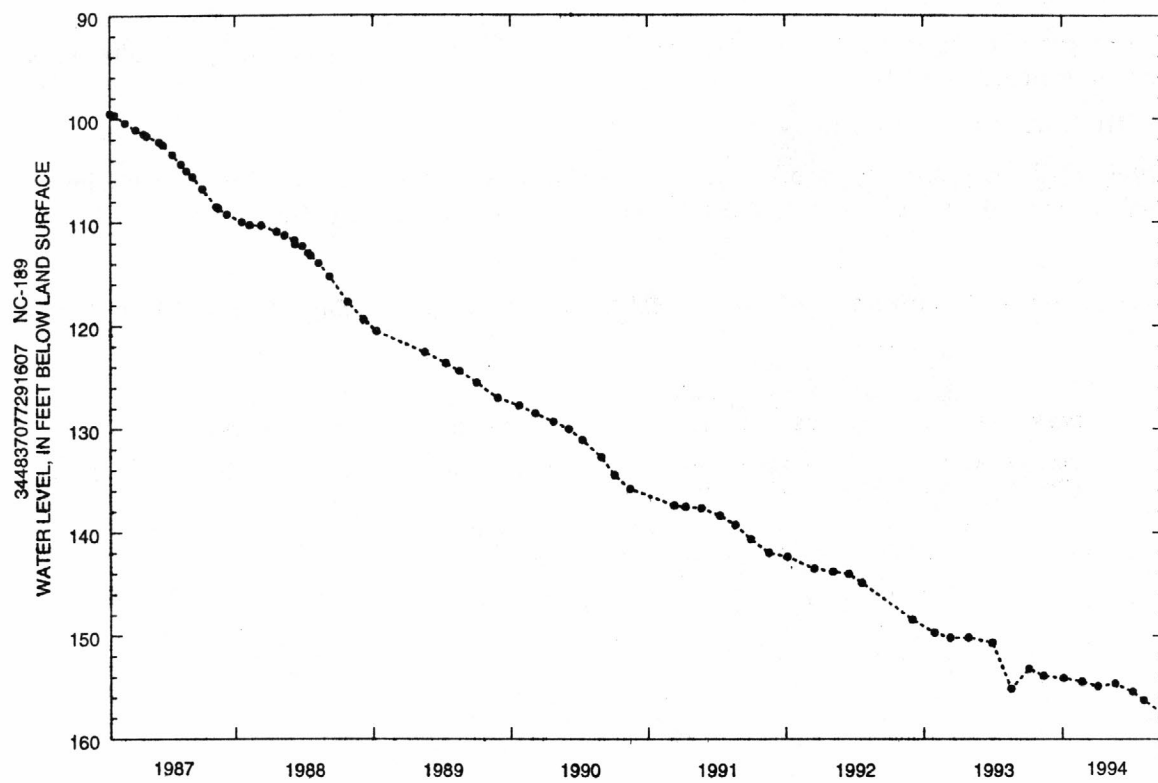
REMARKS.--Well is part of areal-effects network.

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, 157.60 ft below land-surface datum, Sept. 26, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	153.20	JAN 4	154.10	APR 5	154.88	JUL 7	155.42	AUG 3	156.24	SEP 26	157.60
NOV 12	153.87	FEB 22	154.44	MAY 20	154.64						



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

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).

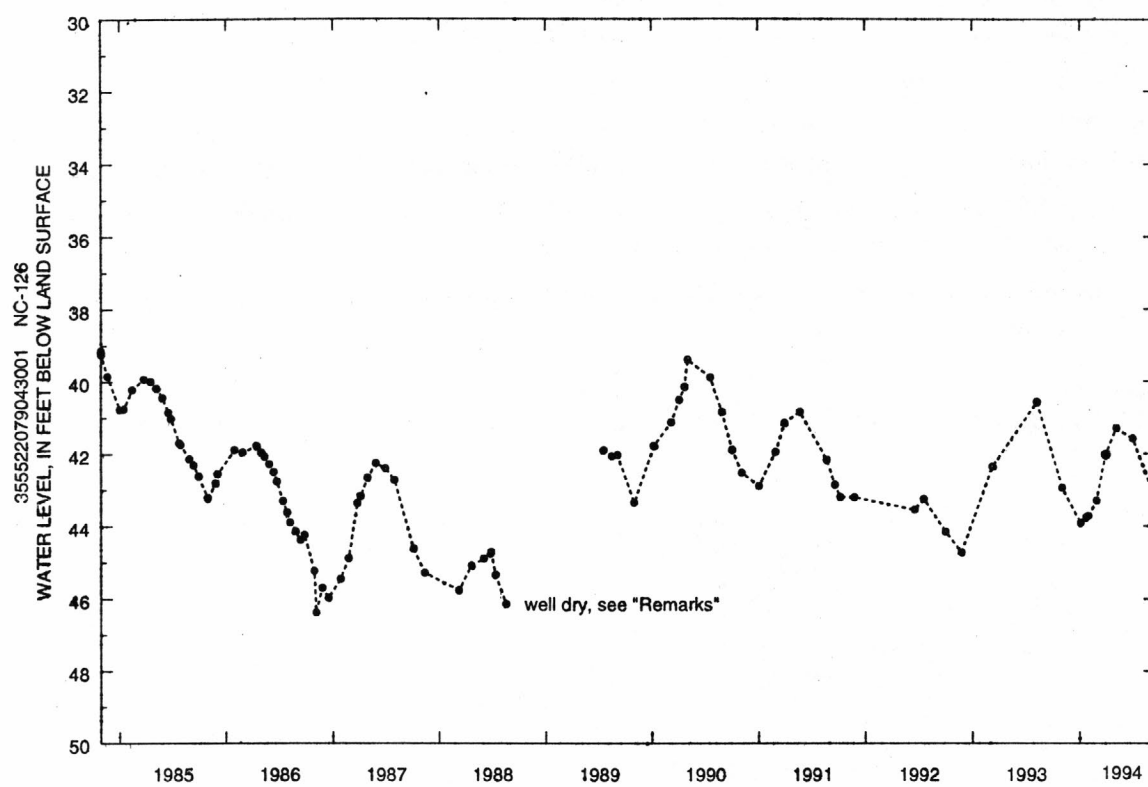
REMARKS.-- Well is part of terrane-effects network. Well found dry from October 13, 1988 to January 24, 1989. No periodic measurements made from January 24 to July 19, 1989.

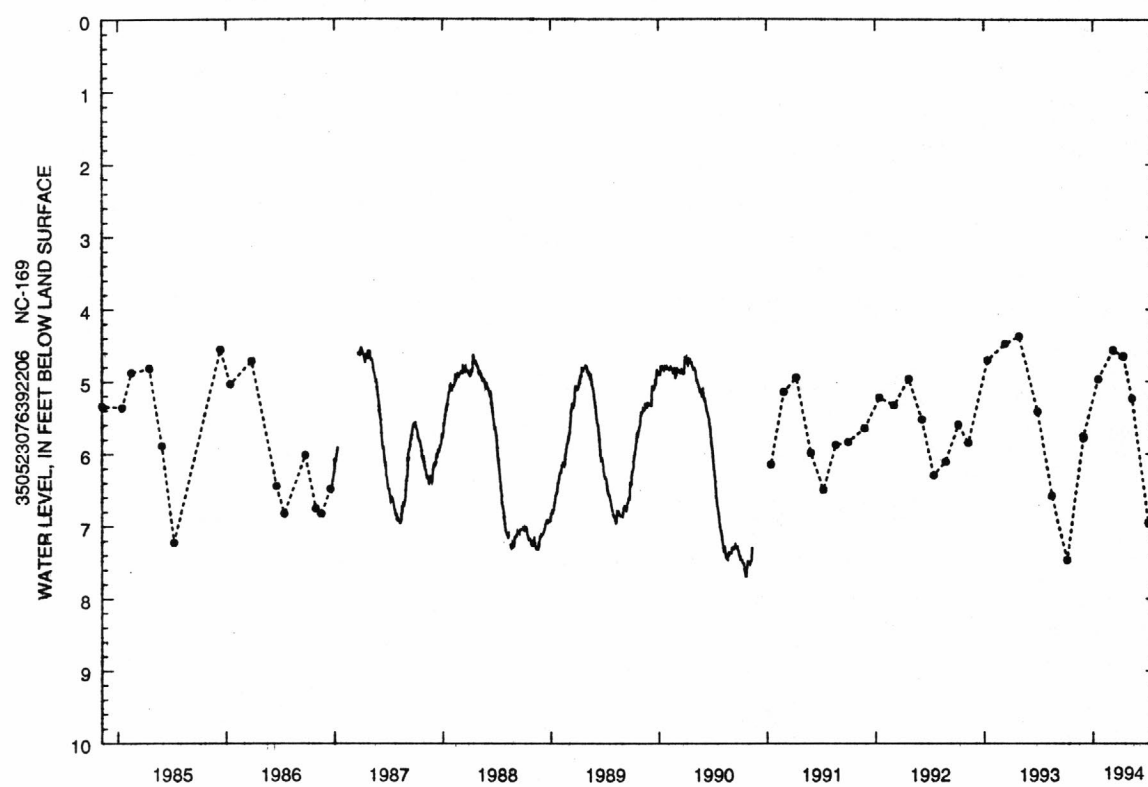
PERIOD OF RECORD.--August 1938 to current year.

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 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 3	42.95	JAN 24	43.76	FEB 28	43.30	MAY 6	41.30	JUL 1	41.59	SEP 14	43.24
JAN 5	43.92	FEB 1	43.72	MAR 31	42.01						





WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

PASQUOTANK COUNTY

362050076163705. Local number, NC-150; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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.--Digital recorder with a 60-minute punch interval.

DATUM.--Land-surface datum is 7.14 ft above sea level (levels by DEHNR). 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, DEHNR. U.S. Geological Survey continuous record began November 1986.

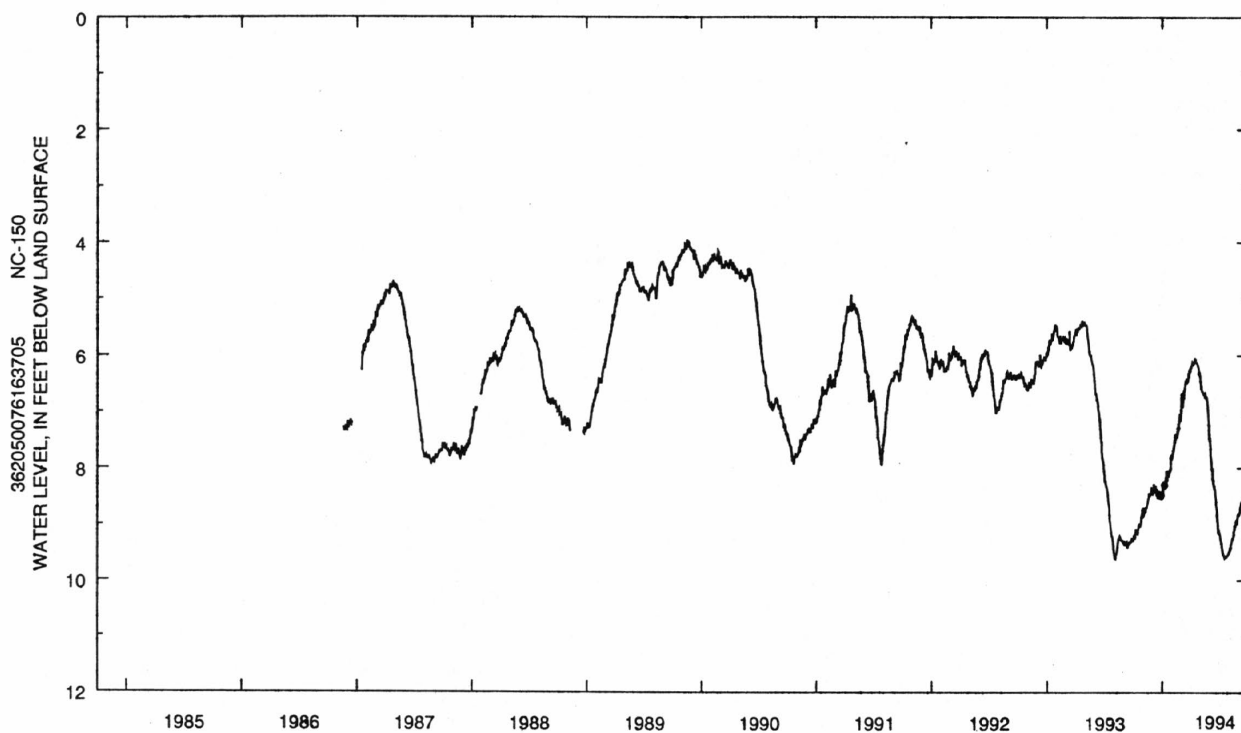
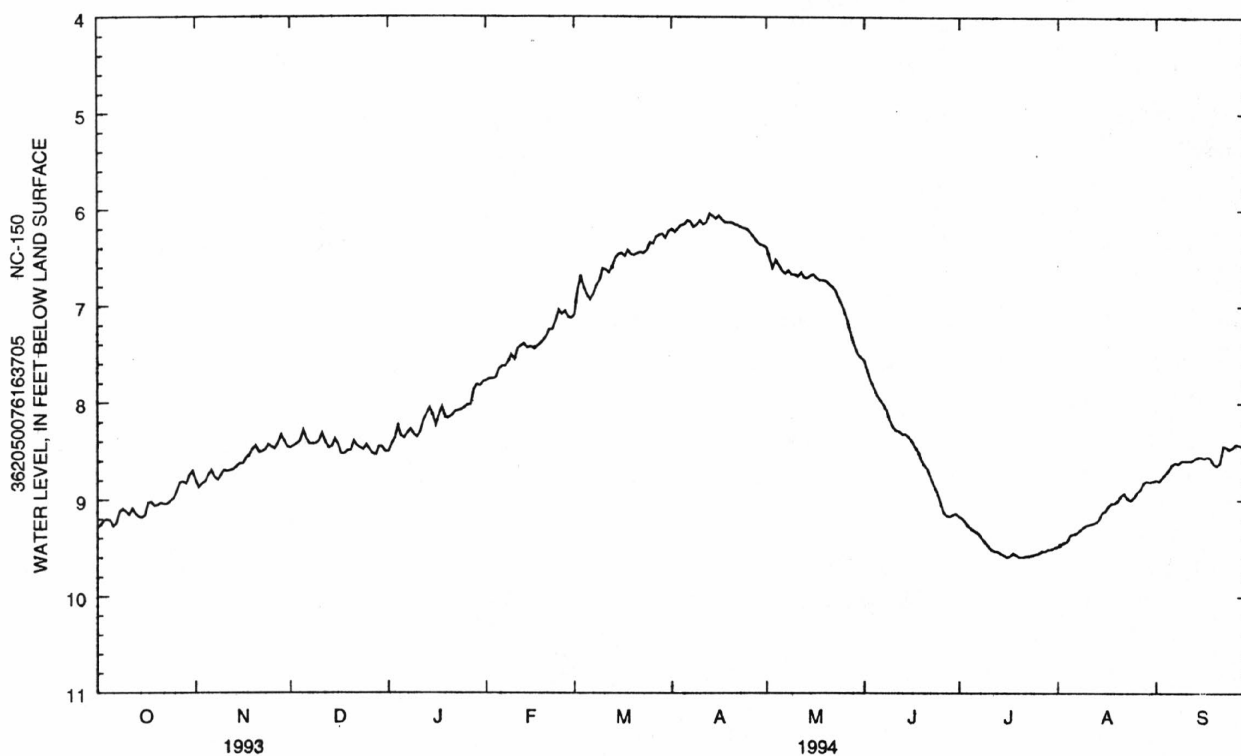
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 3.22 ft below land-surface datum, June 26, 1979; lowest water level recorded, 9.61 ft below land-surface datum, July 16, 21, 1994.

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 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.21	8.74	8.28	8.34	7.65	6.88	6.15	6.57	7.92	9.30	9.36	8.68
10	9.12	8.69	8.39	8.35	7.55	6.61	6.11	6.67	8.24	9.47	9.26	8.59
15	9.18	8.62	8.37	8.12	7.42	6.46	6.09	6.68	8.35	9.57	9.13	8.55
20	9.05	8.44	8.49	8.15	7.31	6.47	6.13	6.74	8.64	9.59	9.00	8.64
25	8.98	8.45	8.43	8.05	7.08	6.34	6.20	6.99	9.02	9.56	8.97	8.45
EOM	8.70	8.45	8.50	7.78	7.12	6.22	6.37	7.53	9.14	9.49	8.80	8.48
WTR YR 1994	MEAN 8.07		HIGH 6.04 APR 13		LOW 9.59 JUL 16							



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

DATUM.--Land-surface datum is 15 ft above sea level (from topographic map). Measuring point: Top of casing, 2.65 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.

