

Compilation of Water-Resources Data and Hydrogeologic Setting for Brunswick County, North Carolina, 1933–2000

By Jason M. Fine and William L. Cunningham

U.S. GEOLOGICAL SURVEY

Open-File Report 01–240

Prepared in cooperation with
BRUNSWICK COUNTY, NORTH CAROLINA

Raleigh, North Carolina
2001



U.S. DEPARTMENT OF THE INTERIOR
GALE A. NORTON, Secretary

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CONVERSION FACTORS, TEMPERATURE, VERTICAL DATUM, and WATER-QUALITY UNITS

Multiply	By	To obtain
Area		
inch (in.)	2.54	centimeter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
square mile (mi ²)	2.590	square kilometer
Volume		
cubic foot (ft ³)	0.02832	cubic meter
Flow Rate		
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second

Temperature can be converted to degrees Fahrenheit (°F) or degrees Celsius (°C) by using the following equations:

$$^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$$

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) / 1.8$$

Sea Level: In this report, “sea level” refers to the National Geodetic Vertical Datum of 1929 (NGVD or 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Abbreviated water-quality units: Chemical concentrations are given in metric units. Water-quality units are expressed in micrograms per liter (µg/L) or milligrams per liter (mg/L) in this report.

Cover photograph: Ground-water-level monitoring well BR-107 in Brunswick County, North Carolina (*photograph by J.M. Fine, USGS*).

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ABSTRACT

Water-resources data were compiled for Brunswick County, North Carolina, to describe the hydrologic conditions of the County. Hydrologic data collected by the U.S. Geological Survey as well as data collected by other governmental agencies and reviewed by the U.S. Geological Survey are presented. Data from four weather stations and two surface-water stations are summarized. Data also are presented for land use and land cover, soils, geology, hydrogeology, 12 continuously monitored ground-water wells, 73 periodically measured ground-water wells, and water-quality measurements from 39 ground-water wells.

Mean monthly precipitation at the Longwood, Shallotte, Southport, and Wilmington Airport weather stations ranged from 2.19 to 7.94 inches for the periods of record, and mean monthly temperatures at the Longwood, Southport, and Wilmington Airport weather stations ranged from 43.4 to 80.1 degrees Fahrenheit for the periods of record. An evaluation of land-use and land-cover data for Brunswick County indicated that most of the County is either forested land (about 57 percent) or wetlands (about 29 percent). Cross sections are presented to illustrate the general hydrogeology beneath Brunswick County. Water-level data for Brunswick County indicate that water levels ranged from about 110 feet above mean sea level to about 22 feet below mean sea level. Chloride concentrations measured in aquifers in Brunswick County ranged from near 0 to 15,000 milligrams per liter. Chloride levels in the Black Creek and Cape Fear aquifers were measured at well above the potable limit for ground water of 250 milligrams per liter set by the

U.S. Environmental Protection Agency for safe drinking water.

INTRODUCTION

Between 1990 and 1999, the population of Brunswick County grew about 40 percent to more than 71,200 people (U.S. Census Bureau, 2000), making it one of the fastest growing counties in North Carolina. This figure does not include the thousands of tourists who visit the County's beaches each summer. Increased growth in the permanent population as well as in the tourist population have caused stress on the County's water resources. A recent study of aquifer susceptibility (Heath, 1997) emphasized the need for additional information on Brunswick County's ground-water resources.

Brunswick County planners recognize the importance of good, potable water and have stated that "the County's ground-water resources are an invaluable source of public and private potable water and shall receive the highest level of protection" (Brunswick County Land Use Plan, 1997). County planners recognize that land-use changes associated with development and population growth increase the demand for water resources. Because future drinking-water supplies are a primary concern in Brunswick County, current (2001) water-resource information will give County planners and managers information that is needed to plan effectively for future growth and development.

In 1995, Brunswick County relied on both surface water (61 percent) and ground water (39 percent) for water supply (Walters, 1997). Additional surface water is available for use from Bladen County; however, it requires piping for water

transfer and more treatment than water from the Castle Hayne aquifer, which is the primary ground-water-supply source for municipalities in Brunswick County. Because of the increased number of ground-water users in the County, particularly in the coastal area, a better understanding of the quantity and quality of available ground-water resources is needed for adequate planning and management.

Water supply is not the only water-resource issue associated with population growth. Forested land that once provided recharge areas for aquifers is being transformed into less permeable urban or suburban land uses. Stormwater runoff and landfills must be managed appropriately to protect water quality. In addition, high-density municipal and industrial development can create potential ground-water contamination problems. Many of these management issues can be dealt with more effectively with an improved understanding of Brunswick County's ground-water resources.

In 1998, the U.S. Geological Survey (USGS) entered into a cooperative agreement with Brunswick County to investigate the ground-water resources of the County in order to provide a better understanding of these resources. The primary objectives of the investigation were to characterize the hydrogeologic setting and quantity and quality of the ground water beneath Brunswick County.

Purpose and Scope

The purpose of this report is to summarize water-resources data and hydrogeologic setting for Brunswick County, North Carolina. Data compiled for this report include land-surface data, such as meteorologic, surface water, land use and land cover, and soils; and subsurface data, such as geology, hydrogeology, and ground-water levels and quality. Each section of the report provides a brief description of the available data within and adjacent to Brunswick County, the sources of the data, and a description of how these data can be used.

Description of the Study Area

Brunswick County is the southernmost coastal county in North Carolina (fig. 1) and lies in the southeastern corner of the State. Brunswick County encompasses 894 square miles (mi²), of which 39 mi²

are surface water. The elevation of Brunswick County ranges from mean sea level (msl) to approximately 77 feet (ft) above msl. The County is bordered by the Cape Fear River and New Hanover County, which includes the city of Wilmington, on the east; by Columbus and Pender Counties on the north; by the Atlantic Ocean on the south; and by South Carolina and the Waccamaw River on the west (fig. 1). Brunswick County is underlain by more than 1,300 ft of mostly unconsolidated sediments, consisting of surficial deposits, and the Castle Hayne (in the southeastern part of the County), Peedee, Black Creek, Middendorf, and Cape Fear Formations. These formations are characterized as the surficial, Castle Hayne, Peedee, Black Creek, upper Cape Fear, and lower Cape Fear aquifers (Winner and Coble, 1996).

Previous Investigations

Ator and others (2000) presented surficial geology and a conceptual hydrogeologic framework for the Mid-Atlantic Coastal Plain from New Jersey to South Carolina. Seven subregions were identified based on similarities in surficial geology and physiography. The surficial geology of Brunswick County, modified from Ator and others (2000), is presented later in this report.

An investigation by Lautier (1998) was part of the Wilmington Harbor Navigation Comprehensive Feasibility Study. The author investigated the potential effects of deepening Wilmington Harbor on the freshwater aquifers of Brunswick and New Hanover Counties. The study involved constructing a hydrogeologic framework and creating a three-dimensional computer model of the harbor area.

Winner and Coble (1996) conducted a comprehensive evaluation of the hydrogeology of the North Carolina Coastal Plain, including Brunswick County. Their report included descriptions of the hydrogeologic units and 16 cross sections of the Coastal Plain sediments down to the bedrock.

Zarra (1991) identified and delineated Cenozoic Formations and informal stratigraphic units in Brunswick and New Hanover Counties. As part of his study, Zarra described eight geologic units and constructed six geologic cross sections.

Blankenship (1965) conducted a study to evaluate the aquifers underlying Bladen, Brunswick, and Columbus Counties, and their physical properties.

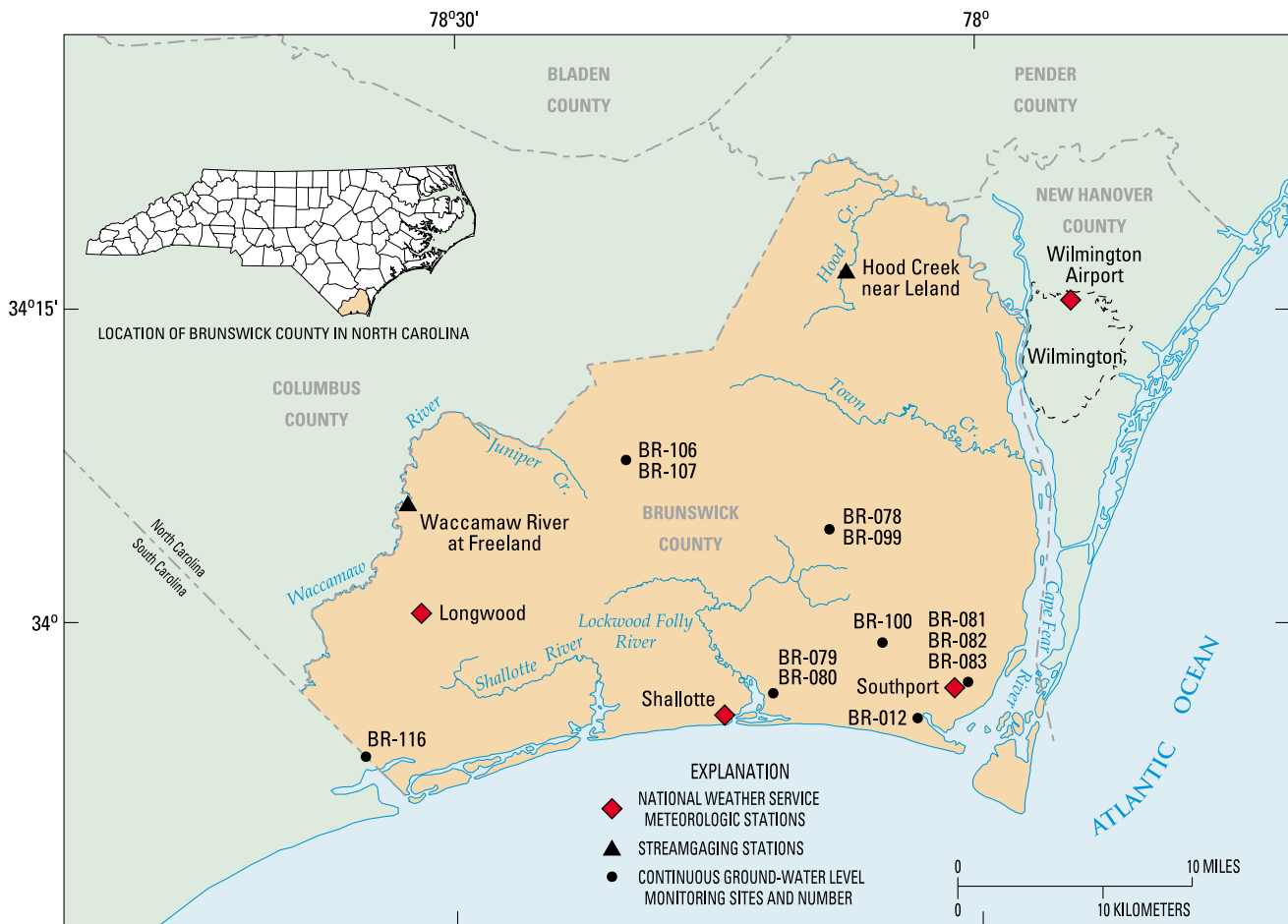


Figure 1. Locations of data-collection sites in Brunswick County, North Carolina.

Blankenship evaluated ground-water quality and quantity and the effects of local pumping and recharge.

LeGrand (1960) conducted a reconnaissance of the geology and ground-water resources of the Wilmington and New Bern area. LeGrand identified the Castle Hayne aquifer as a major ground-water supply source for the area.

Methods of Data Collection and Compilation

The data presented in this report were compiled from selected previous studies except for well-location data and recently collected (1999–2000) ground-water-level data. Geology and hydrogeology reports on the area were reviewed and evaluated, including those pertaining to regional studies in surrounding counties and South Carolina. Data were compiled from these reports and from files of the North Carolina

Department of Environment and Natural Resources (DENR), the USGS, the South Carolina Department of Natural Resources, Brunswick County, North Carolina State University, East Carolina University, and local agencies.

If wells having historic information could be located, the latitude and longitude of these wells were recorded by using a global positioning system (GPS). GPS latitude and longitude data were collected in North American Datum 1983 and recorded in degrees, minutes, and seconds. Latitude and longitude data are accurate to within plus or minus 33 ft. Some well-measuring points and(or) land-surface elevations were surveyed previously by DENR. These elevations are listed in this report as accurate to within 0.1 ft. Land-surface elevations not having traditional land-survey information were interpolated from USGS 1:24,000-scale topographic maps and are assumed accurate to within one-half of the land-surface contour interval, or 2.5 ft.

The periodic water levels measured in each well by the USGS for this report were determined with a chalked steel tape or an electronic water-level indicator. Wells completed in some of the deeper, confined aquifers are sealed at the surface and accessible by hose connections. Pressures in these flowing wells were measured with a pressure gauge and converted to water level in feet above land surface.

A network of continuous ground-water-level monitors was established in 11 wells at 6 locations for this investigation (fig. 1). Ground-water levels were measured hourly, using a float and incremental encoder or submersible pressure transducer, and logged by a data recorder. At monitoring sites BR-079, BR-080, BR-081, BR-082, BR-083, BR-106, BR-107, and BR-116 (fig. 1), the data were transmitted by satellite telemetry to the USGS office in Raleigh and automatically loaded into the USGS National Water Information System (NWIS) data base. These data are available to the public online at a USGS website (U.S. Geological Survey, 2001). At monitoring sites BR-078, BR-099, and BR-100, the data were periodically downloaded to a field computer and manually loaded into the NWIS data base.

LAND-SURFACE DATA

Land-surface data compiled for Brunswick County are presented in this section of the report. These data include meteorologic, surface-water, and land-use and land-cover data.

Meteorologic Data

Precipitation is a contributing factor in the rate of recharge to the surficial aquifer in Brunswick County. The response of ground-water levels to precipitation can be used to estimate rates of recharge to an aquifer and the degree of confinement of an aquifer. Barometric pressure in combination with ground-water-level data can be used to determine the storage characteristics of a confined aquifer (Domenico and Schwartz, 1990). Temperature, precipitation, and barometric pressure data were compiled from weather stations in and around Brunswick County (table 1; fig. 1). The average annual precipitation from stations with more than 10 years of record (three of four stations) ranged from 54.7 inches (in.) at Longwood to 56.6 in. at Southport. Mean monthly precipitation data at each station for the period of record are shown in figure 2 and table 2. Although precipitation is highest from June to September, ground-water recharge from precipitation generally is greater during the winter and early spring when evapotranspiration rates are low. The mean monthly temperatures at the Longwood, Southport, and Wilmington Airport weather stations for the periods of record are shown in figure 3 and table 2.

Surface-Water Data

The surface waters of Brunswick County (fig. 1) include freshwater resources, such as the Waccamaw River, Hood Creek, Town Creek, and Juniper Creek;

Table 1. Selected meteorologic data from four weather stations in and around Brunswick County, North Carolina

[°F, degree Fahrenheit; —, not available]

Station (fig. 1)	Latitude (decimal degrees)	Longitude (decimal degrees)	Period of record	Years of record	Average annual precipitation (inches)	Average daily temperature (°F)	Barometric pressure (millibars)
Longwood.....	34.02	78.55	June 1972 to 1999	27	54.7	61.8	—
Shallotte.....	33.93	78.39	January 1962 to January 1971	9	49.5	—	—
Southport	33.99	78.01	August 1948 to 1999	49	56.6	62.8	—
Wilmington Airport ...	34.27	77.90	January 1933 to 1999	67	54.8	63.6	1,014.9 ^a

^a Period of record for barometric pressure is January 1960 to December 1995.

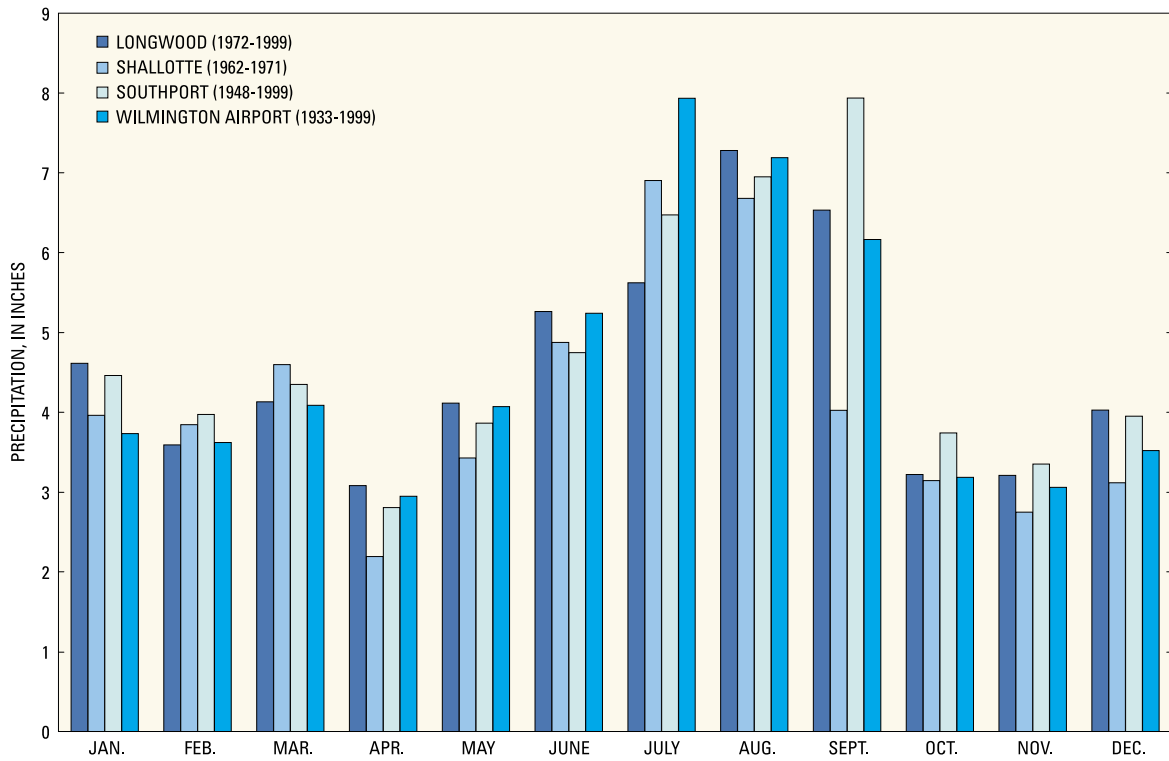


Figure 2. Mean monthly precipitation at weather stations in and around Brunswick County, North Carolina.

Table 2. Mean monthly precipitation and temperature data at four weather stations in and around Brunswick County, North Carolina (National Climatic Data Center, 2000)

Station name (fig. 1)	Years of record	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Mean monthly precipitation, in inches													
Longwood	27	4.61	3.59	4.13	3.08	4.11	5.26	5.62	7.28	6.53	3.22	3.21	4.03
Shallotte	9	3.96	3.84	4.60	2.19	3.43	4.87	6.90	6.68	4.03	3.14	2.75	3.12
Southport.....	49	4.46	3.97	4.35	2.81	3.86	4.75	6.47	6.95	7.94	3.74	3.35	3.95
Wilmington Airport.....	67	3.73	3.62	4.09	2.95	4.07	5.24	7.93	7.19	6.17	3.18	3.06	3.52
Mean monthly temperature, in degrees Fahrenheit													
Longwood	27	44.1	46.5	53.4	60.6	68.2	75.1	79.3	77.8	72.9	62.5	55.1	46.6
Southport.....	49	43.4	45.5	52.9	60.9	68.8	75.8	79.5	78.8	68.3	63.6	55.5	47.1
Wilmington Airport.....	67	44.9	47.3	54.4	62.3	70.1	76.5	80.1	79.4	75.3	65.3	57.0	48.5

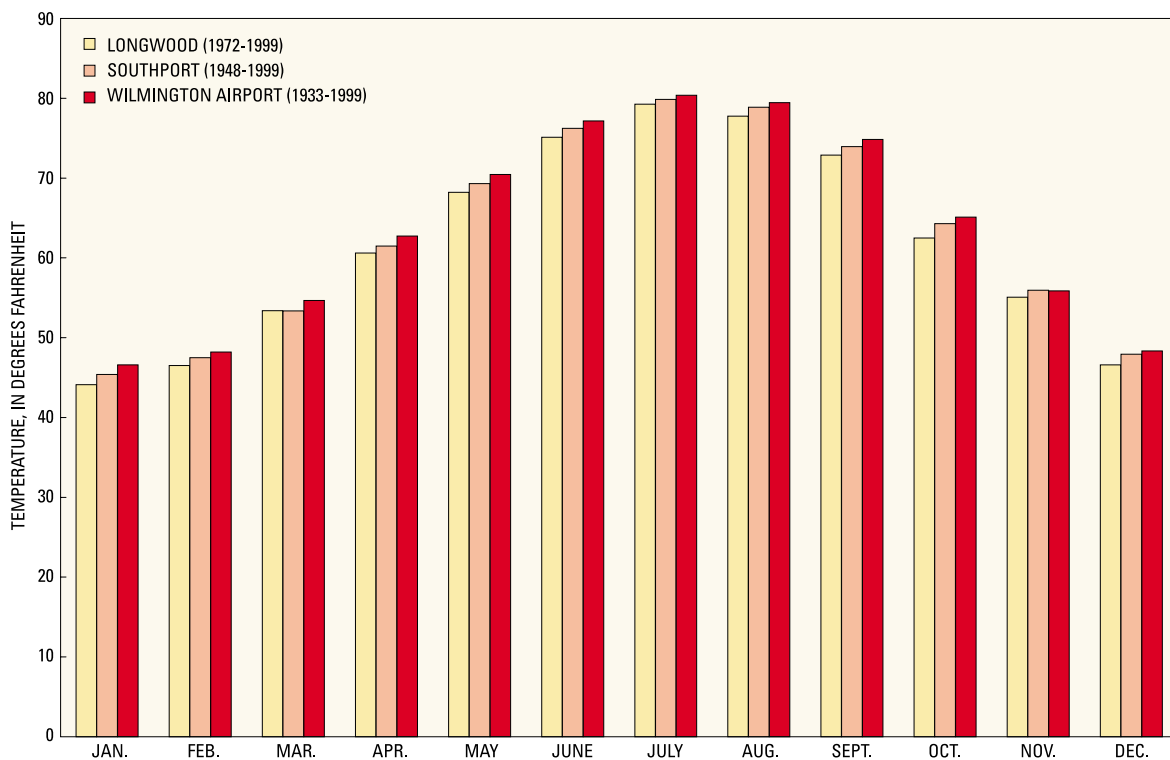


Figure 3. Mean monthly temperature at weather stations in and around Brunswick County, North Carolina.

tidal streams, such as the Cape Fear River, the Atlantic Intracoastal Waterway, Lockwood Folly River, and the Shallotte River; and the Atlantic Ocean. Streamflow data can be used for many purposes, including the following (Wahl and others, 1995):

- Providing data for forecasting and managing floods
- Characterizing current water-quality conditions
- Determining input rates of various pollutants into estuaries
- Computing loads of sediment and chemical constituents
- Monitoring compliance with minimum flow requirements
- Allocating use for municipal, industrial, and irrigation needs
- Evaluating ground- and surface-water interactions
- Undertaking scientific studies of long-term changes in the hydrologic cycle

The USGS operates two streamgages in Brunswick County as part of the Federal-State

Cooperative Program (fig. 1). These streamgages collect stream stage and discharge data at 15-minute intervals on Hood Creek and on the Waccamaw River. Streamflow characteristics for these two locations are presented in table 3.

Streamflow statistics for annual runoff are particularly important in calculating aquifer recharge. Annual runoff indicates the depth of water with which the drainage area of the stream would be covered if all of the runoff for the year were uniformly distributed over it. For the periods of record for the two USGS streamgages, the annual runoff for Hood Creek near Leland is 24.18 in., and the annual runoff for the Waccamaw River at Freeland is 14.66 in. (table 3).

Land-Use and Land-Cover Data

Land use refers to activities that occur on the land surface, whereas land cover refers to the physical overlay of the land surface. Land-use and land-cover data are applied most effectively when multiple data sets are used to evaluate changes in land use and land cover over time. Land-use and land-cover data can be used for many purposes, including as input variables in

Table 3. Summary of discharge data for two U.S. Geological Survey streamgaging stations in Brunswick County, North Carolina (U.S. Geological Survey, 2000)

[USGS, U.S. Geological Survey; mi², square miles; ft³/s, cubic foot per second; ft³/mi², cubic foot per square mile; in., inch; ft, foot]

Station and discharge data	Hood Creek near Leland, N.C.—USGS station number 02105900; 150 feet downstream from U.S. Highway 74-76 bridge; 1 mile southeast of Maco	Waccamaw River at Freeland, N.C.—USGS station number 02109500; 150 feet downstream from N.C. Highway 130 bridge
Drainage area	21.6 mi ²	680 mi ²
Hydrologic unit	03030005	03040206
Latitude	34°16'43"	34°05'43"
Longitude	78°07'34"	78°32'55"
Period of record for analysis	Oct. 1956–Sept. 1973; Oct. 1993 to 1999	July 1939 to 1999
Annual mean discharge	38.4 ft ³ /s	734 ft ³ /s
Highest annual mean discharge	80.6 ft ³ /s	1,572 ft ³ /s
Lowest annual mean discharge	15.6 ft ³ /s	230 ft ³ /s
Annual runoff	1.78 ft ³ /mi ²	1.08 ft ³ /mi ²
Annual runoff	24.18 in.	14.66 in.
10 percent exceeds	86 ft ³ /s	1,900 ft ³ /s
50 percent exceeds	15 ft ³ /s	358 ft ³ /s
90 percent exceeds	1.5 ft ³ /s	28 ft ³ /s
Highest daily mean discharge and date of occurrence	3,000 ft ³ /s on September 16, 1999	30,600 ft ³ /s on September 21, 1999
Lowest daily mean discharge and date of occurrence	0 ft ³ /s on September 10, 1997	0.10 ft ³ /s on August 30, 1954
Annual 7-day minimum discharge and date of occurrence	0.02 ft ³ /s on September 4, 1997	0.10 ft ³ /s on October 4, 1954
Instantaneous peak flow and date of occurrence	4,800 ft ³ /s on September 16, 1999	31,200 ft ³ /s on September 21, 1999
Instantaneous peak stage and date of occurrence	13.89 ft on September 16, 1999	19.30 ft on September 21, 1999
Instantaneous low flow and date of occurrence	0 ft ³ /s on October 5, 1968	0.10 ft ³ /s on August 30, 1954

an evaluation of the susceptibility of surficial aquifers to contamination.

Land-use and land-cover data evaluated for this study were obtained from National Land Cover Data (NLCD), which is a product of the Multi-Resolution Land Characteristics (MRLC) consortium of Federal agency programs. These Federal programs include the Ecological Monitoring and Assessment Program of the U.S. Environmental Protection Agency (USEPA); Remote Sensing Application Center of the U.S. Forest Service; Coastal Change Analysis Program of the National Oceanic and Atmospheric Administration (NOAA); and the Gap Analysis Program, National Water-Quality Assessment (NAWQA) Program, and Earth Resources Observation Systems (EROS) Data Center of the USGS.

The NLCD were obtained from Landsat Thematic Mapper (TM) “winter leaves-off” satellite images acquired during 1991–93 (Vogelmann and

others, 1998). Additional “summer leaves-on” images were collected and referenced. Data sets were referenced to Albers conical equal area coordinates and projected to North Carolina State plane coordinates by the USGS North Carolina District. A more detailed description of the NLCD data sets is available from the USEPA (U.S. Environmental Protection Agency, 2000a). Land-use and land-cover data for Brunswick County are presented in figure 4.

An evaluation of land-use and land-cover data for the period 1991–93 indicates that when open water is not included in the land-use and land-cover total, most of Brunswick County is either forested land (about 57 percent) or wetlands (about 29 percent). Only about 3 percent of Brunswick County is in the residential, commercial, or industrial land-use category. The other 11 percent of the County is in the agriculture (8 percent), transitional (2 percent), and sand (1 percent) land-use and land-cover categories.



EXPLANATION

- OPEN WATER
- LOW INTENSITY RESIDENTIAL
- HIGH INTENSITY RESIDENTIAL
- HIGH INTENSITY COMMERCIAL/INDUSTRIAL
- BARE ROCK/SAND/CLAY
- QUARRIES
- TRANSITIONAL
- DECIDUOUS FOREST
- EVERGREEN FOREST
- MIXED FOREST
- PASTURE/HAY
- ROW CROPS
- URBAN RECREATIONAL
- WOODY WETLANDS
- EMERGENT HERBACEOUS WETLANDS

Figure 4. Land-use and land-cover categories in Brunswick County, North Carolina (U.S. Geological Survey, 2000a).

SUBSURFACE DATA

In this section of the report, subsurface data pertaining to Brunswick County are presented and discussed. These subsurface data relate to soils data, geology and hydrogeology, ground-water levels, and ground-water quality.

Soils Data

Countywide soils data were compiled from the Soil Survey Geographic (SSURGO) Data Base of the Natural Resources Conservation Service (NRCS) (U.S. Department of Agriculture, 1995). The SSURGO data base provides the most detailed level of soils information available from the NRCS. This data base was designed primarily for farm, landowner/user, township, or county natural-resource planning and management. The NRCS recommends the data base for use in developing erosion-control practices, reviewing site-development proposals and land-use potential, making land-use and chemical-fate assessments, and identifying potential wetlands, sand, and gravel areas. Soils data also can be used to estimate the rate at which water moves through the soil zone into the ground-water system. These estimates can be combined with other surface data, such as soil thickness, permeability, and land use and land cover, to evaluate the susceptibility of surficial aquifers to contamination.

As part of a cooperative program between the USGS and the North Carolina Center for Geographic Information and Analysis (CGIA), 1:24,000-scale soil maps were digitized according to NRCS standards. Soils information, such as soil type, thickness, and permeability, are available from the Map Unit Interpretations Record (MUIR) attribute data base that is linked to the SSURGO soil-unit delineation. Database documentation is available from the NRCS (U.S. Department of Agriculture, 1998), and aerial photos and soils information are available in the soil survey of Brunswick County (U.S. Department of Agriculture, 1986).

Geographical information system programs were written to process the MUIR data to extract thickness and permeability by layer for each soil unit (S.E. Terziotti, U.S. Geological Survey, oral commun., April 2000). As many as six soil layers of an individual soil type are identified in the MUIR data for Brunswick County. The weighted average, by percent, of each soil component was applied to each mapping unit for thickness and harmonic mean permeability. A detailed description of the techniques used to calculate soil thickness and harmonic mean permeability is provided by Eimers and others (2000). The classification, thickness, and harmonic mean permeability of Brunswick County soils are presented in figures 5, 6, and 7, respectively.



EXPLANATION

SOIL CLASSIFICATIONS

BAYMEADE	DORAVAN	LUMBEE	PANTEGO
BOHICKET	DUCKSTON	LYNCHBURG	PITS
BLANTON	FORESTON	MANDARIN	RAINS
BRAGG	GOLDSBORO	MUCKALEE	TOMAHAWK
CARTERET	GRIFTON	MURVILLE	TORHUNTA
CHOWAN	JOHNS	NEWHAN	URBAN LAND
CROATAN	KUREB	NORFOLK	WANDO
COROLLA	LAFITTE	ONSLOW	WOODINGTON
	LEON	PACTOLUS	YAUPON

Figure 5. Surface soil classifications for Brunswick County, North Carolina (U.S. Department of Agriculture, 1998).

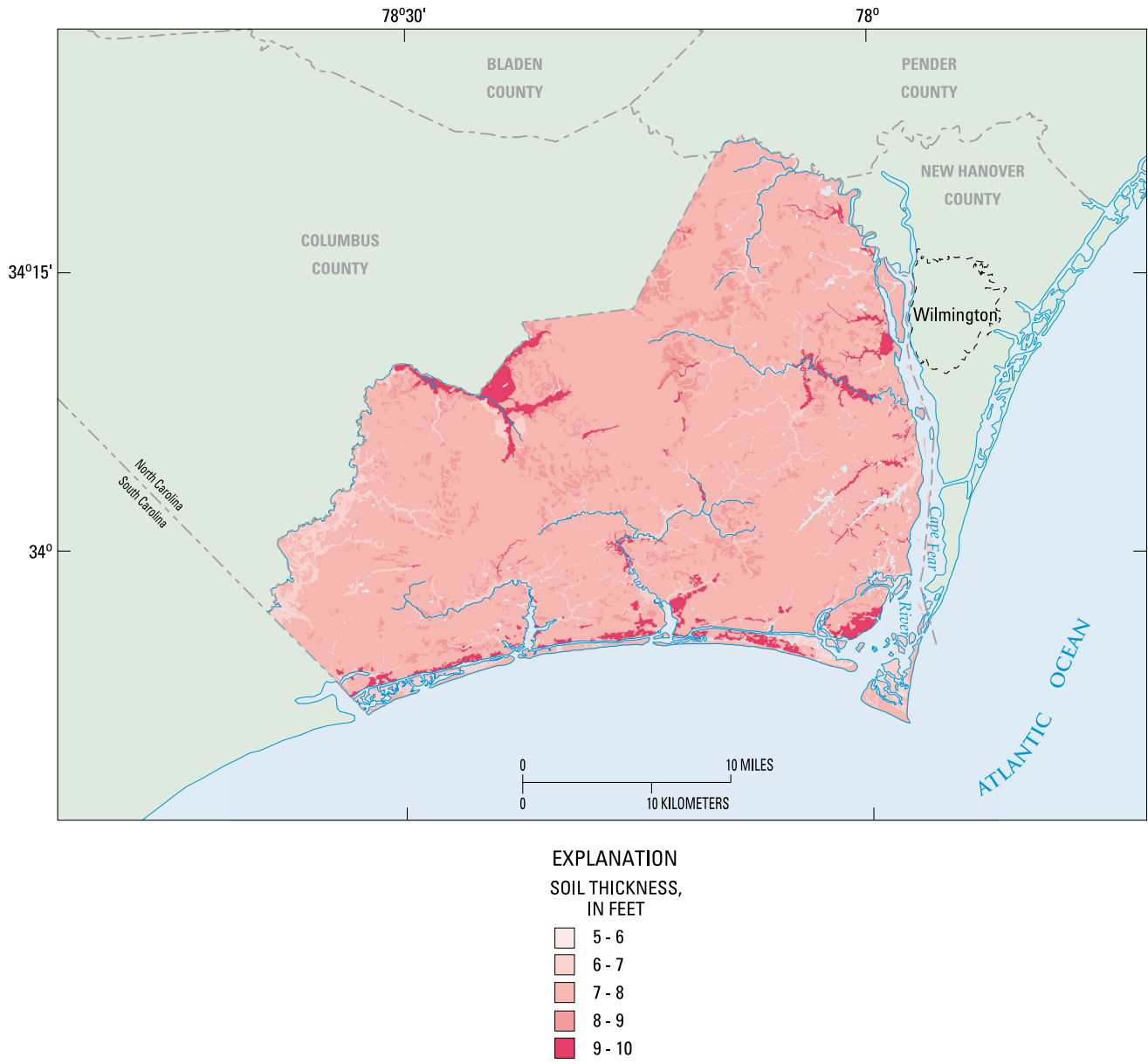


Figure 6. Thickness of soils in Brunswick County, North Carolina (U.S. Department of Agriculture, 1998).