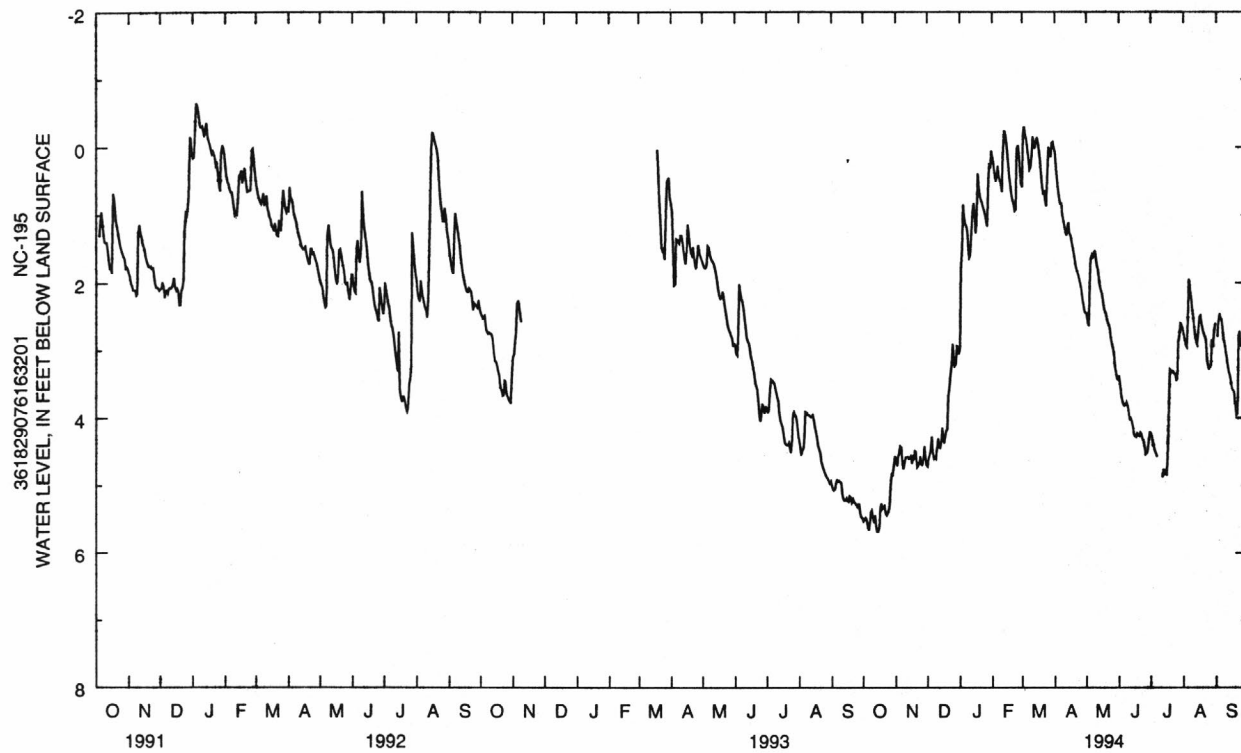
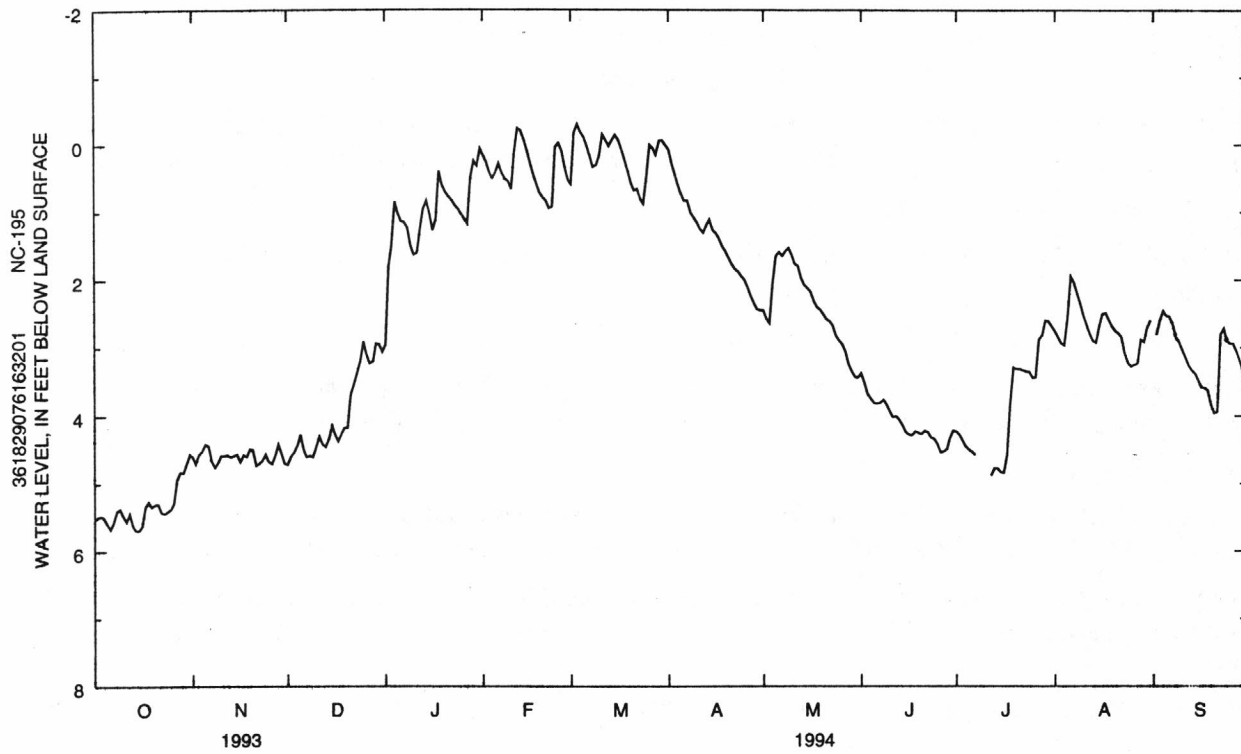
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.70 ft above land-surface datum, Jan. 4, 1992; lowest water level recorded, 5.72 ft below land-surface datum, Oct. 15, 1993.

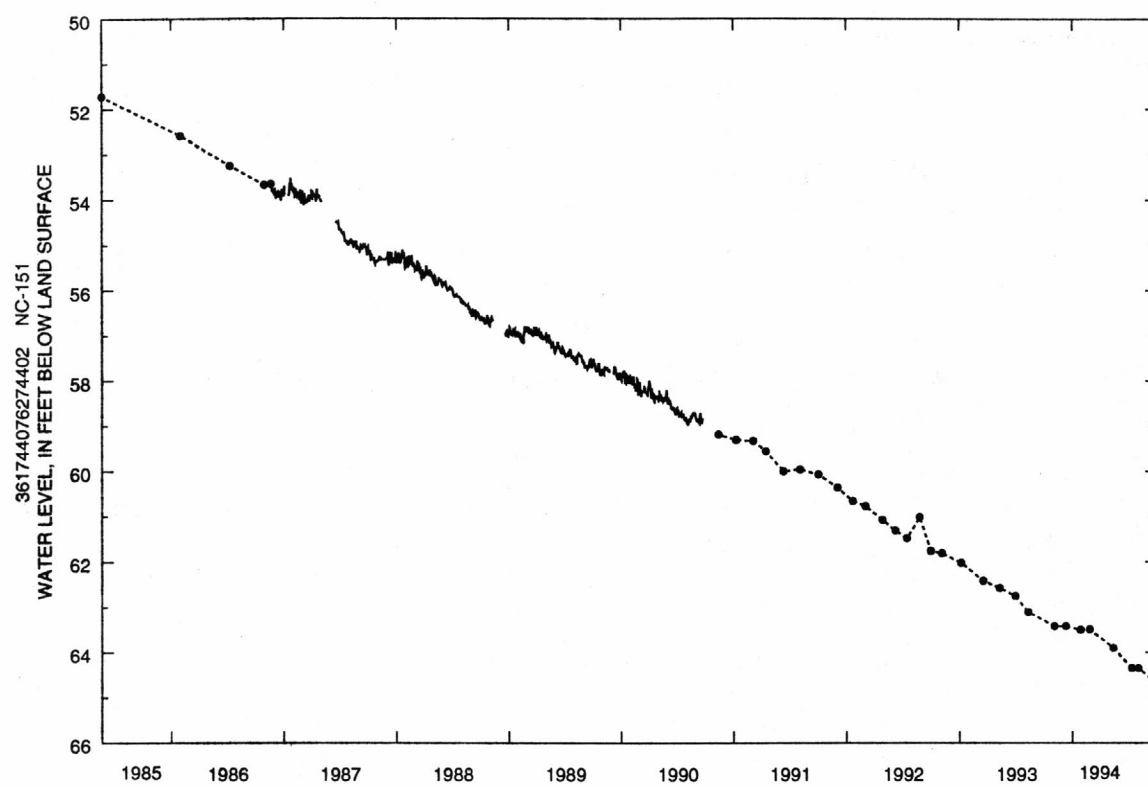
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

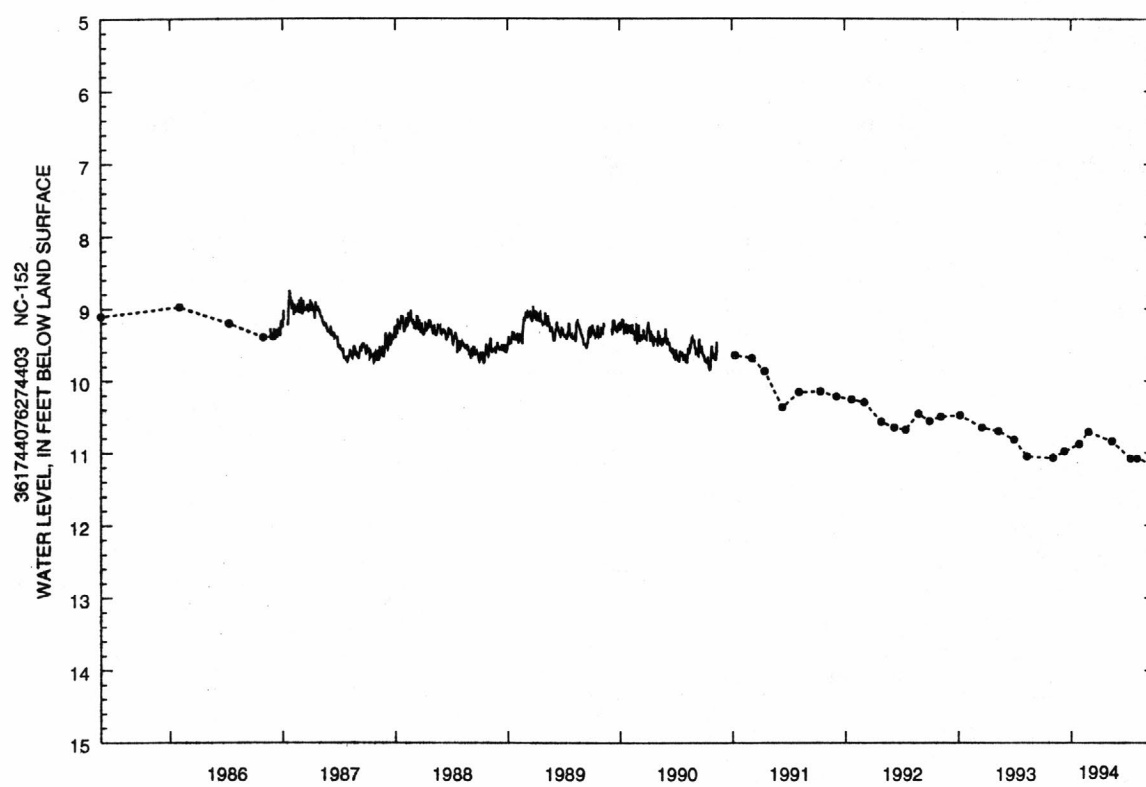
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.53	4.61	4.72	2.96	.15	.59	.07	2.45	3.38	4.23	2.76	---
2	5.49	4.71	4.60	1.81	.25	-.18	.27	2.58	3.51	4.28	2.84	2.80
3	5.48	4.57	4.54	1.51	.40	-.30	.44	2.64	3.68	4.37	2.93	2.59
4	5.50	4.52	4.44	.85	.51	-.19	.59	2.04	3.75	4.45	2.96	2.46
5	5.60	4.42	4.28	1.01	.41	-.11	.74	1.65	3.81	4.50	2.56	2.53
6	5.67	4.44	4.50	1.13	.28	.02	.83	1.59	3.82	4.53	1.95	2.54
7	5.57	4.67	4.61	1.15	.42	.18	.83	1.65	3.81	4.58	2.04	2.66
8	5.40	4.76	4.59	1.23	.51	.33	1.00	1.58	3.77	---	2.20	2.84
9	5.37	4.69	4.61	1.49	.54	.30	1.08	1.53	3.83	---	2.36	2.91
10	5.47	4.59	4.46	1.63	.66	.17	1.15	1.63	3.93	---	2.52	3.03
11	5.56	4.59	4.31	1.60	.12	-.15	1.25	1.76	4.02	---	2.67	3.14
12	5.44	4.58	4.42	1.25	-.24	-.07	1.30	1.80	4.01	4.88	2.79	3.26
13	5.62	4.61	4.46	.96	-.21	.02	1.19	1.97	4.06	4.77	2.89	3.33
14	5.69	4.59	4.34	.83	-.08	-.07	1.11	2.07	4.14	4.77	2.92	3.38
15	5.69	4.57	4.15	1.01	.09	-.14	1.27	2.12	4.24	4.83	2.68	3.48
16	5.62	4.68	4.29	1.27	.27	-.07	1.31	2.18	4.28	4.84	2.50	3.58
17	5.34	4.58	4.38	1.11	.44	.07	1.39	2.31	4.29	4.59	2.49	3.59
18	5.27	4.60	4.26	.39	.59	.21	1.50	2.40	4.23	3.82	2.59	3.62
19	5.34	4.49	4.18	.60	.71	.39	1.58	2.44	4.25	3.29	2.69	3.83
20	5.31	4.50	4.17	.70	.79	.56	1.67	2.51	4.27	3.31	2.75	3.96
21	5.30	4.73	3.69	.77	.83	.68	1.77	2.58	4.22	3.31	2.79	3.94
22	5.42	4.71	3.54	.82	.94	.66	1.84	2.61	4.24	3.33	2.84	2.80
23	5.44	4.66	3.37	.89	.92	.80	1.88	2.67	4.32	3.35	3.08	2.72
24	5.41	4.57	3.20	.95	.03	.87	1.94	2.82	4.34	3.35	3.22	2.90
25	5.37	4.68	2.91	1.02	-.02	.48	2.00	2.89	4.42	3.44	3.27	2.94
26	5.29	4.71	3.11	1.09	.09	.00	2.10	2.95	4.54	3.43	3.25	2.94
27	4.94	4.59	3.23	1.17	.34	.05	2.23	3.06	4.53	2.87	3.23	3.06
28	4.83	4.42	3.20	.49	.53	.15	2.34	3.25	4.49	2.82	2.88	3.18
29	4.84	4.56	2.94	.24	---	-.06	2.43	3.35	4.33	2.60	2.91	3.32
30	4.71	4.70	2.95	.31	---	-.07	2.45	3.43	4.22	2.61	2.71	3.50
31	4.57	---	3.06	.06	---	.00	---	3.44	---	2.69	2.60	---