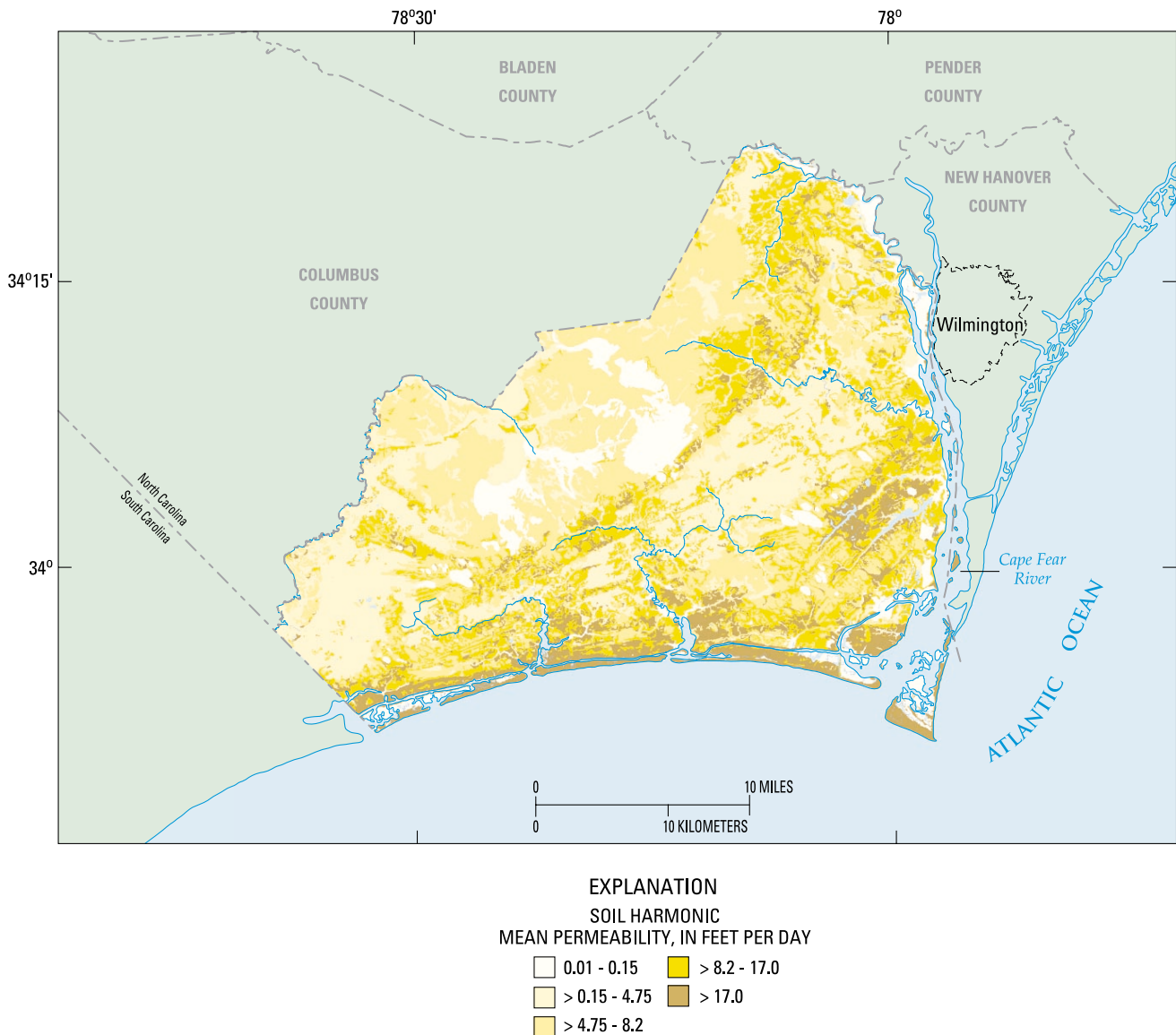


Figure 7. Soil harmonic mean permeability, Brunswick County, North Carolina (U.S. Department of Agriculture, 1998).

Geologic Data

The surficial geology of a particular area affects the movement and storage of ground water, aquifer characteristics, and the formation of stream-drainage networks. Ground-water quality also is influenced by surficial geology. The most recent evaluation of the surficial geology of Brunswick County was completed as part of a regional evaluation conducted by Ator and others (2000). The authors presented a conceptual hydrogeologic framework for the Mid-Atlantic Coastal Plain from New Jersey to South Carolina. Seven subregions were identified based on similarities in

surficial geology and physiography. In Brunswick County, these subregions include Middle Coastal Plain sediments, Coastal Lowlands, and Alluvial and Estuarine Valleys. The surficial geology/physiography of Brunswick County from Ator and others (2000) is presented in figure 8.

A reconnaissance stratigraphy of Brunswick County was reported by Zarra (1991). In his report, Zarra focused on the uppermost 50 to 200 ft of sediments and subdivided the shallow stratigraphy of the County into a surficial sand, a Pliocene/Pleistocene unit, the Castle Hayne Formation, and the Peedee Formation. The surficial sand ranges from 10 to 50 ft

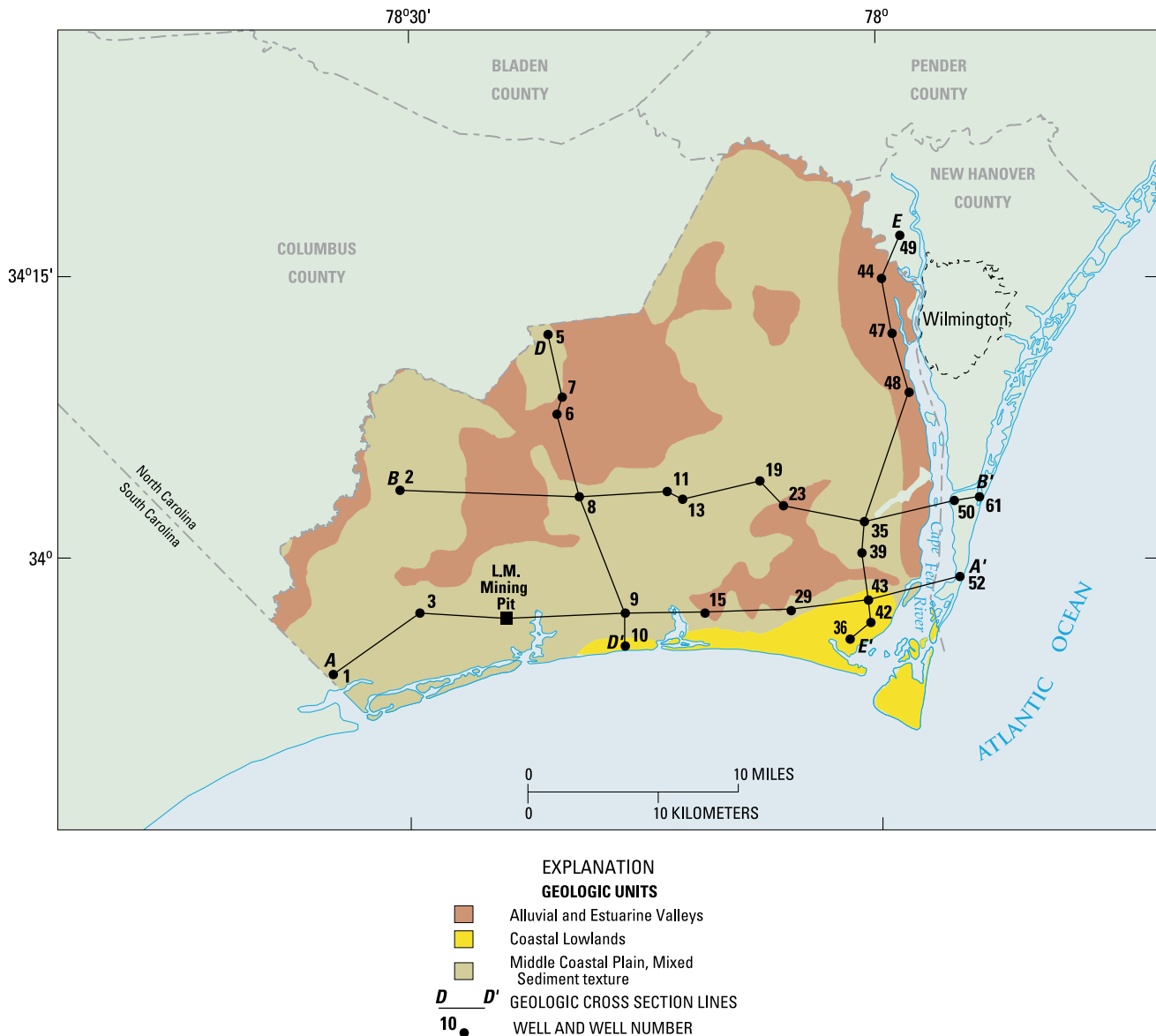


Figure 8. Surficial geology/physiography of Brunswick County, North Carolina (modified from Ator and others, 2000), and locations of geologic sections A-A', B-B', D-D', and E-E' (from Zarra, 1991).

thick with a reported average thickness of 25 ft. The thickness of the Pliocene/Pleistocene unit ranges from 0 to 50 ft from west to east and averages about 20 ft. The Pliocene/Pleistocene unit is absent in the northeastern part of Brunswick County. The Castle Hayne Formation occurs only in the southeastern third of the County and ranges from 0 to 50 ft thick. The Peedee Formation underlies the entire County. This unit is present at depths of 15 ft beneath the surficial

sand in the northeast, 30 to 50 ft in the west, and 50 ft in the center of Brunswick County. Locations of stratigraphic sections A-A', B-B', D-D', and E-E' from Zarra (1991) are shown in figure 8, and the sections are presented in figure 9. Zarra also presented information on the earliest Miocene sediments, the Riverbend Formation, and the Beaufort Formation, but because they only occur in New Hanover County, they were not discussed in this report.

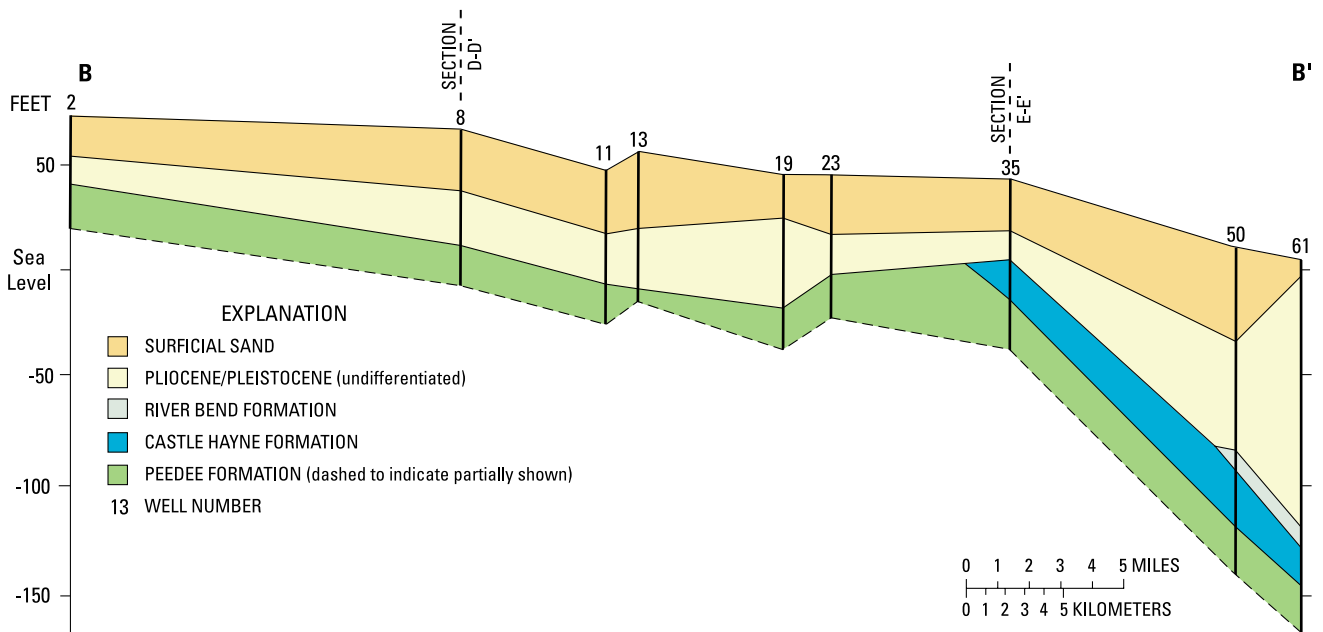
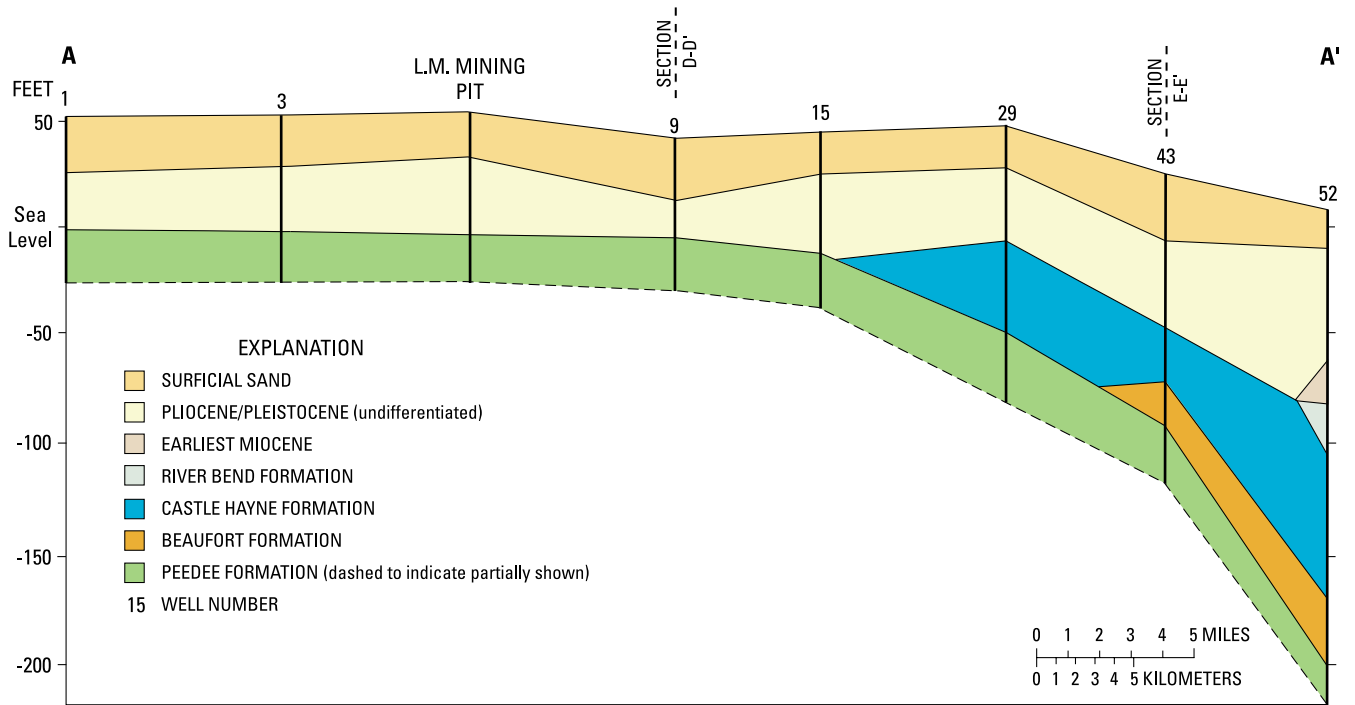


Figure 9. Geologic sections A-A', B-B', D-D', and E-E' (modified from Zarra, 1991).

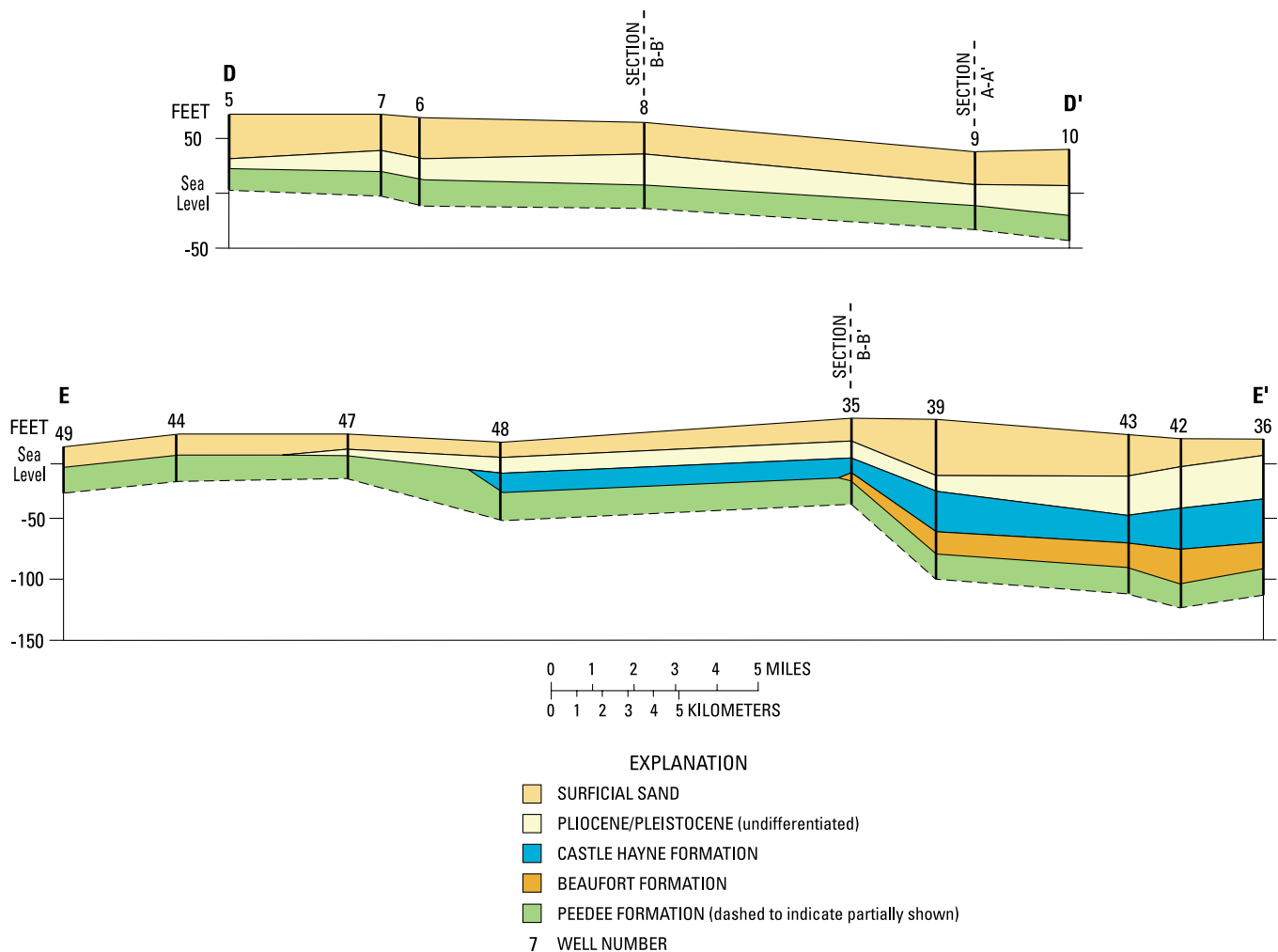


Figure 9 (Continued). Geologic sections A-A', B-B', D-D', and E-E' (modified from Zarra, 1991).

Hydrogeologic Data

A hydrogeologic framework incorporates the hydraulic properties of geologic units into an interpretation of the ground-water-flow characteristics of the subsurface. The hydraulic properties of an individual stratigraphic unit may not be known or may not be different enough to distinguish among geologic units. A hydrogeologic unit is composed of a formation, part of a formation, or a group of formations having similar hydraulic characteristics. These hydrogeologic units are termed aquifers if they produce water, or confining units if they restrict the flow of water.

Winner and Coble (1996) conducted the most comprehensive study of the hydrogeologic framework

of the North Carolina Coastal Plain to date. This study was a regional investigation in which four hydrogeologic sections were completed in or near Brunswick County—northwest to southeast sections A-A' and D-D' and southwest to northeast sections K-K' and L-L' (figs. 10, 11). These sections have been modified to illustrate the thickness and relative dip of the individual hydrogeologic units in and near Brunswick County. Although the sections do not present detailed hydrogeology beneath Brunswick County, they provide a general understanding.

The uppermost three aquifers are important sources of ground-water supply in Brunswick County. The surficial aquifer is an important source of ground water, not only for domestic supplies and some public supplies but also for discharge to streams, lakes,

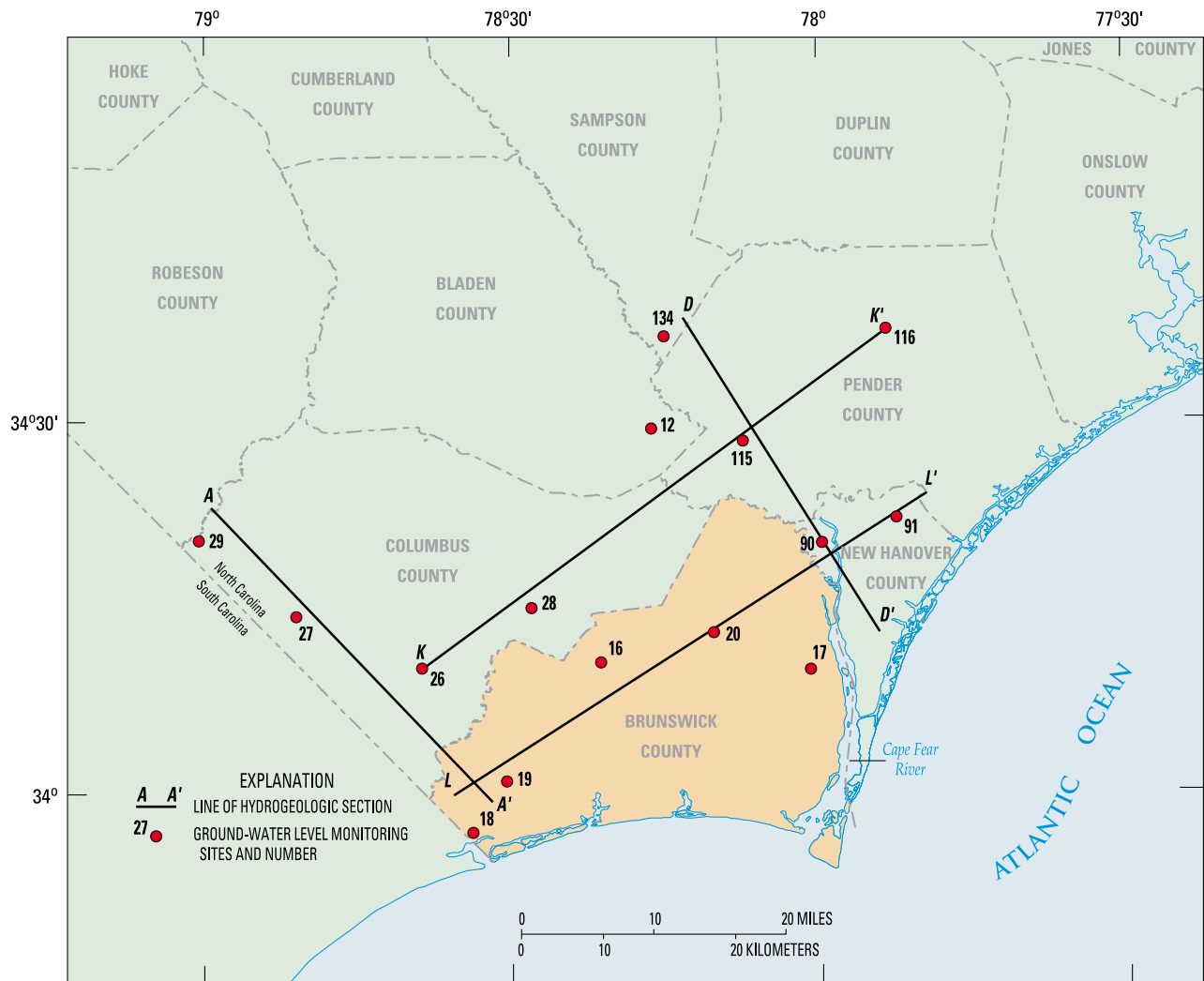


Figure 10. Locations of sections A-A', D-D', K-K', and L-L' (from Winner and Coble, 1996), Brunswick County, North Carolina.

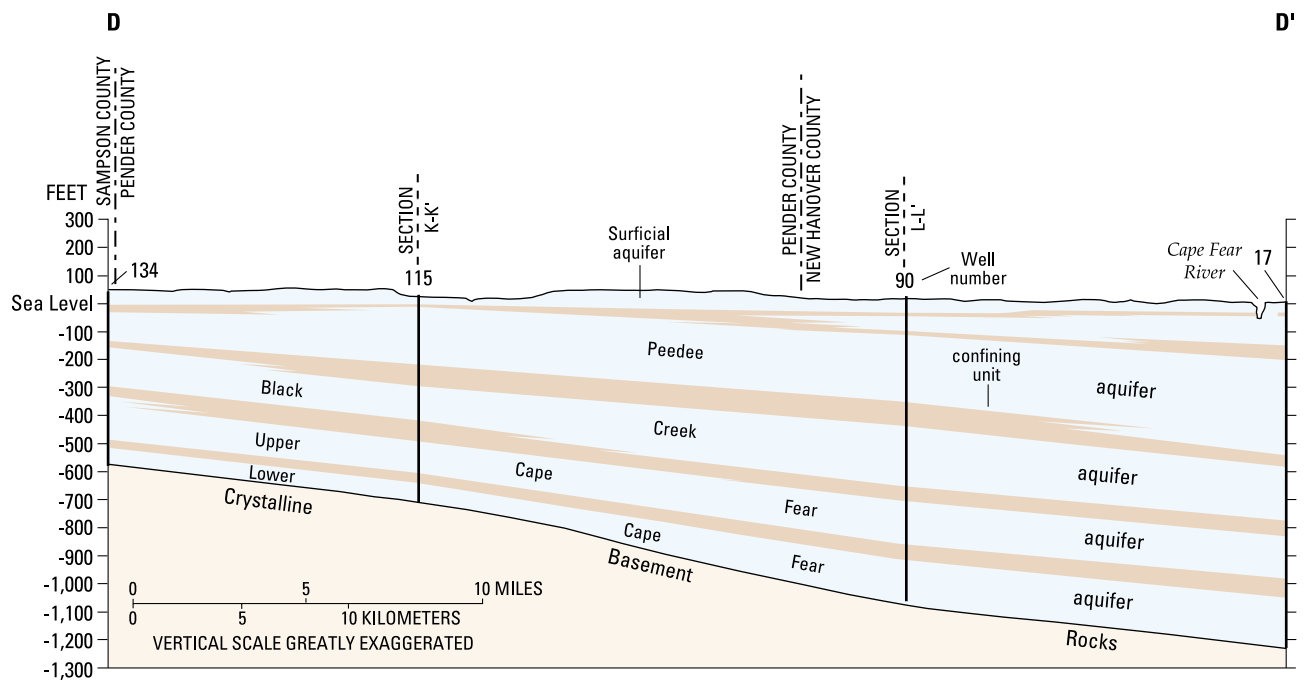
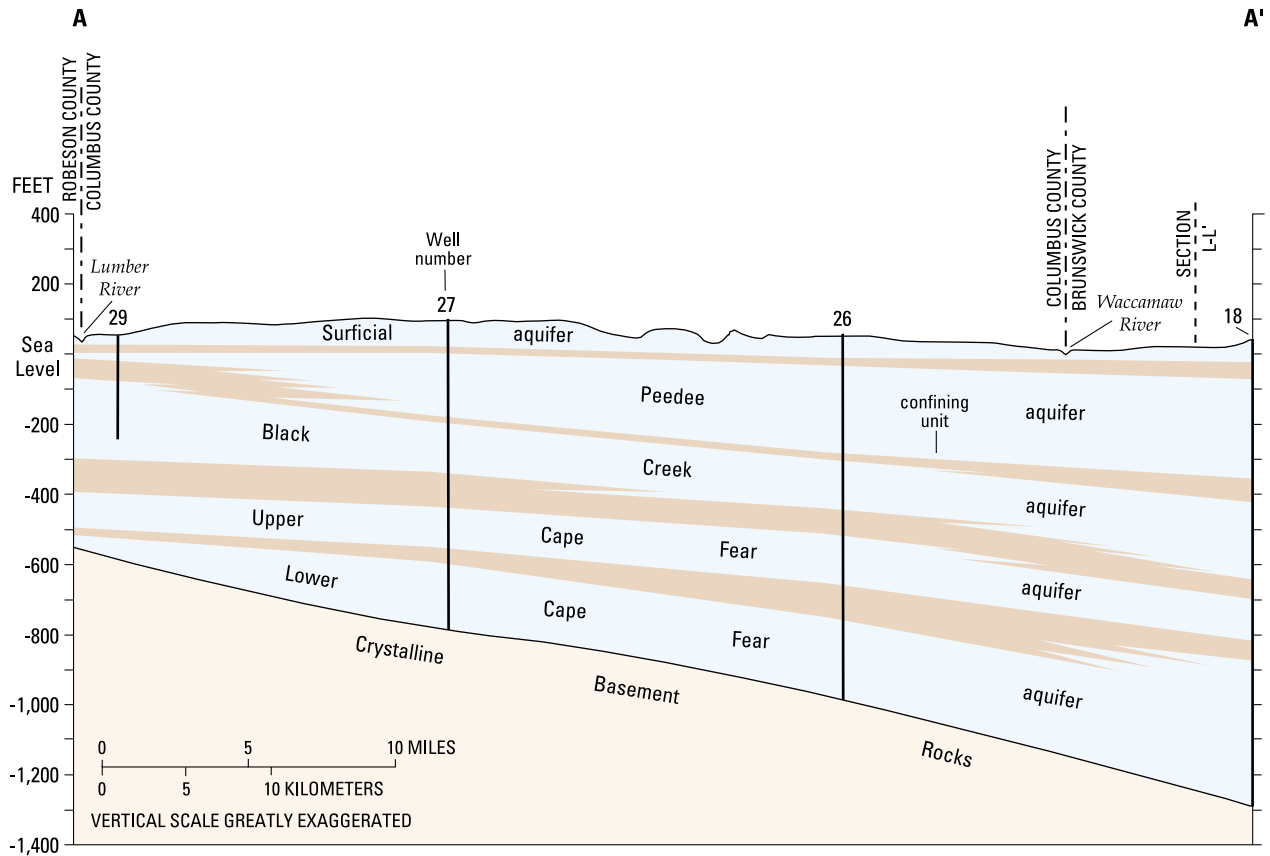


Figure 11. Geologic sections A-A', D-D', K-K', and L-L' (modified from Winner and Coble, 1996).

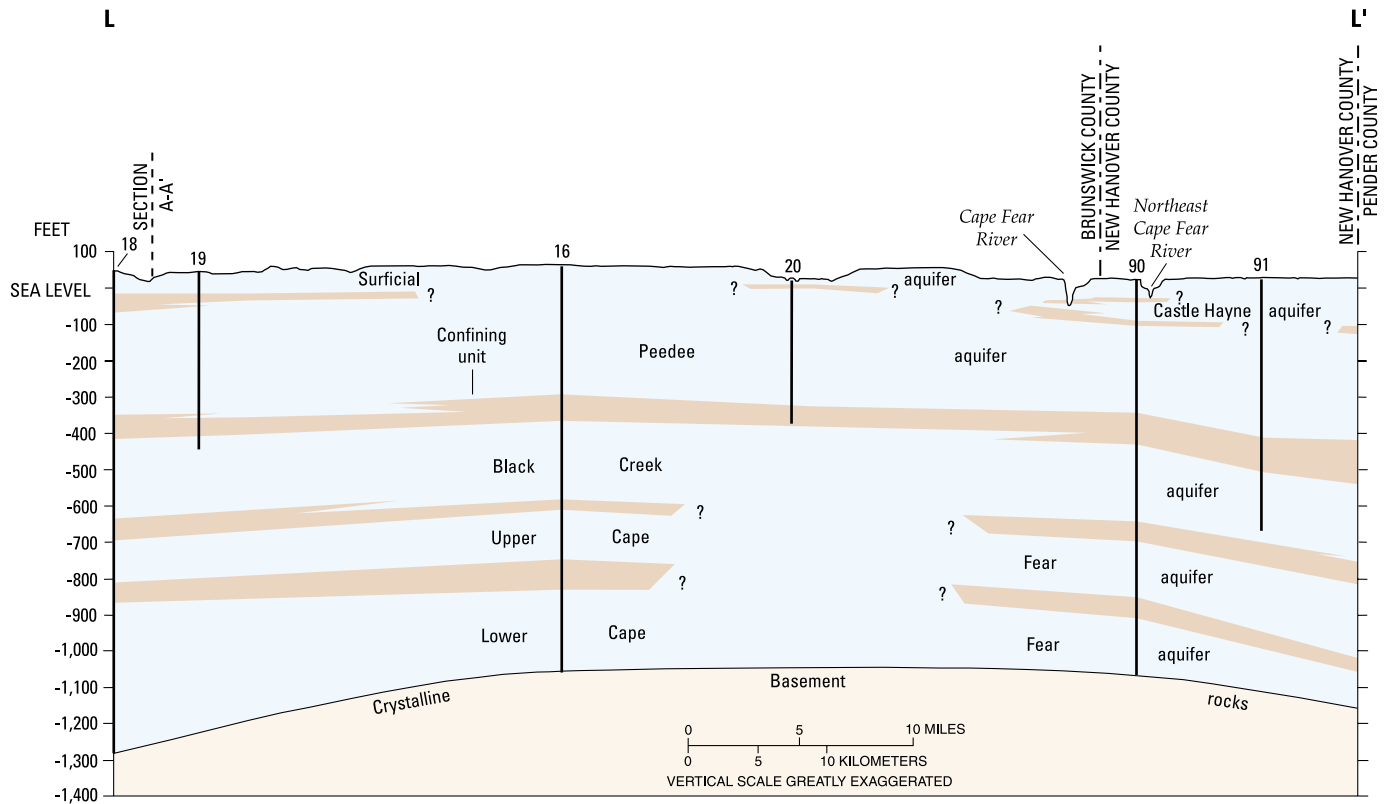
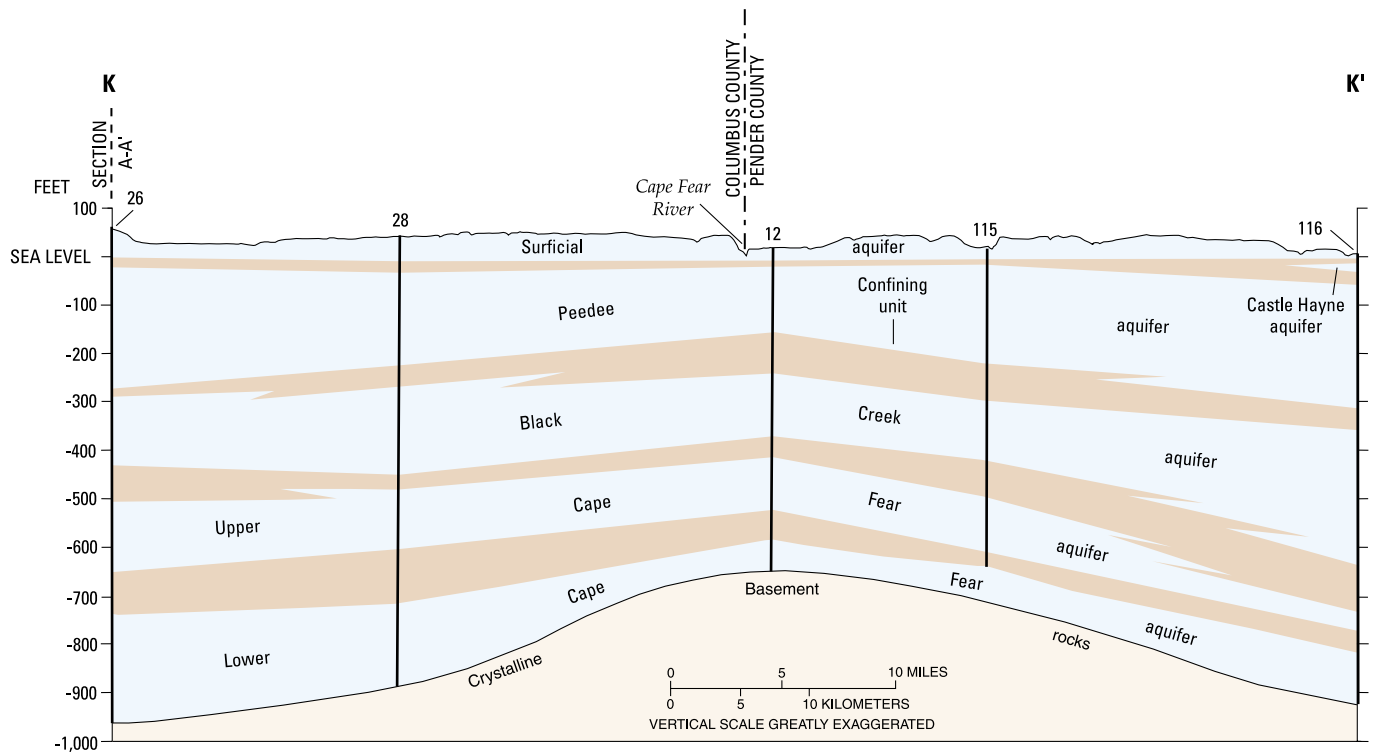


Figure 11 (Continued). Geologic sections A-A', D-D', K-K', and L-L' (modified from Winner and Coble, 1996).

wetlands, and underlying aquifers, such as the Castle Hayne and Peedee aquifers. The Castle Hayne aquifer is used for water supply by Brunswick County and Southport water systems and is the most productive aquifer in the County. The Peedee aquifer is the source of water for many of the domestic and industrial wells. Because of high chloride concentrations and high costs associated with increased depth of exploration, the ground water below these aquifers is used to a lesser degree.

SELECTED HYDROLOGIC DATA

Ground-water levels and historic ground-water-quality data compiled for Brunswick County are presented in this section of the report. Data collected by the USGS are verified and quality assured before being entered into the NWIS data base. Data in NWIS are available to the public on the internet (U.S. Geological Survey, 2000b).

Ground-Water-Level Data

Ground-water-level data are used to monitor water-level trends and evaluate the quantity and availability of the resource. In the surficial aquifer, water levels may fluctuate several feet seasonally, increasing from about October through March and declining from about April through September when higher evapotranspiration occurs. Water levels in unstressed, deeper, confined aquifers usually fluctuate less than in the surficial aquifers over the course of a year. Water-level changes observed in these aquifers may be a result of nearby pumping, large-scale regional pumping, or reduced recharge.

Ground-water wells in the NWIS data base are identified by a unique 15-digit site-identification number. Wells in this report also are referenced by a local identifier that consists of a 2-letter county code (BR for Brunswick County) and a sequential number. Some wells measured as part of the USGS/DENR Cooperative Program also may be identified by a local identifier with an "NC" prefix.

During the 1970's, the DWQ installed several well clusters in Brunswick County and throughout the Coastal Plain. These wells are the source of much of the hydrogeologic and water-level information available for Brunswick County. Historic ground-water-level data were obtained from USGS files in Raleigh, the

Wilmington Regional Office of DENR, the Groundwater Section (DWQ) of the North Carolina Division of Water Quality, the North Carolina Division of Water Resources (DWR), and the South Carolina Department of Natural Resources.

Water-level data obtained from other agencies are periodic measurements of the depth to water in an individual well. Data collected by the USGS may be periodic measurements or continuous data obtained from water-level recorders. Periodic water-level data collected and(or) evaluated from 73 wells (fig. 12) for this report are presented in the supplemental data section (1A). Historic continuous water-level data also were collected as part of the USGS/DENR statewide ground-water-level monitoring program.

A network of wells for recording continuous ground-water levels was established for this investigation. Water-level recorders were installed at well clusters throughout Brunswick County (fig. 1). Ground-water levels were measured by using a float system and incremental encoder, or a submersible pressure transducer, and logged by a data recorder. The ground-water-level data at wells BR-079, BR-080, BR-081, BR-082, BR-083, BR-106, BR-107, and BR-116 (fig. 1) are transmitted by satellite telemetry to the USGS office in Raleigh and automatically loaded into the NWIS data base. The data from wells BR-078, BR-099 and BR-100 (fig. 1) are downloaded quarterly to a field computer and manually loaded into the NWIS data base. Data from these wells and historic data from BR-012 are presented in the supplemental data section (1B) of this report.

In the surficial aquifer, measured water levels ranged from 19.26 to 27.87 ft above msl during the period January 1987 to December 2000. In the Castle Hayne aquifer, measured water levels ranged from 3.38 ft below msl to 47.05 ft above msl during the period October 1984 to December 2000. In the Peedee aquifer, measured water levels ranged from 14.53 to 54.63 ft above msl during the period October 1984 to December 2000. In the Black Creek aquifer, measured water levels ranged from 4.00 to 34.31 ft above msl during the period October 1999 to December 2000.

Vertical Gradients

Vertical gradients are calculated for clustered wells to determine if ground water is moving upward or downward between aquifers. If ground water is moving downward, the overlying aquifer is considered to

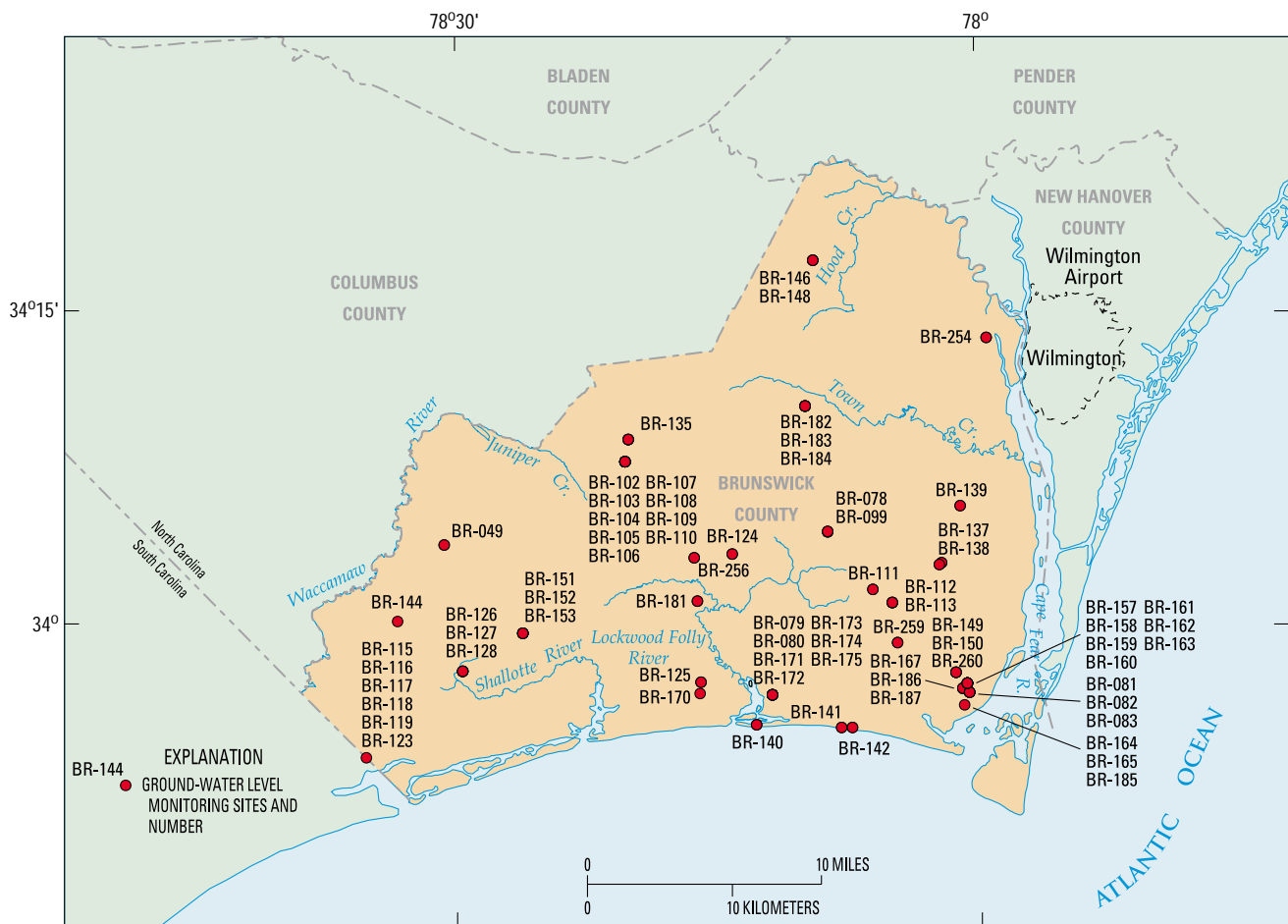


Figure 12. Locations of monitoring wells with periodic water-level measurements, Brunswick County, North Carolina.

potentially be recharging the aquifer below. If ground-water flow is upward, the underlying aquifer is considered to potentially be discharging to the aquifer above. Vertical gradient is determined by dividing the difference in head values by the difference in aquifer depths. The value of vertical gradient typically is given as a unitless number because it is a length divided by a length. For example, if well A is screened at 40 ft below land surface and has a water level of 10 ft below land surface, and well B is screened at 100 ft below land surface and has a water level of 60 ft below land surface, the vertical gradient would be calculated as follows:

$$\frac{dh}{dl} = \frac{60 \text{ ft} - 10 \text{ ft}}{100 \text{ ft} - 40 \text{ ft}} = \frac{50}{60} = 0.83,$$

where dh is the change in head, and dl is the length between the bottoms of the two wells.

The value of depth of the screens or open holes is represented by the median of the interval. A negative value of vertical gradient would represent an upward gradient.

The vertical gradients at the four ground-water monitoring stations were calculated for this report. At the Southport station, the vertical gradient between the surficial aquifer (24.65 ft above msl) and the Castle Hayne aquifer (6.08 ft above msl) is 0.364. The vertical gradient between the Castle Hayne aquifer and the Peedee aquifer (4.93 ft above msl) is 0.009. This indicates that ground water is moving downward through the confining units at the Southport ground-water monitoring station.

At the Sunset Harbor station, the vertical gradient between the surficial aquifer (28.90 ft above msl) and the Peedee aquifer (20.78 ft above msl) is 0.093. This indicates that ground water is moving

downward through the confining units at the Sunset Harbor ground-water monitoring station.

At the Bear Pen station, the vertical gradient between the surficial aquifer (59.02 ft above msl) and the Peedee aquifer (53.61 ft above msl) is 0.054. The vertical gradient between the Peedee aquifer and the Black Creek aquifer (30.23 ft above msl) is 0.043. This indicates that ground water is moving downward through the confining units at the Bear Pen ground-water monitoring station.

At the Calabash station, the vertical gradient between the Peedee aquifer (27.77 ft above msl) and the Black Creek aquifer (1.26 ft above msl) is 0.044. This indicates that ground water is moving downward through the confining units at the Calabash ground-water monitoring station.

Ground-Water-Quality Data

Ground-water-quality data can be used to evaluate the suitability of ground water for human consumption, irrigation, or other uses. Analysis for concentrations of specific chemicals can be used to determine if contamination has occurred from saltwater, landfills, septic systems, farms, or other potentially harmful sources. Some constituents also can be analyzed to estimate the age of the ground water. Water-quality data collected from the same location over time can indicate trends in the quality of ground water. Water-quality data for Brunswick County were compiled from the files of the USGS and DWQ. Historic water-quality data generally are limited to standard anion and cation analyses or chloride analyses.

The comparability of historic water-quality data can be problematic because methods for sample collection and analytical techniques may be unknown. These data, however, can be useful in making general comparisons to more recent analyses. If an analysis is complete (concentrations of all major ionic species

measured) and analytical error is small, the sum of the milliequivalents per liter of cations should be approximately equal to the sum of the milliequivalents per liter of anions. The nearness to this standard is a good means of testing the acceptability of an analysis.

Historic water-quality data are available for 39 wells (fig. 13) from 1941 to 1999 having cation and anion balance within 5 percent (table 4, p. 24). Additional water-quality data for Brunswick County are available in Lautier (1998) and Woods and others (2000).

A common water-quality issue in coastal environments is saltwater intrusion. Saltwater can reach a well through lateral movement within an aquifer or by migrating vertically upward from an underlying aquifer (often called upconing). Brunswick County currently (2001) has no formal monitoring plan for saltwater intrusion. In general, chloride concentrations increase with depth and occur at shallower depths toward the sea. A chloride concentration of 250 milligrams per liter (mg/L) is the potable limit for ground water according to the Federal Drinking Water Standards (U.S Environmental Protection Agency, 2000b). Chloride-concentration data for ground water in Brunswick County were compiled from USGS and DWQ files and are presented in table 5 (p. 41). The chloride concentrations measured in all aquifers underlying Brunswick County ranged from near 0 to 15,000 mg/L. In the surficial aquifer, chloride concentrations ranged from 5.0 mg/L to 60 mg/L; in the Castle Hayne aquifer, chloride concentrations ranged from near 0 to 15,000 mg/L. Chloride concentrations in the Peedee aquifer ranged from 8.0 mg/L to 210 mg/L, and in the Black Creek aquifer, chloride concentrations ranged from 620 mg/L to 2,700 mg/L. Chloride concentrations in the deepest aquifer, the Cape Fear aquifer, ranged from 2,500 mg/L to 7,100 mg/L. Additional chloride data for Brunswick County are available in Lautier (1998) and Woods and others (2000).

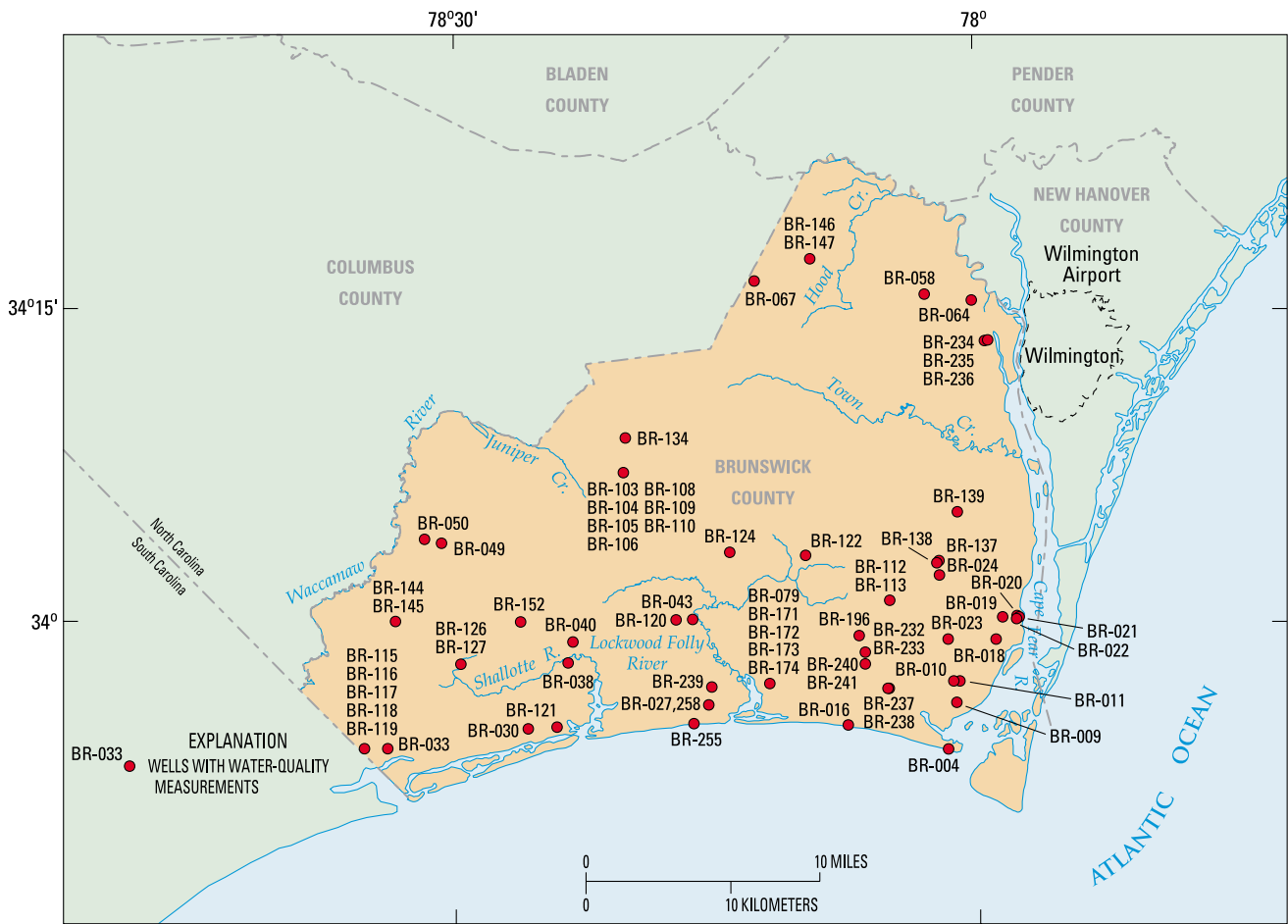


Figure 13. Locations of monitoring wells with ground-water-quality data, Brunswick County, North Carolina.

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Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	Station number	Geologic unit	Date	Agency analyzing sample (code number) (00028)	Agency collecting sample (code number) (00027)	Pumping rate (G/M) (00058)	Barometric pressure (mm of Hg) (00025)	Oxygen, dissolved (mg/L) (00300)	pH water whole field (standard units) (00400)
BR-038 SHALLOTE HIGH SCH	335728078233501	S	05-03-60	--	--	--	--	--	7.7
BR-064 VA CAR CHEM CO	341548078000801	S	08-25-54	--	--	50	--	--	7.3
BR-120 GW NITRATE SITE 1	340033078172001	S	07-01-99	81213	1028	--	768	3.9	7.0
BR-121 GW NITRATE SITE 2	335425078241401	S	07-01-99	81213	1028	--	768	2.3	5.8
BR-122 GW NITRATE SITE 3	340338078094901	S	06-29-99	81213	1028	--	759	3.5	4.6
BR-126 GRISSETTOWN K-2	335742078294701	S	01-01-77	83741	83741	--	--	--	--
BR-146 MACO FIRE TOWER O-2	341718078092601	S	01-01-79	1028	1028	--	--	--	--
BR-009 SOUTHPORT NO.1	335512078011201	CH	09-12-57	--	--	400	--	--	7.6
		CH	09-12-57	--	--	400	--	--	--
		CH	10-22-64	--	--	300	--	--	7.6
BR-010 SOUTHPORT MUN	335605078012201	CH	04-07-48	--	--	--	--	--	7.6
BR-011 SOUTHPORT MUN	335607078010001	CH	04-07-48	--	--	--	--	--	7.6
BR-016 LONG BEACH MUN	335441078072801	CH	08-06-58	--	--	--	--	--	7.3
BR-018 US ARMY TERMINAL	335853077585301	CH	03-26-57	--	--	--	--	--	7.3
		CH	06-29-59	--	--	200	--	--	7.3
		CH	09-20-60	--	--	200	--	--	7.4
		CH	09-20-61	--	--	200	--	--	7.4
		CH	10-30-62	--	--	--	--	--	7.6
BR-019 US ARMY TERMINAL	335934077582901	CH	10-13-53	--	--	255	--	--	7.4
		CH	03-26-57	--	--	240	--	--	7.2
		CH	06-29-59	--	--	200	--	--	7.5
		CH	12-12-69	--	--	250	--	--	7.6
BR-020 US ARMY TERMINAL	340025077560801	CH	03-26-57	--	--	200	--	--	7.1
		CH	06-29-59	--	--	200	--	--	7.3
		CH	09-20-60	--	--	200	--	--	7.5
		CH	09-20-61	--	--	200	--	--	7.5
		CH	10-30-62	--	--	200	--	--	8.2
		CH	12-12-69	--	--	--	--	--	7.7

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	Station number	Geologic unit	Date	Agency analyzing sample (code number) (00028)	Agency collecting sample (code number) (00027)	Pumping rate (G/M) (00058)	Barometric pressure (mm of Hg) (00025)	Oxygen, dissolved (mg/L) (00300)	pH water whole field (standard units) (00400)
BR-021 US ARMY TERMINAL	340007077561501	CH	03-26-57	--	--	240	--	--	7.3
		CH	06-29-59	--	--	240	--	--	7.5
		CH	12-12-69	--	--	250	--	--	7.3
BR-022 US ARMY TERMINAL	340033077570901	CH	03-26-57	--	--	250	--	--	7.1
		CH	06-29-59	--	--	250	--	--	7.4
		CH	12-12-69	--	--	--	--	--	7.4
BR-023 US ARMY TERMINAL	335855078014001	CH	11-29-53	--	--	255	--	--	7.3
		CH	03-26-57	--	--	--	--	--	5.9
BR-024	340255078020701	CH	05-14-56	--	--	--	--	--	7.3
BR-033	335320078340001	CH	05-03-60	--	--	--	--	--	7.9
BR-043	340045078162301	CH	05-02-60	--	--	--	--	--	8.0
BR-139 BOILING SPRINGS EE32 V-1	340526078010301	CH	07-21-77	83741	83741	--	--	--	--

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	pH water whole lab (standard units) (00403)	Tempera- ture water (°C) (00010)	Hardness total (mg/L as CaCO ₃) (00900)	Hardness noncarb whole water total lab (mg/L as CaCO ₃) (95902)	Hardness noncarb whole water total field (mg/L as CaCO ₃) (00902)	Calcium dis- solved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Potas- sium, dissolved (mg/L as K) (00935)	Sodium + potassium dissolved (mg/L as Na) (00933)	Sodium, dissolved (mg/L as Na) (00930)
BR-038 SHALLOTE HIGH SCH	--	--	120	--	0	17	19	2	--	15
BR-064 VA CAR CHEM CO	--	18.0	210	--	100	80	2.9	14	--	15
BR-120 GW NITRATE SITE 1	7.2	26.0	48	--	--	16	2.0	10	--	130
BR-121 GW NITRATE SITE 2	6.3	23.0	53	--	--	16	3.2	17	--	14
BR-122 GW NITRATE SITE 3	4.7	25.0	11	--	--	.6	2.4	1	--	21
BR-126 GRISSETTOWN K-2	7.2	--	86	<1	--	28	2.6	2	--	16
BR-146 MACO FIRE TOWER O-2	6.3	--	54	0	--	19	2.2	.9	--	6
BR-009 SOUTHPORT NO.1	--	--	160	--	2	61	2.0	.6	--	11
	--	--	160	--	3	58	4.1	.6	--	10
	--	19.5	160	--	2	56	4.0	2	--	18
BR-010 SOUTHPORT MUN	--	--	180	--	2	66	2.7	--	18	--
BR-011 SOUTHPORT MUN	--	--	180	--	2	66	2.7	--	13	--
BR-016 LONG BEACH MUN	--	--	270	--	2	95	7.3	4	--	86
BR-018 US ARMY TERMINAL	--	20.0	200	--	0	44	21	.8	--	10
	--	20.0	210	--	12	80	3.0	.9	--	8.4
	--	--	210	--	1	79	2.3	1	--	8.3
	--	19.5	190	--	4	73	2.4	.7	--	7.3
	--	19.5	190	--	120	72	2.2	.6	--	8.8
BR-019 US ARMY TERMINAL	--	19.5	190	--	1	66	6.3	--	12	--
	--	20.0	160	--	0	43	14	2	--	17
	--	20.0	210	--	10	70	7.9	6	--	13
	--	19.0	170	--	0	62	2.8	2	--	16
BR-020 US ARMY TERMINAL	--	--	200	--	4	44	22	9	--	25
	--	19.5	230	--	13	81	6.4	2	--	9.7
	--	--	220	--	0	72	11	9	--	32
	--	18.5	200	--	2	64	9.0	7	--	11
	--	--	200	--	0	65	8.3	7	--	14
	--	18.0	220	--	4	66	3.7	8	--	12

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	pH water whole lab (standard units) (00403)	Tempera- ture water (°C) (00010)	Hardness total (mg/L as CaCO ₃) (00900)	Hardness noncarb whole water total lab (mg/L as CaCO ₃) (95902)	Hardness noncarb whole water total field (mg/L as CaCO ₃) (00902)	Calcium dis- solved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Potas- sium, dissolved (mg/L as K) (00935)	Sodium + potassium dissolved (mg/L as Na) (00933)	Sodium, dissolved (mg/L as Na) (00930)
BR-021 US ARMY TERMINAL	--	--	170	--	0	45	13	2	--	19
	--	--	220	--	8	79	4.9	2	--	11
	--	19.0	200	--	0	71	4.6	3	--	9.5
BR-022 US ARMY TERMINAL	--	20.0	220	--	1	61	18	2	--	8.5
	--	19.5	230	--	9	83	5.2	1	--	9.2
	--	19.0	240	--	0	84	6.6	2	--	7
BR-023 US ARMY TERMINAL	--	--	150	--	5	55	2.2	--	5.1	--
	--	20.0	19	--	0	5.4	.9	1	--	8.8
BR-024	--	--	82	--	2	32	.8	--	--	--
BR-033	--	--	150	--	2	22	22	.7	--	7.8
BR-043	--	--	150	--	2	22	24	1	--	5.5
BR-139 BOILING SPRINGS EE32 V-1	8.1	18.3	260	--	--	98	.51	2	--	11

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	ANC unfiltered tit 4.5 lab (mg/L as CaCO ₃) (90410)	ANC water unfiltered fet field (mg/L as CaCO ₃) (00410)	ANC water unfiltered fet field (mg/L as HCO ₃) (00440)	ANC unfiltered carb fet field (mg/L as CO ₃) (00445)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)	Sulfate dissolved (mg/L as SO ₄) (00945)	Nitrogen, ammonia + organic dissolved (mg/L as N) (00623)	Nitrogen, ammonia + organic total (mg/L as N) (00625)
BR-038 SHALLOTE HIGH SCH	--	135	160	0	14	0.2	32	1.5	--	--
BR-064 VA CAR CHEM CO	--	111	140	0	24	.5	8.7	79.0	--	--
BR-120 GW NITRATE SITE 1	214	--	--	--	60	.3	12	26.0	5.0	--
BR-121 GW NITRATE SITE 2	48	--	--	--	28	<.1	5.6	11.0	E1.9	--
BR-122 GW NITRATE SITE 3	2	--	--	--	39	<.1	6.8	.4	<.20	--
BR-126 GRISSETTOWN K-2	102	--	--	--	14	.2	11	<5.0	--	0.20
BR-146 MACO FIRE TOWER O-2	57	--	--	--	7.6	.0	14	.4	--	--
BR-009 SOUTHPORT NO.1	--	157	190	0	9.6	.0	17	.1	--	--
	--	158	190	0	9.7	.0	16	2.1	--	--
	--	156	190	0	28	.1	14	.8	--	--
BR-010 SOUTHPORT MUN	--	174	210	--	20	.2	16	.9	--	--
BR-011 SOUTHPORT MUN	--	174	210	0	20	.2	16	.9	--	--
BR-016 LONG BEACH MUN	--	265	320	--	140	.0	29	.6	--	--
BR-018 US ARMY TERMINAL	--	203	250	0	15	.0	17	.3	--	--
	--	201	240	0	16	.2	19	.2	--	--
	--	205	250	0	13	.1	21	.2	--	--
	--	189	230	0	13	.1	10	2.0	--	--
	--	67	82	0	10	.1	14	5.4	--	--
BR-019 US ARMY TERMINAL	--	190	230	0	18	.1	38	1.4	--	--
	--	172	210	0	27	.0	70	.5	--	--
	--	197	240	0	30	.3	43	1.2	--	--
	--	169	210	0	24	.1	38	3.0	--	--
BR-020 US ARMY TERMINAL	--	196	240	0	54	.1	66	--	--	--
	--	217	260	0	20	.2	20	.3	--	--
	--	225	270	0	58	.3	44	.2	--	--
	--	194	240	0	23	1.3	42	.4	--	--
	--	198	240	0	17	.3	41	3.0	--	--
	--	217	260	0	26	.1	38	1.0	--	--

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	ANC unfiltered tit 4.5 lab (mg/L as CaCO ₃) (90410)	ANC water unfiltered fet field (mg/L as CaCO ₃) (00410)	ANC water unfiltered fet field (mg/L as HCO ₃) (00440)	ANC unfiltered carb fet field (mg/L as CO ₃) (00445)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)	Sulfate dissolved (mg/L as SO ₄) (00945)	Nitrogen, ammonia + organic dissolved (mg/L as N) (00623)	Nitrogen, ammonia + organic total (mg/L as N) (00625)
BR-021 US ARMY TERMINAL	--	177	220	0	29	0.1	47	0.2	--	--
	--	208	250	--	20	.2	25	.7	--	--
	--	208	250	0	17	.0	25	1.6	--	--
BR-022 US ARMY TERMINAL	--	225	270	0	18	.0	17	.8	--	--
	--	220	270	0	16	.2	18	.1	--	--
	--	227	280	0	17	.0	12	.8	--	--
BR-023 US ARMY TERMINAL	--	141	170	--	10	.1	12	1.7	--	--
	--	23	28	0	9.6	.0	22	1.8	--	--
BR-024	--	80	98	--	10	--	3.6	--	--	--
BR-033	--	144	180	0	12	.1	9.1	1.3	--	--
BR-043	--	151	180	0	10	.1	11	2.6	--	--
BR-139 BOILING SPRINGS EE32 V-1	290	--	--	--	15	<.1	19	<5.0	--	0.30

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	Nitrogen, ammonia dissolved (mg/L as N) (00608)	Nitrogen, nitrate dissolved (mg/L as N) (00618)	Nitrogen, nitrate dissolved (mg/L as NO ₃) (71851)	Nitrogen, NO ₂ + NO ₃ dissolved (mg/L as N) (00631)	Nitrogen, NO ₂ + NO ₃ total (mg/L as N) (00630)	Nitrogen, nitrite dissolved (mg/L as N) (00613)	Phosphorus dissolved (mg/L as P) (00666)	Phosphorus ortho, dissolved (mg/L as P) (00671)	Phosphorus total (mg/L as P) (00665)	Carbon, organic dissolved (mg/L as C) (00681)
BR-038 SHALLOTE HIGH SCH	--	0.00	0.00	--	--	--	--	--	--	--
BR-064 VA CAR CHEM CO	--	8.10	36	--	--	--	--	--	--	--
BR-120 GW NITRATE SITE 1	3.70	.080	.35	0.48	--	0.40	2.1	2.1	--	15
BR-121 GW NITRATE SITE 2	1.10	--	--	<.02	--	<.01	E.18	.19	--	18
BR-122 GW NITRATE SITE 3	.030	--	--	<.02	--	<.01	E.02	<.01	--	1.2
BR-126 GRISSETTOWN K-2	--	--	--	--	<0.1	--	--	--	<0.05	--
BR-146 MACO FIRE TOWER O-2	--	--	--	--	--	--	--	--	--	--
BR-009 SOUTHPORT NO.1	--	.16	.70	--	--	--	--	--	--	--
	--	.23	1.0	--	--	--	--	--	--	--
	--	.09	.40	--	--	--	--	--	--	--
BR-010 SOUTHPORT MUN	--	.07	.30	--	--	--	--	--	--	--
BR-011 SOUTHPORT MUN	--	.07	.30	--	--	--	--	--	--	--
BR-016 LONG BEACH MUN	--	.41	1.8	--	--	--	--	--	--	--
BR-018 US ARMY TERMINAL	--	.11	.50	--	--	--	--	--	--	--
	--	.14	.60	--	--	--	--	--	--	--
	--	.00	.00	--	--	--	--	--	--	--
	--	.11	.50	--	--	--	--	--	--	--
	--	.09	.40	--	--	--	--	--	--	--
BR-019 US ARMY TERMINAL	--	.02	.10	--	--	--	--	--	--	--
	--	.11	.50	--	--	--	--	--	--	--
	--	.14	.60	--	--	--	--	--	--	--
	--	.14	.60	--	--	--	--	--	--	--
BR-020 US ARMY TERMINAL	--	.07	.30	--	--	--	--	--	--	--
	--	.09	.40	--	--	--	--	--	--	--
	--	.16	.70	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
	--	.11	.50	--	--	--	--	--	--	--
	--	.09	.40	--	--	--	--	--	--	--