WTR YR 1994 MEAN 2.76 HIGH -.30 LOW 5.69







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

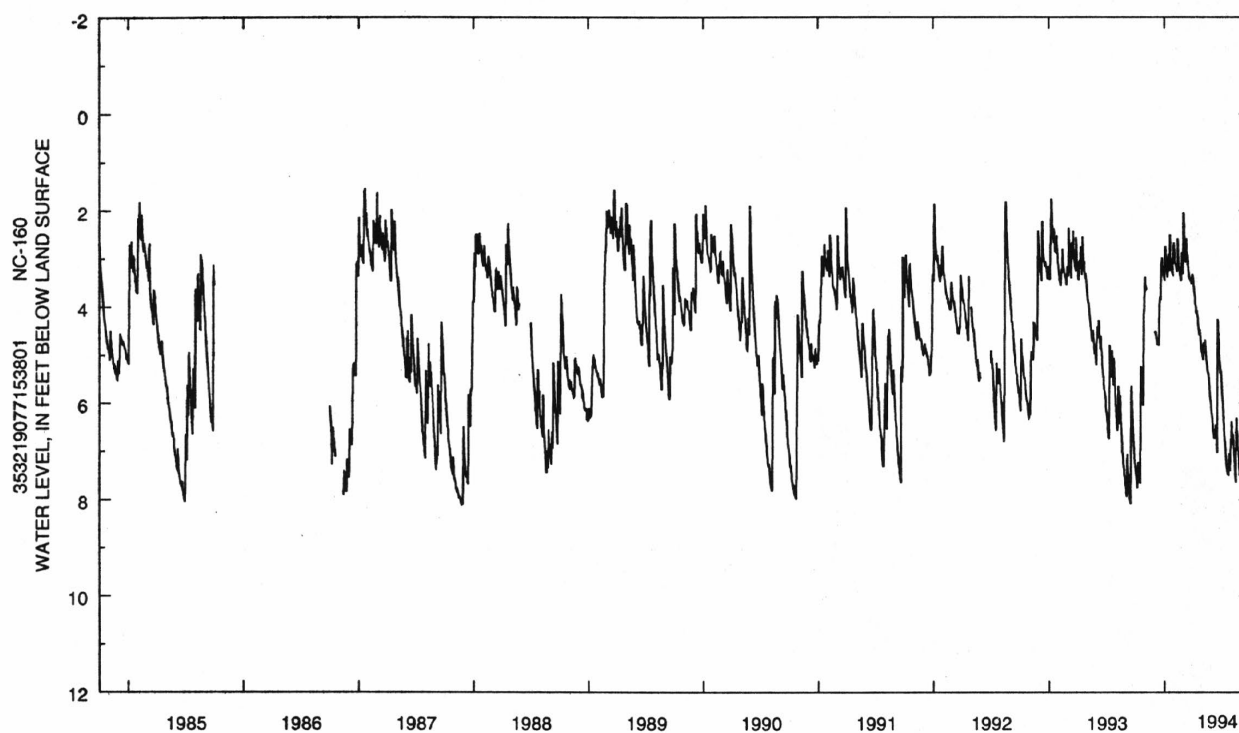
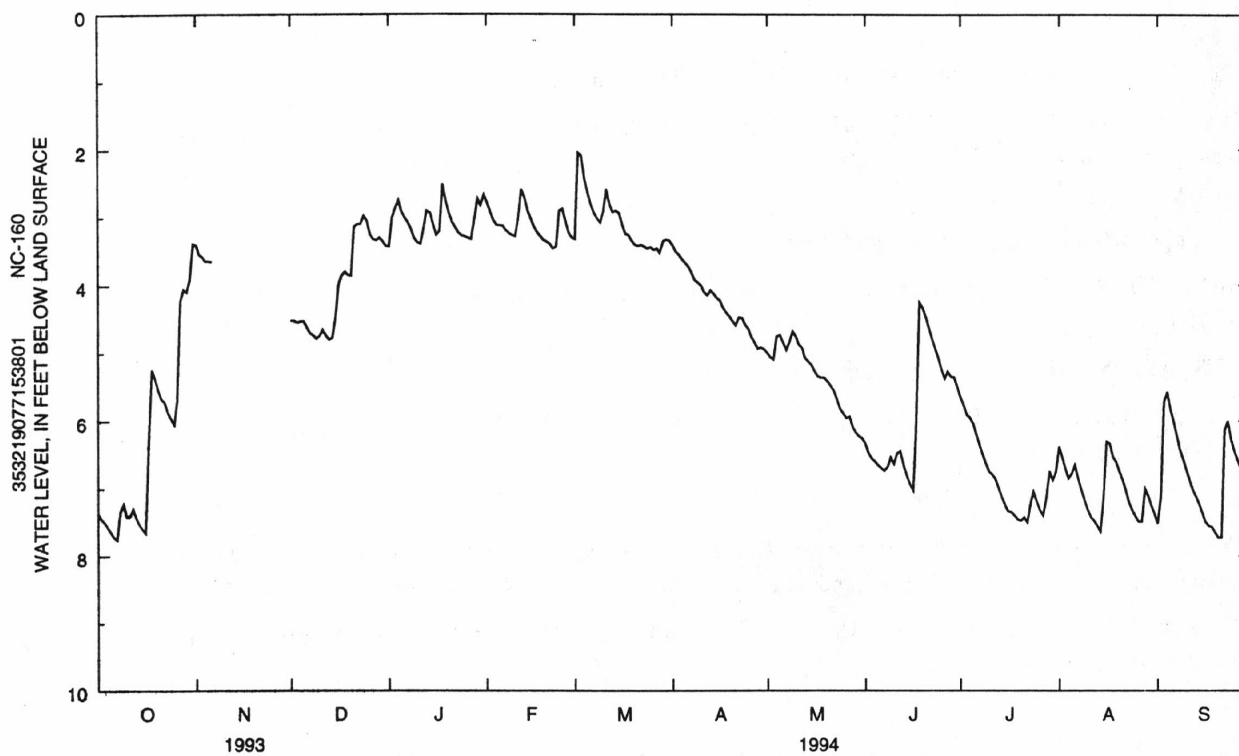
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.05 ft below land-surface datum, Sept. 14, 1984; lowest water level recorded, 8.84 ft below land-surface datum, Nov. 6, 7, and 8, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.38	3.40	4.52	3.43	2.77	3.32	3.41	5.00	6.34	5.65	6.38	7.52
2	7.45	3.54	4.52	3.01	2.90	2.05	3.50	5.07	6.48	5.77	6.52	7.13
3	7.50	3.57	4.55	2.87	3.03	2.09	3.55	5.10	6.56	5.91	6.70	5.72
4	7.57	3.64	4.53	2.75	3.11	2.43	3.61	4.76	6.60	5.95	6.85	5.57
5	7.65	3.64	4.53	2.91	3.12	2.63	3.67	4.74	6.66	6.04	6.78	5.83
6	7.72	3.65	4.62	3.00	3.12	2.81	3.72	4.85	6.70	6.19	6.65	5.99
7	7.76	---	4.70	3.07	3.19	2.93	3.81	4.96	6.74	6.35	6.85	6.22
8	7.34	---	4.74	3.17	3.23	3.01	3.92	4.84	6.68	6.49	7.02	6.42
9	7.23	---	4.79	3.31	3.26	3.08	3.96	4.69	6.54	6.63	7.17	6.56
10	7.42	---	4.75	3.37	3.28	2.92	4.00	4.76	6.64	6.75	7.31	6.72
11	7.41	---	4.66	3.39	3.02	2.59	4.10	4.88	6.48	6.79	7.43	6.87
12	7.31	---	4.74	3.16	2.59	2.81	4.15	4.93	6.45	6.86	7.47	7.02
13	7.44	---	4.80	2.90	2.70	2.92	4.08	5.08	6.66	7.00	7.55	7.12
14	7.53	---	4.78	2.93	2.90	2.90	4.12	5.13	6.81	7.12	7.64	7.23
15	7.61	---	4.48	3.10	3.02	2.94	4.19	5.18	6.94	7.25	7.14	7.37
16	7.66	---	3.98	3.26	3.14	3.11	4.22	5.27	7.03	7.34	6.31	7.49
17	6.30	---	3.86	3.21	3.22	3.24	4.33	5.35	6.15	7.35	6.33	7.56
18	5.24	---	3.80	2.51	3.28	3.26	4.41	5.37	4.26	7.40	6.53	7.57
19	5.38	---	3.85	2.76	3.33	3.35	4.46	5.37	4.32	7.46	6.61	7.65
20	5.55	---	3.86	2.94	3.36	3.40	4.53	5.42	4.46	7.48	6.74	7.73
21	5.68	---	3.14	3.07	3.39	3.42	4.59	5.48	4.62	7.43	6.87	7.73
22	5.72	---	3.10	3.15	3.46	3.41	4.48	5.56	4.79	7.50	7.02	6.14
23	5.87	---	3.10	3.22	3.43	3.43	4.49	5.68	4.93	7.22	7.20	6.00
24	5.96	---	2.98	3.27	2.90	3.46	4.58	5.82	5.08	7.05	7.32	6.27
25	6.05	---	3.05	3.28	2.87	3.44	4.65	5.89	5.25	7.20	7.41	6.44
26	5.69	---	3.25	3.30	3.06	3.48	4.77	5.96	5.38	7.32	7.49	6.56
27	4.23	---	3.32	3.32	3.23	3.46	4.85	5.94	5.28	7.40	7.49	6.71
28	4.06	---	3.34	3.04	3.30	3.52	4.94	6.09	5.36	7.14	7.01	6.85
29	4.09	---	3.30	2.72	---	3.35	4.92	6.18	5.36	6.74	7.11	7.01
30	3.91	---	3.35	2.82	---	3.33	4.95	6.23	5.49	6.87	7.25	7.14
31	3.39	---	3.42	2.67	---	3.34	---	6.26	---	6.75	7.37	---

WTR YR 1994 MEAN 5.06 HIGH 2.05 LOW 7.76



354457077215504. Local number, NC-183; DEHNR Bethel Research Station well L24b4.

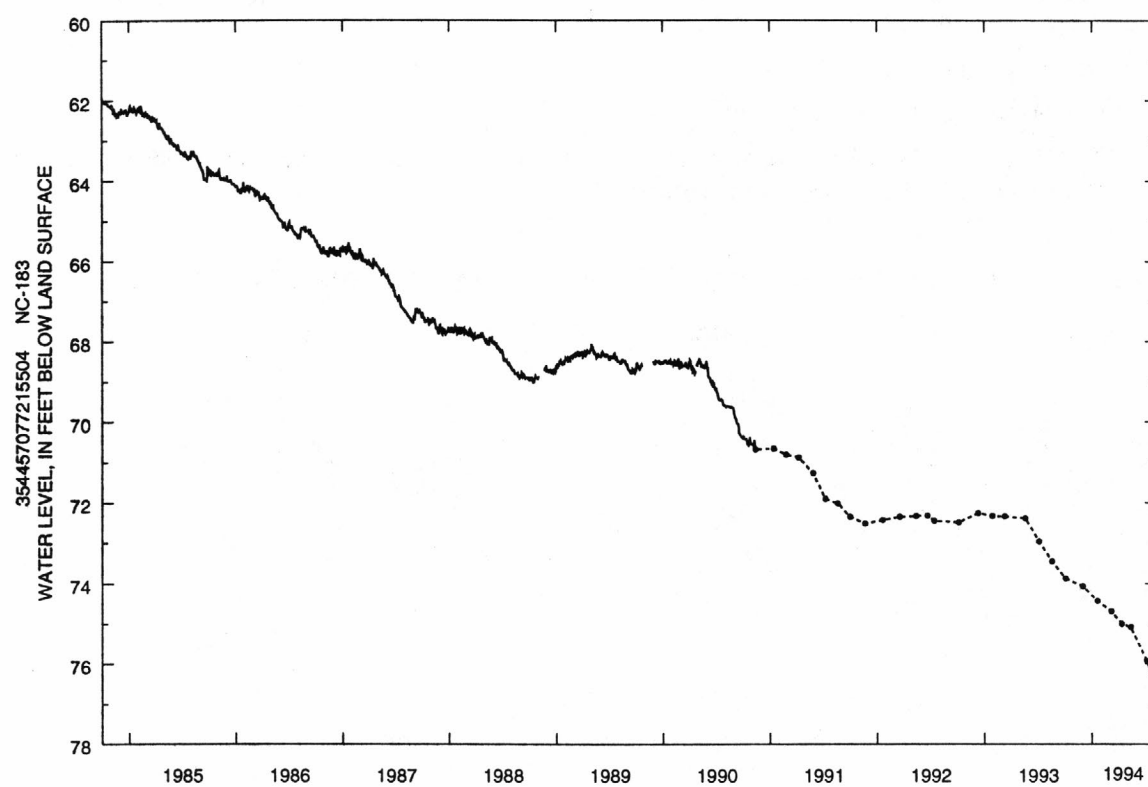
AQUIFER.--Upper Cape Fear aquifer of Late Cretaceous age.

INSTRUMENTATION.--Measured periodically with steel tape.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 56.33 ft below land-surface datum, Apr. 17, 1980; lowest water level measured, 76.61 ft below land-surface datum, Aug. 8, 1994.

DATE		WATER LEVEL	DATE		WATER LEVEL	DATE		WATER LEVEL	DATE		WATER LEVEL	DATE		WATER LEVEL
OCT	4	73.87	JAN	20	74.43	APR	12	75.00	MAY	13	75.08	JUL	6	75.91
DEC	2	74.07	MAR	8	74.69							AUG	8	76.61



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

PITT COUNTY--Continued

353146077193403. Local number, NC-184; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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.--Digital recorder with a 60-minute punch interval.

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.

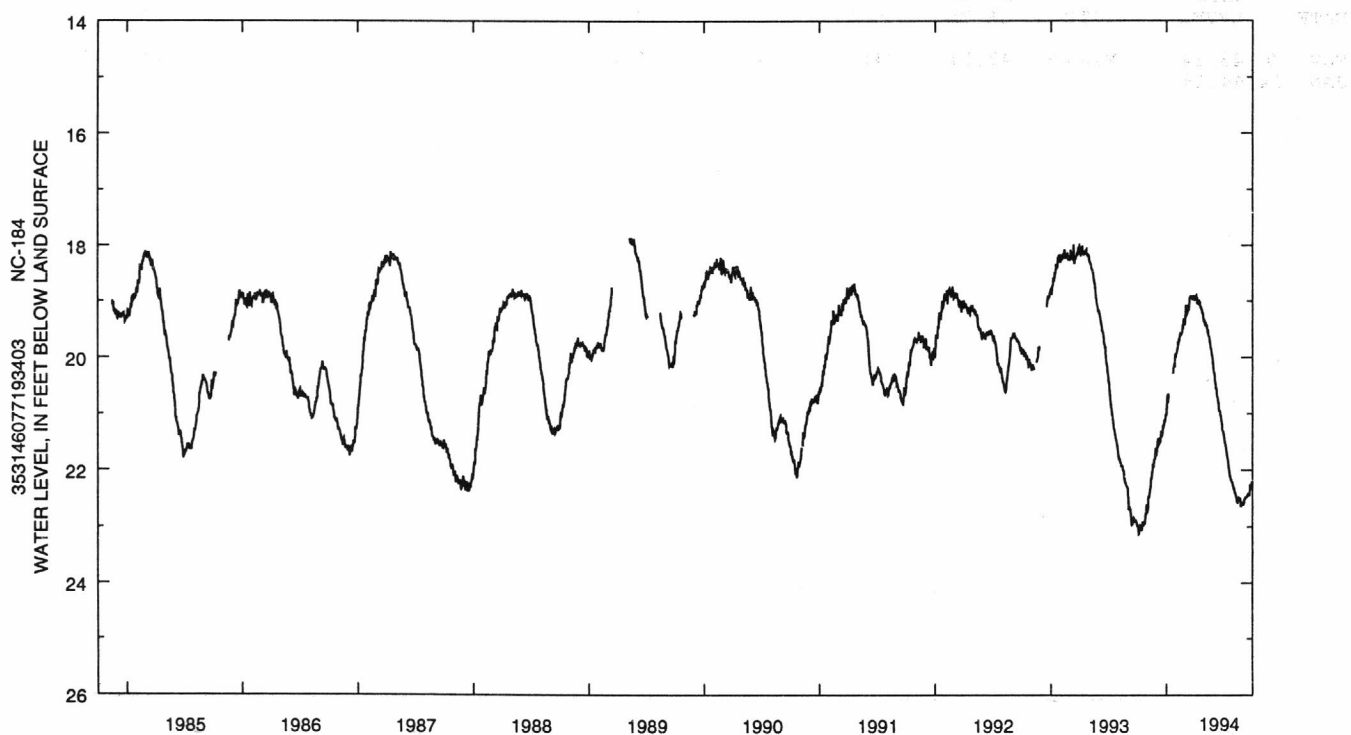
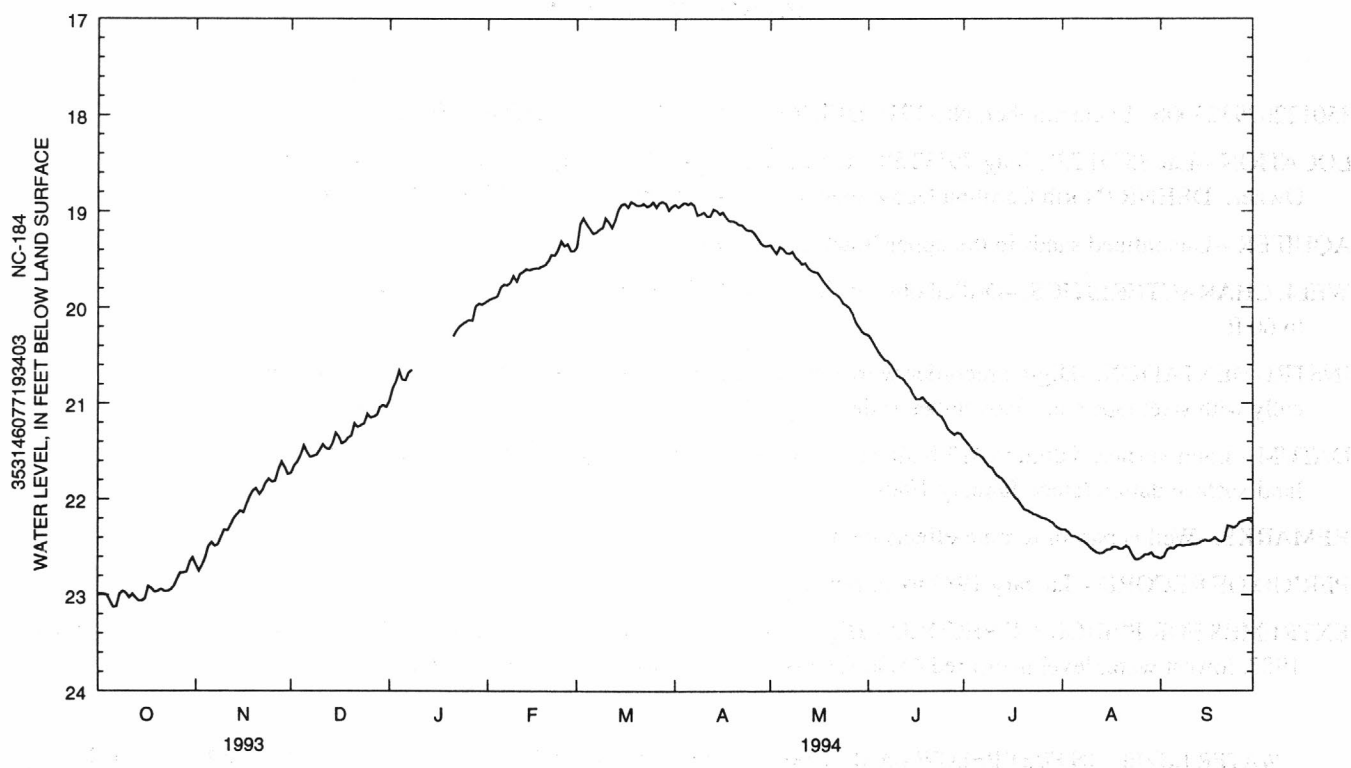
PERIOD OF RECORD.--June 1984 to current year.

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 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.07	22.49	21.44	20.75	19.79	19.18	18.93	19.39	20.51	21.53	22.39	22.52
10	22.98	22.32	21.49	---	19.73	19.07	19.01	19.51	20.71	21.68	22.51	22.48
15	23.06	22.12	21.31	---	19.60	18.93	19.03	19.63	20.91	21.88	22.53	22.43
20	22.96	21.89	21.34	---	19.51	18.94	19.11	19.82	21.01	22.11	22.52	22.45
25	22.91	21.82	21.11	20.15	19.36	18.90	19.20	19.98	21.20	22.19	22.63	22.28
EOM	22.61	21.74	21.04	19.95	19.41	18.95	19.36	20.28	21.32	22.31	22.61	22.25
WTR YR 1994	MEAN	21.03	HIGH	18.90	MAR 18	LOW	23.13	OCT 6				



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

RICHMOND COUNTY

350122079325006. Local number, NC-171; DEHNR Hoffman Research Station well T50r6.

LOCATION.--Lat 35°01'22", long 79°32'50", Hydrologic Unit 03040203, 0.6 mi south of Hoffman on Secondary Road 1474.
Owner: DEHNR (North Carolina Department of Environment, Health, and Natural Resources).

AQUIFER.--Unconfined sands in the upper Black Creek aquifer.

WELL CHARACTERISTICS.--Drilled observation well, drilled to 60 ft, diameter 4 in., cased to 45 ft, screened interval from 45 to 60 ft.

INSTRUMENTATION.--Digital recorder with a 60-minute punch interval January 1987 to November 1988; measured periodically with steel tape since November 1988.

DATUM.--Land-surface datum in 413 ft above sea level (from topographic map). Measuring point: Top of casing, 1.80 ft above land-surface datum (since January 1989).