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	Nitrogen, ammonia dissolved (mg/L as N) (00608)	Nitrogen, nitrate dissolved (mg/L as N) (00618)	Nitrogen, nitrate dissolved (mg/L as NO ₃) (71851)	Nitrogen, NO ₂ +NO ₃ dissolved (mg/L as N) (00631)	Nitrogen, NO ₂ +NO ₃ total (mg/L as N) (00630)	Nitrogen, nitrite dissolved (mg/L as N) (00613)	Phosphorus dissolved (mg/L as P) (00666)	Phosphorus ortho, dissolved (mg/L as P) (00671)	Phosphorus total (mg/L as P) (00665)	Carbon, organic dissolved (mg/L as C) (00681)
BR-021 US ARMY TERMINAL	--	0.07	0.30	--	--	--	--	--	--	--
	--	.07	.30	--	--	--	--	--	--	--
	--	.14	.60	--	--	--	--	--	--	--
BR-022 US ARMY TERMINAL	--	.07	.30	--	--	--	--	--	--	--
	--	.32	1.4	--	--	--	--	--	--	--
	--	.11	.50	--	--	--	--	--	--	--
BR-023 US ARMY TERMINAL	--	.11	.50	--	--	--	--	--	--	--
	--	.05	.20	--	--	--	--	--	--	--
BR-024	--	--	--	--	--	--	--	--	--	--
BR-033	--	.00	.00	--	--	--	--	--	--	--
BR-043	--	.00	.00	--	--	--	--	--	--	--
BR-139 BOILING SPRINGS EE32 V-1	--	--	--	--	<0.1	--	--	--	<0.05	--

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	Color (platinum cobalt units) (00080)	Depth below land surface (water level) (feet) (72019)	Depth of well, total (feet) (72008)	Elevation of land surface datum (feet above NGVD) (72000)	Solids, residue at 180 °C dissolved (mg/L) (70300)	Solids, sum of constitu- ents, dis- solved (mg/L) (70301)	Aluminum, dissolved (µg/L as Al) (01106)	Aluminum, total recover- able (µg/L as Al) (01105)	Bromide dissolved (mg/L as Br) (71870)	Copper, dissolved (µg/L as Cu) (01040)
BR-038 SHALLOTE HIGH SCH	--	--	--	--	180	182	--	<100	--	--
BR-064 VA CAR CHEM CO	1	--	--	--	353	327	--	--	--	--
BR-120 GW NITRATE SITE 1	--	0.50	--	--	453	399	--	--	0.60	13
BR-121 GW NITRATE SITE 2	--	4.65	--	--	164	127	--	--	.10	<1
BR-122 GW NITRATE SITE 3	--	7.00	--	--	79	73	--	--	.20	<1
BR-126 GRISSETTOWN K-2	--	--	25.00	42.0	197	--	<100	--	--	<40
BR-146 MACO FIRE TOWER O-2	--	--	36.00	60.3	87	87	<100	--	--	--
BR-009 SOUTHPORT NO.1	5	14.00	176.00	20.0	199	198	--	<100	--	--
	5	14.00	176.00	20.0	210	197	--	<100	--	--
	10	--	176.00	20.0	220	216	--	<100	--	--
BR-010 SOUTHPORT MUN	--	--	--	--	227	--	--	--	--	--
BR-011 SOUTHPORT MUN	4	--	--	--	227	--	--	--	--	--
BR-016 LONG BEACH MUN	--	--	--	--	545	525	--	--	--	--
BR-018 US ARMY TERMINAL	17	--	--	--	248	231	--	200	--	--
	10	--	--	--	252	250	--	100	--	--
	8	--	--	--	252	248	--	<100	--	--
	35	--	--	--	241	243	--	100	--	--
	3	.18	--	--	239	243	--	<100	--	--
BR-019 US ARMY TERMINAL	5	--	--	--	265	--	--	--	--	--
	17	--	--	--	269	278	--	<100	--	--
	3	--	--	--	298	290	--	<100	--	--
	5	13.40	--	--	257	253	--	<100	--	--
BR-020 US ARMY TERMINAL	--	--	--	--	335	339	--	<100	--	--
	--	--	--	--	281	271	--	100	--	--
	5	--	--	--	368	362	--	<100	--	--
	10	14.50	--	--	290	275	--	<100	--	--
	10	--	--	--	283	275	--	100	--	--
	--	--	--	--	299	286	--	100	--	--

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	Color (platinum cobalt units) (00080)	Depth belowland surface (water level) (feet) (72019)	Depth of well, total (feet) (72008)	Elevation of land surface datum (feet above NGVD) (72000)	Solids, residue at 180 °C dissolved (mg/L) (70300)	Solids, sum of constitu- ents, dis- solved (mg/L) (70301)	Aluminum, dissolved (µg/L as Al) (01106)	Aluminum, total recover- able (µg/L as Al) (01105)	Bromide dissolved (mg/L as Br) (71870)	Copper, dissolved (µg/L as Cu) (01040)
BR-021 US ARMY TERMINAL	7	--	--	--	268	262	--	100	--	--
	5	--	--	--	272	268	--	<100	--	--
	5	--	--	--	267	254	--	<100	--	--
BR-022 US ARMY TERMINAL	9	28.00	--	--	275	261	--	<100	--	--
	5	28.00	--	--	275	266	--	<100	--	--
	5	--	--	--	269	266	--	100	--	--
BR-023 US ARMY TERMINAL	--	--	--	--	182	--	--	--	--	--
	6	--	--	--	60	64	--	300	--	--
BR-024	--	--	--	--	--	--	--	--	--	--
BR-033	28	10.00	--	--	185	162	--	100	--	--
BR-043	7	15.00	--	--	179	167	--	<100	--	--
BR-139 BOILING SPRINGS EE32 V-1	--	--	110.00	52.3	330	--	<100	--	--	--

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	Iron, dissolved (µg/L as Fe) (01046)	Iron, total recoverable (µg/L as Fe) (01045)	Lithium dissolved (µg/L as Li) (01130)	Manganese, dissolved (µg/L as Mn) (01056)	Manganese, total recoverable (µg/L as Mn) (01055)	Zinc, dissolved (µg/L as Zn) (01090)	Zinc, total recoverable (µg/L as Zn) (01092)	Methylene blue active substance (mg/L) (38260)	Depth to bottom of sample interval (feet) (72016)	Depth to top of sample interval (feet) (72015)
BR-038 SHALLOTE HIGH SCH	--	20	--	--	0	--	--	--	16	--
BR-064 VA CAR CHEM CO	--	180	--	--	0	--	--	--	65	60
BR-120 GW NITRATE SITE 1	380	--	--	35	--	14	--	0.60	--	--
BR-121 GW NITRATE SITE 2	1,200	--	--	44	--	2	--	<.10	--	--
BR-122 GW NITRATE SITE 3	160	--	--	10	--	2	--	<.10	--	--
BR-126 GRISSETTOWN K-2	6,000	--	<50.0	120	--	--	5,200	--	--	--
BR-146 MACO FIRE TOWER O-2	2,400	--	--	10	--	--	--	--	--	--
BR-009 SOUTHPORT NO.1	--	120	--	--	0	--	--	--	176	64
	--	120	--	--	0	--	--	--	176	64
	--	550	--	--	0	--	--	--	176	64
BR-010 SOUTHPORT MUN	--	1,200	--	--	--	--	--	--	162	--
BR-011 SOUTHPORT MUN	--	1,200	--	--	0	--	--	--	110	60
BR-016 LONG BEACH MUN	--	1,700	--	--	--	--	--	--	100	--
BR-018 US ARMY TERMINAL	--	2,900	--	--	100	--	--	--	--	--
	--	2,600	--	--	160	--	--	--	192	80
	--	70	--	--	50	--	--	--	192	80
	--	2,800	--	--	20	--	--	--	192	80
	--	180	--	--	60	--	--	--	192	80
BR-019 US ARMY TERMINAL	--	800	--	--	0	--	--	--	180	66
	--	1,400	--	--	200	--	--	--	180	66
	--	1,400	--	--	50	--	--	--	180	66
	--	3,700	--	--	160	--	--	--	180	66
BR-020 US ARMY TERMINAL	--	40	--	--	20	--	--	--	19	66
	--	1,500	--	--	40	--	--	--	186	66
	--	20	--	--	10	--	--	--	186	66
	--	720	--	--	0	--	--	--	186	66
	--	330	--	--	10	--	--	--	186	66
	--	540	--	--	40	--	--	--	186	66

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	Iron, dissolved (µg/L as Fe) (01046)	Iron, total recover- able (µg/L as Fe) (01045)	Lithium dissolved (µg/L as Li) (01130)	Manga- nese, dissolved (µg/L as Mn) (01056)	Manga- nese, total recover- able (µg/L as Mn) (01055)	Zinc, dis- solved (µg/L as Zn) (01090)	Zinc, total recoverable (µg/L as Zn) (01092)	Methylene blue active substance (mg/L) (38260)	Depth to bottom of sample interval (feet) (72016)	Depth to top of sample interval (feet) (72015)
BR-021 US ARMY TERMINAL	--	2,400	--	--	200	--	--	--	181	37
	--	1,500	--	--	10	--	--	--	181	37
	--	3,000	--	--	80	--	--	--	181	37
BR-022 US ARMY TERMINAL	--	1,900	--	--	100	--	--	--	181	80
	--	410	--	--	20	--	--	--	181	80
	--	780	--	--	70	--	--	--	--	--
BR-023 US ARMY TERMINAL	--	40	--	--	--	--	--	--	198	--
	--	1,000	--	--	50	--	--	--	--	--
BR-024	--	10	--	--	--	--	--	--	--	--
BR-033	--	200	--	--	0	--	--	--	90	90
BR-043	--	20	--	--	20	--	--	--	109	--
BR-139 BOILING SPRINGS EE32 V-1	1,000	--	<50.0	<50	--	--	--	--	--	--

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, milligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	Station number	Geologic unit	Date	Agency analyzing sample (code number) (00028)	Agency collecting sample (code number) (00027)	Pumping rate (G/M) (00058)	pH water whole field (standard units) (00400)	pH water whole lab (standard units) (00403)	Specific conductance field (µS/cm) (00094)
BR-137 BOILING SPRINGS FF32 M-1	340200078020901	CH	07-19-77	83741	83741	--	--	8.3	--
BR-255 HOLDEN BEACH HH35 B-3	335453078161901	CH	06-06-77	83741	83741	--	--	7.9	--
BR-027	335459078153001	PD	05-03-60	--	--	--	7.8	--	--
BR-104 BEAR PEN EE36 K-3	340743078202003	PD	08-02-76	83741	83741	--	--	7.8	--
BR-108 BEAR PEN EE36 K-7	340743078202007	PD	06-21-78	83741	83741	--	--	7.1	--
BR-109 BEAR PEN EE36 K-8	340743078202008	PD	06-15-78	83741	83741	--	--	7.8	--
		PD	04-29-80	83741	83741	--	--	6.4	--
BR-144 LONGWOOD X-5	340003078325701	PD	06-07-78	83741	83741	--	--	7.8	--
BR-152 SHALLOTTE B-4	335930078262002	PD	06-13-77	83741	83741	--	--	8.5	--
BR-105 BEAR PEN EE36 K-4	340743078202004	BK	07-15-76	83741	83741	--	--	8.6	--
BR-116 CALABASH J-3	335334078352102	BK	05-12-75	83741	83741	--	--	9.3	--
BR-173 SUNSET HARBOR GG34 S-3	335629078115403	BK	04-10-75	83741	83741	--	--	9.2	--
BR-174 SUNSET HARBOR GG34 S-4	335629078115404	BK	05-14-75	83741	83741	--	--	9.2	--
		BK	04-28-80	83741	83741	--	--	7.3	--
BR-115 CALABASH J-2	335334078352101	CU	04-10-75	83741	83741	--	--	8.7	--
		CU	01-28-88	84540	--	--	9.1	8.9	750
BR-172 SUNSET HARBOR GG34 S-2	335229078115402	CU	04-10-75	83741	83741	--	--	9.1	--
		CU	04-28-80	83741	83741	--	--	6.6	--
BR-103 BEAR PEN EE36 K-2	340743078202005	CL	08-02-76	83741	83741	--	--	8.1	--
		CL	04-29-80	83741	83741	--	--	6.2	--
		CL	04-29-80	83741	83741	--	--	6.2	--
BR-119 CALABASH J-6	335334078352105	CL	01-28-88	84540	84540	--	9.7	9.3	7,660
BR-040	335823078231901	CS	05-03-60	--	--	7.5	8.2	--	--
BR-067	341657078124201	CS	01-14-70	--	--	--	7.8	--	--

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	Temperature water (°C) (00010)	Hardness total (mg/L as CaCO ₃) (00900)	Hardness noncarb whole water total lab (mg/L as CaCO ₃) (95902)	Hardness noncarb whole water total field (mg/L as CaCO ₃) (00902)	Calcium dissolved (mg/L as Ca) (00915)	Magne- sium, dis- solved (mg/L as Mg) (00925)	Potassium, dissolved (mg/L as K) (00935)	Sodium, dissolved (mg/L as Na) (00930)	Sodium, total recoverable (mg/L as Na) (00929)	ANC unfil- tered tit 4.5 lab (mg/L as CaCO ₃) (90410)
BR-137 BOILING SPRINGS FF32 M-1	20.0	150	--	--	62	1.2	1	11	--	157
BR-255 HOLDEN BEACH HH35 B-3	--	6,000	5,700	--	500	1,200	340	9,000	--	269
BR-027	--	150	--	0	21	24	1	27	--	--
BR-104 BEAR PEN EE36 K-3	20.0	190	--	--	90	2.2	2	10	--	256
BR-108 BEAR PEN EE36 K-7	18.0	120	--	--	42	5	1	21	--	148
BR-109 BEAR PEN EE36 K-8	19.4	180	--	--	80	3.6	7	35	--	321
	20.0	60	--	--	26	1.2	1	6.4	--	75
BR-144 LONGWOOD X-5	21.0	120	<1	--	41	3.2	4	38	--	182
BR-152 SHALLLOTTE B-4	19.0	130	<1	--	86	1.8	2	8	--	241
BR-105 BEAR PEN EE36 K-4	21.1	100	--	--	14	11	--	900	--	412
BR-116 CALABASH J-3	20.0	12	<1	--	2.2	1.7	--	600	--	454
BR-173 SUNSET HARBOR GG34 S-3	18.0	40	<1	--	4	7.8	--	1,200	--	552
BR-174 SUNSET HARBOR GG34 S-4	20.0	34	<1	--	4.6	17	--	1,500	--	305
	21.0	140	<1	--	20	20	48	1,400	--	512
BR-115 CALABASH J-2	16.0	130	<1	--	15	24	--	2,400	--	288
	11.9	100	--	--	3.5	22.7	24	2,640	2,880	262
BR-172 SUNSET HARBOR GG34 S-2	17.0	630	600	--	140	90	--	4,200	--	27
	22.0	720	620	--	240	94	80	4,400	--	98
BR-103 BEAR PEN EE36 K-2	18.8	770	--	--	110	120	--	3,800	--	49
	21.0	920	--	--	300	110	76	3,800	--	202
	21.0	920	720	--	300	110	76	3,800	--	202
BR-119 CALABASH J-6	9.5	500	--	--	5.1	9.99	21	1,740	1,880	329
BR-040	--	60	--	0	6	11	24	738	--	--
BR-067	--	68	--	0	13	8.80	57	955	--	--

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	ANC water unfiltered fet field (mg/L as CaCO ₃) (00410)	ANC water unfiltered fet field (mg/L as HCO ₃) (00440)	ANC unfiltered carb fet field (mg/L as CO ₃) (00445)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dis- solved (mg/L as SiO ₂) (00955)	Silicon dissolved (µg/L as Si) (01140)	Sulfate dissolved (mg/L as SO ₄) (00945)	Ammonia unionized (mg/L as N) (00619)	Nitrogen, ammonia + organic total (mg/L as N) (00625)
BR-137 BOILING SPRINGS FF32 M-1	--	--	--	11	0.1	8.9	--	5.3	--	0.30
BR-255 HOLDEN BEACH HH35 B-3	--	--	--	15,000	<.1	4.9	--	2,200	--	.90
BR-027	153	190	0	36	.0	12	--	1.0	--	--
BR-104 BEAR PEN EE36 K-3	--	--	--	11	<.1	16	--	<10.0	--	.20
BR-108 BEAR PEN EE36 K-7	--	--	--	10	<.1	13	--	<5.0	--	.10
BR-109 BEAR PEN EE36 K-8	--	--	--	15	<1.0	13	--	<5.0	--	.10
	--	--	--	24	<.1	7.8	--	<5.0	0.060	<.10
BR-144 LONGWOOD X-5	--	--	--	17	.2	10	--	<5.0	--	.10
BR-152 SHALLOTTE B-4	--	--	--	29	.1	6.2	--	6.0	--	.60
BR-105 BEAR PEN EE36 K-4	--	--	--	1,200	.4	5.4	--	32.0	--	.80
BR-116 CALABASH J-3	--	--	--	620	2.8	<1.0	--	<10.0	--	.70
BR-173 SUNSET HARBOR GG34 S-3	--	--	--	1,600	.8	<1.0	--	<10.0	--	.70
BR-174 SUNSET HARBOR GG34 S-4	--	--	--	1,800	2.2	<1.0	--	470	--	.80
	--	--	--	1,600	2.3	4.5	--	310	.700	.70
BR-115 CALABASH J-2	--	--	--	3,600	.5	1.1	--	<10.0	--	1.9
	--	--	--	3,600	1.1	3.2	1,500	102	--	--
BR-172 SUNSET HARBOR GG34 S-2	--	--	--	7,300	.4	<1.0	--	42.0	--	3.5
	--	--	--	7,100	.5	.8	--	21.0	3.20	3.2
BR-103 BEAR PEN EE36 K-2	--	--	--	7,100	.3	<1.0	--	15.0	--	3.2
	--	--	--	6,600	.5	5	--	46.0	3.00	4.9
	--	--	--	6,600	.5	5	--	46.0	3.00	4.9
BR-119 CALABASH J-6	--	--	--	2,460	--	1.5	700	4.4	--	--
BR-040	564	690	--	760	.8	12	--	26.0	--	--
BR-067	557	680	0	1,090	1.4	9.7	--	38.0	--	--

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	Nitrogen, nitrate dissolved (mg/L as N) (00618)	Nitrogen, nitrate dissolved (mg/L as NO ₃) (71851)	Nitrogen, NO ₂ + NO ₃ total (mg/L as N) (00630)	Phos- phorus total (mg/L as P) (00665)	Color (platinum cobalt units) (00080)	Depth of well, total (feet) (72008)	Elevation of land surface datum (feet above NGVD) (72000)	Solids, residue at 180 °C dissolved (mg/L) (70300)	Solids, sum of constitu- ents, dissolved (mg/L) (70301)	Aluminum, dissolved (µg/L as Al) (01106)
BR-137 BOILING SPRINGS FF32 M-1	--	--	0.1	0.06	--	60.00	25.0	196	195	100
BR-255 HOLDEN BEACH HH35 B-3	--	--	.1	.43	--	84.00	8.7	29,600	28,400	<100
BR-027	0.00	0.00	--	--	10	--	--	223	215	--
BR-104 BEAR PEN EE36 K-3	--	--	<.1	.09	--	52.00	60.9	500	--	<100
BR-108 BEAR PEN EE36 K-7	--	--	<.1	.05	--	44.00	60.3	188	--	<100
BR-109 BEAR PEN EE36 K-8	--	--	<.1	.11	--	110.00	61.1	277	--	<100
	--	--	<.1	<.05	--	110.00	61.1	100	--	<100
BR-144 LONGWOOD X-5	--	--	.1	<.05	--	65.00	44.0	226	--	<100
BR-152 SHALLOTTE B-4	--	--	.1	.06	--	70.00	69.2	323	284	<100
BR-105 BEAR PEN EE36 K-4	--	--	.1	<.05	--	332.00	61.1	2,780	--	100
BR-116 CALABASH J-3	--	--	<.1	<.05	--	660.00	47.6	1,480	--	<100
BR-173 SUNSET HARBOR GG34 S-3	--	--	<.1	.05	--	663.00	25.4	3,280	--	<100
BR-174 SUNSET HARBOR GG34 S-4	--	--	.2	<.05	--	322.00	25.9	3,830	--	<100
	--	--	<.1	<.05	--	322.00	25.9	3,800	3,710	<100
BR-115 CALABASH J-2	--	--	<.1	<.05	--	1,052.00	48.0	6,350	--	<100
	--	--	--	--	--	1,052.00	48.0	6,470	6,550	--
BR-172 SUNSET HARBOR GG34 S-2	--	--	.1	<.05	--	1,304.00	25.4	12,500	--	<100
	--	--	<.1	<.05	--	1,304.00	25.4	11,900	12,000	<100
BR-103 BEAR PEN EE36 K-2	--	--	<.1	<.05	--	1,140.00	60.9	11,400	--	100
	--	--	<.1	<.05	--	1,140.00	60.9	11,100	11,100	<100
	--	--	<.1	<.05	--	1,140.00	60.9	11,100	11,100	<100
BR-119 CALABASH J-6	--	--	--	--	--	904.00	47.0	4,220	4,430	--
BR-040	.00	.00	--	--	15	--	--	1,930	1,950	--
BR-067	.14	.60	--	--	--	--	--	2,380	2,510	--

Table 4. Selected historic ground-water-quality analyses from samples collected in Brunswick County, North Carolina—Continued

[S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, Upper Cretaceous series; G/M, gallons per minute; mm, millimeter; mg/L, miligram per liter; --, no data; °C, degree Celsius; <, less than; ANC, acid-neutralizing capacity; µg/L, microgram per liter; µS/cm, microsiemens per centimeter; E, estimated]

Local identifier	Aluminum, total recoverable (µg/L as Al) (01105)	Iron, dissolved (µg/L as Fe) (01046)	Iron, total recoverable (µg/L as Fe) (01045)	Lithium, dissolved (µg/L as Li) (01130)	Manganese, dissolved (µg/L as Mn) (01056)	Manganese, total recoverable (µg/L as Mn) (01055)	Zinc, total recoverable (µg/L as Zn) (01092)	Depth to bottom of sample interval (feet) (72016)	Depth to top of sample interval (feet) (72015)
BR-137 BOILING SPRINGS FF32 M-1	--	<100	--	<50.0	<50	--	--	--	--
BR-255 HOLDEN BEACH HH35 B-3	--	2,000	--	120	140	--	--	--	--
BR-027	<100	--	40	--	--	0	--	70	--
BR-104 BEAR PEN EE36 K-3	--	6,200	--	--	50	--	--	--	--
BR-108 BEAR PEN EE36 K-7	--	200	--	--	<50	--	--	--	--
BR-109 BEAR PEN EE36 K-8	--	2,500	--	<50.0	<50	--	--	--	--
	--	12,000	--	<50.0	130	--	--	--	--
BR-144 LONGWOOD X-5	--	200	--	<50.0	<50	--	--	--	--
BR-152 SHALLOTTE B-4	--	700	--	<50.0	<50	--	--	--	--
BR-105 BEAR PEN EE36 K-4	--	<50	--	--	<50	--	--	--	--
BR-116 CALABASH J-3	--	<50	--	50.0	<50	--	--	--	--
BR-173 SUNSET HARBOR GG34 S-3	--	<50	--	110	<50	--	--	--	--
BR-174 SUNSET HARBOR GG34 S-4	--	<50	--	110	<50	--	--	--	--
	--	600	--	60.0	<50	--	50	--	--
BR-115 CALABASH J-2	--	<50	--	120	<50	--	--	--	--
	--	80	240	--	16	23	--	--	--
BR-172 SUNSET HARBOR GG34 S-2	--	<50	--	280	110	--	--	--	--
	--	1,900	--	240	120	--	<50	--	--
BR-103 BEAR PEN EE36 K-2	--	400	--	--	90	--	--	--	--
	--	3,900	--	210	290	--	170	--	--
	--	3,900	--	210	290	--	170	--	--
BR-119 CALABASH J-6	--	30	350	--	22	24	--	--	--
BR-040	<100	--	30	--	--	0	--	303	303
BR-067	--	--	310	--	--	30	--	--	--

Table 5. Selected chloride concentrations in ground-water samples collected in Brunswick County, North Carolina

[mg/L, milligram per liter; S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, upper Cretaceous series]

Local identifier	Station number	Geologic unit	Date	Chloride, dissolved (mg/L)
BR-038 Shallote High School	335728078233501	S	05-03-60	14
BR-058 Leland High	341529078024901	S	01-14-41	5.0
BR-064 Va. Car Chem Co.	341548078000801	S	08-25-54	24
BR-110 Bear Pen EE36 K-9	340743078202009	S	04-29-80	21
BR-113 Boiling Springs RS2 FF32 Y-2	340052078045902	S	12-05-77	9.0
		S	04-25-80	7.0
BR-120 GW Nitrate Site 1	340033078172001	S	07-01-99	60
BR-121 GW Nitrate Site 2	335425078241401	S	07-01-99	28
BR-122 GW Nitrate Site 3	340338078094901	S	06-29-99	39
BR-126 Grissettown K-2	335742078294701	S	01-01-77	14
BR-145 Longwood X-6	340003078325702	S	06-07-78	10
BR-146 Maco Fire Tower O-2	341718078092601	S	01-01-79	7.6
BR-171 Sunset Harbor GG34 S-1	335629078115401	S	08-05-76	5.0
BR-009 Southport No. 1	335512078011201	CH	09-12-57	9.6
		CH	09-12-57	9.7
		CH	10-22-64	28
BR-010 Southport Municipal	335605078012201	CH	04-07-48	20
BR-011 Southport Municipal	335607078010001	CH	04-07-48	20
		CH	04-17-48	70
BR-016 Long Beach Municipal	335441078072801	CH	08-06-58	140
BR-018 U.S. Army Terminal	335853077585301	CH	03-26-57	15
		CH	06-29-59	16
		CH	09-20-60	13
		CH	09-20-61	13
		CH	10-30-62	10
		CH	12-12-69	19
BR-019 U.S. Army Terminal	335934077582901	CH	10-13-53	18
		CH	03-26-57	27
		CH	06-29-59	30
		CH	12-12-69	24
BR-020 U.S. Army Terminal	340025077560801	CH	03-26-57	54
		CH	06-29-59	20
		CH	09-20-60	58
		CH	09-20-61	23
		CH	10-30-62	17
		CH	12-12-69	26
BR-021 U.S. Army Terminal	340007077561501	CH	03-26-57	29
		CH	06-29-59	20
		CH	12-12-69	17
BR-022 U.S. Army Terminal	340033077570901	CH	03-26-57	18
		CH	06-29-59	16
		CH	12-12-69	17

Table 5. Selected chloride concentrations in ground-water samples collected in Brunswick County, North Carolina—Continued

[mg/L, milligram per liter; S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, upper Cretaceous series]

Local identifier	Station number	Geologic unit	Date	Chloride, dissolved (mg/L)
BR-023 U.S. Army Terminal	335855078014001	CH	11-29-53	10
BR-024	340255078020701	CH	05-14-56	10
BR-033	335320078340001	CH	05-03-60	12
BR-043	340045078162301	CH	05-02-60	10
BR-112 Boiling Springs RS2 FF32 Y-1	340052078045901	CH	12-05-77	16
		CH	04-25-80	15
BR-137 Boiling Springs FF32 M-1	340200078020901	CH	07-19-77	11
BR-138 Boiling Springs FF32 M-2	340239078021601	CH	12-05-77	10
BR-139 Boiling Springs EE32 V-1	340526078010301	CH	07-21-77	15
BR-196 Brunswick County well P6	335911078064602	CH	12-12-74	17
BR-232 Brunswick County O-1 (Southport)	335823078062501	CH	04-01-74	20
BR-233 Brunswick County O-2 (Southport)	335823078062502	CH	04-11-74	28
BR-234 Brunswick County O-3 (Leland)	341318077591601	CH	05-02-74	12
BR-235 Brunswick County O-4 (Leland)	341319077591002	CH	05-10-74	12
BR-236 Brunswick County O-6 (Leland)	341318077592201	CH	07-10-74	8.0
BR-237 Brunswick County O-7 (Southport)	335638078050301	CH	08-21-74	22
BR-238 Brunswick County O-8 (Southport)	335636078050901	CH	08-21-74	20
BR-239 Brunswick County O-9 (Holden Beach)	335645078151601	CH	10-11-74	17
BR-240 Brunswick County O-11 (Southport)	335747078062801	CH	11-14-74	18
BR-241 Brunswick County O-12 (Southport)	335747078062701	CH	11-26-74	18
BR-255 Holden Beach HH35 B-3	335453078161901	CH	11-01-76	10,000
		CH	06-06-77	15,000
BR-258 Brunswick County P-5 (Holden Beach)	335605078150001	CH	10-31-74	.0
BR-027	335459078153001	PD	05-03-60	36
BR-079 (NC-181) Sunset Harbor	335629078115406	PD	05-14-75	8.0
BR-104 Bear Pen EE36 K-3	340743078202003	PD	08-02-76	11
BR-108 Bear Pen EE36 K-7	340743078202007	PD	06-21-78	10
BR-109 Bear Pen EE36 K-8	340743078202008	PD	06-15-78	15
		PD	04-29-80	24
BR-124 Clemmon's Trail FF34 G-1	340307078140601	PD	06-06-77	10
BR-134 Honey Island EE36 J-1	340846078200901	PD	08-25-70	35
BR-144 Longwood X-5	340003078325701	PD	06-07-78	17
BR-147 Maco Fire Tower O-3	341718078092603	PD	04-18-78	210
BR-152 Shallotte B-4	335930078262002	PD	06-13-77	29
BR-105 Bear Pen EE36 K-4	340743078202004	BK	07-15-76	1,200
BR-106 Bear Pen EE36 K-5	340743078202002	BK	07-15-76	2,700
BR-116 Calabash J-3	335334078352102	BK	05-12-75	620
BR-117 Calabash J-4	335334078352103	BK	05-16-73	960
BR-118 Calabash J-5	335334078352104	BK	05-24-73	840
BR-127 Grissettown K-3a	335742078294702	BK	11-03-77	880
BR-173 Sunset Harbor GG34 S-3	335629078115403	BK	04-10-75	1,600
		BK	04-28-80	1,800
BR-174 Sunset Harbor GG34 S-4	335629078115404	BK	05-14-75	1,800
		BK	04-28-80	1,600

Table 5. Selected chloride concentrations in ground-water samples collected in Brunswick County, North Carolina—Continued

[mg/L, milligram per liter; S, surficial aquifer; CH, Castle Hayne aquifer; PD, Peedee aquifer; BK, Black Creek aquifer; CU, upper Cape Fear aquifer; CL, lower Cape Fear aquifer; CR, upper Cretaceous series]

Local identifier	Station number	Geologic unit	Date	Chloride, dissolved (mg/L)
BR-115 Calabash J-2	335334078352101	CU	04-10-75	3,600
		CU	01-28-88	3,600
BR-172 Sunset Harbor GG34 S-2	335229078115402	CU	04-10-75	7,300
		CU	04-28-80	7,100
BR-103 Bear Pen EE36 K-2	340743078202005	CL	04-10-75	6,800
		CL	08-02-76	7,100
		CL	04-29-80	6,600
BR-119 Calabash J-6	335334078352105	CL	01-28-88	2,500
BR-004 Baptist Assembly	335340078014001	CR	03-17-57	1,600
BR-030	335448078255301	CR	05-03-60	1,100
BR-040	335823078231901	CR	05-03-60	760
BR-049 Waccamaw High School	340345078305001	CR	11-14-54	280
BR-050	340357078315001	CR	02-07-54	240
BR-067	341657078124201	CR	12-23-54	1,000
		CR	01-14-70	1,100

SUPPLEMENTAL DATA

1A—Selected ground-water-level data compiled for Brunswick County, North Carolina

1B—Continuous ground-water-level data for Brunswick County, North Carolina

Supplemental data 1A—Selected ground-water-level data compiled for Brunswick County, North Carolina.

Ground-water levels in this appendix are grouped by the aquifer in which the well is completed, and presented in the following form:

Site Identification Number	15-digit USGS site identification number.
Local Number	USGS local identifier.
Latitude	Latitude in NAD27 degrees, minutes, and seconds (decimals reflect level of accuracy).
Longitude	Longitude in NAD27 degrees, minutes, and seconds (decimals reflect level of accuracy).
Well Depth	Total well depth in feet.
Land Surface Elevation	Elevation in feet above mean sea level.
Primary Aquifer	Primary aquifer with open hole or screen.

**WATER LEVELS IN FEET BELOW
LAND SURFACE DATUM**

Water level measured by USGS or compiled from NCDENR or SCDNR.

HIGHEST

Highest observed water level for the period of record, in feet below land surface, and date observed.

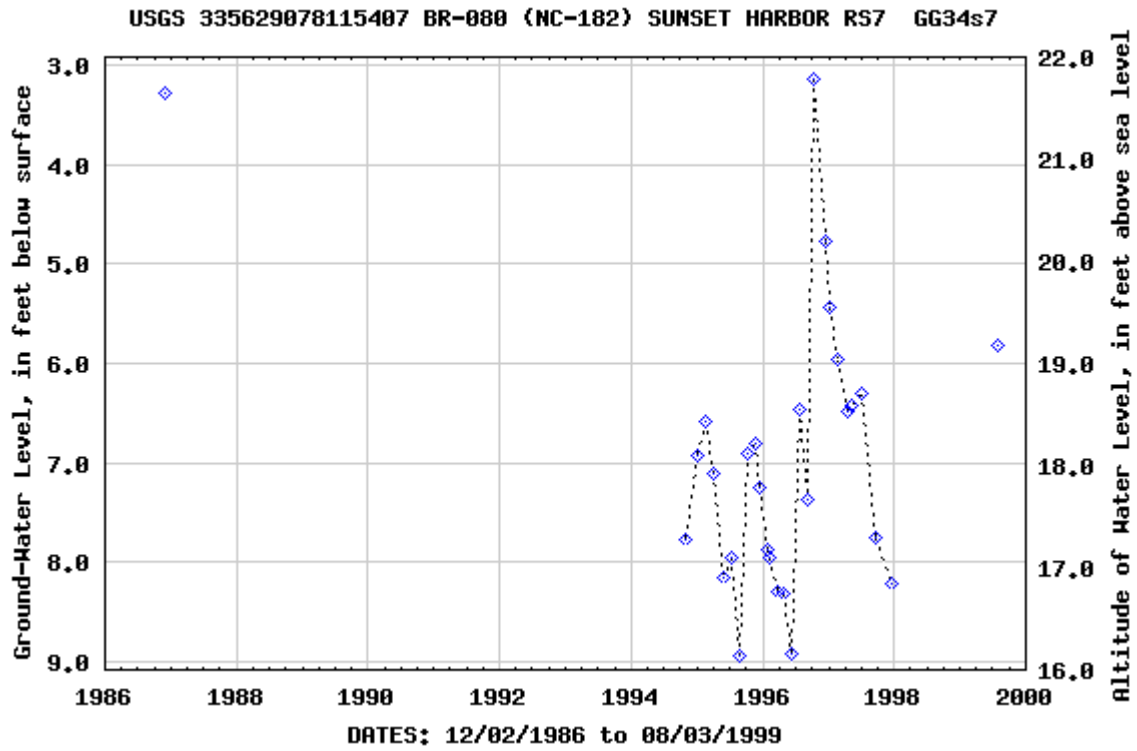
LOWEST

Lowest observed water level for the period of record, in feet below land surface, and date observed.

Site Identification Number 335629078115407
 Local Number BR-080 (NC-182) SUNST HARBOR RS7 GG34s7
 Latitude 335628.43
 Longitude 781157.23
 Well Depth 15.0
 Land Surface Elevation 28.06
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 02, 1986	3.27	AUG 22, 1995	8.95	MAY 01, 1996	8.31	FEB 20, 1997	5.96
NOV 03, 1994	7.78	OCT 03	6.91	JUN 12	8.92	APR 17	6.49
JAN 05, 1995	6.93	NOV 20	6.81	JUL 24	6.47	MAY 14	6.42
FEB 22	6.59	DEC 13	7.24	SEP 05	7.38	JUL 07	6.30
APR 05	7.10	JAN 25, 1996	7.87	OCT 07	3.14	SEP 17	7.75
MAY 31	8.15	FEB 13	7.95	DEC 11	4.77	DEC 17	8.21
JUL 11	7.95	MAR 20	8.30	JAN 06, 1997	5.44	AUG 03, 1999	5.81
HIGHEST 3.14		OCT 07, 1996					
LOWEST 8.95		AUG 22, 1995					



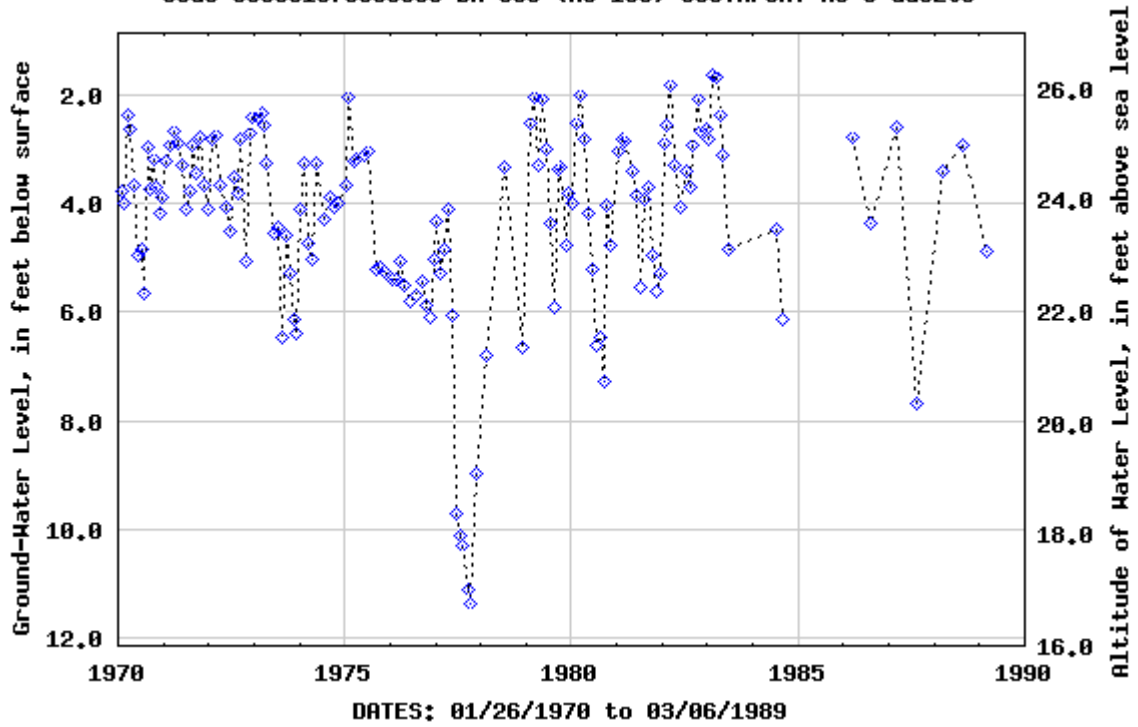
Site Identification Number 335631078003606
 Local Number BR-083 (NC-199) SOUTHPORT RS 6 GG32t6
 Latitude 335630.79
 Longitude 780036.12
 Well Depth 23
 Land Surface Elevation 28.00
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 26, 1970	3.79	AUG 25, 1971	2.93	JUL 11, 1973	4.45	SEP 09, 1975	5.21
FEB 24	3.98	SEP 29	3.44	AUG 15	6.48	OCT 15	5.19
MAR 24	2.39	OCT 28	2.79	SEP 11	4.57	NOV 14	5.23
APR 15	2.62	NOV 24	3.66	OCT 11	5.27	JAN 14, 1976	5.39
MAY 14	3.67	DEC 30	4.11	NOV 13	6.12	FEB 16	5.39
JUN 10	4.97	JAN 27, 1972	2.83	DEC 10	6.39	MAR 17	5.06
JUL 16	4.83	FEB 29	2.73	JAN 11, 1974	4.09	APR 26	5.50
AUG 02	5.64	APR 04	3.65	FEB 11	3.26	JUN 10	5.81
26	2.97	MAY 22	4.05	MAR 12	4.73	JUL 26	5.70
SEP 18	3.73	JUN 23	4.50	APR 16	5.01	SEP 13	5.43
OCT 19	3.17	JUL 19	3.50	MAY 10	3.25	OCT 14	5.89
NOV 10	3.71	AUG 23	3.82	JUL 15	4.28	NOV 16	6.10
DEC 10	4.19	SEP 08	2.82	SEP 11	3.87	DEC 16	5.01
22	3.88	OCT 31	5.05	OCT 15	4.05	JAN 11, 1977	4.32
JAN 29, 1971	3.22	NOV 30	2.70	NOV 14	3.98	FEB 15	5.29
FEB 24	2.92	DEC 22	2.40	JAN 14, 1975	3.65	MAR 10	4.85
MAR 31	2.65	JAN 31, 1973	2.40	FEB 06	2.03	APR 14	4.11
APR 29	2.90	FEB 28	2.35	MAR 14	3.22	MAY 18	6.07
MAY 27	3.29	MAR 30	2.55	APR 11	3.20	JUN 16	9.71
JUN 25	4.10	APR 06	3.25	JUN 13	3.12	JUL 13	10.11
JUL 29	3.78	JUN 07	4.55	JUL 09	3.03	AUG 08	10.30
SEP 15, 1977	11.09	JAN 11, 1980	4.01	AUG 14, 1981	3.92	FEB 10, 1983	1.62
OCT 10	11.36	FEB 12	2.51	SEP 15	3.71	MAR 15	1.68
NOV 22	8.98	MAR 18	2.00	OCT 16	4.95	APR 20	2.38
FEB 22, 1978	6.78	APR 11	2.82	NOV 12	5.63	MAY 10	3.11
JUL 17	3.34	MAY 19	4.19	DEC 15	5.28	JUN 17	4.84
NOV 27	6.65	JUN 16	5.22	JAN 12, 1982	2.87	JUL 12, 1984	4.46
FEB 12, 1979	2.51	JUL 15	6.60	FEB 11	2.57	AUG 31	6.14
MAR 13	2.05	AUG 14	6.48	MAR 11	1.82	MAR 18, 1986	2.77
APR 17	3.31	SEP 17	7.28	APR 14	3.30	AUG 08	4.35
MAY 16	2.08	OCT 14	4.03	MAY 26	4.06	MAR 11, 1987	2.60
JUN 19	3.01	NOV 13	4.76	JUL 15	3.42	AUG 07	7.68
JUL 17	4.36	JAN 13, 1981	3.03	AUG 17	3.70	MAR 08, 1988	3.41
AUG 15	5.91	FEB 09	2.82	SEP 10	2.92	AUG 11	2.94
SEP 11	3.35	MAR 11	2.85	OCT 14	2.08	MAR 06, 1989	4.86
OCT 11	3.34	MAY 14	3.40	NOV 10	2.65		
NOV 15	4.78	JUN 10	3.86	DEC 20	2.64		
DEC 12	3.82	JUL 15	5.55	JAN 17, 1983	2.82		

HIGHEST 1.62 FEB 10, 1983
 LOWEST 11.36 OCT 10, 1977

USGS 335631078003606 BR-083 (NC-199) SOUTHPORT RS 6 G632t6



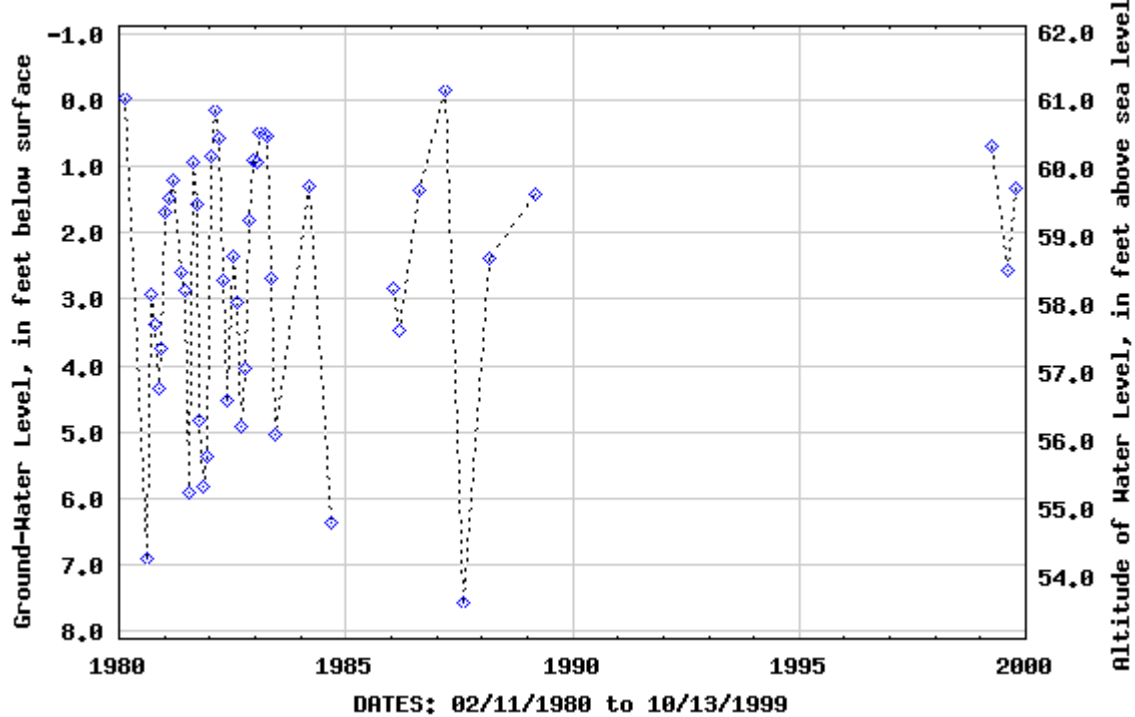
Site Identification Number 340743078202009
 Local Number BR-110 BEAR PEN EE36 K-9
 Latitude 340742.37
 Longitude 782020.81
 Well Depth 9.00
 Land Surface Elevation 61.1
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM (READINGS ABOVE LAND SURFACE INDICATED BY "--")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 11, 1980	-.04	AUG 13, 1981	.95	SEP 10, 1982	4.92	JAN 13, 1986	2.84
AUG 12	6.91	SEP 15	1.56	OCT 14	4.04	MAR 12	3.48
SEP 11	2.93	OCT 13	4.82	NOV 10	1.81	AUG 08	1.36
OCT 14	3.37	NOV 12	5.81	DEC 20	.92	MAR 09, 1987	-.14
NOV 12	4.35	DEC 15	5.38	JAN 17, 1983	.95	AUG 10	7.56
DEC 11	3.75	JAN 12, 1982	.86	FEB 10	.48	MAR 07, 1988	2.38
JAN 12, 1981	1.68	FEB 11	.16	MAR 15	.52	MAR 07, 1989	1.42
FEB 09	1.49	MAR 11	.58	APR 11	.56	MAR 30, 1999	.70
MAR 11	1.22	APR 14	2.72	MAY 10	2.68	AUG 03	2.57
MAY 15	2.60	MAY 26	4.53	JUN 17	5.04	OCT 13	1.32
JUN 10	2.88	JUL 15	2.36	MAR 12, 1984	1.31		
JUL 15	5.90	AUG 16	3.05	AUG 28	6.36		

HIGHEST -.14 MAR 09, 1987
 LOWEST 7.56 AUG 10, 1987

USGS 340743078202009 BR-110 BEAR PEN EE36 K-9



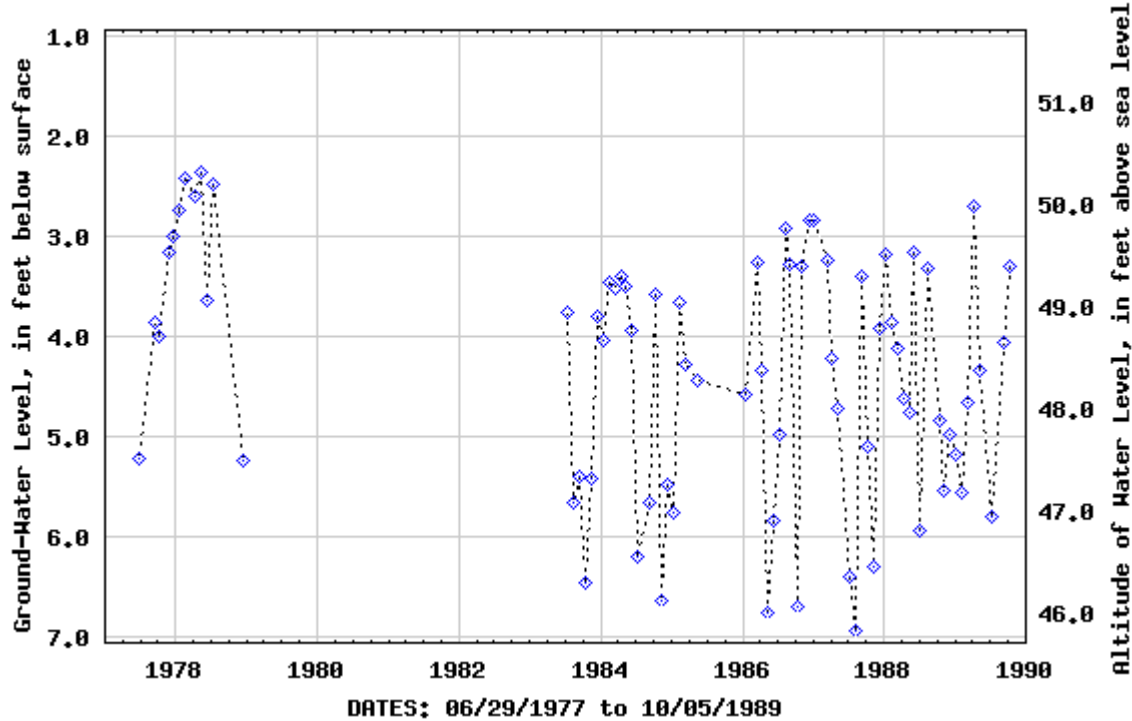
Site Identification Number 340052078045902
 Local Number BR-113 BOILING SPRINGS RS2 FF32 Y-2
 Latitude 340051.30
 Longitude 780459.97
 Well Depth 14.0
 Land Surface Elevation 52.7
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 29, 1977	5.22	NOV 15, 1983	5.42	MAY 13, 1985	4.44	JUL 07, 1987	6.40
SEP 19	3.86	DEC 15	3.79	JAN 14, 1986	4.58	AUG 06	6.95
OCT 11	4.01	JAN 15, 1984	4.05	MAR 18	3.25	SEP 09	3.39
NOV 22	3.15	FEB 15	3.46	APR 07	4.34	OCT 05	5.10
DEC 15	3.00	MAR 15	3.52	MAY 08	6.77	NOV 09	6.30
JAN 19, 1978	2.73	APR 15	3.40	JUN 09	5.85	DEC 07	3.92
FEB 22	2.42	MAY 10	3.50	JUL 07	4.99	JAN 14, 1988	3.17
APR 05	2.60	JUN 11	3.94	AUG 08	2.91	FEB 08	3.86
MAY 11	2.35	JUL 10	6.20	SEP 05	3.27	MAR 07	4.13
JUN 14	3.63	SEP 05	5.66	OCT 13	6.70	APR 07	4.63
JUL 17	2.48	OCT 10	3.57	NOV 06	3.30	MAY 09	4.77
DEC 14	5.25	NOV 13	6.64	DEC 09	2.84	31	3.16
JUL 15, 1983	3.76	DEC 10	5.49	JAN 06, 1987	2.84	JUL 06	5.95
AUG 15	5.66	JAN 14, 1985	5.77	MAR 11	3.23	AUG 11	3.32
SEP 15	5.41	FEB 11	3.66	APR 09	4.22	OCT 12	4.84
OCT 15	6.46	MAR 11	4.28	MAY 11	4.72	NOV 08	5.55
DEC 05, 1988	4.99	MAR 06, 1989	4.66	JUL 11, 1989	5.81		
JAN 09, 1989	5.18	APR 12	2.70	SEP 07	4.06		
FEB 06	5.56	MAY 09	4.35	OCT 05	3.30		

HIGHEST 2.35 MAY 11, 1978
 LOWEST 6.95 AUG 06, 1987

USGS 340052078045902 BR-113 BOILING SPRINGS RS2 FF32 Y-2



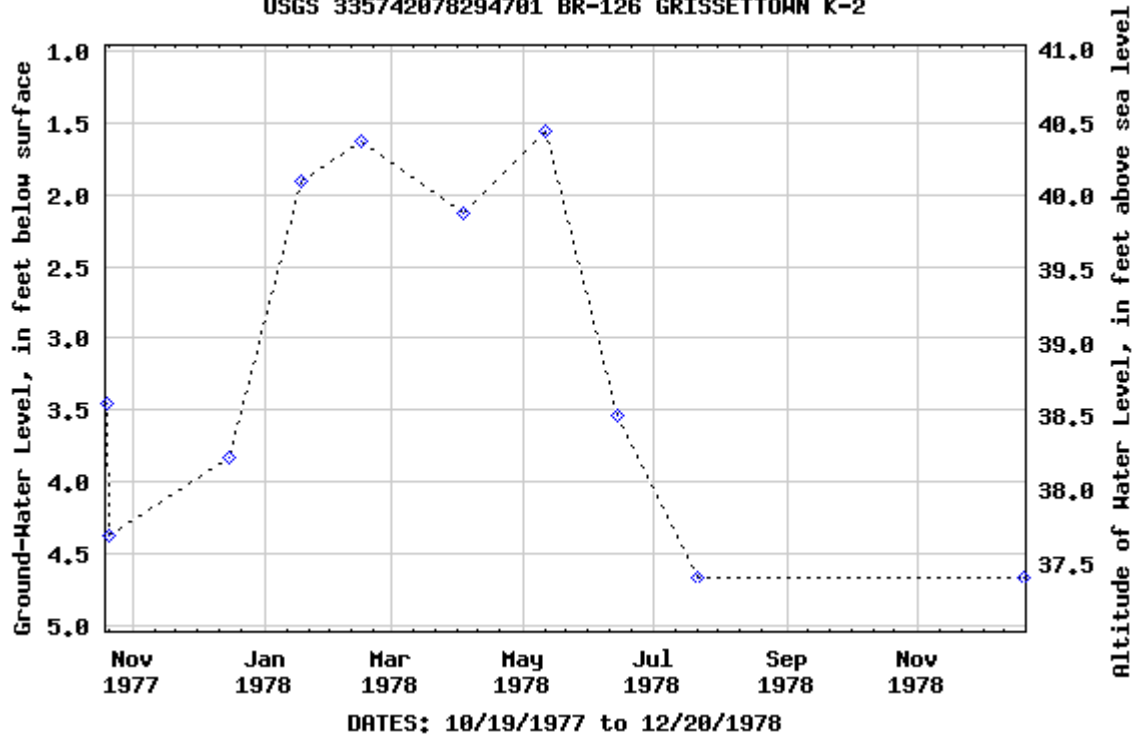
Site Identification Number 335742078294701
 Local Number BR-126 GRISSETTOWN K-2
 Latitude 335742
 Longitude 782947
 Well Depth 25
 Land Surface Elevation 42.03
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19, 1977	3.46	JAN 18, 1978	1.91	MAY 11, 1978	1.56	DEC 20, 1978	4.67
20	4.37	FEB 15	1.63	JUN 14	3.54		
DEC 15	3.83	APR 03	2.13	JUL 21	4.67		

HIGHEST 1.56 MAY 11, 1978
 LOWEST 4.67 JUL 21, 1978 DEC 20, 1978

USGS 335742078294701 BR-126 GRISSETTOWN K-2



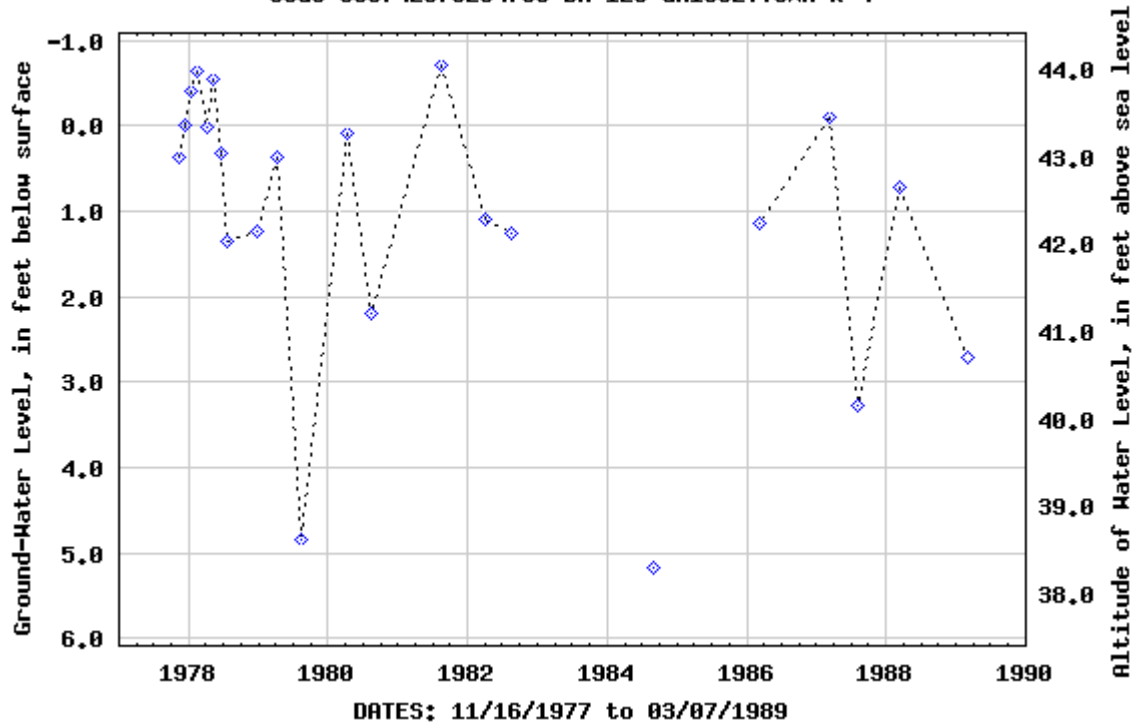
Site Identification Number 335742078294703
 Local Number BR-128 GRISSETTOWN K-4
 Latitude 335742
 Longitude 782947
 Well Depth 56
 Land Surface Elevation 42.03
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM (READINGS ABOVE LAND SURFACE INDICATED BY "--")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 16, 1977	.36	JUN 14, 1978	.32	AUG 12, 1980	2.19	MAR 09, 1987	-.10
DEC 15	.00	JUL 21	1.35	AUG 12, 1981	-.70	AUG 07	3.28
JAN 18, 1978	-.41	DEC 20	1.24	APR 06, 1982	1.09	MAR 08, 1988	.72
FEB 15	-.64	APR 12, 1979	.37	AUG 16	1.27	MAR 07, 1989	2.71
APR 03	.01	AUG 13	4.85	AUG 30, 1984	5.16		
MAY 11	-.55	APR 09, 1980	.08	MAR 12, 1986	1.13		

HIGHEST -.70 AUG 12, 1981
 LOWEST 5.16 AUG 30, 1984

USGS 335742078294703 BR-128 GRISSETTOWN K-4



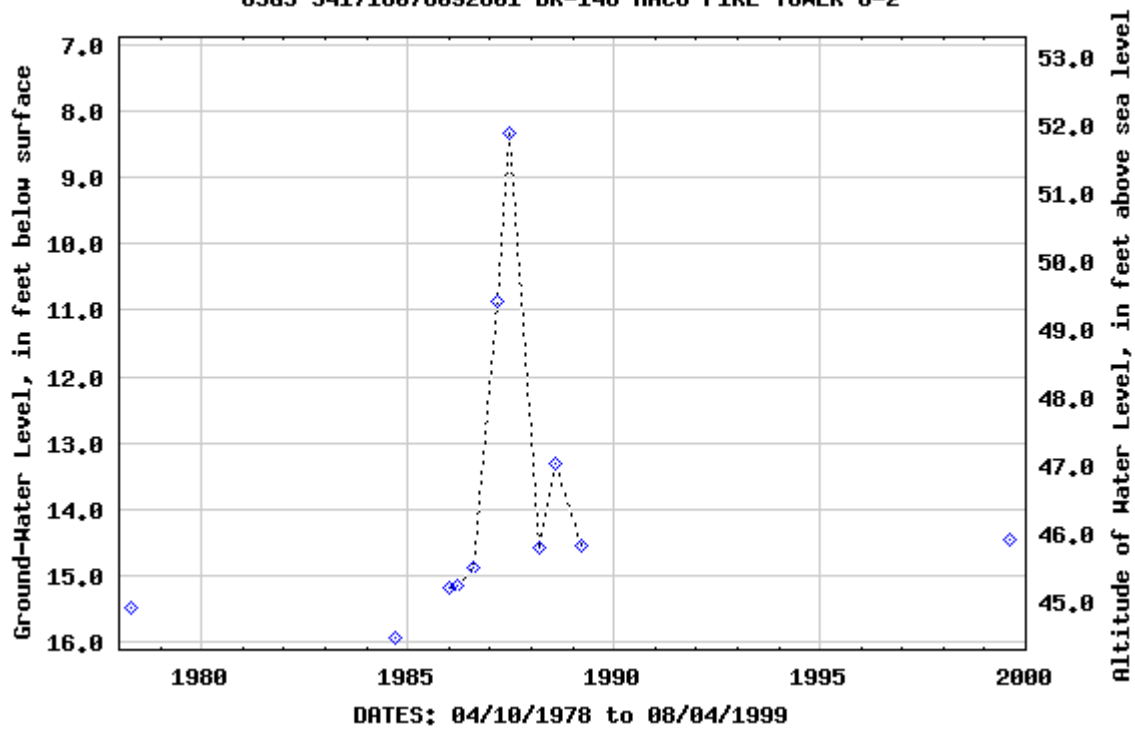
Site Identification Number 341718078092601
 Local Number BR-146 MACO FIRE TOWER O-2
 Latitude 341718
 Longitude 780926
 Well Depth 36
 Land Surface Elevation 60.29
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 10, 1978	15.49	MAR 18, 1986	15.14	JUN 22, 1987	8.35	MAR 27, 1989	14.53
SEP 05, 1984	15.94	AUG 08	14.87	MAR 07, 1988	14.56	AUG 04, 1999	14.45
JAN 13, 1986	15.16	MAR 09, 1987	10.87	AUG 08	13.30		

HIGHEST 8.35 JUN 22, 1987
 LOWEST 15.94 SEP 05, 1984

USGS 341718078092601 BR-146 MACO FIRE TOWER O-2



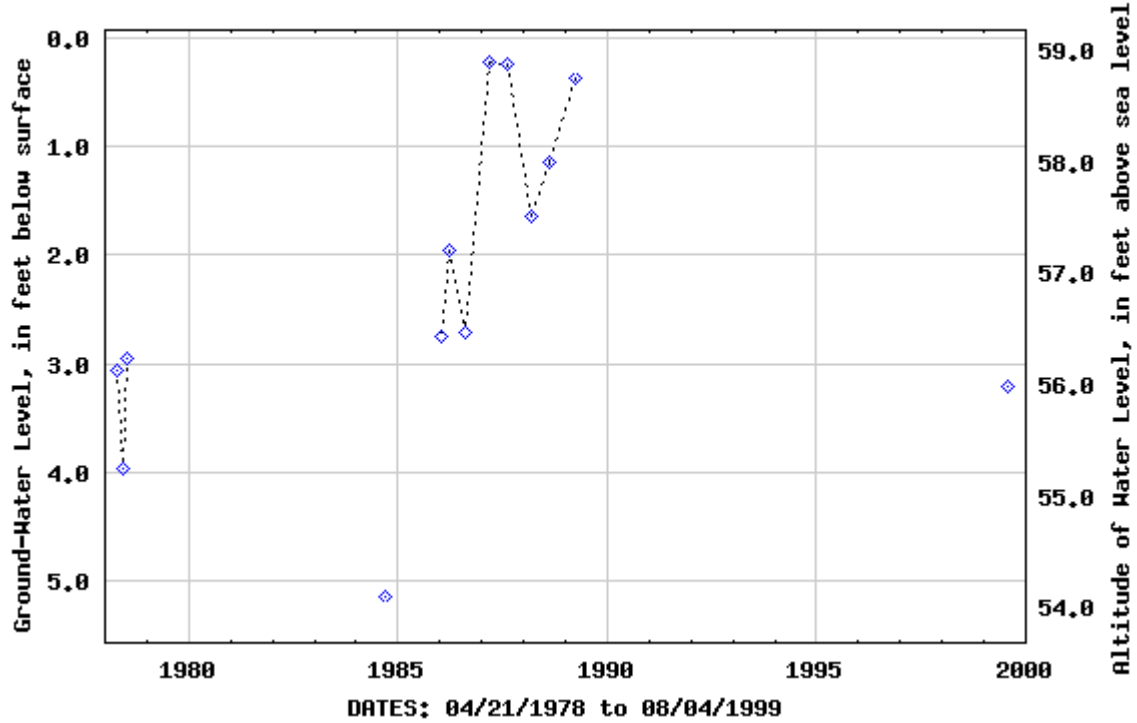
Site Identification Number 341718078092602
 Local Number BR-148 MACO FIRE TOWER O-5
 Latitude 341718
 Longitude 780926
 Well Depth 9
 Land Surface Elevation 59.18
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 21, 1978	3.07	JAN 13, 1986	2.75	AUG 11, 1987	.24	AUG 04, 1999	3.22
JUN 15	3.96	MAR 18	1.95	MAR 07, 1988	1.64		
JUL 20	2.96	AUG 08	2.72	AUG 08	1.15		
SEP 05, 1984	5.14	MAR 09, 1987	.22	MAR 27, 1989	.37		

HIGHEST .22 MAR 09, 1987
 LOWEST 5.14 SEP 05, 1984

USGS 341718078092602 BR-148 MACO FIRE TOWER O-5



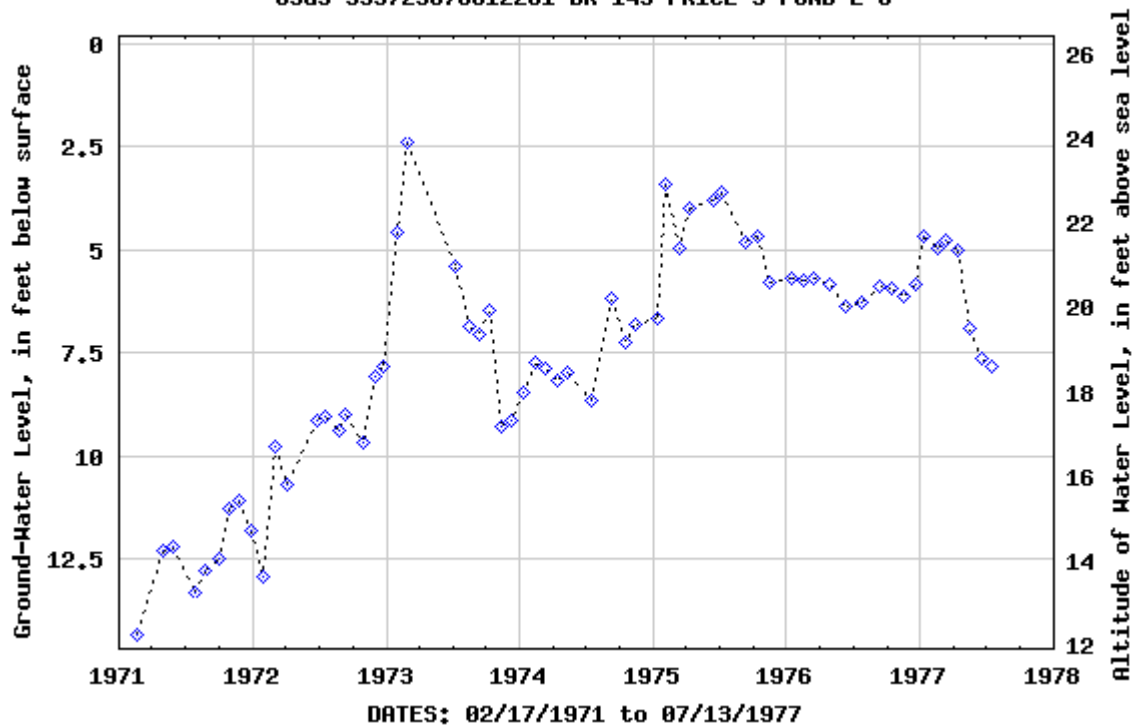
Site Identification Number 335729078012201
 Local Number BR-149 PRICE'S POND L-6
 Latitude 335728
 Longitude 780123
 Well Depth 31.0
 Land Surface Elevation 26.42
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 17, 1971	14.34	SEP 29, 1971	12.47	FEB 29, 1972	9.78	SEP 08, 1972	8.98
APR 29	12.27	OCT 28	11.27	APR 04	10.68	OCT 31	9.68
MAY 27	12.18	NOV 24	11.08	JUN 23	9.13	NOV 30	8.08
JUL 29	13.33	DEC 30	11.81	JUL 19	9.03	DEC 22	7.83
AUG 25	12.80	JAN 27, 1972	12.91	AUG 23	9.38	JAN 31, 1973	4.58
FEB 28, 1973	2.38	MAY 10, 1974	7.99	SEP 09, 1975	4.81	NOV 16, 1976	6.14
JUL 11	5.43	JUL 15	8.67	OCT 15	4.68	DEC 16	5.82
AUG 15	6.88	SEP 11	6.20	NOV 14	5.78	JAN 11, 1977	4.69
SEP 11	7.08	OCT 15	7.26	JAN 14, 1976	5.68	FEB 15	4.98
OCT 11	6.49	NOV 14	6.82	FEB 16	5.75	MAR 10	4.78
NOV 13	9.31	JAN 14, 1975	6.66	MAR 17	5.70	APR 14	5.04
DEC 10	9.14	FEB 06	3.43	APR 26	5.86	MAY 18	6.91
JAN 11, 1974	8.46	MAR 14	4.95	JUN 10	6.40	JUN 16	7.62
FEB 11	7.74	APR 11	4.02	JUL 26	6.26	JUL 13	7.81
MAR 12	7.88	JUN 13	3.81	SEP 13	5.90		
APR 16	8.15	JUL 09	3.63	OCT 14	5.96		