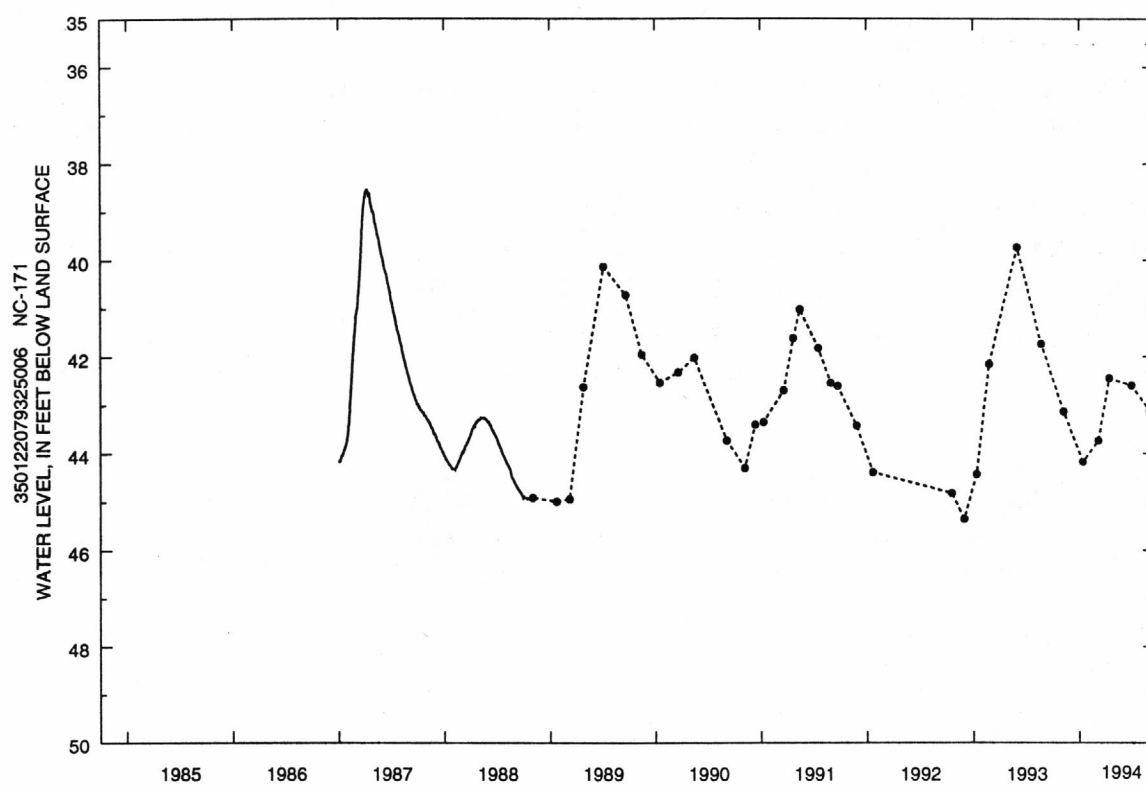
REMARKS.--Well is part of terrane-effects network.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded 38.55 ft below land-surface datum, Apr. 8, 9, and 10, 1987; lowest water level measured 45.36 ft below land-surface datum, Dec. 1, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 9	43.14	MAR 8	43.74	APR 14	42.45	JUN 30	42.60	AUG 31	43.12	SEP 16	42.74
JAN 14	44.18										



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

ROBESON COUNTY

343840078550009. Local number, NC-177; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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, 1.4 ft above land-surface datum.

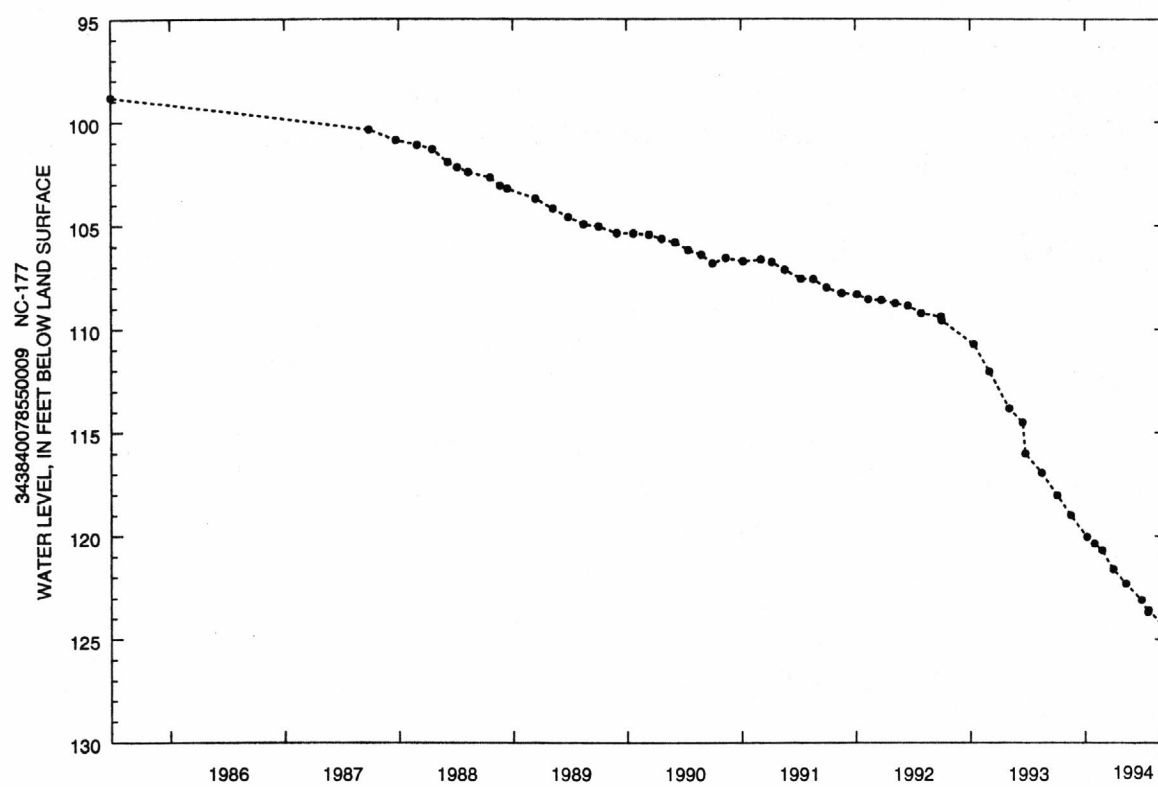
REMARKS.--Well is part of areal-effects network. Records prior to July 1985 are from Littlefield School Research Station well Y42f3 which was adjacent to and of similar construction to well Y42f9. Well Y42f3 was destroyed in September 1987.

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, DEHNR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 76.40 ft below land-surface datum, Jan. 5, 1971; lowest water level measured, 124.52 ft below land-surface datum, Sept. 15, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	118.01	JAN 7	120.05	FEB 24	120.70	MAY 10	122.31	JUL 19	123.69	SEP 15	124.52
NOV 16	119.00	JAN 31	120.37	MAR 31	121.62	JUN 29	123.10	JUL 21	123.59		



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

ROBESON COUNTY--Continued

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

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: DEHNR (North Carolina Department of Environment, Health, and Natural Resources).

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

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

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

DATUM.--Land-surface datum is 142 ft above sea level (from topographic map). Measuring point: Top of collar on 6-inch casing, 1.0 ft above land-surface datum.

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

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.55 ft below land-surface datum, August 18, 1981; lowest, 37.26 ft below land-surface datum, August 27, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	---	---	---	26.85	26.72	26.89	28.06	30.44	32.74
10	---	---	---	---	---	---	26.47	26.55	27.19	28.39	30.56	32.61
15	---	---	---	---	---	26.72	26.65	26.53	27.18	28.96	30.52	33.36
20	---	---	---	---	---	26.98	26.49	26.79	27.26	29.54	30.67	33.05
25	---	---	---	---	---	26.91	26.32	27.00	27.61	29.39	31.44	32.70
EOM	---	---	---	---	---	26.98	26.37	27.09	27.63	29.49	32.39	32.59

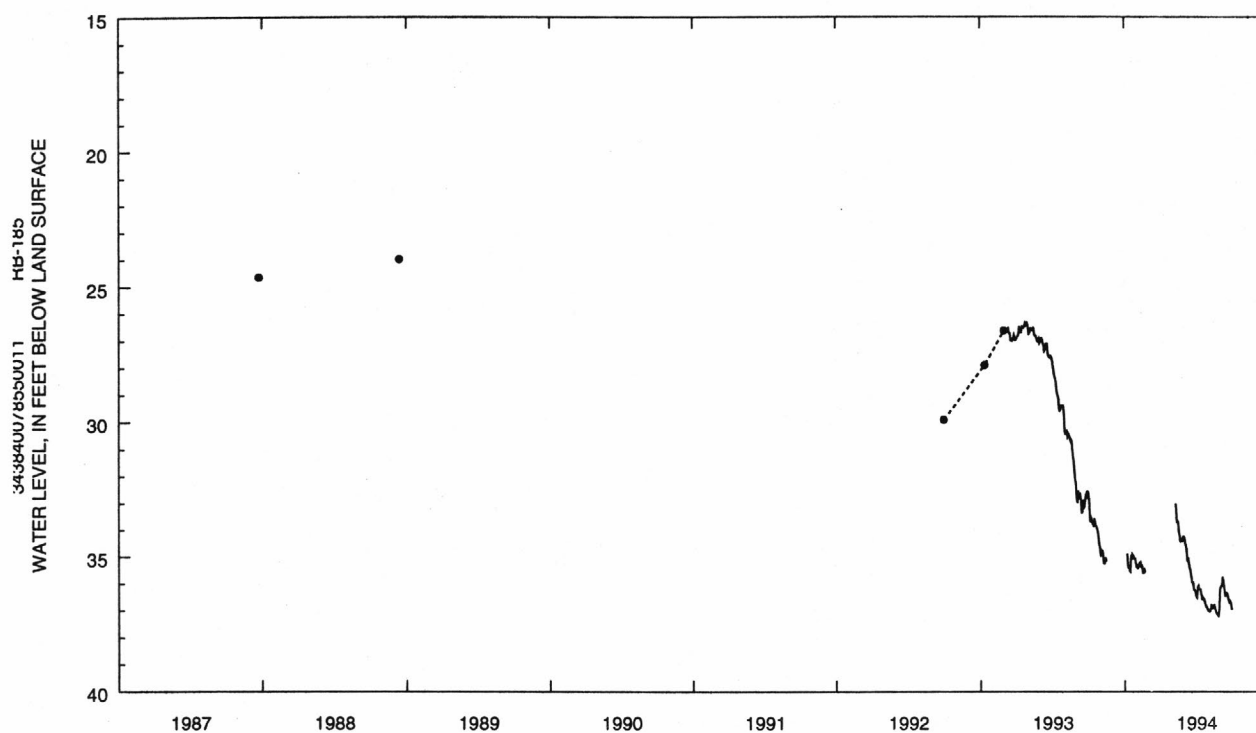
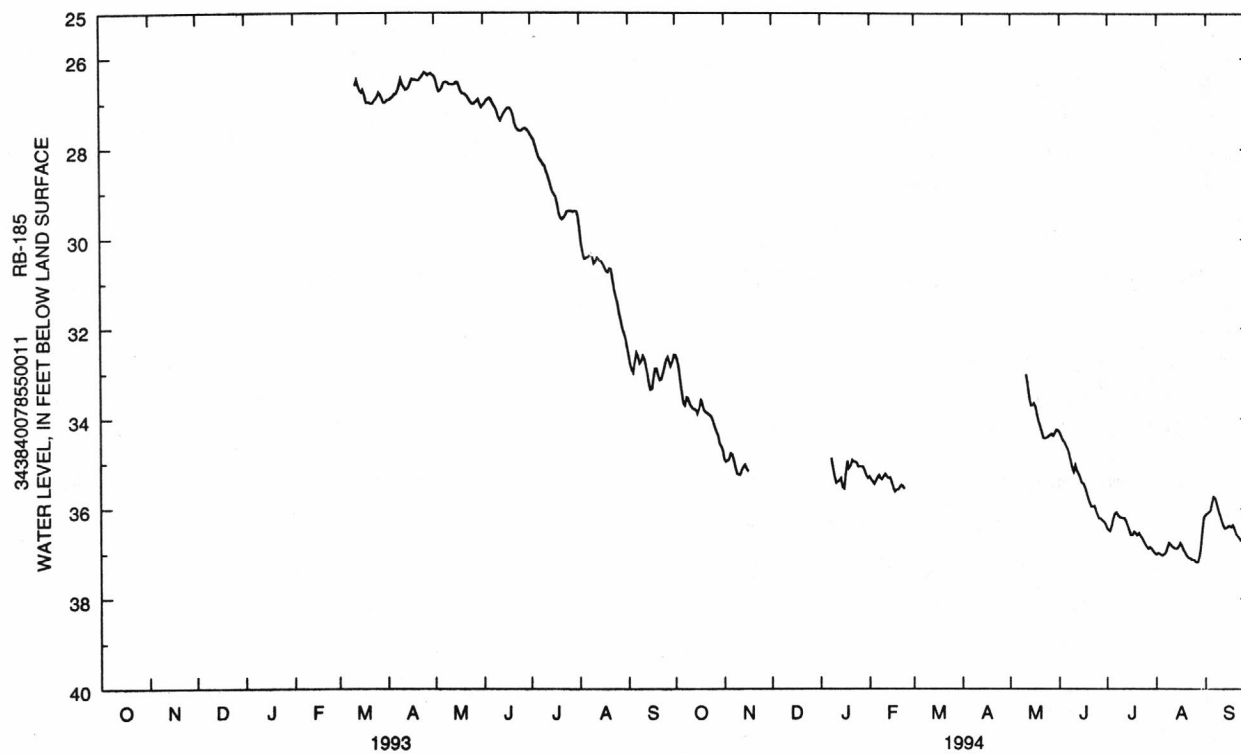
WTR YR 1993 MEAN 28.66 HIGH 26.32 APR 25 LOW 33.36 SEP 15

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	33.41	34.78	---	---	35.40	---	---	---	34.59	36.22	37.03	35.89
10	33.68	35.25	---	35.30	35.28	---	---	---	35.18	36.19	36.79	36.14
15	33.90	35.10	---	35.53	35.41	---	---	33.70	35.42	36.48	36.84	36.39
20	33.85	---	---	35.06	35.53	---	---	34.18	35.86	36.59	37.04	36.55
25	34.09	---	---	35.08	---	---	---	34.40	36.14	36.78	37.14	36.65
EOM	34.72	---	35.33	---	---	---	34.26	36.34	36.98	36.18	36.96	---

WTR YR 1994 MEAN 35.49 HIGH 32.60 OCT 1 LOW 37.19 AUG 27



ROWAN COUNTY

354057080362601. Local number, NC-193; DEHNR 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.--Digital recorder with a 60-minute punch 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.--U.S. Geological Survey continuous record began Nov. 11, 1989. Well is part of climatic-effects network.