HIGHEST 2.38 FEB 28, 1973
 LOWEST 14.34 FEB 17, 1971

USGS 335729078012201 BR-149 PRICE'S POND L-6



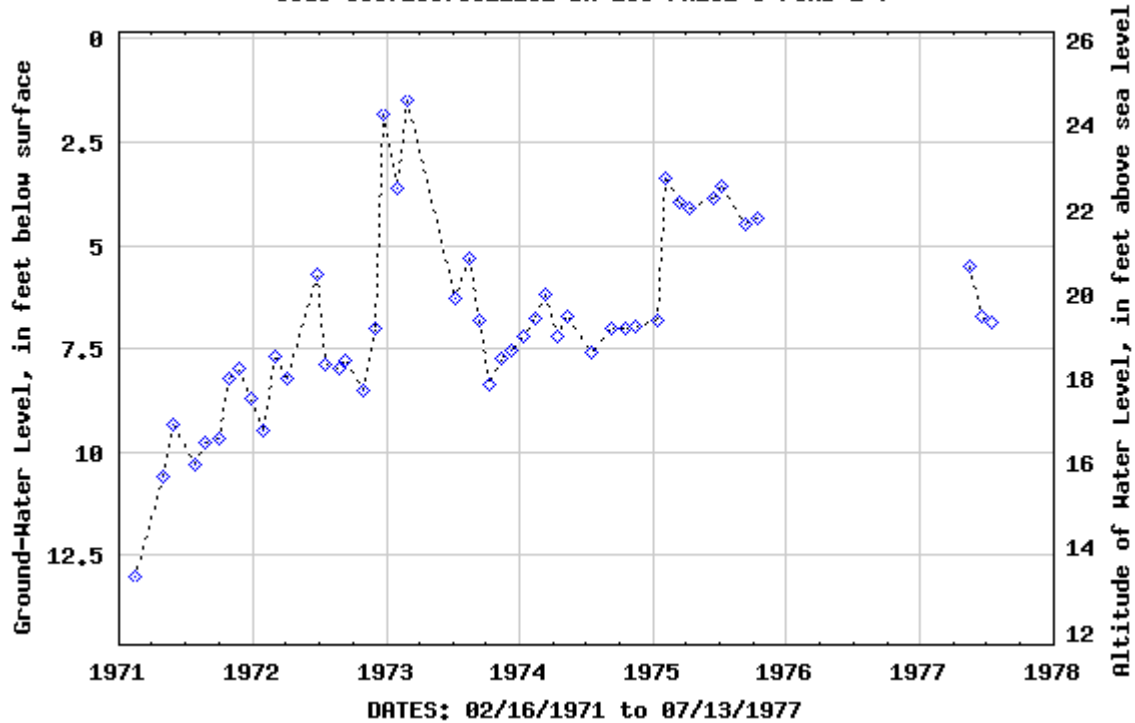
Site Identification Number 335729078012202
 Local Number BR-150 PRICE'S POND L-7
 Latitude 335728
 Longitude 780123
 Well Depth 31.0
 Land Surface Elevation 26.2
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 16, 1971	13.01	JUN 23, 1972	5.71	OCT 11, 1973	8.36	JAN 14, 1975	6.83
APR 29	10.57	JUL 19	7.86	NOV 13	7.73	FEB 06	3.37
MAY 27	9.35	AUG 23	7.98	DEC 10	7.56	MAR 14	3.97
JUL 29	10.31	SEP 08	7.79	JAN 11, 1974	7.18	APR 11	4.09
AUG 25	9.75	OCT 31	8.51	FEB 11	6.78	JUN 13	3.84
SEP 29	9.66	NOV 30	7.01	MAR 12	6.17	JUL 09	3.59
OCT 28	8.23	DEC 22	1.81	APR 16	7.18	SEP 09	4.49
NOV 24	7.97	JAN 31, 1973	3.61	MAY 10	6.73	OCT 15	4.36
DEC 30	8.69	FEB 28	1.46	JUL 15	7.58	MAY 18, 1977	5.49
JAN 27, 1972	9.49	JUL 11	6.26	SEP 11	7.01	JUN 16	6.72
FEB 29	7.68	AUG 15	5.32	OCT 15	7.03	JUL 13	6.88
APR 04	8.23	SEP 11	6.79	NOV 14	6.98		

HIGHEST 1.46 FEB 28, 1973
 LOWEST 13.01 FEB 16, 1971

USGS 335729078012202 BR-150 PRICE'S POND L-7



Site Identification Number 335930078262001
 Local Number BR-151 SHALLOTTE B-2
 Latitude 335929.79
 Longitude 782618.14
 Well Depth 15
 Land Surface Elevation 69.72
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 07, 1977	3.84	FEB 24, 1978	2.67	JUL 21, 1978	3.68
	HIGHEST	2.67	FEB 24, 1978		
	LOWEST	3.84	JUN 07, 1977		

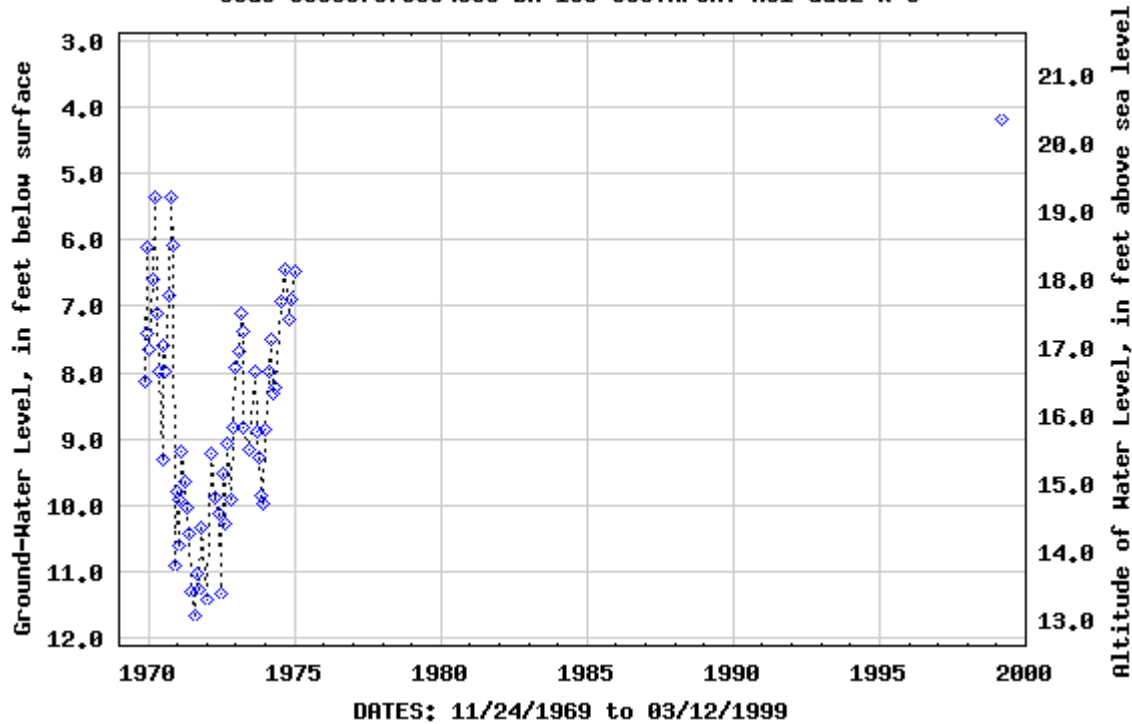
Site Identification Number 335657078004303
 Local Number BR-158 SOUTHPORT RS1 GG32 K-3
 Latitude 335656.8
 Longitude 780044.1
 Well Depth 30
 Land Surface Elevation 24.62
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 24, 1969	8.14	DEC 22, 1970	9.79	MAY 22, 1972	10.12	OCT 11, 1973	9.29
DEC 10	6.10	JAN 27, 1971	9.91	JUN 23	11.32	NOV 13	9.85
15	7.40	29	10.61	JUL 19	9.52	DEC 10	9.98
JAN 19, 1970	7.66	FEB 24	9.19	AUG 23	10.27	JAN 11, 1974	8.84
FEB 24	6.60	MAR 31	9.64	SEP 08	9.07	FEB 11	7.97
MAR 24	5.36	APR 29	10.03	OCT 31	9.92	MAR 12	7.50
APR 15	7.10	MAY 27	10.41	NOV 30	8.82	APR 16	8.30
MAY 18	7.97	JUN 25	11.28	DEC 22	7.92	MAY 10	8.22
JUN 24	9.30	JUL 29	11.64	JAN 31, 1973	7.67	JUL 15	6.94
JUL 16	7.60	AUG 25	11.01	FEB 28	7.12	SEP 11	6.45
AUG 10	7.97	SEP 29	11.26	MAR 30	7.37	OCT 15	7.19
SEP 18	6.83	OCT 28	10.32	APR 06	8.82	NOV 14	6.89
OCT 19	5.36	DEC 30	11.41	JUN 07	9.17	JAN 14, 1975	6.48
NOV 10	6.07	FEB 29, 1972	9.22	AUG 15	7.98	MAR 12, 1999	4.18
DEC 10	10.90	APR 04	9.87	SEP 11	8.88		

HIGHEST 4.18 MAR 12, 1999
 LOWEST 11.64 JUL 29, 1971

USGS 335657078004303 BR-158 SOUTHPORT RS1 GG32 K-3



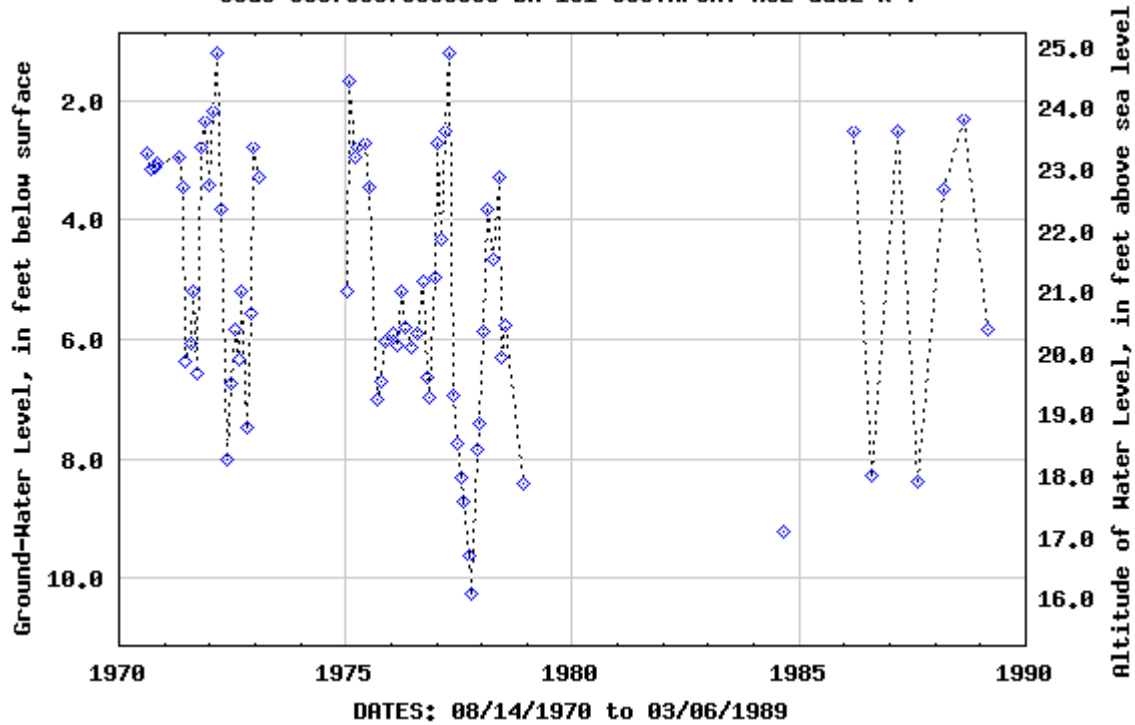
Site Identification Number 335700078000003
 Local Number BR-161 SOUTHPORT RS2 GG32 K-7
 Latitude 335657
 Longitude 780044
 Well Depth 20.0
 Land Surface Elevation 26.22
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 14, 1970	2.88	JUL 19, 1972	5.83	MAR 17, 1976	5.19	NOV 22, 1977	7.83
SEP 18	3.14	AUG 23	6.33	APR 26	5.80	DEC 16	7.42
OCT 19	3.12	SEP 08	5.19	JUN 10	6.14	JAN 19, 1978	5.88
NOV 10	3.06	OCT 31	7.48	JUL 26	5.90	FEB 22	3.83
APR 29, 1971	2.95	NOV 30	5.58	SEP 13	5.04	APR 05	4.66
MAY 27	3.46	DEC 22	2.78	OCT 14	6.63	MAY 15	3.28
JUN 23	6.37	JAN 31, 1973	3.28	NOV 11	6.98	JUN 13	6.30
JUL 29	6.06	JAN 14, 1975	5.21	DEC 16	4.95	JUL 17	5.77
AUG 25	5.18	FEB 06	1.66	JAN 11, 1977	2.72	NOV 27	8.42
SEP 29	6.57	MAR 14	2.95	FEB 15	4.34	SEP 05, 1984	9.21
OCT 28	2.78	APR 11	2.77	MAR 10	2.51	MAR 18, 1986	2.51
NOV 24	2.33	JUN 13	2.70	APR 14	1.21	AUG 08	8.28
DEC 30	3.42	JUL 09	3.45	MAY 18	6.94	MAR 11, 1987	2.52
JAN 27, 1972	2.17	SEP 09	7.00	JUN 16	7.73	AUG 07	8.38
FEB 29	1.21	OCT 15	6.71	JUL 13	8.30	MAR 08, 1988	3.50
APR 04	3.83	NOV 14	6.03	AUG 08	8.72	AUG 11	2.31
MAY 22	8.00	JAN 14, 1976	5.90	SEP 15	9.62	MAR 06, 1989	5.82
JUN 23	6.73	FEB 16	6.09	OCT 10	10.27		

HIGHEST 1.21 FEB 29, 1972 APR 14, 1977
 LOWEST 10.27 OCT 10, 1977

USGS 335700078000003 BR-161 SOUTHPORT RS2 GG32 K-7



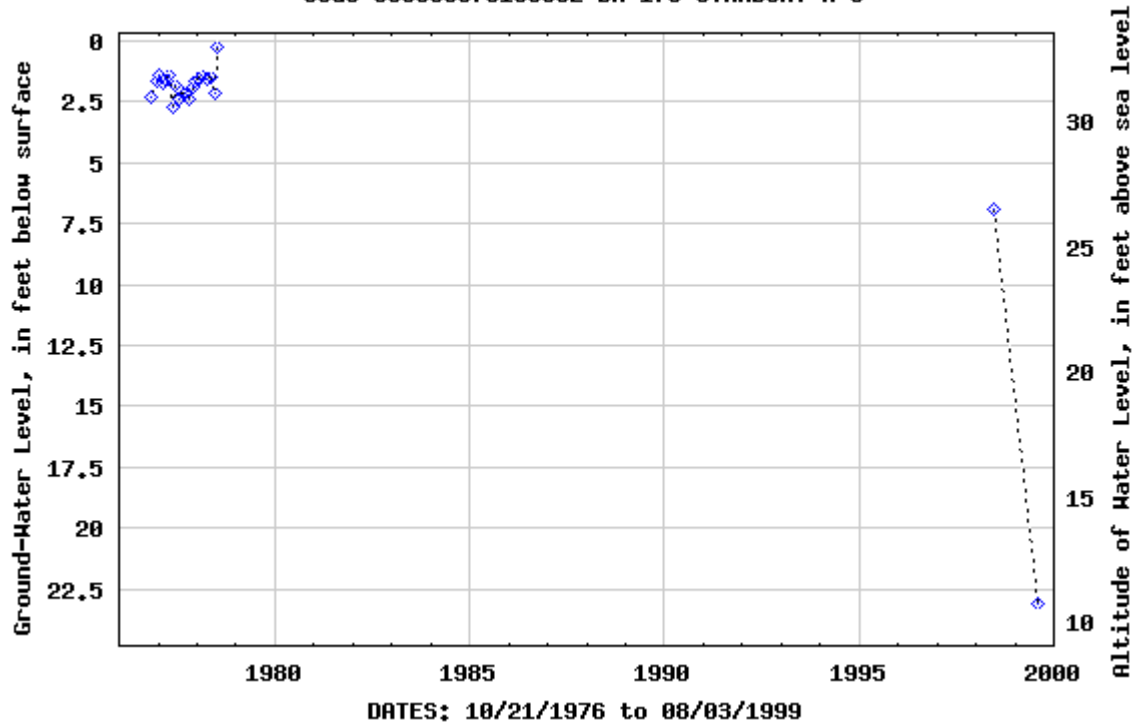
Site Identification Number 335633078160802
 Local Number BR-170 STANBURY R-3
 Latitude 335633
 Longitude 781608
 Well Depth 25.0
 Land Surface Elevation 33.56
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1976	2.28	MAY 18, 1977	2.72	NOV 22, 1977	1.93	JUN 13, 1978	2.17
DEC 16	1.68	JUN 16	1.81	DEC 15	1.67	JUL 17	.29
JAN 11, 1977	1.36	JUL 11	2.35	JAN 23, 1978	1.54	JUN 15, 1998	6.89
FEB 15	1.76	AUG 09	2.03	FEB 15	1.41	AUG 03, 1999	23.09
MAR 10	1.60	SEP 19	2.17	APR 05	1.56		
APR 14	1.42	OCT 11	2.38	MAY 15	1.52		

HIGHEST .29 JUL 17, 1978
 LOWEST 23.09 AUG 03, 1999

USGS 335633078160802 BR-170 STANBURY R-3



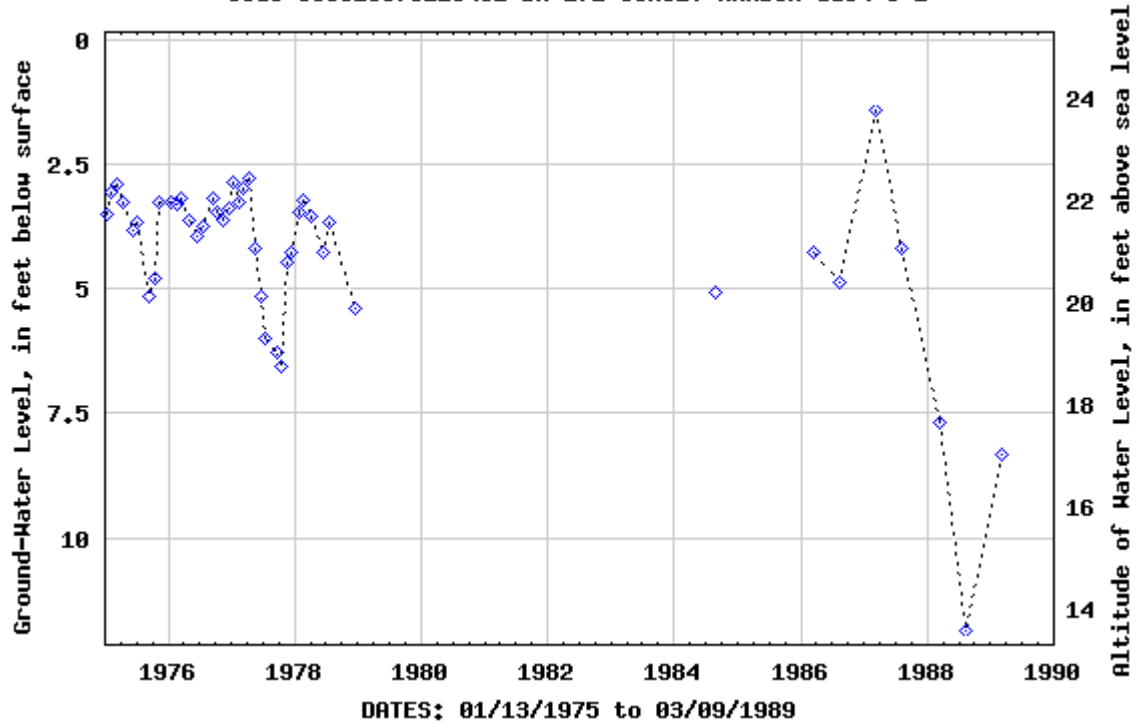
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 Local Number BR-171 SUNSET HARBOR GG34 S-1
 Latitude 335628.43
 Longitude 781157.23
 Well Depth 14.0
 Land Surface Elevation 25.28
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 13, 1975	3.49	MAR 17, 1976	3.18	APR 14, 1977	2.78	JUN 13, 1978	4.26
FEB 07	3.05	APR 26	3.64	MAY 18	4.19	JUL 17	3.65
MAR 13	2.92	JUN 10	3.94	JUN 16	5.17	DEC 14	5.39
APR 10	3.27	JUL 21	3.74	JUL 13	6.02	AUG 31, 1984	5.09
JUN 16	3.81	SEP 16	3.18	SEP 19	6.29	MAR 18, 1986	4.26
JUL 08	3.67	OCT 14	3.47	OCT 10	6.55	AUG 08	4.86
SEP 10	5.17	NOV 09	3.62	NOV 22	4.47	MAR 11, 1987	1.41
OCT 16	4.79	DEC 16	3.39	DEC 16	4.27	AUG 07	4.19
NOV 14	3.25	JAN 11, 1977	2.85	JAN 23, 1978	3.45	MAR 08, 1988	7.68
JAN 13, 1976	3.28	FEB 15	3.27	FEB 22	3.22	AUG 11	11.86
FEB 16	3.32	MAR 10	2.99	APR 05	3.55	MAR 09, 1989	8.32

HIGHEST 1.41 MAR 11, 1987
 LOWEST 11.86 AUG 11, 1988

USGS 335629078115401 BR-171 SUNSET HARBOR GG34 S-1



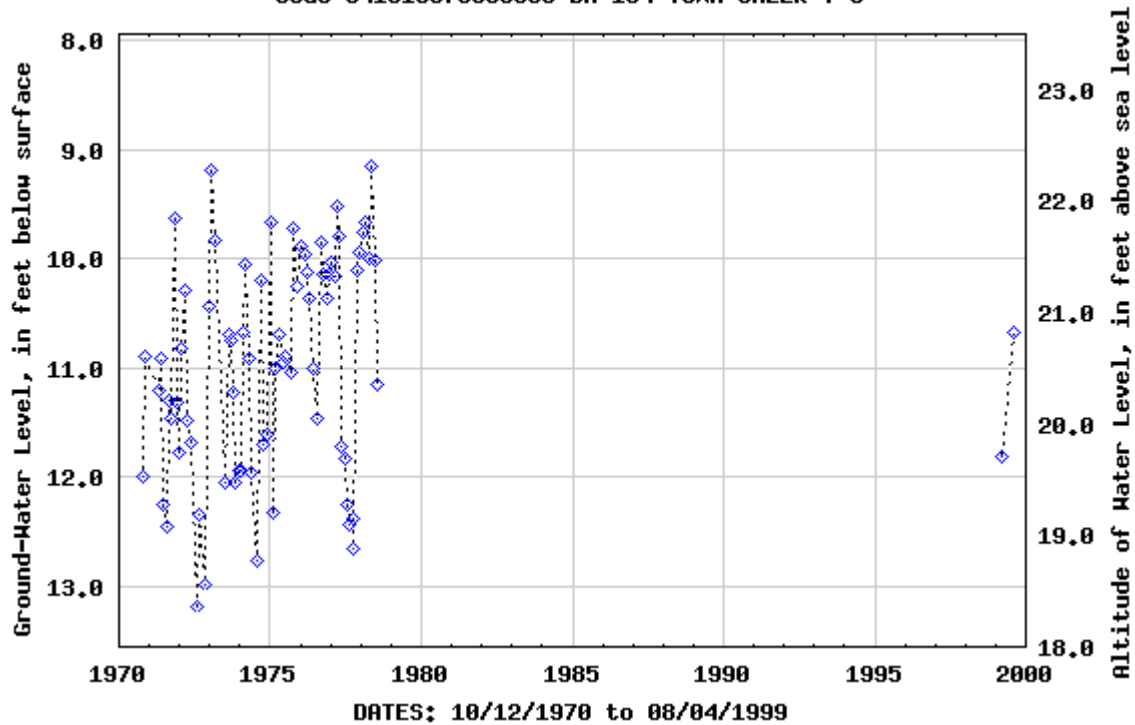
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 Local Number BR-184 TOWN CREEK Y-3
 Latitude 341018
 Longitude 780956
 Well Depth 24.0
 Land Surface Elevation 31.5
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12, 1970	11.99	OCT 31, 1972	12.99	OCT 15, 1974	11.71	SEP 16, 1976	9.85
NOV 10	10.90	DEC 22	10.44	NOV 15	11.61	OCT 14	10.15
APR 20, 1971	11.20	JAN 22, 1973	9.19	JAN 14, 1975	9.67	NOV 09	10.36
MAY 27	10.92	FEB 28	9.84	FEB 07	12.33	DEC 16	10.15
JUN 25	12.26	JUL 11	12.05	MAR 13	11.01	JAN 11, 1977	10.04
JUL 29	12.45	AUG 14	10.70	APR 08	10.70	FEB 15	10.16
AUG 25	11.30	SEP 17	10.75	JUN 13	10.95	MAR 10	9.52
SEP 29	11.46	OCT 12	11.23	JUL 08	10.90	APR 14	9.80
OCT 28	9.63	NOV 14	12.05	SEP 10	11.05	MAY 18	11.72
NOV 24	11.31	DEC 11	11.95	OCT 16	9.72	JUN 16	11.83
DEC 30	11.78	JAN 11, 1974	11.95	NOV 14	10.26	JUL 13	12.26
JAN 27, 1972	10.83	FEB 11	10.68	JAN 14, 1976	9.89	AUG 09	12.43
FEB 29	10.30	MAR 12	10.05	FEB 18	9.96	SEP 19	12.38
APR 04	11.49	APR 17	10.91	MAR 17	10.13	OCT 11	12.66
MAY 22	11.69	MAY 13	11.96	APR 26	10.36	NOV 21	10.10
JUL 21	13.19	JUL 19	12.76	JUN 11	11.00	DEC 15	9.95
AUG 22	12.34	SEP 11	10.20	JUL 26	11.46	JAN 18, 1978	9.76
FEB 22, 1978	9.66	MAY 11, 1978	9.16	JUL 21, 1978	11.15	AUG 04, 1999	10.67
APR 03	10.00	JUN 15	10.01	MAR 11, 1999	11.82		

HIGHEST 9.16 MAY 11, 1978
 LOWEST 13.19 JUL 21, 1972

USGS 341018078095503 BR-184 TOWN CREEK Y-3



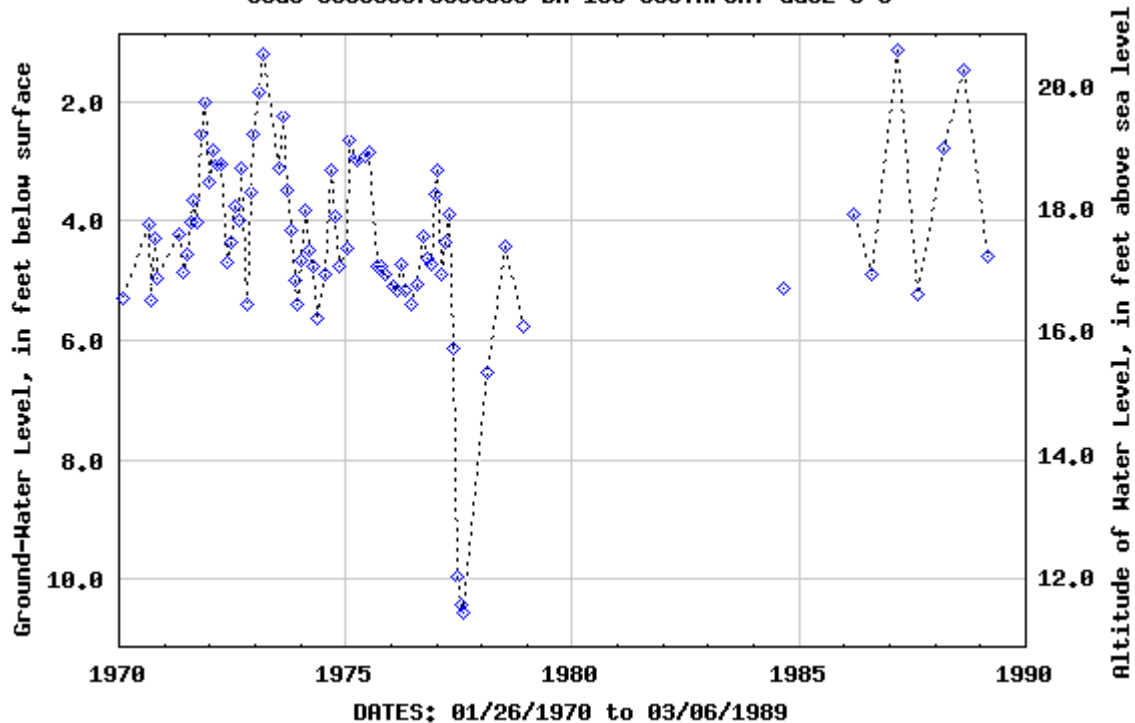
Site Identification Number 335553078005503
 Local Number BR-185 SOUTHPORT GG32 U-3
 Latitude 335554
 Longitude 780054
 Well Depth 21.0
 Land Surface Elevation 21.85
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 26, 1970	5.30	SEP 08, 1972	3.13	JAN 14, 1975	4.44	FEB 15, 1977	4.89
AUG 26	4.04	OCT 31	5.40	FEB 06	2.64	MAR 10	4.35
SEP 18	5.32	NOV 30	3.50	MAR 14	2.94	APR 14	3.90
OCT 19	4.29	DEC 22	2.55	APR 11	2.97	MAY 18	6.15
NOV 10	4.95	JAN 31, 1973	1.85	JUN 13	2.92	JUN 16	9.97
APR 29, 1971	4.23	FEB 28	1.20	JUL 09	2.85	JUL 13	10.44
MAY 27	4.86	JUL 11	3.13	SEP 09	4.75	AUG 08	10.56
JUN 25	4.55	AUG 15	2.25	OCT 10	4.75	FEB 22, 1978	6.53
JUL 29	4.01	SEP 11	3.47	15	4.82	JUL 17	4.41
AUG 25	3.66	OCT 11	4.17	NOV 14	4.88	NOV 27	5.78
SEP 29	4.01	NOV 13	4.99	JAN 14, 1976	5.10	SEP 05, 1984	5.12
OCT 28	2.55	DEC 10	5.39	FEB 16	5.17	MAR 18, 1986	3.88
NOV 29	2.01	JAN 11, 1974	4.65	MAR 17	4.73	AUG 08	4.88
DEC 30	3.34	FEB 11	3.82	APR 26	5.17	MAR 11, 1987	1.12
JAN 27, 1972	2.82	MAR 12	4.50	JUN 10	5.39	AUG 07	5.24
FEB 29	3.04	APR 16	4.75	JUL 26	5.06	MAR 08, 1988	2.79
APR 04	3.05	MAY 10	5.64	SEP 13	4.24	AUG 11	1.47
MAY 22	4.70	JUL 15	4.88	OCT 14	4.63	MAR 06, 1989	4.59
JUN 23	4.35	SEP 11	3.16	NOV 16	4.71		
JUL 19	3.75	OCT 15	3.92	DEC 16	3.56		
AUG 23	4.00	NOV 14	4.77	JAN 11, 1977	3.15		