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

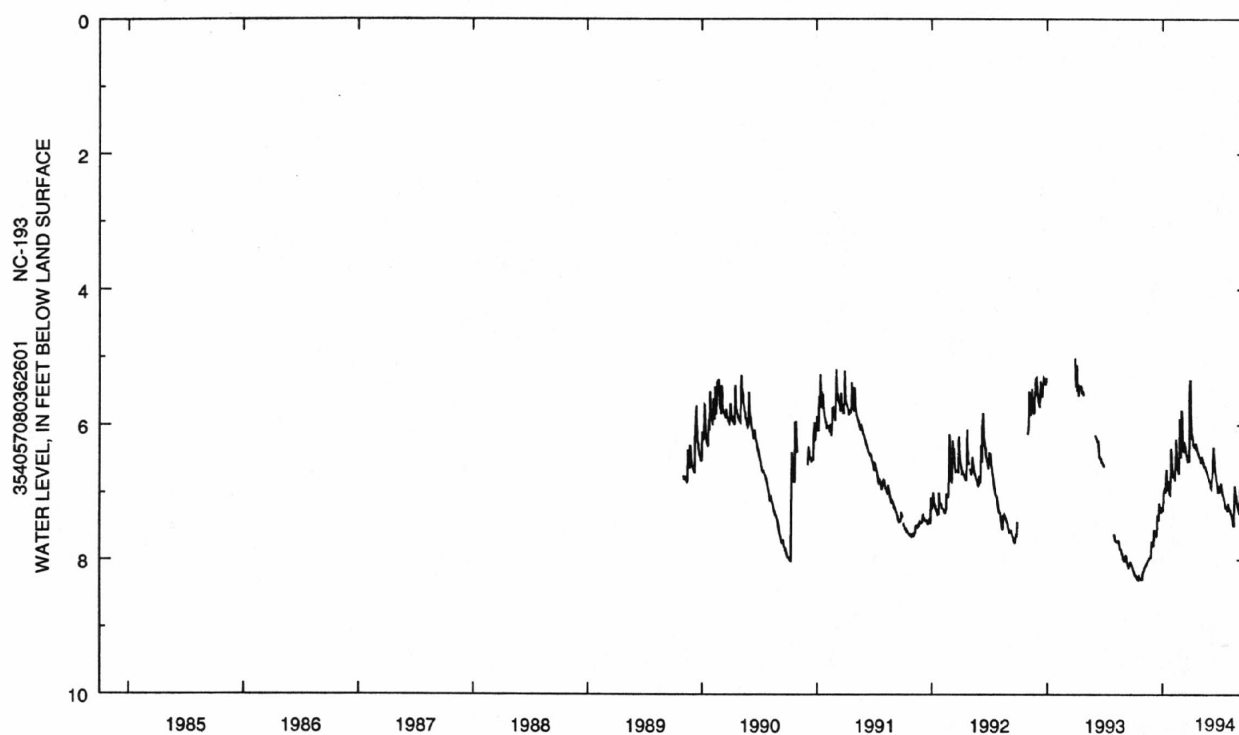
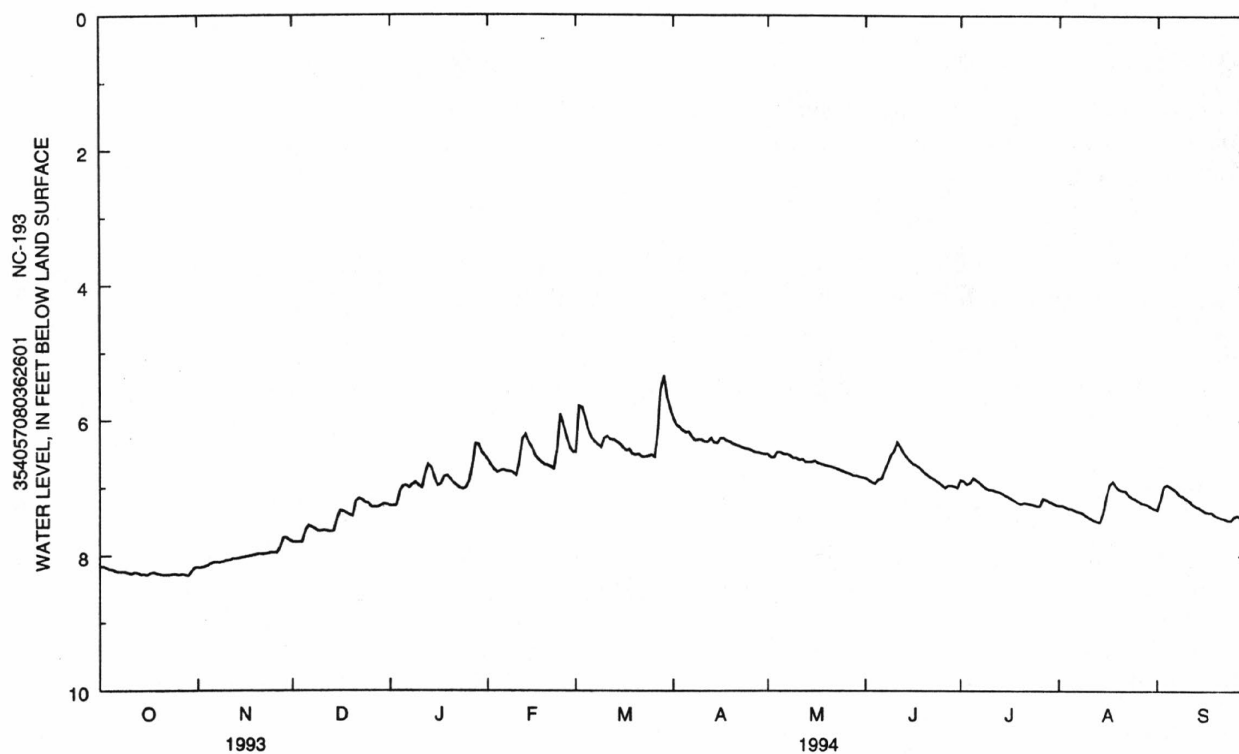
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.97 ft below land-surface datum, Mar. 30, 1993; lowest water level recorded, 8.30 ft below land-surface datum, Oct. 28, 29, and 30, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.16	8.18	7.80	7.27	6.59	6.47	5.97	6.50	6.86	6.89	7.26	7.32
2	8.16	8.18	7.80	7.27	6.67	5.79	6.07	6.55	6.89	6.90	7.26	7.17
3	8.18	8.17	7.80	7.26	6.73	5.81	6.10	6.55	6.92	6.95	7.28	6.98
4	8.20	8.15	7.80	7.05	6.77	5.97	6.15	6.47	6.94	6.93	7.30	6.95
5	8.21	8.12	7.63	6.98	6.75	6.16	6.18	6.47	6.88	6.86	7.31	6.98
6	8.23	8.10	7.56	6.97	6.74	6.27	6.17	6.50	6.87	6.89	7.33	7.01
7	8.24	8.10	7.58	7.00	6.76	6.32	6.25	6.50	6.76	6.92	7.35	7.05
8	8.24	8.10	7.61	6.95	6.76	6.36	6.30	6.52	6.64	6.97	7.36	7.10
9	8.24	8.09	7.64	6.92	6.77	6.40	6.29	6.56	6.52	7.01	7.39	7.12
10	8.26	8.07	7.64	6.97	6.82	6.27	6.29	6.56	6.46	7.03	7.42	7.16
11	8.27	8.07	7.63	7.00	6.62	6.24	6.32	6.59	6.33	7.03	7.45	7.19
12	8.25	8.05	7.64	6.79	6.28	6.29	6.32	6.58	6.40	7.05	7.47	7.24
13	8.26	8.05	7.65	6.66	6.21	6.29	6.27	6.62	6.49	7.06	7.49	7.27
14	8.28	8.04	7.64	6.71	6.33	6.32	6.33	6.62	6.55	7.08	7.50	7.29
15	8.28	8.03	7.46	6.85	6.41	6.35	6.34	6.62	6.61	7.11	7.36	7.32
16	8.29	8.02	7.34	6.97	6.52	6.41	6.27	6.60	6.65	7.13	7.12	7.35
17	8.26	8.01	7.35	6.95	6.58	6.45	6.27	6.64	6.67	7.16	6.95	7.36
18	8.25	8.00	7.38	6.84	6.62	6.43	6.31	6.65	6.71	7.19	6.90	7.36
19	8.27	7.99	7.40	6.82	6.66	6.50	6.32	6.67	6.75	7.22	6.98	7.40
20	8.28	7.98	7.42	6.87	6.67	6.51	6.35	6.68	6.79	7.24	7.02	7.42
21	8.29	7.98	7.20	6.93	6.69	6.50	6.37	6.69	6.83	7.22	7.04	7.44
22	8.29	7.98	7.16	6.97	6.72	6.54	6.39	6.71	6.86	7.23	7.04	7.45
23	8.29	7.97	7.18	7.01	6.44	6.54	6.41	6.72	6.89	7.24	7.10	7.47
24	8.28	7.96	7.22	7.02	5.91	6.53	6.42	6.74	6.92	7.25	7.14	7.47
25	8.28	7.96	7.23	7.00	6.07	6.51	6.43	6.76	6.96	7.27	7.16	7.42
26	8.29	7.96	7.29	6.90	6.25	6.54	6.45	6.78	7.00	7.27	7.19	7.40
27	8.28	7.88	7.29	6.69	6.40	6.17	6.47	6.79	6.97	7.16	7.22	7.43
28	8.29	7.74	7.29	6.35	6.47	5.55	6.48	6.82	6.97	7.17	7.23	7.46
29	8.30	7.74	7.27	6.36	---	5.34	6.49	6.82	6.98	7.20	7.25	7.48
30	8.23	7.77	7.24	6.48	---	5.64	6.50	6.84	7.00	7.22	7.28	7.50
31	8.18	---	7.25	6.53	---	5.82	---	6.85	---	7.25	7.30	---

WTR YR 1994 MEAN 7.07 HIGH 5.34 LOW 8.30



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

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 terrain-effects network.

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

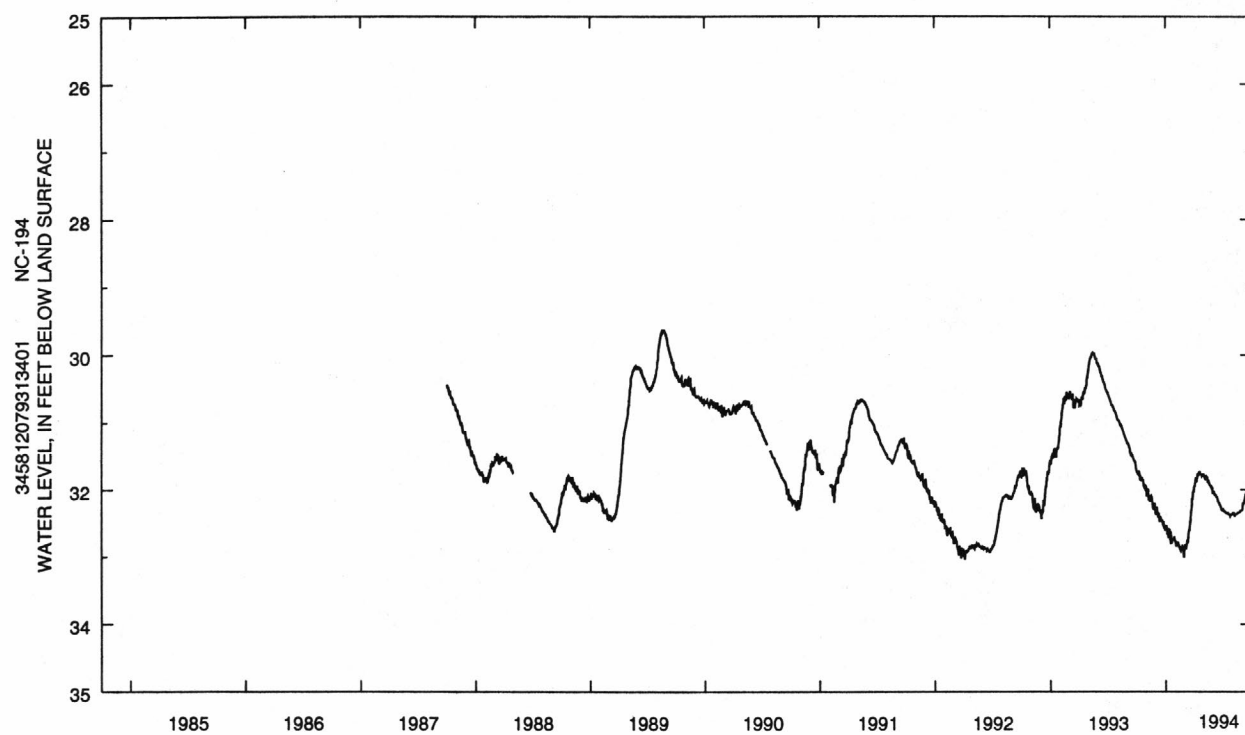
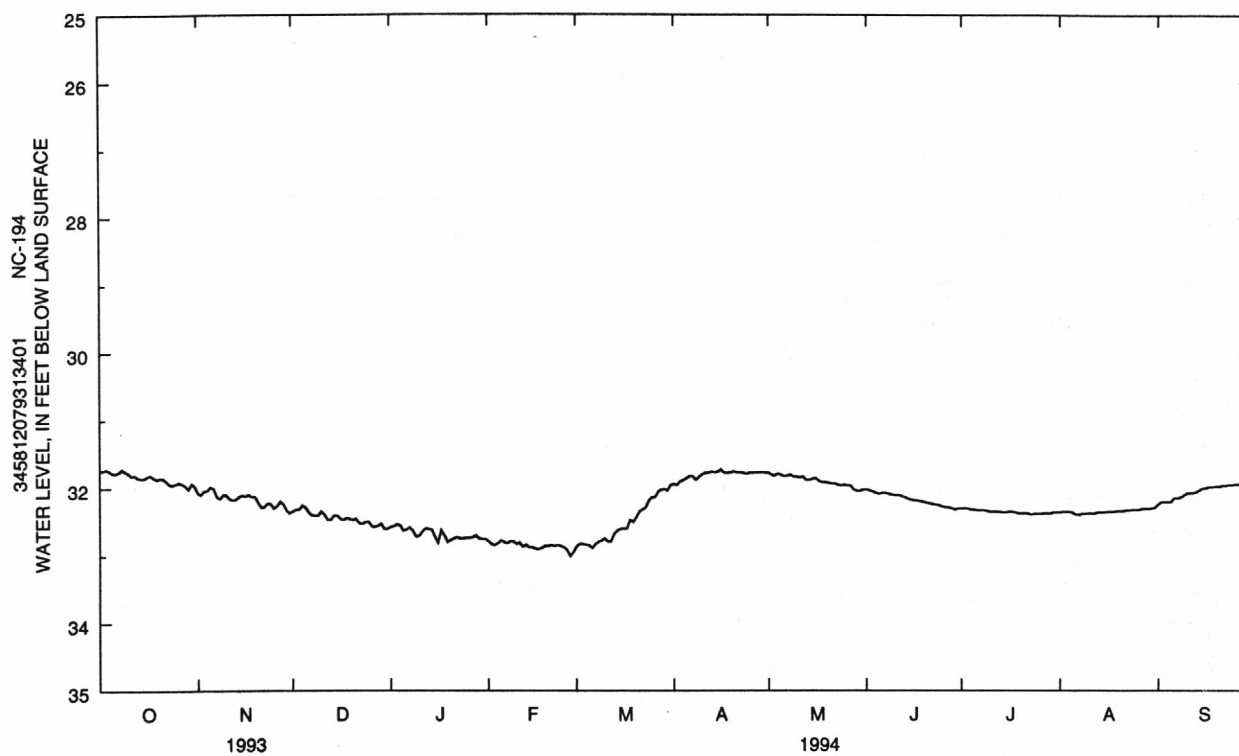
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 29.63 ft below land-surface datum, Aug. 23, 1989; lowest water level recorded, 33.08 ft below land-surface datum, Mar. 24, 1992 and Feb. 27, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.73	32.08	32.35	32.58	32.79	32.87	31.95	31.78	32.03	32.31	32.36	32.24
2	31.74	32.10	32.32	32.57	32.83	32.83	31.96	31.81	32.04	32.30	32.35	32.21
3	31.72	32.05	32.32	32.54	32.85	32.83	31.91	31.82	32.06	32.31	32.35	32.21
4	31.74	32.04	32.26	32.56	32.82	32.84	31.89	31.79	32.08	32.32	32.35	32.21
5	31.77	31.99	32.29	32.63	32.78	32.85	31.86	31.81	32.09	32.32	32.36	32.21
6	31.78	32.01	32.36	32.62	32.80	32.89	31.83	31.83	32.08	32.33	32.39	32.15
7	31.76	32.13	32.40	32.59	32.82	32.83	31.83	31.82	32.08	32.33	32.39	32.15
8	31.72	32.16	32.41	32.63	32.79	32.80	31.89	31.81	32.09	32.33	32.38	32.14
9	31.75	32.10	32.41	32.72	32.79	32.78	31.84	31.84	32.10	32.34	32.38	32.11
10	31.77	32.10	32.35	32.71	32.83	32.75	31.80	31.84	32.11	32.35	32.37	32.08
11	31.82	32.16	32.39	32.65	32.81	32.79	31.78	31.85	32.11	32.35	32.37	32.08
12	31.81	32.18	32.47	32.60	32.87	32.79	31.78	31.84	32.12	32.35	32.37	32.07
13	31.85	32.17	32.47	32.61	32.84	32.68	31.76	31.89	32.14	32.35	32.36	32.06
14	31.86	32.13	32.41	32.62	32.88	32.63	31.77	31.89	32.16	32.36	32.36	32.03
15	31.86	32.11	32.41	32.72	32.88	32.61	31.76	31.87	32.18	32.36	32.36	32.01
16	31.83	32.12	32.46	32.81	32.90	32.60	31.73	31.86	32.19	32.35	32.35	32.00
17	31.81	32.10	32.47	32.63	32.91	32.60	31.78	31.90	32.19	32.35	32.35	31.99
18	31.85	32.13	32.45	32.70	32.89	32.48	31.78	31.92	32.20	32.36	32.35	31.99
19	31.87	32.13	32.46	32.80	32.86	32.50	31.77	31.92	32.21	32.37	32.34	31.98
20	31.86	32.21	32.48	32.77	32.86	32.44	31.76	31.93	32.22	32.37	32.34	31.98
21	31.86	32.29	32.46	32.75	32.85	32.35	31.77	31.94	32.23	32.37	32.34	31.97
22	31.90	32.28	32.52	32.73	32.86	32.32	31.77	31.94	32.24	32.37	32.33	31.97
23	31.95	32.23	32.53	32.75	32.85	32.29	31.78	31.96	32.25	32.39	32.33	31.96
24	31.96	32.23	32.51	32.75	32.86	32.19	31.79	31.97	32.26	32.38	32.32	31.96
25	31.94	32.30	32.50	32.74	32.88	32.14	31.78	31.96	32.28	32.38	32.32	31.95
26	31.92	32.27	32.57	32.74	32.92	32.14	31.78	31.97	32.29	32.38	32.32	31.95
27	31.94	32.20	32.58	32.73	33.01	32.06	31.77	31.97	32.29	32.37	32.31	31.93
28	31.97	32.24	32.56	32.70	32.95	32.03	31.77	32.03	32.30	32.37	32.31	31.92
29	32.02	32.33	32.53	32.75	---	32.02	31.77	32.05	32.32	32.37	32.31	31.92
30	31.94	32.37	32.61	32.76	---	32.04	31.78	32.05	32.31	32.36	32.30	31.91
31	31.98	---	32.61	32.76	---	31.96	---	32.03	---	32.36	32.29	---

WTR YR 1994 MEAN 32.26 HIGH 31.72 LOW 33.01



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.

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.

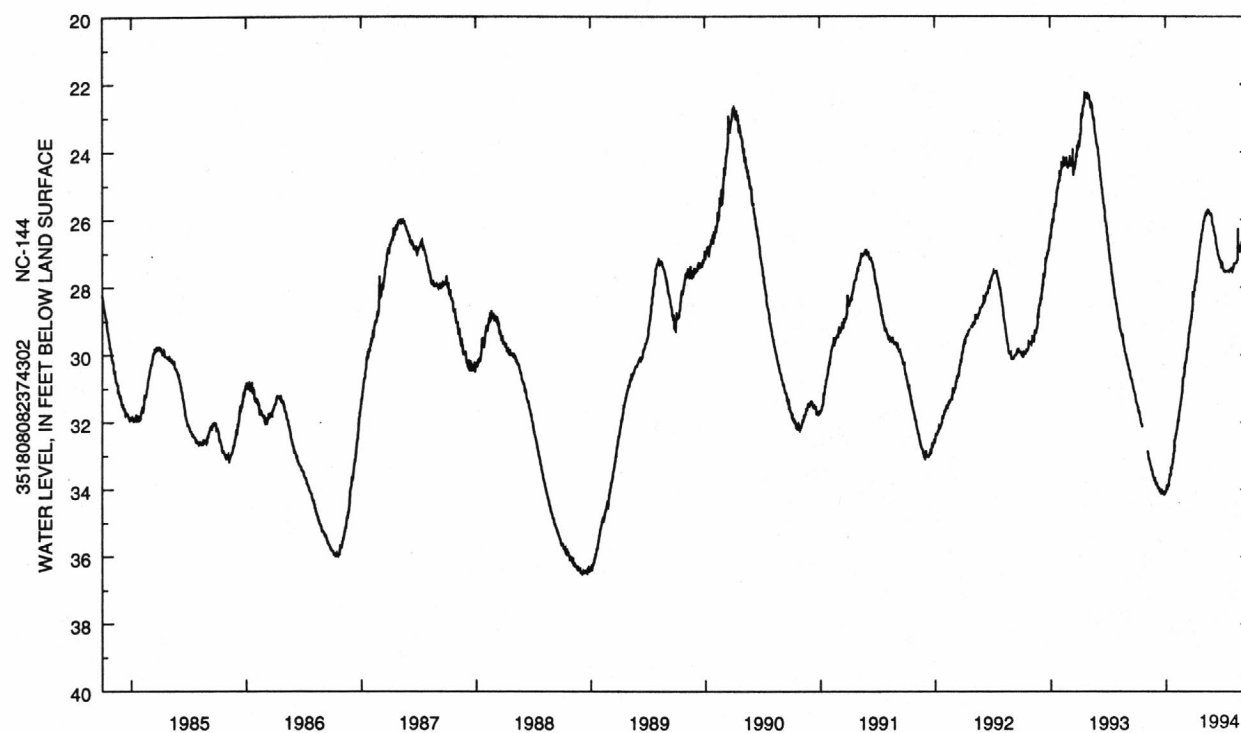
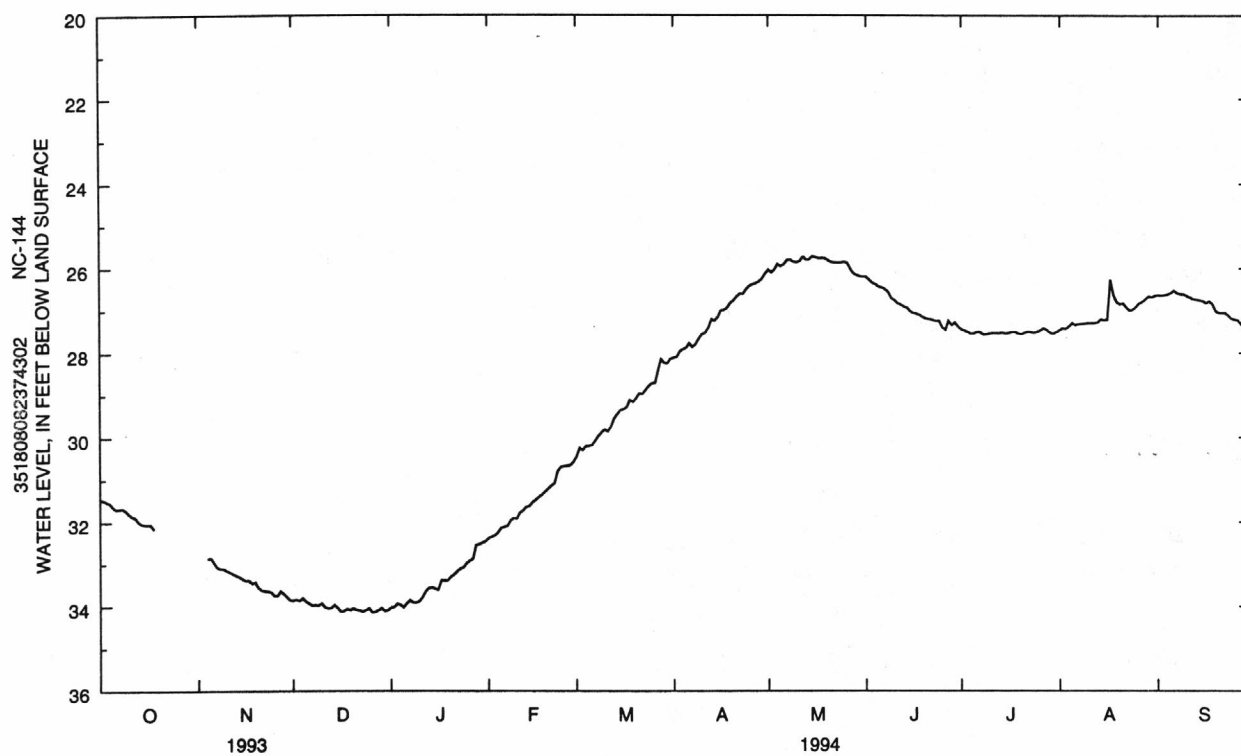
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 22.20 ft below land-surface datum, Apr. 26, 1993; lowest water level recorded, 37.95 ft below land-surface datum, Dec. 23 and 24, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.45	---	33.86	34.03	32.39	30.46	28.12	26.04	26.20	27.44	27.46	26.63
2	31.47	---	33.84	34.01	32.35	30.25	28.09	26.10	26.27	27.47	27.42	26.64
3	31.51	---	33.87	33.94	32.32	30.30	27.96	26.04	26.35	27.50	27.43	26.63
4	31.54	32.87	33.80	33.96	32.25	30.21	27.92	25.91	26.38	27.54	27.37	26.62
5	31.63	32.86	33.89	34.02	32.14	30.21	27.87	25.95	26.44	27.54	27.29	26.58
6	31.69	32.97	33.93	33.93	32.12	30.17	27.77	25.91	26.46	27.51	27.34	26.53
7	31.68	33.08	33.98	33.85	32.09	30.07	27.86	25.81	26.49	27.51	27.32	26.58
8	31.67	33.11	33.97	33.91	31.96	29.97	27.80	25.80	26.57	27.56	27.31	26.61
9	31.71	33.11	33.98	33.91	31.91	29.87	27.66	25.85	26.71	27.56	27.30	26.61
10	31.79	33.15	33.93	33.88	31.92	29.81	27.55	25.86	26.75	27.54	27.29	26.65
11	31.86	33.19	34.01	33.78	31.78	29.85	27.53	25.84	26.83	27.53	27.29	26.69
12	31.88	33.23	34.05	33.63	31.73	29.75	27.41	25.73	26.86	27.53	27.29	26.72
13	31.98	33.27	34.04	33.57	31.65	29.55	27.20	25.80	26.91	27.53	27.28	26.74
14	32.03	33.30	33.97	33.55	31.62	29.45	27.24	25.80	26.94	27.52	27.20	26.75
15	32.06	33.35	34.03	33.58	31.53	29.36	27.16	25.73	27.03	27.54	27.22	26.77
16	32.06	33.39	34.12	33.60	31.48	29.34	27.00	25.74	27.06	27.53	27.21	26.81
17	32.06	33.38	34.11	33.38	31.41	29.28	26.99	25.77	27.07	27.51	26.27	26.78
18	32.16	33.46	34.06	33.39	31.35	29.12	26.94	25.76	27.11	27.51	26.64	26.84
19	---	33.43	34.09	33.39	31.28	29.16	26.82	25.77	27.16	27.54	26.80	27.00
20	---	33.55	34.05	33.30	31.20	29.08	26.76	25.82	27.19	27.55	26.85	27.05
21	---	33.62	34.08	33.25	31.13	28.96	26.67	25.85	27.20	27.52	26.83	27.05
22	---	33.63	34.10	33.17	31.08	28.98	26.60	25.87	27.22	27.50	26.91	27.05
23	---	33.64	34.12	33.11	30.79	28.88	26.61	25.87	27.25	27.51	26.99	27.11
24	---	33.66	34.09	33.07	30.70	28.79	26.50	25.87	27.24	27.52	26.98	27.19
25	---	33.75	34.05	32.98	30.68	28.72	26.42	25.85	27.39	27.50	26.91	27.20
26	---	33.75	34.14	32.92	30.67	28.71	26.38	25.87	27.45	27.47	26.83	27.22
27	---	33.64	34.13	32.87	30.65	28.40	26.36	26.01	27.24	27.42	26.79	27.32
28	---	33.70	34.09	32.55	30.58	28.15	26.32	26.12	27.34	27.45	26.73	27.42
29	---	33.78	34.04	32.53	---	28.24	26.25	26.16	27.28	27.52	26.66	27.50
30	---	33.85	34.11	32.49	---	28.25	26.13	26.19	27.37	27.54	26.68	27.59
31	---	---	34.09	32.46	---	28.14	---	26.20	---	27.51	26.65	---

WTR YR 1994 MEAN 29.45 HIGH 25.73 LOW 34.14



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

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.

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.

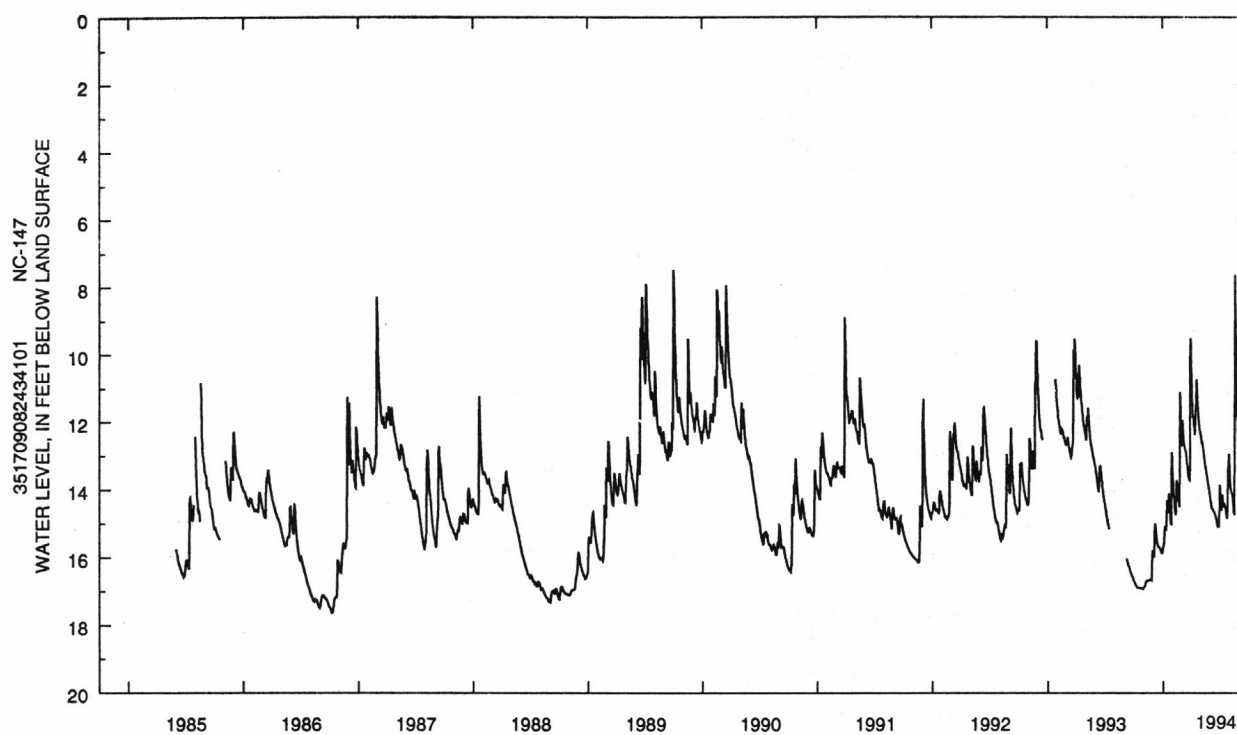
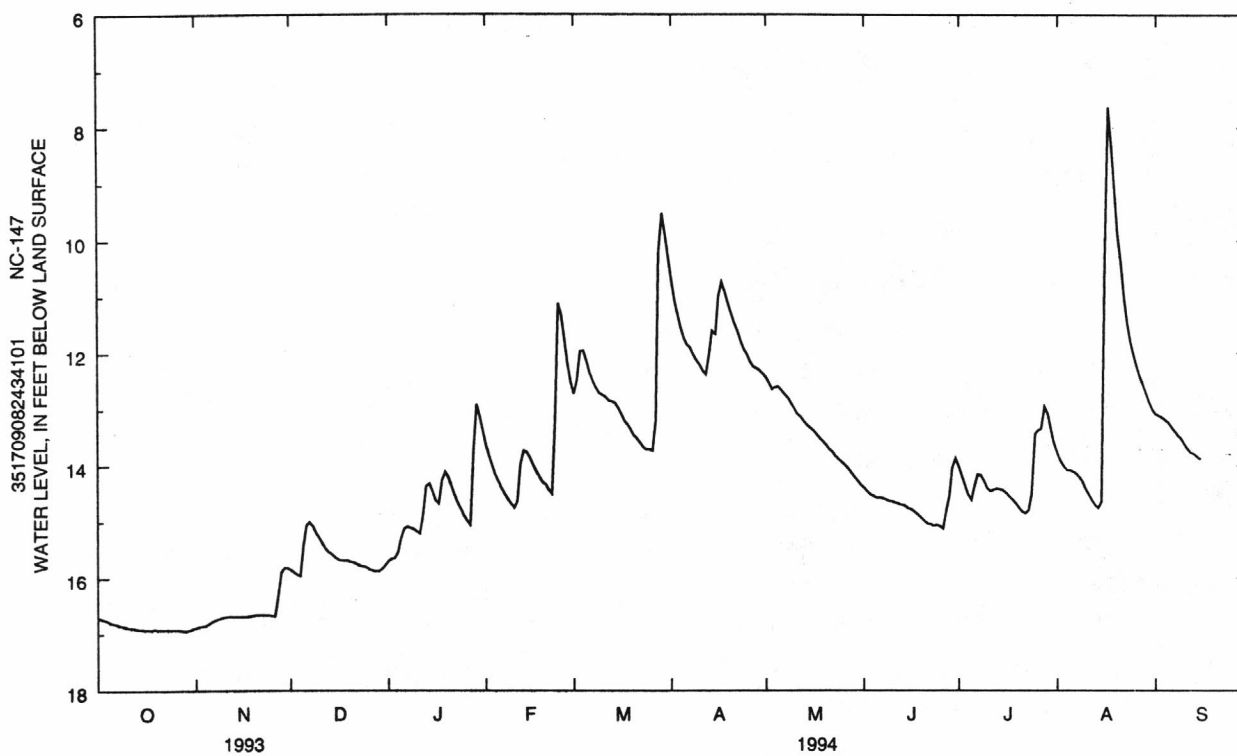
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 7.43 ft below land-surface datum, Oct. 2, 1989; lowest water level recorded, 17.66 ft below land-surface datum, Oct. 8 and 9, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.70	16.89	15.85	15.70	13.63	12.72	10.68	12.43	14.39	14.01	13.77	13.08
2	16.72	16.87	15.89	15.66	13.83	12.48	11.05	12.54	14.45	14.18	13.90	13.11
3	16.74	16.86	15.94	15.65	14.01	11.97	11.31	12.64	14.51	14.35	14.00	13.14
4	16.76	16.85	15.96	15.54	14.16	11.96	11.53	12.61	14.54	14.51	14.07	13.19
5	16.79	16.82	15.41	15.30	14.28	12.14	11.74	12.60	14.57	14.61	14.08	13.23
6	16.81	16.78	15.06	15.13	14.40	12.35	11.85	12.67	14.57	14.37	14.10	13.31
7	16.82	16.75	15.01	15.09	14.51	12.50	11.90	12.74	14.58	14.16	14.14	13.39
8	16.84	16.73	15.08	15.11	14.60	12.61	12.03	12.80	14.61	14.17	14.20	13.46
9	16.85	16.71	15.19	15.13	14.67	12.71	12.13	12.90	14.63	14.27	14.29	13.52
10	16.87	16.70	15.28	15.17	14.75	12.74	12.21	12.99	14.64	14.40	14.41	13.61
11	16.89	16.69	15.38	15.21	14.64	12.77	12.32	13.08	14.66	14.45	14.52	13.70
12	16.89	16.69	15.48	14.85	13.98	12.84	12.38	13.13	14.68	14.43	14.62	13.77
13	16.90	16.69	15.54	14.37	13.73	12.86	12.02	13.21	14.70	14.41	14.70	13.79
14	16.91	16.69	15.58	14.32	13.76	12.88	11.61	13.28	14.72	14.42	14.75	13.84
15	16.91	16.69	15.63	14.46	13.86	12.97	11.66	13.33	14.76	14.44	14.64	13.89
16	16.92	16.69	15.67	14.62	13.99	13.08	10.99	13.37	14.78	14.49	10.36	---
17	16.92	16.69	15.69	14.67	14.10	13.20	10.74	13.44	14.82	14.55	7.64	---
18	16.92	16.68	15.69	14.26	14.20	13.26	10.91	13.51	14.87	14.61	8.32	---
19	16.91	16.67	15.69	14.12	14.29	13.36	11.12	13.57	14.92	14.67	9.11	---
20	16.92	16.66	15.71	14.20	14.34	13.46	11.30	13.63	14.98	14.75	9.87	---
21	16.92	16.66	15.72	14.37	14.43	13.52	11.47	13.70	15.03	14.82	10.40	---
22	16.92	16.66	15.75	14.52	14.50	13.59	11.61	13.76	15.04	14.85	10.97	---
23	16.92	16.66	15.78	14.66	13.19	13.67	11.79	13.83	15.07	14.79	11.44	---
24	16.92	16.66	15.80	14.78	11.12	13.71	11.92	13.89	15.06	14.50	11.78	---
25	16.92	16.67	15.81	14.89	11.32	13.71	12.03	13.94	15.08	13.43	12.02	---
26	16.92	16.68	15.85	14.98	11.76	13.73	12.15	13.99	15.12	13.37	12.24	---
27	16.93	16.31	15.87	15.05	12.21	13.21	12.24	14.05	14.84	13.34	12.41	13.38
28	16.94	15.89	15.88	13.75	12.53	10.24	12.27	14.13	14.54	12.95	12.57	13.50
29	16.94	15.82	15.88	12.91	---	9.52	12.31	14.20	14.04	13.07	12.73	13.65
30	16.93	15.82	15.84	13.12	---	9.86	12.37	14.27	13.87	13.35	12.87	13.77
31	16.90	---	15.77	13.40	---	10.27	---	14.34	---	13.60	13.00	---

WTR YR 1994 MEAN 14.21 HIGH 7.64 LOW 16.94



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

WASHINGTON COUNTY

354351076260501. Local number, NC-156; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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 DEHNR). 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.