HIGHEST 1.12 MAR 11, 1987
 LOWEST 10.56 AUG 08, 1977

USGS 335553078005503 BR-185 SOUTHPORT GG32 U-3



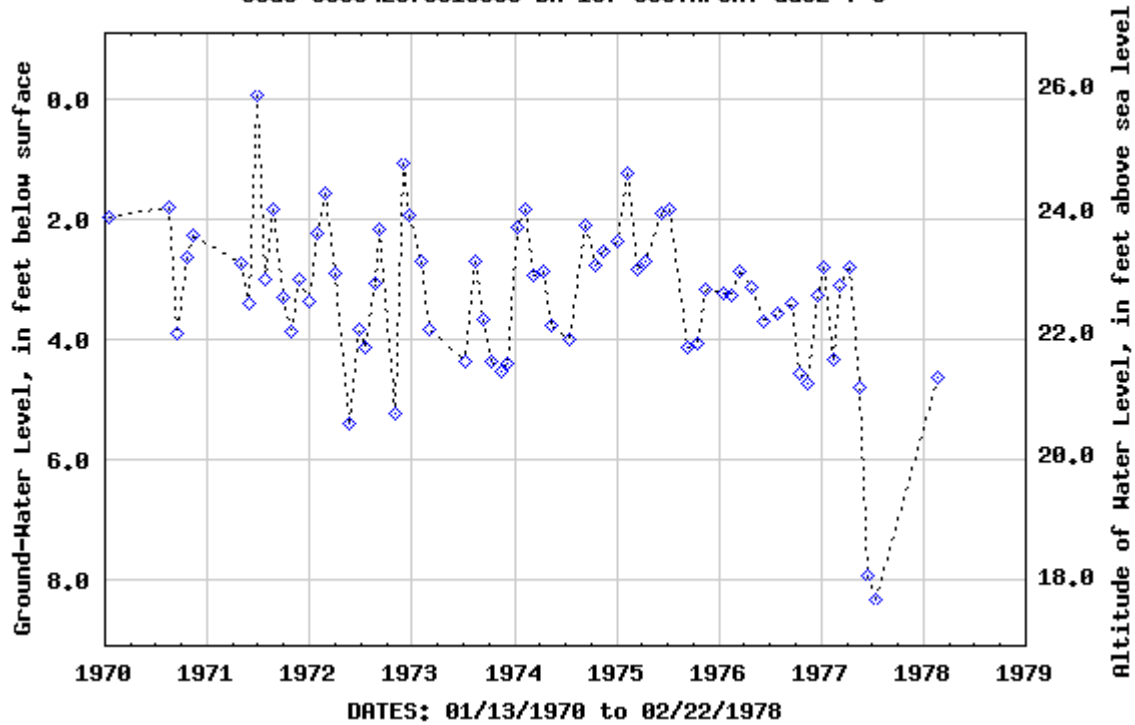
Site Identification Number 335642078010003
 Local Number BR-187 SOUTHPORT GG32 T-3
 Latitude 335643
 Longitude 780059
 Well Depth 20.0
 Land Surface Elevation 25.86
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM (READINGS ABOVE LAND SURFACE INDICATED BY "--")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 13, 1970	1.97	JUN 23, 1972	3.84	APR 16, 1974	2.86	APR 26, 1976	3.14
AUG 14	1.78	JUL 19	4.14	MAY 10	3.76	JUN 10	3.69
SEP 18	3.90	AUG 23	3.07	JUL 15	3.99	JUL 26	3.56
OCT 19	2.64	SEP 08	2.15	SEP 11	2.08	SEP 13	3.40
NOV 10	2.25	OCT 31	5.24	OCT 15	2.76	OCT 14	4.56
APR 29, 1971	2.73	NOV 30	1.04	NOV 14	2.53	NOV 16	4.75
MAY 27	3.41	DEC 22	1.94	JAN 04, 1975	2.35	DEC 16	3.28
JUN 25	-.09	JAN 31, 1973	2.69	FEB 06	1.23	JAN 11, 1977	2.79
JUL 29	3.01	FEB 28	3.84	MAR 14	2.82	FEB 15	4.35
AUG 25	1.83	JUL 11	4.36	APR 11	2.69	MAR 10	3.11
SEP 29	3.29	AUG 15	2.70	JUN 13	1.90	APR 14	2.78
OCT 28	3.87	SEP 11	3.65	JUL 09	1.81	MAY 18	4.80
NOV 24	3.01	OCT 11	4.38	SEP 09	4.15	JUN 16	7.94
DEC 30	3.37	NOV 13	4.55	OCT 15	4.06	JUL 13	8.35
JAN 27, 1972	2.21	DEC 10	4.41	NOV 14	3.18	FEB 22, 1978	4.65
FEB 29	1.55	JAN 11, 1974	2.12	JAN 14, 1976	3.23		
APR 04	2.89	FEB 11	1.82	FEB 16	3.27		
MAY 22	5.39	MAR 12	2.93	MAR 17	2.85		

HIGHEST -.09 JUN 25, 1971
 LOWEST 8.35 JUL 13, 1977

USGS 335642078010003 BR-187 SOUTHPORT GG32 T-3



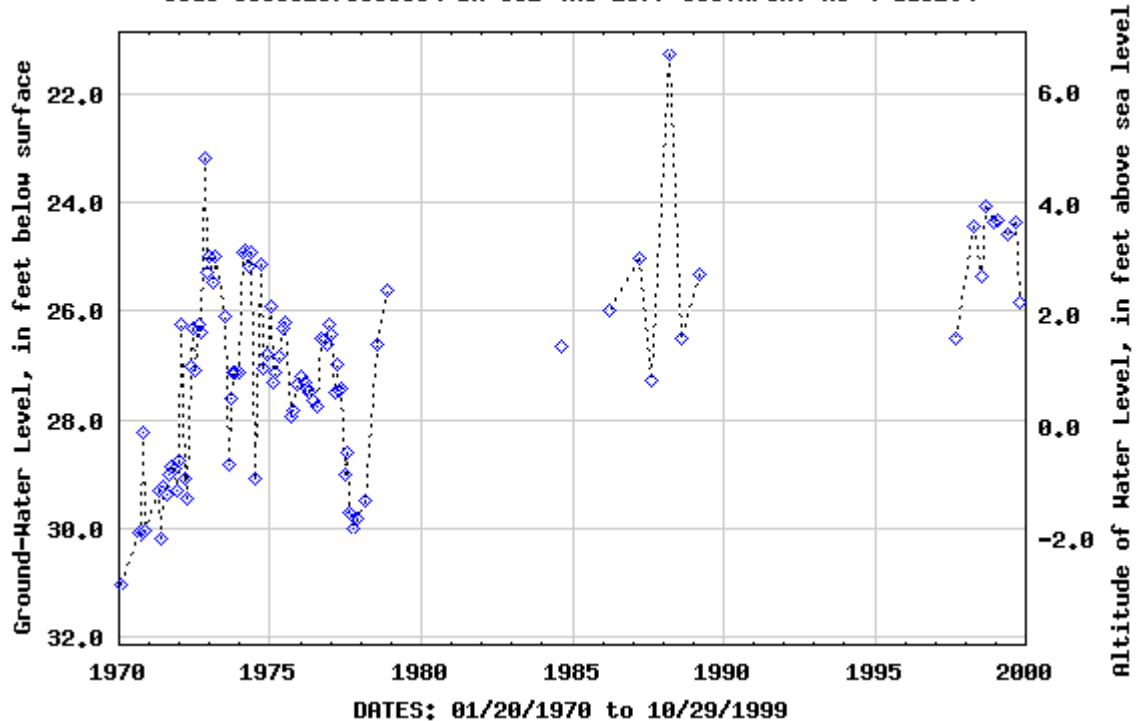
Site Identification Number 335631078003604
 Local Number BR-081 (NC-197) SOUTHPORT RS GG32t4
 Latitude 335630.79
 Longitude 780036.12
 Well Depth 200
 Land Surface Elevation 28.08
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 20, 1970	31.03	NOV 30, 1972	25.30	JUL 09, 1975	26.19	OCT 10, 1977	30.01
AUG 26	30.09	DEC 22	25.00	SEP 09	27.93	NOV 22	29.82
SEP 18	30.11	JAN 31, 1973	25.45	SEP 15	27.82	FEB 22, 1978	29.49
OCT 19	28.23	FEB 28	25.00	NOV 14	27.33	JUL 17	26.60
NOV 10	30.04	JUL 11	26.10	JAN 14, 1976	27.19	NOV 27	25.63
APR 29, 1971	29.30	AUG 15	28.82	FEB 16	27.30	AUG 31, 1984	26.63
MAY 27	30.17	SEP 11	27.60	MAR 17	27.41	MAR 18, 1986	26.00
JUN 25	29.21	OCT 11	27.11	APR 26	27.50	MAR 11, 1987	25.02
JUL 29	29.39	NOV 13	27.11	JUN 10	27.63	AUG 07	27.27
AUG 25	28.99	DEC 10	27.11	JUL 26	27.75	MAR 08, 1988	21.28
SEP 29	28.87	FEB 11, 1974	24.91	SEP 13	26.49	AUG 11	26.50
OCT 28	28.90	MAR 12	24.86	OCT 14	26.53	MAR 06, 1989	25.32
NOV 24	29.29	APR 16	25.17	NOV 16	26.61	SEP 18, 1997	26.51
DEC 30	28.76	MAY 10	24.93	DEC 16	26.24	APR 22, 1998	24.45
JAN 27, 1972	26.26	JUL 15	29.09	JAN 11, 1977	26.44	JUL 16	25.37
FEB 29	29.09	SEP 11	25.13	FEB 15	27.51	SEP 10	24.08
APR 04	29.45	OCT 15	27.06	MAR 10	26.98	DEC 09	24.37
MAY 22	27.00	NOV 14	26.79	APR 14	27.46	FEB 03, 1999	24.32
JUN 23	26.30	JAN 14, 1975	25.91	MAY 18	27.43	MAY 20	24.58
JUL 19	27.10	FEB 06	27.31	JUN 16	29.01	SEP 01	24.36
AUG 23	26.25	MAR 14	27.12	JUL 13	28.61	OCT 29	25.84
SEP 08	26.40	APR 11	26.84	AUG 08	29.71		
OCT 31	23.20	JUN 13	26.32	SEP 15	29.73		

HIGHEST 21.28 MAR 08, 1988
 LOWEST 31.03 JAN 20, 1970

USGS 335631078003604 BR-081 (NC-197) SOUTHPORT RS 4 GG32t4

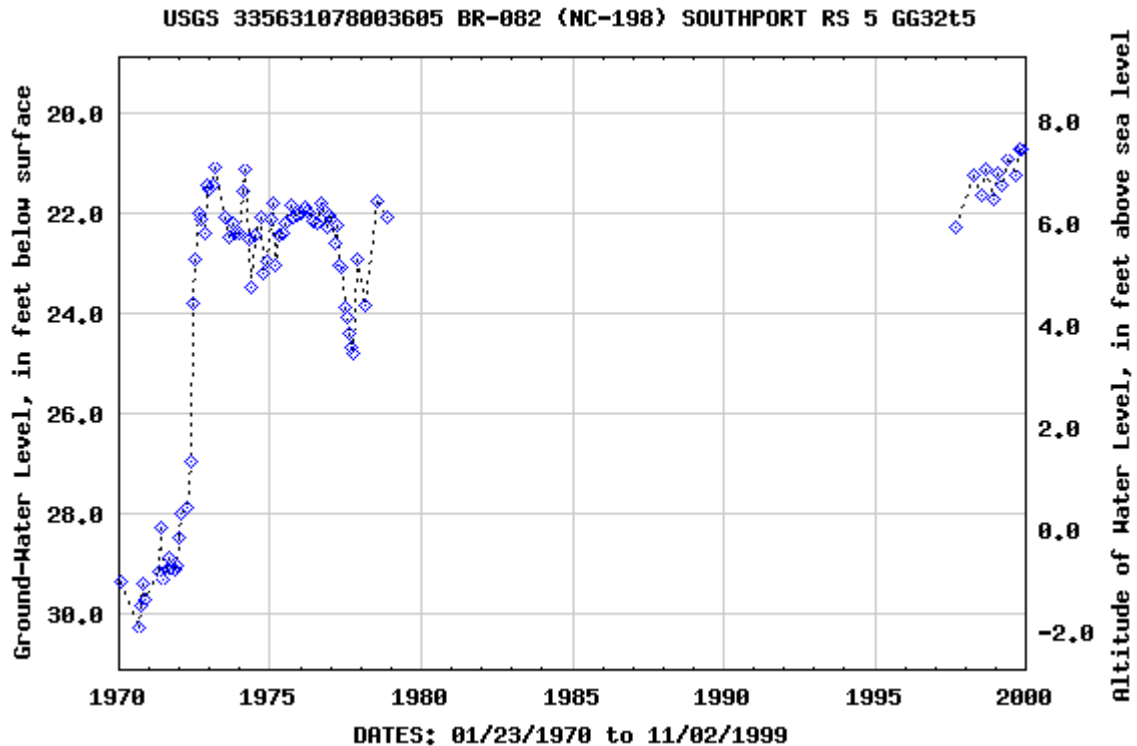


Site Identification Number 335631078003605
 Local Number BR-082 (NC-198) SOUTHPORT RS 5 GG32t5
 Latitude 335630.79
 Longitude 780036.12
 Well Depth 74
 Land Surface Elevation 28.26
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 23, 1970	29.36	APR 29, 1971	29.18	SEP 29, 1971	29.09	APR 04, 1972	27.90
AUG 26	30.30	MAY 27	28.30	OCT 28	29.13	MAY 22	26.95
SEP 18	29.84	JUN 25	29.35	NOV 24	29.04	JUN 23	23.80
OCT 19	29.41	JUL 29	29.14	DEC 30	28.48	JUL 19	22.90
NOV 10	29.73	AUG 25	28.88	JAN 27, 1972	28.00	AUG 23	21.99
SEP 08, 1972	22.10	SEP 11, 1974	22.07	JUN 10, 1976	22.17	NOV 22, 1977	22.92
OCT 31	22.40	OCT 15	23.21	JUL 26	22.21	FEB 22, 1978	23.84
NOV 30	21.45	NOV 14	22.95	SEP 13	21.81	JUL 17	21.74
DEC 22	21.50	JAN 14, 1975	22.10	OCT 14	21.92	NOV 27	22.09
JAN 31, 1973	21.45	FEB 06	21.81	NOV 16	22.26	SEP 18, 1997	22.28
FEB 28	21.05	MAR 14	23.02	DEC 16	22.03	APR 22, 1998	21.22
JUL 11	22.07	APR 11	22.45	JAN 11, 1977	22.10	JUL 16	21.64
AUG 15	22.47	JUN 13	22.38	FEB 15	22.61	SEP 10	21.12
OCT 11	22.18	JUL 09	22.20	MAR 10	22.23	DEC 09	21.73
NOV 13	22.39	SEP 09	21.83	APR 14	23.02	FEB 03, 1999	21.20
DEC 10	22.38	OCT 15	22.09	MAY 18	23.09	MAR 11	21.41
FEB 11, 1974	21.54	NOV 14	22.02	JUN 16	23.88	MAY 20	20.90
MAR 12	21.09	JAN 14, 1976	22.00	JUL 13	24.09	SEP 01	21.21
APR 16	22.53	FEB 16	21.89	AUG 08	24.38	OCT 29	20.72
MAY 10	23.47	MAR 17	21.97	SEP 15	24.66	NOV 02	20.69
JUL 15	22.44	APR 26	22.01	OCT 10	24.81		

HIGHEST 20.69 NOV 02, 1999
 LOWEST 30.30 AUG 26, 1970



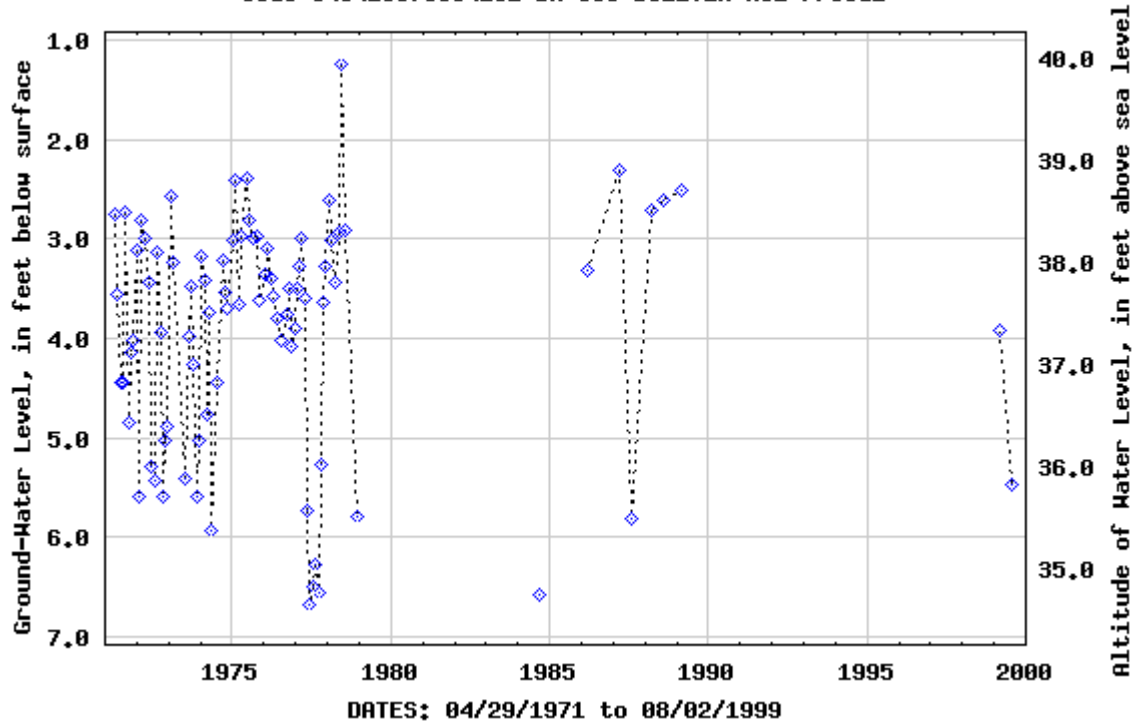
Site Identification Number 340416078084201
 Local Number BR-099 BOLIVIA RS1 FF-33D1
 Latitude 340416.72
 Longitude 780842.43
 Well Depth 60.0
 Land Surface Elevation 41.26
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 29, 1971	2.75	OCT 31, 1972	5.58	SEP 10, 1974	3.22	JUL 26, 1976	4.02
MAY 27	3.56	NOV 30	5.03	OCT 15	3.54	SEP 16	3.75
JUN 25	4.45	DEC 22	4.88	NOV 15	3.70	OCT 14	3.50
JUL 29	4.45	JAN 22, 1973	2.58	JAN 13, 1975	3.02	NOV 09	4.09
AUG 25	2.74	FEB 28	3.23	FEB 07	2.42	DEC 16	3.90
SEP 29	4.85	JUL 11	5.40	MAR 13	3.65	JAN 11, 1977	3.49
OCT 28	4.14	AUG 14	3.98	APR 08	2.97	FEB 15	3.27
NOV 24	4.02	SEP 17	3.47	JUN 13	2.40	MAR 10	3.00
DEC 30	3.11	OCT 12	4.27	JUL 08	2.81	APR 14	3.60
JAN 27, 1972	5.59	NOV 14	5.58	SEP 10	2.99	MAY 18	5.73
FEB 29	2.81	DEC 11	5.02	OCT 16	2.98	JUN 16	6.67
APR 04	3.00	JAN 11, 1974	3.17	NOV 14	3.62	JUL 11	6.50
MAY 22	3.44	FEB 15	3.41	JAN 14, 1976	3.36	AUG 09	6.28
JUN 22	5.28	MAR 12	4.76	FEB 18	3.09	SEP 19	6.55
JUL 21	5.43	APR 16	3.74	MAR 17	3.40	OCT 11	5.26
AUG 22	3.13	MAY 13	5.94	APR 26	3.58	NOV 21	3.64
SEP 28	3.93	JUL 19	4.44	JUN 11	3.79	DEC 15	3.28
JAN 18, 1978	2.61	JUN 15, 1978	1.25	MAR 11, 1986	3.31	AUG 11, 1988	2.62
FEB 22	3.02	JUL 17	2.91	MAR 09, 1987	2.32	MAR 07, 1989	2.51
APR 03	3.43	DEC 14	5.80	AUG 10	5.81	MAR 11, 1999	3.92
MAY 11	2.93	AUG 30, 1984	6.58	MAR 07, 1988	2.72	AUG 02	5.46

HIGHEST 1.25 JUN 15, 1978
 LOWEST 6.67 JUN 16, 1977

USGS 340416078084201 BR-099 BOLIVIA RS1 FF33d1

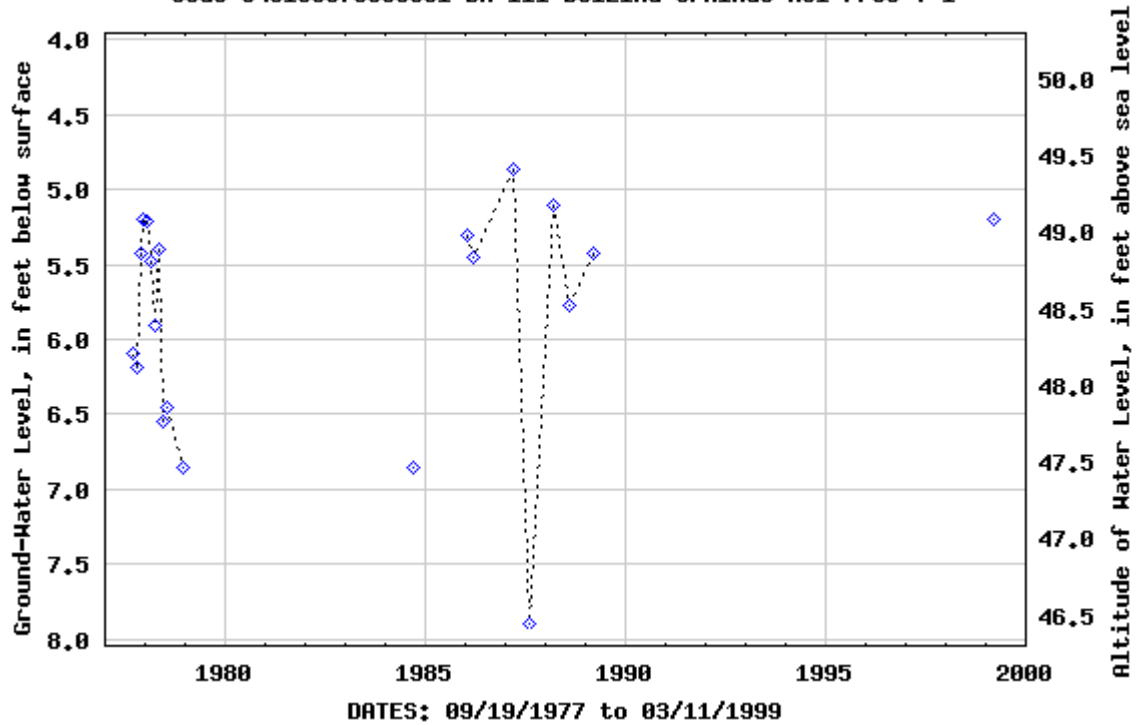


Site Identification Number 340130078060601
 Local Number BR-111 BOILING SPRINGS RS1 FF33 T-1
 Latitude 340129.09
 Longitude 780607.45
 Well Depth 80.0
 Land Surface Elevation 54.3
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 19, 1977	6.09	FEB 22, 1978	5.48	DEC 14, 1978	6.85	AUG 06, 1987	7.90
OCT 11	6.19	APR 05	5.91	SEP 05, 1984	6.86	MAR 07, 1988	5.10
NOV 22	5.42	MAY 11	5.40	JAN 14, 1986	5.31	AUG 11	5.77
DEC 15	5.20	JUN 14	6.55	MAR 18	5.45	MAR 06, 1989	5.43
JAN 19, 1978	5.21	JUL 17	6.46	MAR 11, 1987	4.87	MAR 11, 1999	5.20
HIGHEST		4.87	MAR 11, 1987				
LOWEST		7.90	AUG 06, 1987				

USGS 340130078060601 BR-111 BOILING SPRINGS RS1 FF33 T-1



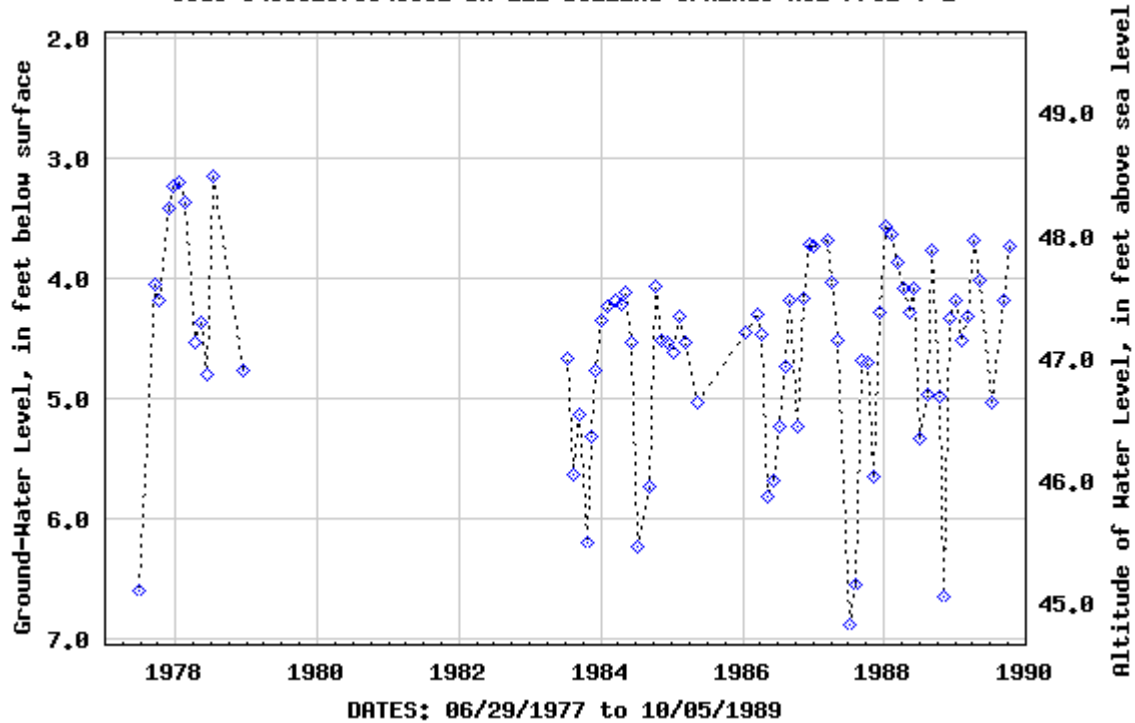
Site Identification Number 340052078045901
 Local Number BR-112 BOILING SPRINGS RS2 FF32 Y-1
 Latitude 340051.30
 Longitude 780459.97
 Well Depth 150
 Land Surface Elevation 51.66
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 29, 1977	6.60	FEB 09, 1984	4.24	JUL 07, 1986	5.24	APR 07, 1988	4.08
SEP 19	4.05	MAR 16	4.19	AUG 08	4.74	MAY 09	4.28
OCT 11	4.19	APR 12	4.21	SEP 05	4.18	31	4.08
NOV 22	3.41	MAY 10	4.12	OCT 13	5.24	JUL 06	5.33
DEC 15	3.23	JUN 11	4.54	NOV 16	4.17	AUG 11	4.96
JAN 19, 1978	3.20	JUL 10	6.23	DEC 09	3.72	SEP 07	3.76
FEB 22	3.37	SEP 05	5.74	JAN 06, 1987	3.74	OCT 12	4.99
APR 05	4.53	OCT 10	4.07	MAR 11	3.69	NOV 08	6.66
MAY 11	4.36	NOV 13	4.51	APR 09	4.04	DEC 05	4.34
JUN 14	4.80	DEC 10	4.54	MAY 11	4.51	JAN 09, 1989	4.18
JUL 17	3.14	JAN 14, 1985	4.62	JUL 07	6.88	FEB 06	4.51
DEC 14	4.77	FEB 11	4.32	AUG 06	6.56	MAR 06	4.31
JUL 15, 1983	4.66	MAR 11	4.54	SEP 09	4.68	APR 12	3.69
AUG 10	5.64	MAY 13	5.03	OCT 05	4.70	MAY 09	4.01
SEP 09	5.14	JAN 14, 1986	4.45	NOV 09	5.65	JUL 11	5.04
OCT 19	6.21	MAR 18	4.30	DEC 07	4.29	SEP 07	4.18
NOV 16	5.31	APR 07	4.47	JAN 14, 1988	3.56	OCT 05	3.73
DEC 09	4.77	MAY 08	5.82	FEB 08	3.64		
JAN 09, 1984	4.35	JUN 09	5.68	MAR 07	3.87		

HIGHEST 3.14 JUL 17, 1978
 LOWEST 6.88 JUL 07, 1987

USGS 340052078045901 BR-112 BOILING SPRINGS RS2 FF32 Y-1



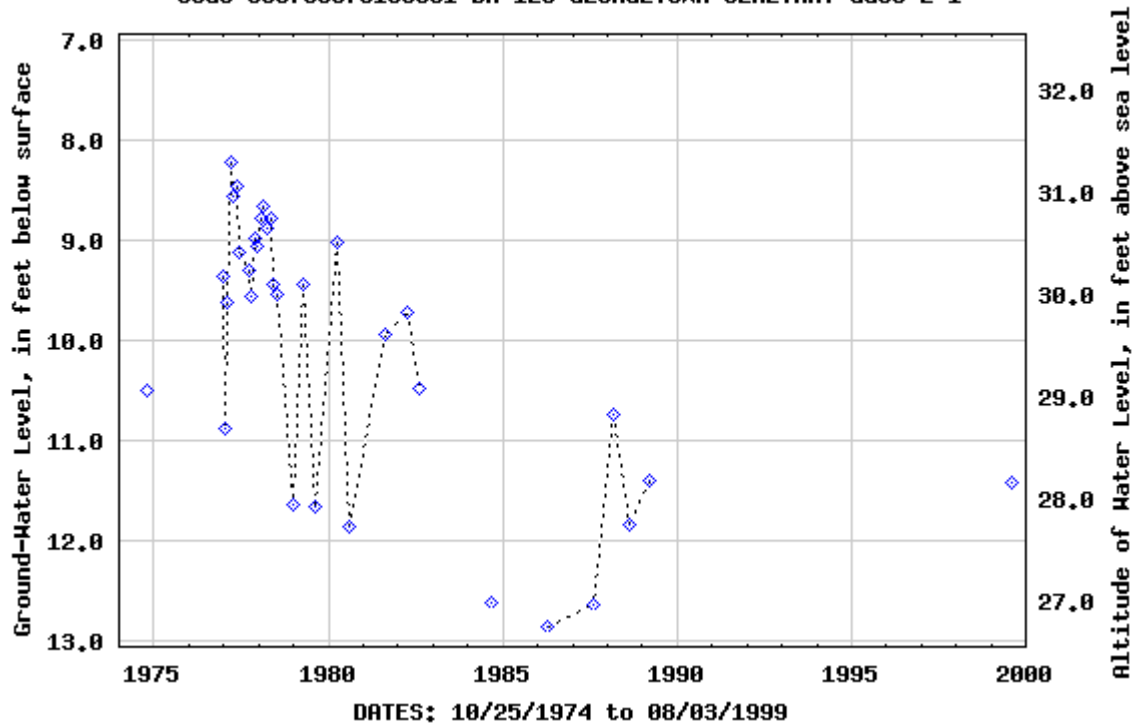
Site Identification Number 335706078160301
 Local Number BR-125 GEORGETOWN CEMETARY GG35 L-1
 Latitude 335706
 Longitude 781604
 Well Depth 126
 Land Surface Elevation 39.54
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1974	10.5	OCT 11, 1977	9.55	DEC 20, 1978	11.65	APR 15, 1986	12.86
DEC 16, 1976	9.36	NOV 22	8.98	APR 23, 1979	9.44	AUG 07, 1987	12.65
JAN 11, 1977	10.88	DEC 15	9.05	AUG 14	11.67	MAR 08, 1988	10.75
FEB 15	9.61	JAN 23, 1978	8.78	APR 10, 1980	9.01	AUG 11	11.85
MAR 10	8.21	FEB 15	8.66	AUG 13	11.86	MAR 09, 1989	11.41
APR 14	8.55	APR 05	8.87	AUG 13, 1981	9.94	AUG 03, 1999	11.42
MAY 18	8.46	MAY 15	8.78	APR 06, 1982	9.72		
JUN 16	9.12	JUN 13	9.44	AUG 16	10.48		
SEP 19	9.30	JUL 17	9.53	AUG 30, 1984	12.63		

HIGHEST 8.21 MAR 10, 1977
 LOWEST 12.86 APR 15, 1986

USGS 335706078160301 BR-125 GEORGETOWN CEMETARY GG35 L-1

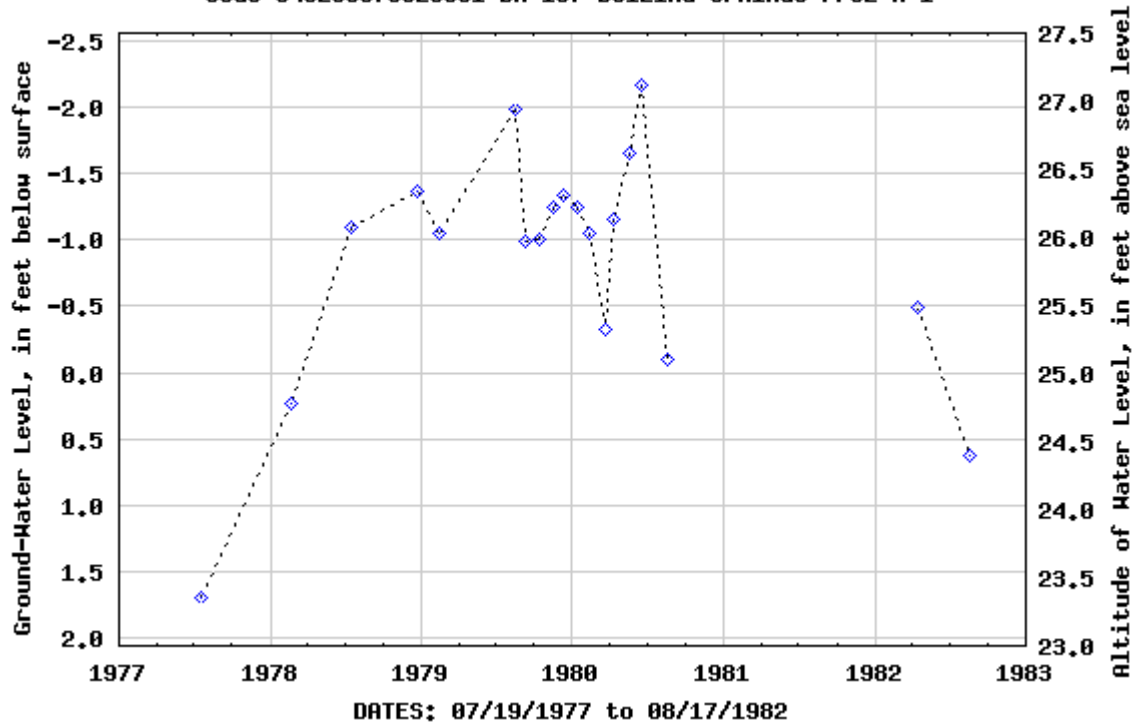


Site Identification Number 340200078020901
 Local Number BR-137 BOILING SPRINGS FF32 M-1
 Latitude 340244
 Longitude 0780208
 Well Depth 60.0
 Land Surface Elevation 25
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM (READINGS ABOVE LAND SURFACE INDICATED BY "--")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 19, 1977	1.69	AUG 16, 1979	-1.99	JAN 15, 1980	-1.25	JUN 17, 1980	-2.17
FEB 22, 1978	.23	SEP 11	-.99	FEB 12	-1.05	AUG 20	-.10
JUL 17	-1.10	OCT 11	-1.01	MAR 21	-.33	APR 14, 1982	-.49
DEC 21	-1.37	NOV 15	-1.25	APR 11	-1.16	AUG 17	.62
FEB 12, 1979	-1.05	DEC 12	-1.33	MAY 19	-1.65		
		HIGHEST	-2.17	JUN 17, 1980			
		LOWEST	1.69	JUL 19, 1977			