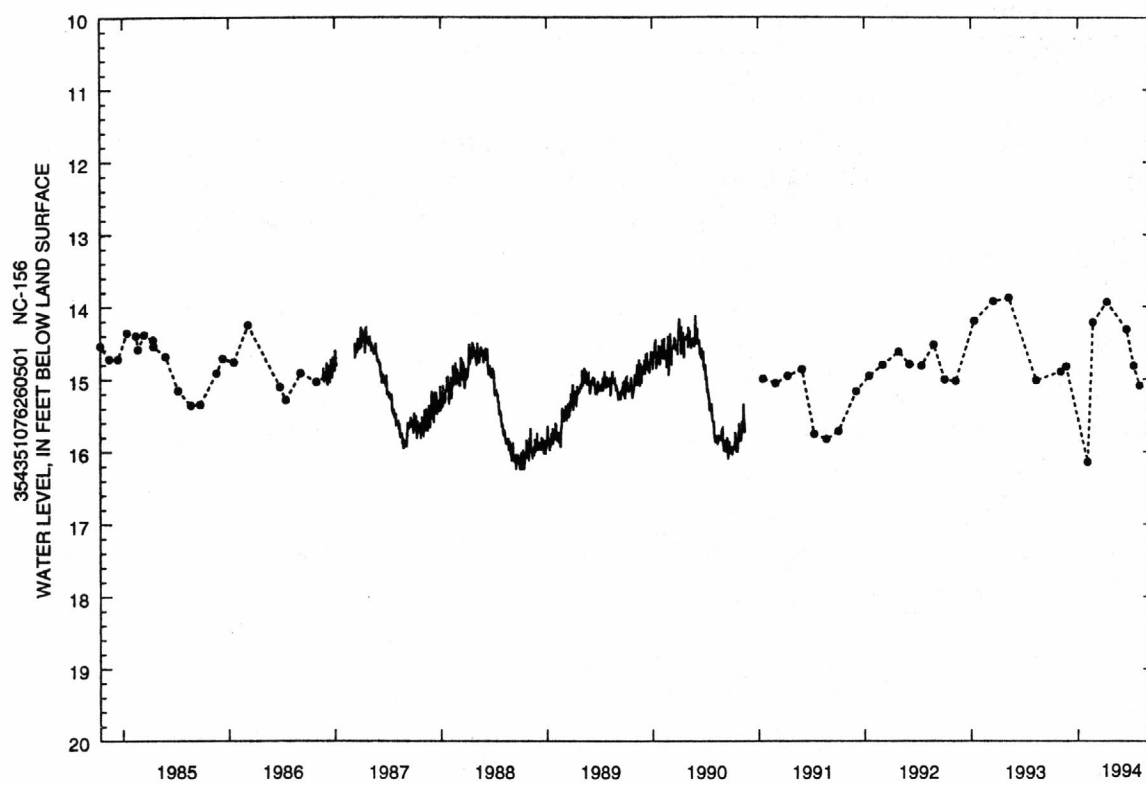
PERIOD OF RECORD.--August 1977 to current year. Continuous record November 1986 to November 1990. Records from August 1977 to September 1986 are unpublished and available in the files of the Groundwater Section, DEHNR.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.14 ft below land-surface datum, May 16, 1978; 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 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 4	14.90	FEB 4	16.15	APR 11	13.94	JUL 11	14.82	AUG 1	15.09	SEP 20	15.16
NOV 23	14.83	FEB 22	14.22	JUN 17	14.32						



WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

WASHINGTON COUNTY--Continued

354351076260502. Local number, NC-157; DEHNR 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: DEHNR (North Carolina Department of Environment, Health, 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 DEHNR). 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.

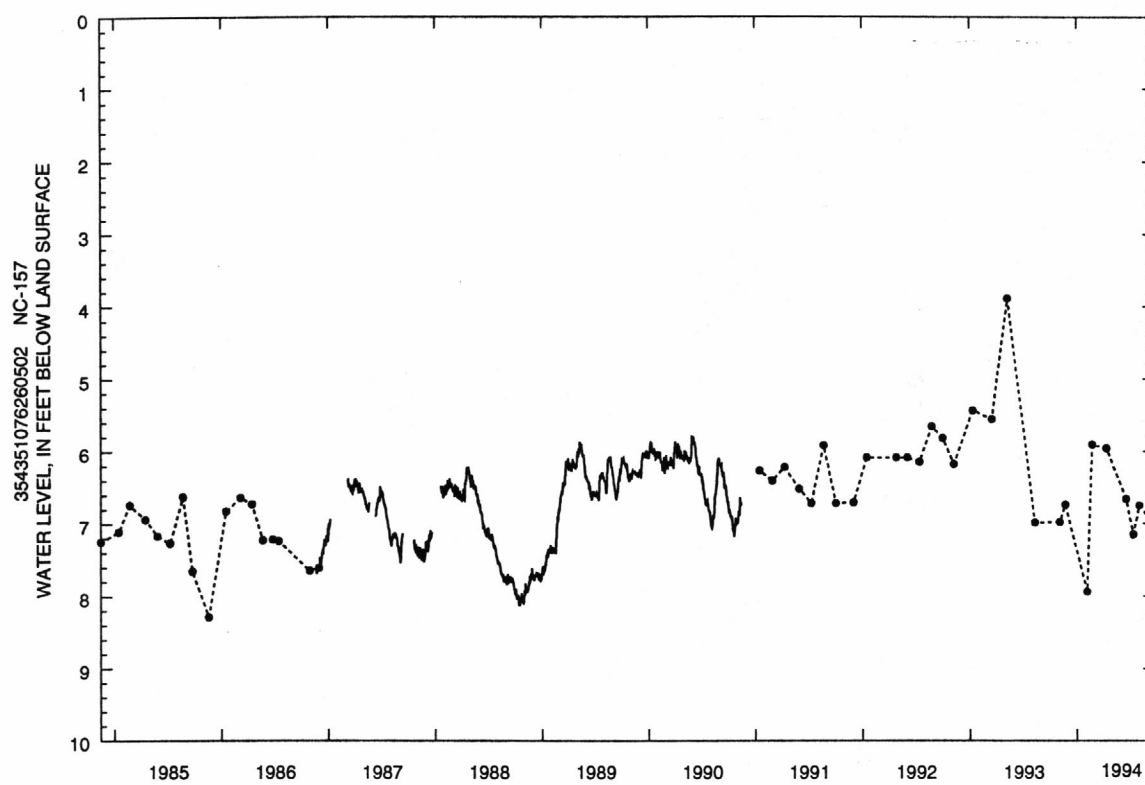
PERIOD OF RECORD.--October 1977 to current year. Continuous record November 1986 to November 1990. Records from October 1977 to July 1986 are unpublished and available in the files of the Groundwater Section, DEHNR.

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 1993 TO SEPTEMBER 1994

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 4	6.98	FEB 4	7.94	APR 11	5.96	JUL 11	7.15	AUG 1	6.75	SEP 20	7.03
NOV 23	6.74	FEB 22	5.91	JUN 17	6.66						



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

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.

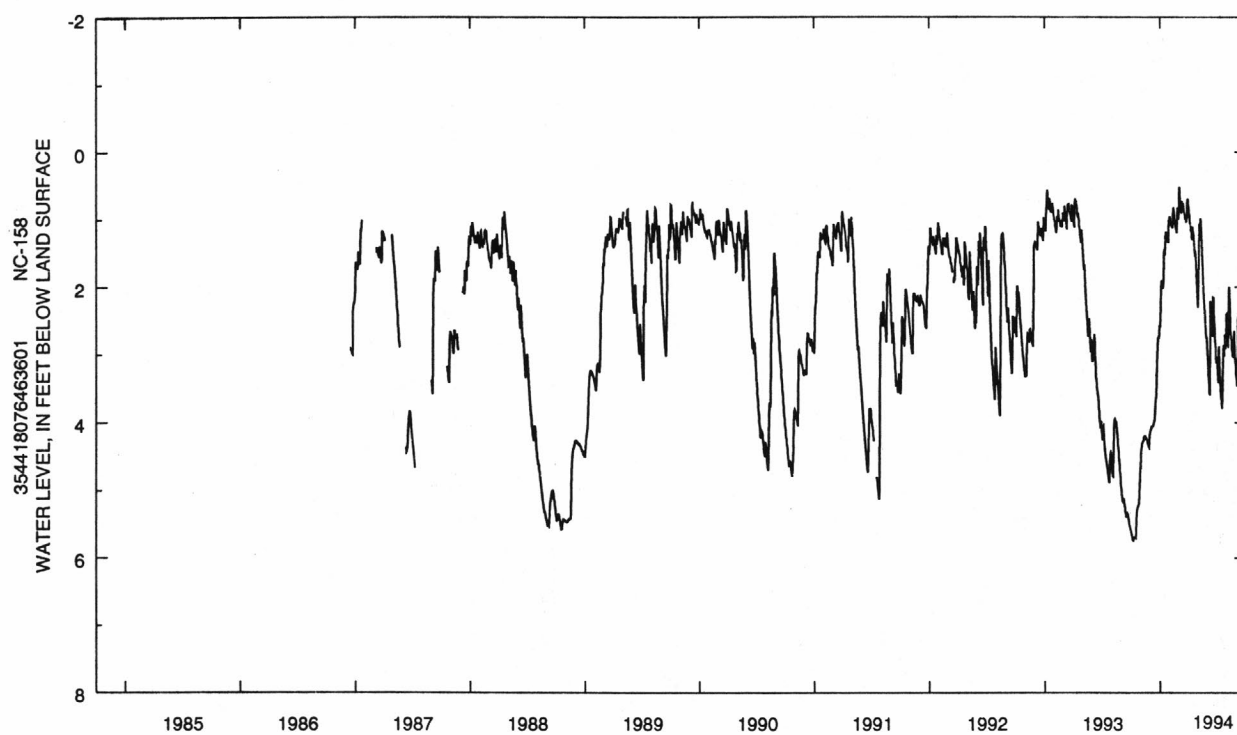
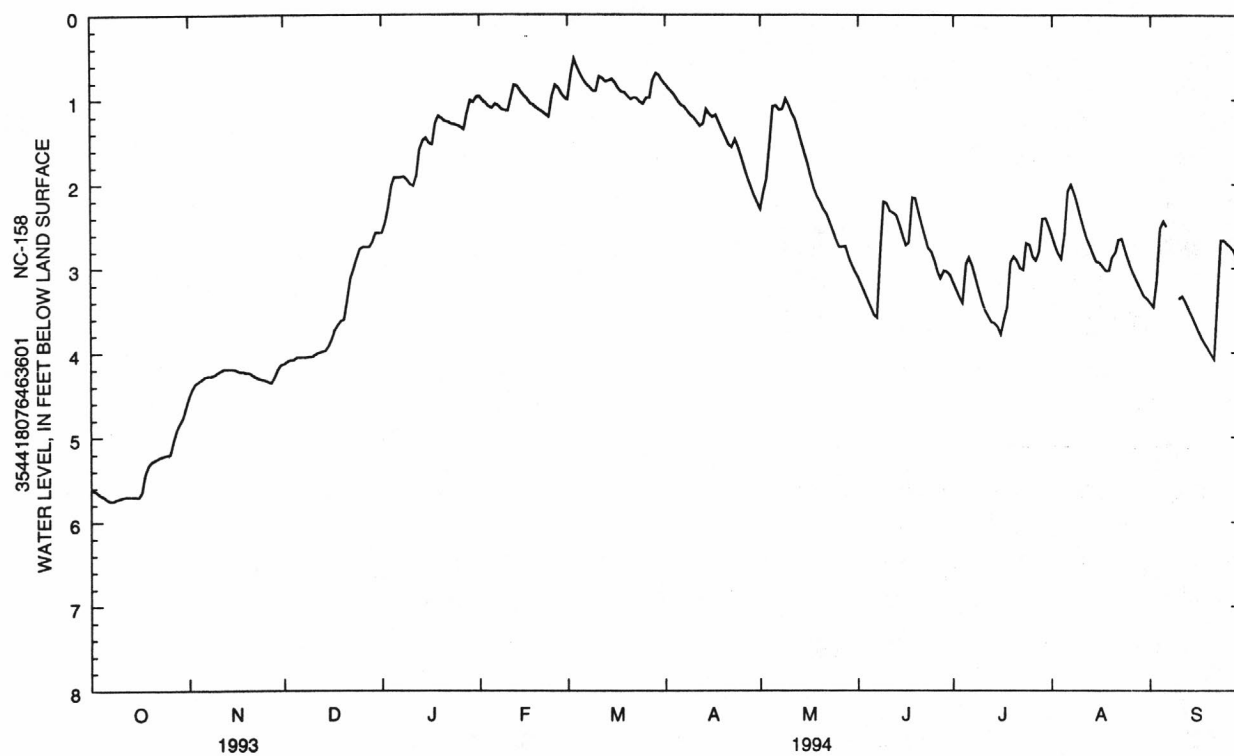
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.50 ft below land-surface datum, Mar. 2, 3, 1994; lowest water level recorded, 5.76 ft below land-surface datum, Oct. 7, 8, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.61	4.52	4.14	2.58	.96	1.00	.82	2.30	3.11	3.17	2.61	3.41
2	5.63	4.44	4.11	2.46	1.01	.72	.87	2.09	3.20	3.26	2.72	3.46
3	5.65	4.37	4.09	2.29	1.04	.52	.91	1.95	3.29	3.35	2.82	3.14
4	5.68	4.35	4.09	2.02	1.08	.62	.95	1.53	3.38	3.41	2.89	2.52
5	5.70	4.32	4.06	1.92	1.10	.70	1.02	1.08	3.47	2.95	2.60	2.44
6	5.73	4.29	4.06	1.92	1.05	.77	1.06	1.07	3.56	2.87	2.08	2.50
7	5.75	4.28	4.06	1.92	1.07	.82	1.08	1.12	3.59	2.97	2.00	---
8	5.75	4.28	4.06	1.91	1.11	.85	1.13	1.11	2.77	3.11	2.11	---
9	5.73	4.27	4.05	1.95	1.12	.90	1.18	.99	2.21	3.25	2.24	---
10	5.72	4.24	4.05	2.00	1.13	.90	1.21	1.06	2.23	3.39	2.38	3.36
11	5.71	4.22	4.02	2.02	.99	.73	1.26	1.15	2.32	3.50	2.53	3.33
12	5.70	4.20	4.00	1.89	.83	.75	1.31	1.23	2.34	3.57	2.64	3.40
13	5.70	4.20	3.99	1.59	.84	.79	1.28	1.35	2.37	3.64	2.73	3.49
14	5.70	4.20	3.98	1.48	.90	.78	1.11	1.49	2.48	3.65	2.83	3.57
15	5.70	4.20	3.93	1.45	.95	.76	1.17	1.62	2.61	3.70	2.92	3.66
16	5.71	4.21	3.84	1.51	.99	.80	1.20	1.75	2.73	3.79	2.93	3.74
17	5.65	4.23	3.74	1.53	1.04	.87	1.18	1.91	2.70	3.61	2.98	3.83
18	5.44	4.23	3.67	1.27	1.06	.91	1.27	2.05	2.16	3.46	3.03	3.89
19	5.34	4.24	3.63	1.19	1.09	.92	1.36	2.15	2.17	2.93	3.03	3.95
20	5.29	4.24	3.61	1.22	1.12	.96	1.44	2.22	2.33	2.86	2.87	4.02
21	5.27	4.27	3.38	1.25	1.14	1.00	1.53	2.30	2.48	2.91	2.81	4.08
22	5.25	4.29	3.13	1.26	1.17	.98	1.56	2.36	2.62	3.00	2.66	3.36
23	5.23	4.31	3.01	1.28	1.20	.99	1.47	2.45	2.76	3.02	2.65	2.67
24	5.22	4.32	2.88	1.29	.96	1.03	1.55	2.55	2.80	2.70	2.78	2.67
25	5.21	4.33	2.77	1.30	.83	1.05	1.68	2.66	2.91	2.72	2.90	2.71
26	5.20	4.35	2.75	1.32	.86	.98	1.80	2.75	3.04	2.86	3.01	2.74
27	5.05	4.36	2.75	1.35	.93	.98	1.92	2.75	3.12	2.91	3.10	2.79
28	4.92	4.29	2.75	1.16	.98	.78	2.03	2.74	3.03	2.80	3.18	2.88
29	4.84	4.20	2.69	1.01	---	.69	2.13	2.87	3.04	2.41	3.26	3.00
30	4.77	4.15	2.58	1.03	---	.71	2.22	2.97	3.08	2.40	3.33	3.11
31	4.64	---	2.58	.97	---	.78	---	3.04	---	2.50	3.36	---

WTR YR 1994 MEAN 2.67 HIGH .52 LOW 5.75



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

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, 8.40 ft below land-surface datum, Sept. 19 and 20, 1983.

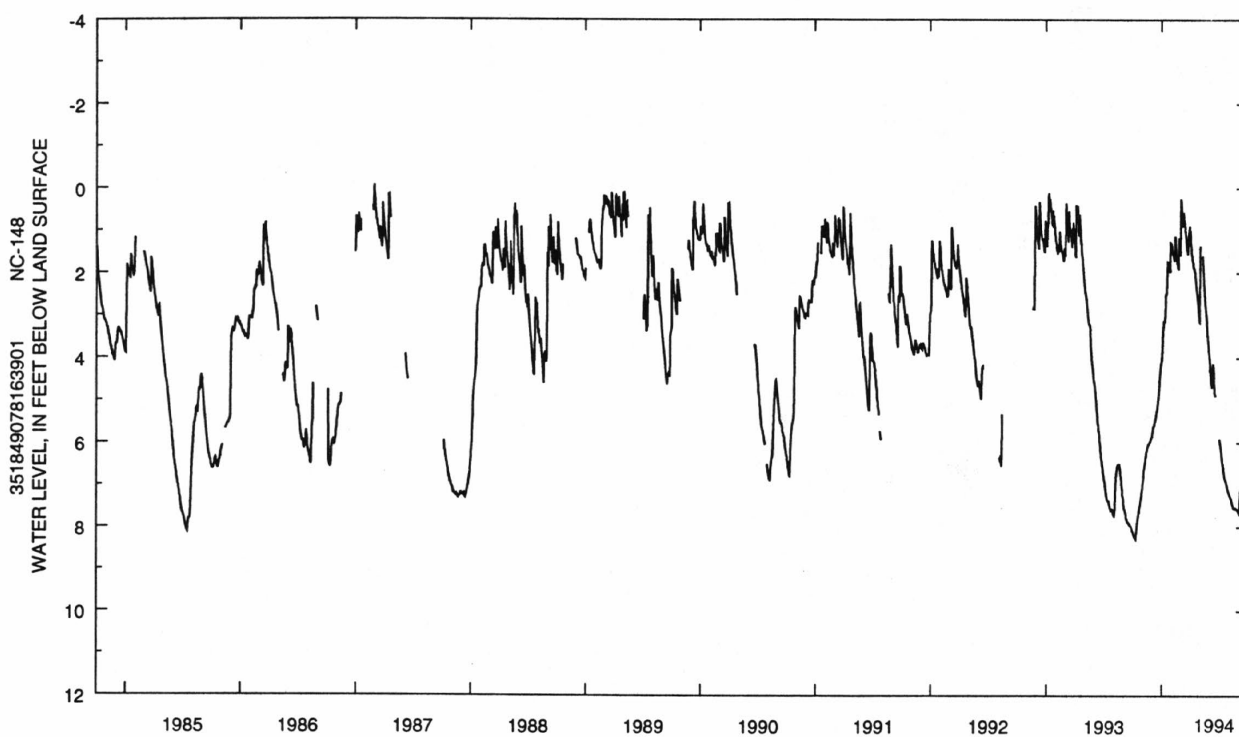
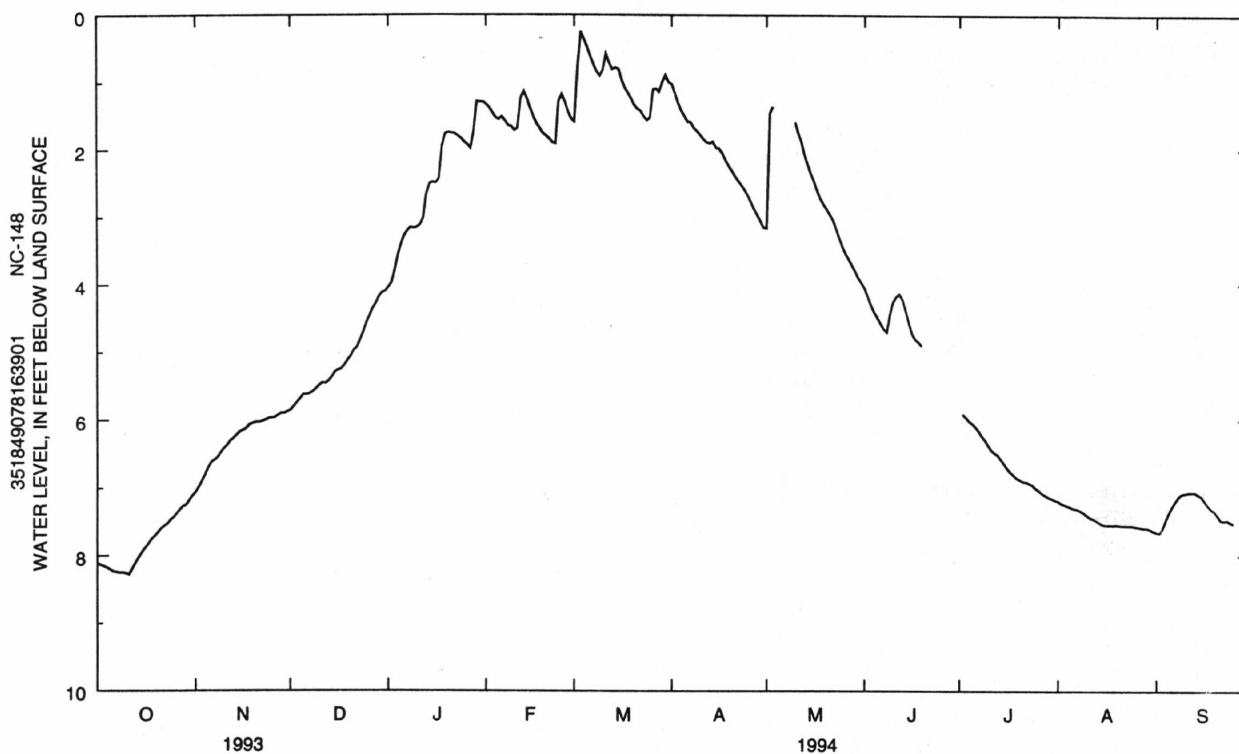
REVISED RECORD.--See PERIOD OF RECORD.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.11	7.06	5.86	4.04	1.32	1.58	1.02	3.16	4.05	---	7.19	7.65
2	8.13	6.99	5.80	3.97	1.37	.79	1.16	1.45	4.17	5.91	7.22	7.66
3	8.15	6.90	5.74	3.80	1.45	.25	1.30	1.36	4.30	5.96	7.24	7.57
4	8.17	6.81	5.69	3.56	1.52	.36	1.41	---	4.40	6.01	7.26	7.44
5	8.20	6.71	5.62	3.41	1.55	.48	1.50	---	4.49	6.05	7.28	7.34
6	8.23	6.62	5.62	3.28	1.51	.61	1.58	---	4.57	6.09	7.30	7.26
7	8.24	6.59	5.61	3.20	1.57	.73	1.59	---	4.65	6.15	7.31	7.17
8	8.25	6.55	5.58	3.15	1.64	.83	1.67	---	4.70	6.23	7.33	7.11
9	8.25	6.48	5.54	3.16	1.65	.90	1.72	---	4.45	6.29	7.36	7.08
10	8.26	6.42	5.49	3.15	1.71	.82	1.78	1.59	4.26	6.37	7.39	7.07
11	8.28	6.37	5.45	3.11	1.68	.57	1.84	1.74	4.18	6.44	7.43	7.06
12	8.19	6.31	5.46	3.01	1.23	.70	1.89	1.88	4.14	6.48	7.45	7.06
13	8.10	6.27	5.42	2.67	1.13	.81	1.90	2.06	4.22	6.51	7.47	7.06
14	8.03	6.22	5.37	2.50	1.24	.78	1.88	2.21	4.39	6.57	7.51	7.09
15	7.95	6.17	5.29	2.48	1.38	.80	1.97	2.35	4.57	6.64	7.53	7.12
16	7.89	6.15	5.26	2.49	1.51	.96	1.98	2.46	4.73	6.70	7.54	7.19
17	7.83	6.12	5.25	2.43	1.61	1.08	2.05	2.60	4.81	6.76	7.54	7.26
18	7.76	6.07	5.19	1.95	1.68	1.15	2.15	2.72	4.85	6.80	7.54	7.31
19	7.71	6.05	5.12	1.76	1.75	1.24	2.24	2.80	4.90	6.85	7.54	7.34
20	7.66	6.03	5.06	1.74	1.79	1.33	2.31	2.88	---	6.87	7.54	7.40
21	7.60	6.03	4.97	1.75	1.83	1.39	2.39	2.95	---	6.90	7.55	7.47
22	7.56	6.02	4.93	1.76	1.89	1.42	2.46	3.04	---	6.91	7.55	7.48
23	7.53	6.00	4.82	1.79	1.91	1.50	2.52	3.16	---	6.93	7.55	7.47
24	7.48	5.98	4.71	1.83	1.27	1.56	2.59	3.30	---	6.95	7.55	7.50
25	7.43	5.97	4.56	1.88	1.17	1.52	2.68	3.43	---	7.00	7.56	7.52
26	7.38	5.97	4.46	1.92	1.29	1.10	2.77	3.54	---	7.03	7.57	---
27	7.32	5.93	4.36	1.98	1.44	1.09	2.87	3.62	---	7.07	7.58	---
28	7.27	5.90	4.27	1.73	1.54	1.14	2.96	3.71	---	7.10	7.59	---
29	7.25	5.90	4.18	1.28	---	.98	3.05	3.80	---	7.13	7.59	---
30	7.18	5.88	4.12	1.29	---	.89	3.15	3.90	---	7.15	7.61	---
31	7.11	---	4.10	1.29	---	.99	---	3.97	---	7.17	7.63	---

WTR YR 1994 MEAN 4.59 HIGH .25 LOW 8.28



WATER-RESOURCES DATA FOR NORTH CAROLINA

GROUND-WATER QUALITY DATA, WATER YEAR OCTOBER 1993 THROUGH SEPTEMBER 1994

Data in the following table were collected as part of a ground-water study of the major water-supply aquifers in the southern Coastal Plain of North Carolina. Local identifier BI-93, Town of Dublin well 2; BI-94, Town of Dublin well 3. Geologic unit 211CPFRU, upper Cape Fear aquifer.

BLADEN COUNTY

LOCAL IDENTIFIER	STATION NUMBER	GEO-LOGIC UNIT	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD) (00400)	TEMPERATURE WATER (DEG C) (00010)
BI-94	343908078432003	211CPFRU	09-29-94	1400	460.00	147.03	271	8.2	21.0
BI-93	343929078432302	211CPFRU	09-29-94	1100	422.00	79.03	135	7.2	19.0

LOCAL IDENTIFIER	DATE	COLOR (PLATINUM-COBALT UNITS) (00080)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CaCO_3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS-SOLVED (MG/L AS Na) (00930)	SODIUM PERCENT (00932)	SODIUM ADSORPTION RATIO (00931)
BI-94	09-29-94	<1	0.3	4	0.51	0.55	140	96	32
BI-93	09-29-94	28	1.1	9	2.9	0.31	27	83	4

LOCAL IDENTIFIER	DATE	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKALINITY WATER DIS-SOLVED FIELD (MG/L AS CaCO_3) (39086)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO_4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS Cl) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO_2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
BI-94	09-29-94	7.3	191	<0.5	32	71	0.70	18	322
BI-93	09-29-94	2.9	61	<0.5	2.0	2.7	0.50	44	104

WATER-RESOURCES DATA FOR NORTH CAROLINA

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GROUND-WATER QUALITY DATA, WATER YEAR OCTOBER 1993 THROUGH SEPTEMBER 1994

BLADEN COUNTY--Continued

IDENTIFIER	DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
BI-94	09-29-94	<0.010	<0.050	0.060	<0.20	2.10	0.380	<10	12
BI-93	09-29-94	<0.010	<0.050	0.080	<0.20	2.20	2.20	<10	11

IDENTIFIER	DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)
BI-94	09-29-94	<0.5	<1.0	<5	<3	<10	73	<10	8
BI-93	09-29-94	<0.5	<1.0	<5	<3	<10	400	<10	<4

IDENTIFIER	DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
BI-94	09-29-94	14	<10	<10	2.0	10	<6	7	0.4
BI-93	09-29-94	15	<10	<10	1.0	18	<6	6	0.7

GROUND-WATER QUALITY DATA, WATER YEAR OCTOBER 1993 THROUGH SEPTEMBER 1994

Data in the following table were collected as part of the Albemarle-Pamlico River Basin study for the National Water Quality Assessment Program. Geologic unit 122YRKNQ Yorktown aquifer; 110QPLC, surficial sands.

EDGEcombe COUNTY

LOCAL IDENTIFIER	STATION NUMBER	GEO-LOGIC UNIT	DATE	TIME	DEPTH OF WELL, (FEET) (72008)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)
Ed-155/TEMP-3	355050077283401	110QPLC	02-03-94	1130	2.5	1.15	119	5.9	12.5
Ed-149/BFP-3B	354743077292802	110QPLC	03-09-94	1200	11.3	5.81	404	4.9	13.5
		110QPLC	03-09-94	1500	11.3	5.81	404	4.9	13.5
		110QPLC	08-09-94	1600	11.3	5.97	398	5.2	24.5
		110QPLC	05-18-94	1245	8.4	--	408	4.3	17.0
Ed-156/TEMP-5A	354743077292803	110QPLC	05-18-94	1345	10.9	--	424	4.2	16.0
Ed-160/TEMP-5B	354743077292804	110QPLC	03-17-94	1030	13.2 ^a	1.79	533	7.4	12.5
Ed-145/BFP-2B	354805077285902	110QPLC	08-10-94	1530	13.2 ^a	2.75	528	7.0	28.5
		122YRKNQ	03-10-94	1300	8.9	1.16	100	5.8	14.5
		122YRKNQ	08-11-94	1100	8.9	4.66	65	5.1	27.0
Ed-153/BFP-1 ^b	354805077282901	110QPLC	03-17-94	1500	7.2	3.66	233	6.0	11.5
		110QPLC	08-10-94	1400	7.2	3.84	222	6.0	26.0
Ed-144/BFP-2A	354805077285901	110QPLC	12-09-93	1215	-- ^d	--	396	4.5	18.5
		110QPLC	03-09-94	1700	-- ^d	--	367	5.3	13.0
		110QPLC	08-11-94	1730	-- ^d	--	350	4.8	23.0
		110QPLC	12-08-93	1600	9.2	7.37	419	4.3	18.5
Ed-154/BFP-4 ^c	354740077293101	110QPLC	03-08-94	1500	9.2	5.53	400	4.8	14.5
		110QPLC	08-09-94	1400	9.2	5.74	404	5.0	24.5
Ed-146/BFP-3A	354743077292801	110QPLC	08-09-94	1400	9.2	5.74	404	5.0	24.5

LOCAL IDENTIFIER	DATE	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
Ed-155/TEMP-3	02-03-94	5.8	--	--	--	--	--	--	--
Ed-149/BFP-3B	03-09-94	1.0	35	16	3.4	6.9	--	--	120
	03-09-94	1.0	34	16	3.3	6.9	--	--	120
	08-09-94	0.8	34	16	3.0	7.4	4	3	110
	05-18-94	1.3	32	16	3.3	6.9	--	--	110
Ed-156/TEMP-5A	05-18-94	2.2	34	16	2.8	6.8	--	--	120
Ed-160/TEMP-5B	05-18-94	2.2	89	5.0	14	2.6	--	--	<0.10
	03-17-94	0.9	91	5.3	17	3.0	--	--	0.10
Ed-145/BFP-2B	08-10-94	1.6	1.0	1.2	6.4	1.7	47	38	8.3
	08-11-94	1.5	1.2	1.1	4.4	1.5	6	5	9.4
Ed-153/BFP-1	03-10-94	1.9	25	2.9	4.0	2.6	37	30	46
	08-10-94	0.2	27	3.6	4.0	4.7	28	23	49
Ed-144/BFP-2A	12-09-93	--	30	15	3.1	5.7	--	--	100
	03-09-94	4.8	30	15	3.0	5.0	9	8	96
	08-11-94	2.1	29	14	3.0	4.5	--	--	85
Ed-154/BFP-4	12-08-93	1.5	31	17	2.9	6.7	--	--	110
	03-08-94	3.3	32	15	3.4	6.4	--	--	110
	08-09-94	1.5	33	17	2.9	7.3	8	6	110

^aDepth of well Ed-145/BFP-2B was published in Water Resources Data for North Carolina water year 1993, Volume 2 as 14.00 ft.

^bWater-quality data for Ed-153/BFP-1 was published in Water Resources Data for North Carolina water year 1993, Volume 2 as Ed-143/BFP-1A.

^cWater-quality data for Ed-154/BFP-4 was published in Water Resources Data for North Carolina water year 1993, Volume 2 as BFP-4A.

^dDepth of well Ed-154/BFP-4 not determined, previously published in Water Resources Data for North Carolina water year 1993, Volume 2 as 3.46 ft.

WATER-RESOURCES DATA FOR NORTH CAROLINA

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GROUND-WATER QUALITY DATA, WATER YEAR OCTOBER 1993 THROUGH SEPTEMBER 1994

EDGEcombe COUNTY--Continued

LOCAL IDENTIFIER	DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)
Ed-155/TEMP-3	02-03-94	--	--	--	--	--	--	--	--
Ed-149/BFP-3B	03-09-94	19	0.20	11	0.010	8.40	0.040	0.30	<0.010
	03-09-94	20	0.20	11	0.040	8.30	0.060	0.30	<0.010
	08-09-94	22	0.10	11	0.010	1.20	0.040	0.30	<0.010
Ed-156/TEMP-5A	05-18-94	19	0.20	13	0.020	8.70	0.030	0.30	<0.010
Ed-160/TEMP-5B	05-18-94	18	0.10	11	0.020	9.20	0.030	0.40	<0.010
Ed-145/BFP-2B	03-17-94	2.6	0.20	37	0.020	<0.050	0.360	0.40	0.030
	08-10-94	2.3	0.20	38	<0.010	0.130	0.020	0.70	0.020
Ed-153/BFP-1	03-10-94	10	<0.10	7.3	<0.010	<0.050	0.080	<0.20	<0.010
	08-11-94	7.4	<0.10	7.2	<0.010	<0.050	0.080	<0.20	<0.010
Ed-144/BFP-2A	03-17-94	16	<0.10	32	<0.010	<0.050	0.300	0.60	<0.010
	08-10-94	16	<0.10	27	<0.010	0.057	0.140	0.30	<0.010
Ed-154/BFP-4	12-09-93	17	0.20	12	<0.010	11.0	0.020	0.30	<0.010
	03-09-94	22	0.10	12	0.010	9.80	0.030	0.40	<0.010
	08-11-94	27	0.10	12	<0.010	7.70	0.030	0.40	<0.010
Ed-146/BFP-3A	12-08-93	16	0.30	15	<0.010	13.0	0.010	0.40	0.030
	03-08-94	19	0.10	12	0.010	8.80	0.020	0.30	<0.010
	08-09-94	23	<0.10	13	0.010	11.0	0.040	0.40	<0.010

LOCAL IDENTIFIER	DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
Ed-155/TEMP-3	02-03-94	--	--	--	--	--
Ed-149/BFP-3B	03-09-94	<0.010	<0.010	160	44	3.7
	03-09-94	<0.010	0.010	140	43	3.7
	08-09-94	<0.010	<0.010	240	42	4.0
Ed-156/TEMP-5A	05-18-94	<0.010	<0.010	180	91	4.5
Ed-160/TEMP-5B	05-18-94	<0.010	<0.010	61	44	4.5
Ed-145/BFP-2B	03-17-94	0.020	<0.010	3500	61	3.6
	08-10-94	<0.010	0.010	120	74	3.1
Ed-153/BFP-1	03-10-94	<0.010	<0.010	1600	12	2.9
	08-11-94	<0.010	0.020	1100	10	2.2
Ed-144/BFP-2A	03-17-94	0.010	0.090	6100	45	6.4
	08-10-94	<0.010	0.020	1900	54	6.0
Ed-154/BFP-4	12-09-93	<0.010	<0.010	24	39	4.3
	03-09-94	<0.010	<0.010	15	35	4.5
	08-11-94	<0.010	<0.010	40	33	4.1
Ed-146/BFP-3A	12-08-93	<0.010	0.030	150	75	6.6
	03-08-94	<0.010	<0.010	160	43	4.4
	08-09-94	<0.010	<0.010	360	44	5.0

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
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
<i>Area</i>		
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
<i>Volume</i>		
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
<i>Flow</i>		
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
<i>Mass</i>		
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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