USGS 340200078020901 BR-137 BOILING SPRINGS FF32 M-1

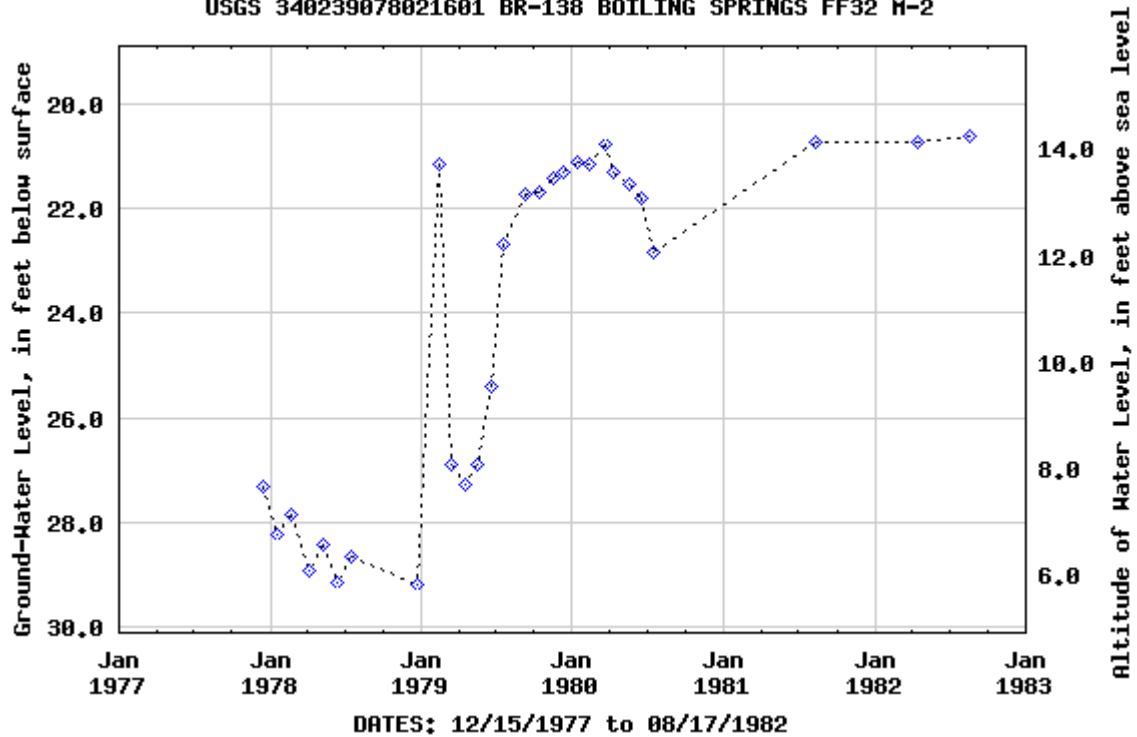


Site Identification Number 340239078021601
 Local Number BR-138 BOILING SPRINGS FF32 M-2
 Latitude 340239
 Longitude 780216
 Well Depth 100
 Land Surface Elevation 34.93
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 15, 1977	27.33	DEC 21, 1978	29.22	SEP 11, 1979	21.71	APR 11, 1980	21.28
JAN 20, 1978	28.26	FEB 12, 1979	21.15	OCT 11	21.66	MAY 19	21.54
FEB 22	27.85	MAR 13	26.90	NOV 15	21.40	JUN 17	21.81
APR 05	28.92	APR 17	27.27	DEC 12	21.30	JUL 15	22.84
MAY 11	28.44	MAY 16	26.90	JAN 15, 1980	21.12	AUG 13, 1981	20.72
JUN 14	29.16	JUN 19	25.42	FEB 12	21.15	APR 14, 1982	20.73
JUL 17	28.65	JUL 17	22.68	MAR 21	20.74	AUG 17	20.61
		HIGHEST	20.61	AUG 17, 1982			
		LOWEST	29.22	DEC 21, 1978			

USGS 340239078021601 BR-138 BOILING SPRINGS FF32 M-2



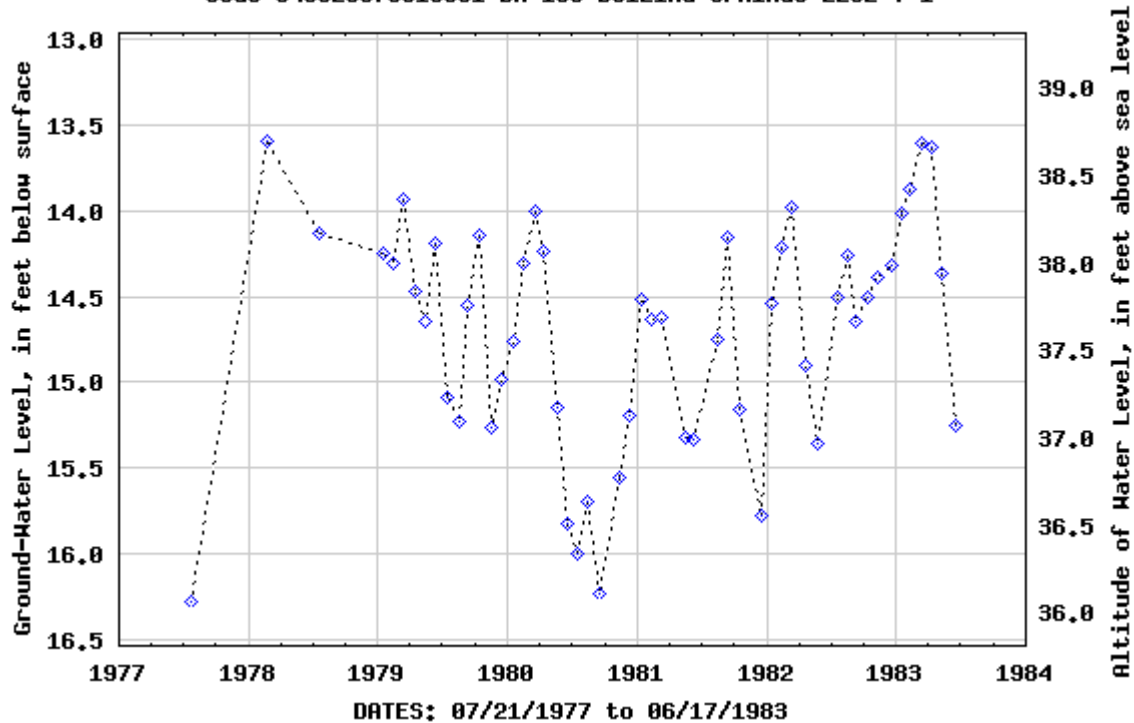
Site Identification Number 340526078010301
 Local Number BR-139 BOILING SPRINGS EE32 V-1
 Latitude 340527
 Longitude 780103
 Well Depth 110
 Land Surface Elevation 52.31
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 21, 1977	16.28	NOV 15, 1979	15.27	JAN 13, 1981	14.52	MAY 26, 1982	15.36
FEB 22, 1978	13.59	DEC 12	14.98	FEB 09	14.63	JUL 20	14.51
JUL 17	14.13	JAN 15, 1980	14.76	MAR 11	14.62	AUG 17	14.26
JAN 14, 1979	14.25	FEB 12	14.31	MAY 14	15.32	SEP 10	14.64
FEB 12	14.31	MAR 21	14.00	JUN 10	15.33	OCT 14	14.50
MAR 13	13.93	APR 11	14.24	AUG 14	14.75	NOV 10	14.39
APR 17	14.47	MAY 19	15.15	SEP 11	14.15	DEC 20	14.32
MAY 16	14.65	JUN 17	15.82	OCT 16	15.16	JAN 17, 1983	14.01
JUN 13	14.19	JUL 15	16.00	DEC 15	15.78	FEB 08	13.87
JUL 17	15.09	AUG 14	15.70	JAN 12, 1982	14.54	MAR 15	13.61
AUG 15	15.23	SEP 17	16.24	FEB 11	14.21	APR 11	13.63
SEP 11	14.55	NOV 13	15.56	MAR 11	13.98	MAY 10	14.36
OCT 11	14.14	DEC 11	15.20	APR 22	14.90	JUN 17	15.25

HIGHEST 13.59 FEB 22, 1978
 LOWEST 16.28 JUL 21, 1977

USGS 340526078010301 BR-139 BOILING SPRINGS EE32 V-1



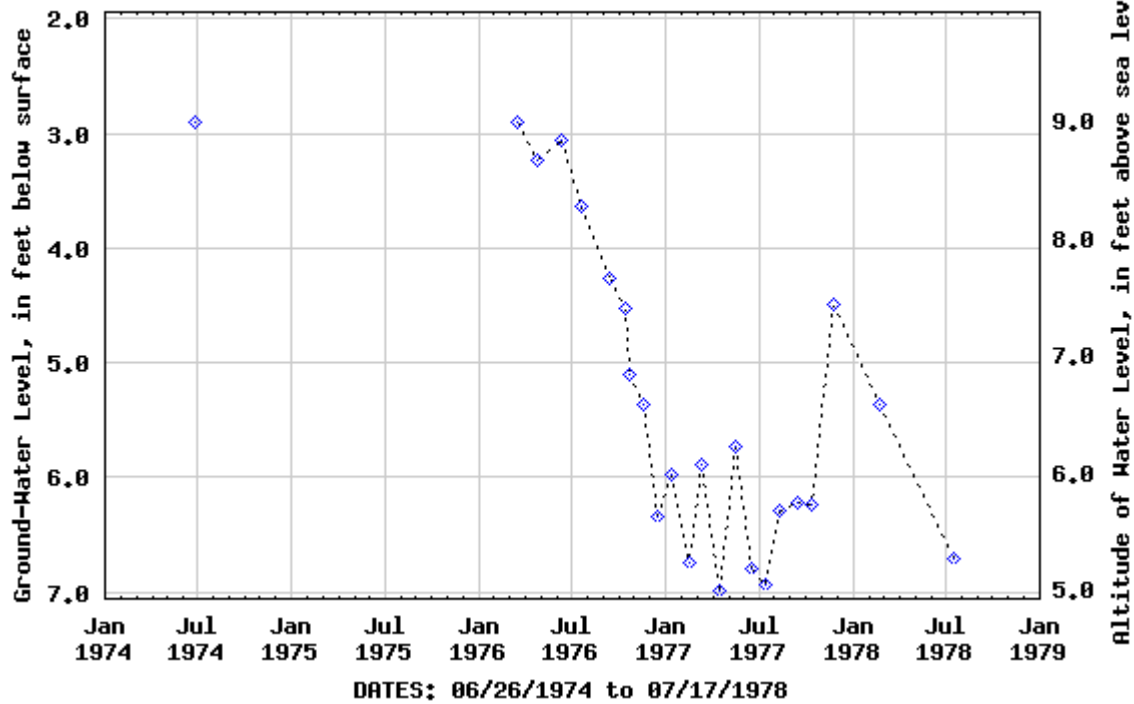
Site Identification Number 335450078125001
 Local Number BR-140 LONG BEACH C-1
 Latitude 335449
 Longitude 781251
 Well Depth 186
 Land Surface Elevation 11.92
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 26, 1974	2.90	OCT 14, 1976	4.52	MAR 10, 1977	5.88	SEP 15, 1977	6.22
MAR 17, 1976	2.90	21	5.11	APR 14	6.99	OCT 10	6.24
APR 26	3.24	NOV 16	5.37	MAY 18	5.73	NOV 22	4.49
JUN 10	3.06	DEC 16	6.35	JUN 16	6.79	FEB 22, 1978	5.37
JUL 21	3.63	JAN 12, 1977	5.97	JUL 13	6.93	JUL 17	6.71
SEP 13	4.27	FEB 15	6.74	AUG 09	6.29		

HIGHEST 2.90 JUN 26, 1974 MAR 17, 1976
 LOWEST 6.99 APR 14, 1977

USGS 335450078125001 BR-140 LONG BEACH C-1



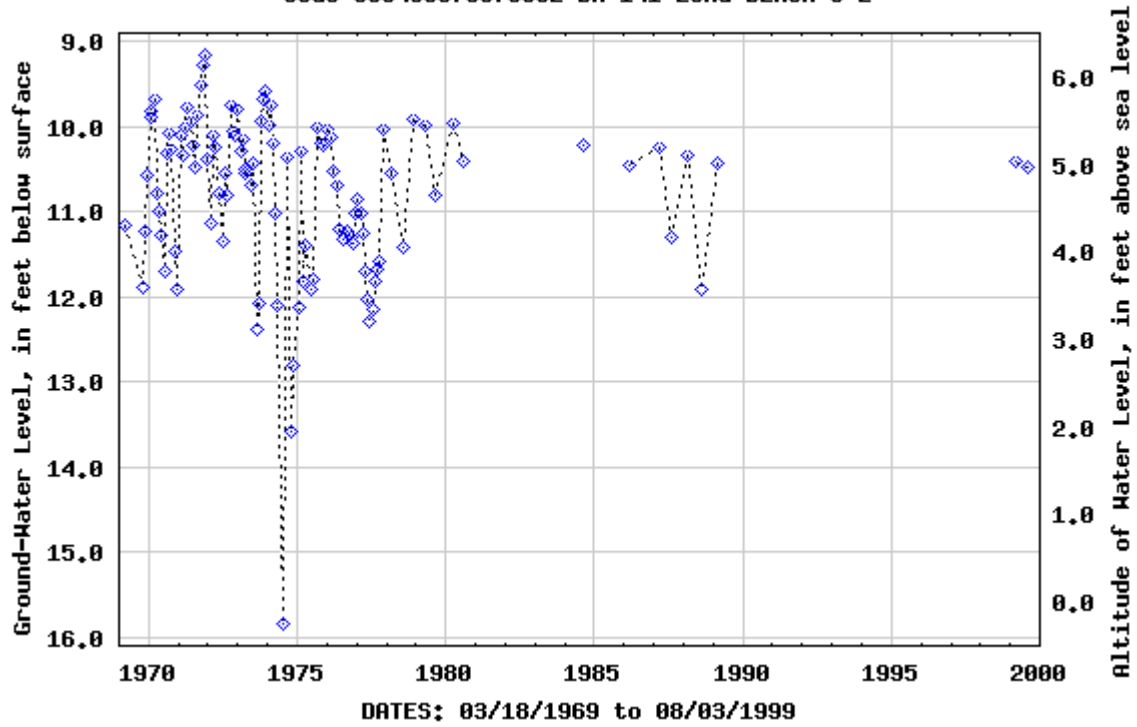
Site Identification Number 335450078075802
 Local Number BR-141 LONG BEACH C-2
 Latitude 335449
 Longitude 780800
 Well Depth 140
 Land Surface Elevation 33.59
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 18, 1969	11.15	DEC 30, 1971	10.39	MAY 10, 1974	12.11	APR 14, 1977	11.71
OCT 23	11.90	JAN 27, 1972	11.14	JUL 15	15.84	MAY 18	12.03
NOV 18	11.24	FEB 29	10.10	SEP 11	10.36	JUN 16	12.29
DEC 11	10.57	APR 04	10.25	OCT 15	13.57	JUL 13	12.15
JAN 19, 1970	9.89	MAY 22	10.78	NOV 14	12.81	AUG 08	11.81
FEB 10	9.81	JUN 22	11.35	JAN 14, 1975	12.13	SEP 15	11.68
MAR 24	9.68	JUL 19	10.55	FEB 06	10.29	OCT 10	11.59
APR 22	10.78	AUG 23	10.80	MAR 14	11.82	NOV 22	10.03
MAY 14	10.99	SEP 28	9.75	APR 11	11.40	FEB 22, 1978	10.56
JUN 10	11.28	OCT 31	10.05	JUN 13	11.91	JUL 17	11.42
JUL 10	11.69	NOV 30	10.10	JUL 09	11.80	NOV 27	9.91
AUG 20	10.31	DEC 22	9.80	SEP 09	10.01	APR 17, 1979	9.98
SEP 18	10.07	JAN 31, 1973	10.30	OCT 15	10.19	AUG 15	10.80
OCT 12	10.26	FEB 28	10.15	NOV 14	10.23	APR 10, 1980	9.96
NOV 10	11.47	MAR 30	10.50	JAN 14, 1976	10.03	AUG 14	10.42
DEC 10	11.91	APR 06	10.55	FEB 16	10.12	AUG 30, 1984	10.23
JAN 29, 1971	10.11	JUN 07	10.70	MAR 17	10.53	MAR 18, 1986	10.45
FEB 24	10.34	JUL 11	10.43	APR 26	10.68	MAR 11, 1987	10.24
MAR 31	10.01	AUG 15	12.38	JUN 10	11.21	AUG 07	11.30
APR 29	9.77	SEP 11	12.07	JUL 21	11.32	MAR 03, 1988	10.33
MAY 27	9.93	OCT 11	9.95	SEP 13	11.22	AUG 16	11.92
JUN 25	10.22	NOV 13	9.67	OCT 14	11.29	MAR 06, 1989	10.44
JUL 29	10.48	DEC 10	9.58	NOV 16	11.38	MAR 12, 1999	10.40
AUG 25	9.86	JAN 11, 1974	9.99	DEC 16	11.02	AUG 03	10.49
SEP 29	9.52	FEB 11	9.75	JAN 11, 1977	10.86		
OCT 29	9.28	MAR 12	10.19	FEB 15	11.02		
NOV 24	9.17	APR 16	11.03	MAR 10	11.26		

HIGHEST 9.17 NOV 24, 1971
 LOWEST 15.84 JUL 15, 1974

USGS 335450078075802 BR-141 LONG BEACH C-2



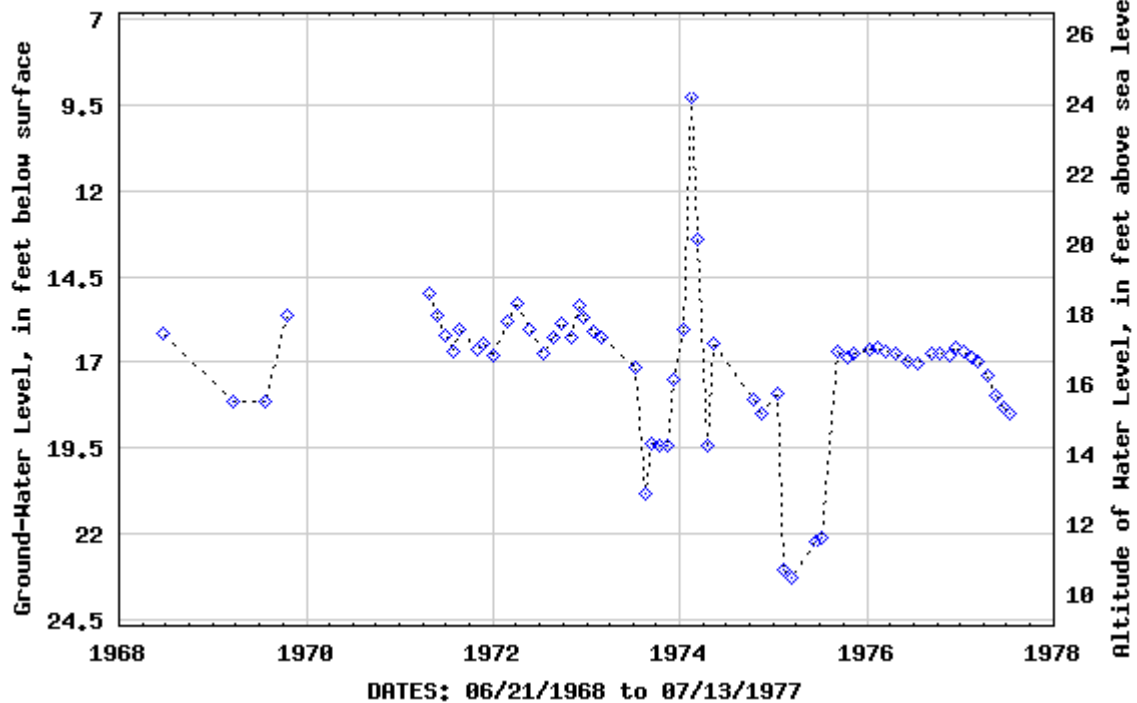
Site Identification Number 335453078072103
 Local Number BR-142 LONG BEACH C-3
 Latitude 335453
 Longitude 780722
 Well Depth 128
 Land Surface Elevation 33.59
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 21, 1968	16.15	AUG 23, 1972	16.30	APR 16, 1974	19.43	JUN 10, 1976	17.00
MAR 18, 1969	18.15	SEP 28	15.85	MAY 10	16.44	JUL 21	17.02
JUL 25	18.15	OCT 31	16.25	OCT 15	18.11	SEP 13	16.72
OCT 22	15.62	NOV 30	15.35	NOV 14	18.52	OCT 14	16.74
APR 29, 1971	15.01	DEC 22	15.70	JAN 14, 1975	17.89	NOV 16	16.80
MAY 27	15.66	JAN 31, 1973	16.10	FEB 06	23.04	DEC 16	16.56
JUN 25	16.20	FEB 28	16.30	MAR 14	23.27	JAN 11, 1977	16.68
JUL 29	16.66	JUL 11	17.15	JUN 13	22.26	FEB 15	16.85
AUG 25	16.07	AUG 15	20.83	JUL 09	22.12	MAR 10	16.97
OCT 29	16.61	SEP 11	19.38	SEP 09	16.71	APR 14	17.36
NOV 24	16.47	OCT 11	19.46	OCT 15	16.86	MAY 18	17.96
DEC 30	16.83	NOV 13	19.46	NOV 14	16.76	JUN 16	18.31
FEB 29, 1972	15.80	DEC 10	17.48	JAN 14, 1976	16.65	JUL 13	18.50
APR 04	15.30	JAN 11, 1974	16.05	FEB 16	16.54		
MAY 22	16.05	FEB 11	9.23	MAR 17	16.66		
JUL 19	16.75	MAR 12	13.43	APR 26	16.77		

HIGHEST 9.23 FEB 11, 1974
 LOWEST 23.27 MAR 14, 1975

USGS 335453078072103 BR-142 LONG BEACH C-3



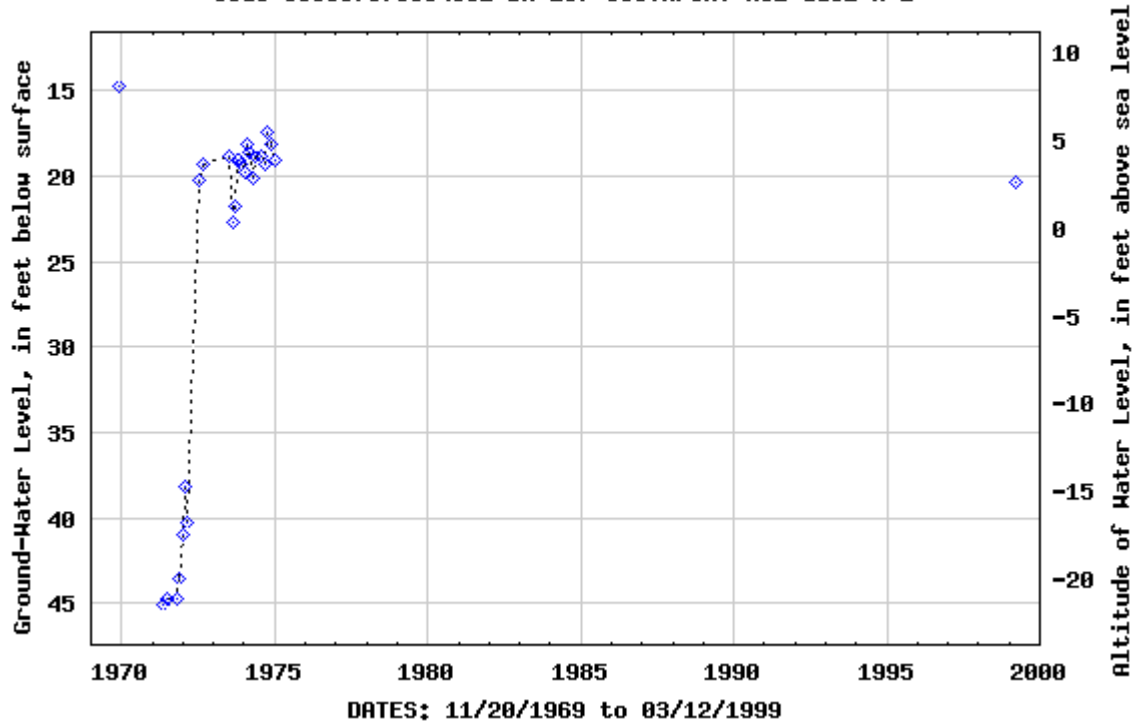
Site Identification Number 335657078004302
 Local Number BR-157 SOUTHPORT RS1 GG32 K-2
 Latitude 335656.8
 Longitude 780044.1
 Well Depth 70.0
 Land Surface Elevation 23.19
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20, 1969	14.72	FEB 29, 1972	40.31	NOV 13, 1973	19.08	JUL 15, 1974	18.87
APR 29, 1971	45.10	JUL 19	20.27	DEC 07	19.30	SEP 11	19.34
JUN 25	44.77	AUG 23	19.27	JAN 11, 1974	19.74	OCT 15	17.46
OCT 28	44.79	JUL 11, 1973	18.82	FEB 11	18.14	NOV 14	18.17
NOV 24	43.60	AUG 15	22.67	MAR 12	18.55	JAN 14, 1975	19.07
DEC 30	40.98	SEP 11	21.72	APR 16	20.07	MAR 12, 1999	20.39
JAN 27, 1972	38.21	OCT 11	19.10	MAY 10	18.80		

HIGHEST 14.72 NOV 20, 1969
 LOWEST 45.10 APR 29, 1971

USGS 335657078004302 BR-157 SOUTHPORT RS1 GG32 K-2



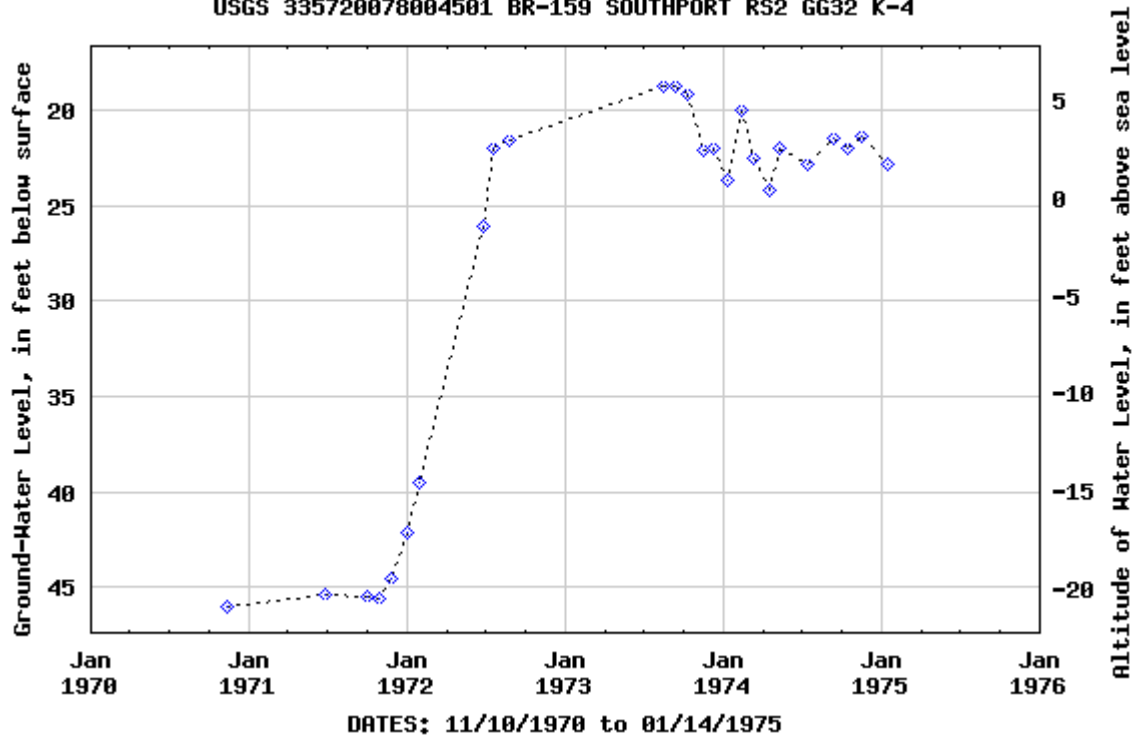
Site Identification Number 335720078004501
 Local Number BR-159 SOUTHPORT RS2 GG32 K-4
 Latitude 335656.76
 Longitude 780044.13
 Well Depth 191
 Land Surface Elevation 24.76
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 10, 1970	46.07	NOV 24, 1971	44.56	JUL 19, 1972	21.95	OCT 11, 1973	19.18
JUN 25, 1971	45.36	DEC 30	42.09	AUG 23	21.55	NOV 13	22.06
SEP 29	45.50	JAN 27, 1972	39.46	AUG 15, 1973	18.73	DEC 10	21.95
OCT 28	45.58	JUN 23	26.10	SEP 11	18.69	JAN 11, 1974	23.65
FEB 11, 1974	20.00	MAY 10, 1974	22.01	OCT 15, 1974	21.96		
MAR 12	22.44	JUL 15	22.77	NOV 14	21.32		
APR 16	24.13	SEP 11	21.43	JAN 14, 1975	22.84		

HIGHEST 18.69 SEP 11, 1973
 LOWEST 46.07 NOV 10, 1970

USGS 335720078004501 BR-159 SOUTHPORT RS2 GG32 K-4



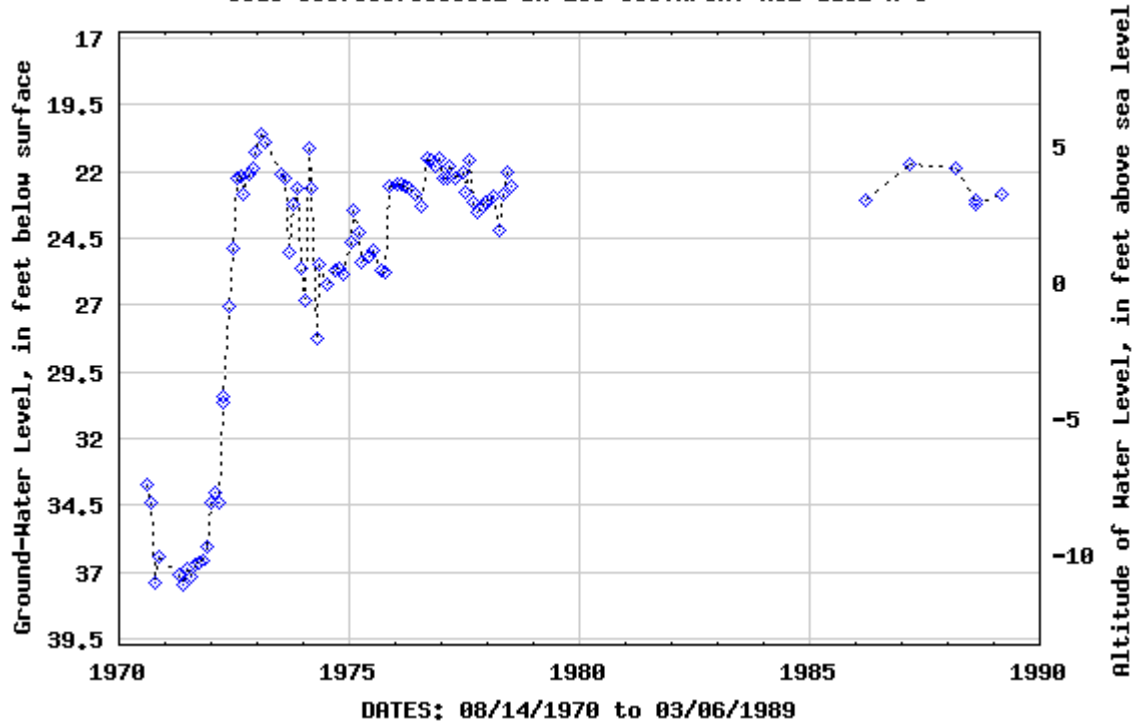
Site Identification Number 335700078000002
 Local Number BR-160 SOUTHPORT RS2 GG32 K-5
 Latitude 335656.76
 Longitude 780044.13
 Well Depth 190
 Land Surface Elevation 26.20
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 14, 1970	33.74	SEP 08, 1972	22.87	JAN 14, 1975	24.68	MAR 10, 1977	21.76
SEP 18	34.44	OCT 31	22.07	FEB 06	23.46	APR 14	22.24
OCT 19	37.38	NOV 30	21.87	MAR 14	24.30	JUN 16	21.99
NOV 10	36.42	DEC 22	21.27	APR 11	25.38	JUL 13	22.79
APR 29, 1971	37.08	JAN 31, 1973	20.57	JUN 13	25.18	AUG 08	21.58
MAY 27	37.46	FEB 28	20.87	JUL 09	24.92	SEP 15	23.17
JUN 25	36.85	JUL 11	22.12	SEP 09	25.66	OCT 10	23.54
JUL 29	37.18	AUG 15	22.23	OCT 15	25.76	NOV 22	23.28
AUG 25	36.71	SEP 11	24.99	NOV 14	22.57	DEC 16	23.12
SEP 29	36.63	OCT 11	23.21	JAN 14, 1976	22.46	JAN 19, 1978	23.09
OCT 28	36.60	NOV 13	22.58	FEB 16	22.50	FEB 22	22.89
NOV 24	36.05	DEC 10	25.65	MAR 17	22.57	APR 05	24.23
DEC 30	34.39	JAN 11, 1974	26.83	APR 26	22.59	MAY 15	22.85
JAN 27, 1972	34.00	FEB 11	21.13	JUN 10	22.86	JUN 13	22.03
FEB 29	34.38	MAR 12	22.65	JUL 26	23.30	JUL 17	22.57
MAR 29	30.67	APR 16	28.23	SEP 13	21.49	MAR 18, 1986	23.04
APR 04	30.42	MAY 10	25.48	OCT 14	21.59	MAR 11, 1987	21.73
MAY 22	27.05	JUL 15	26.22	NOV 16	21.77	MAR 08, 1988	21.85
JUN 23	24.87	SEP 11	25.69	DEC 16	21.50	AUG 07	23.09
JUL 19	22.27	OCT 15	25.59	JAN 11, 1977	22.21	11	23.24
AUG 23	22.19	NOV 14	25.83	FEB 15	22.24	MAR 06, 1989	22.83

HIGHEST 20.57 JAN 31, 1973
 LOWEST 37.46 MAY 27, 1971

USGS 335700078000002 BR-160 SOUTHPORT RS2 GG32 K-5



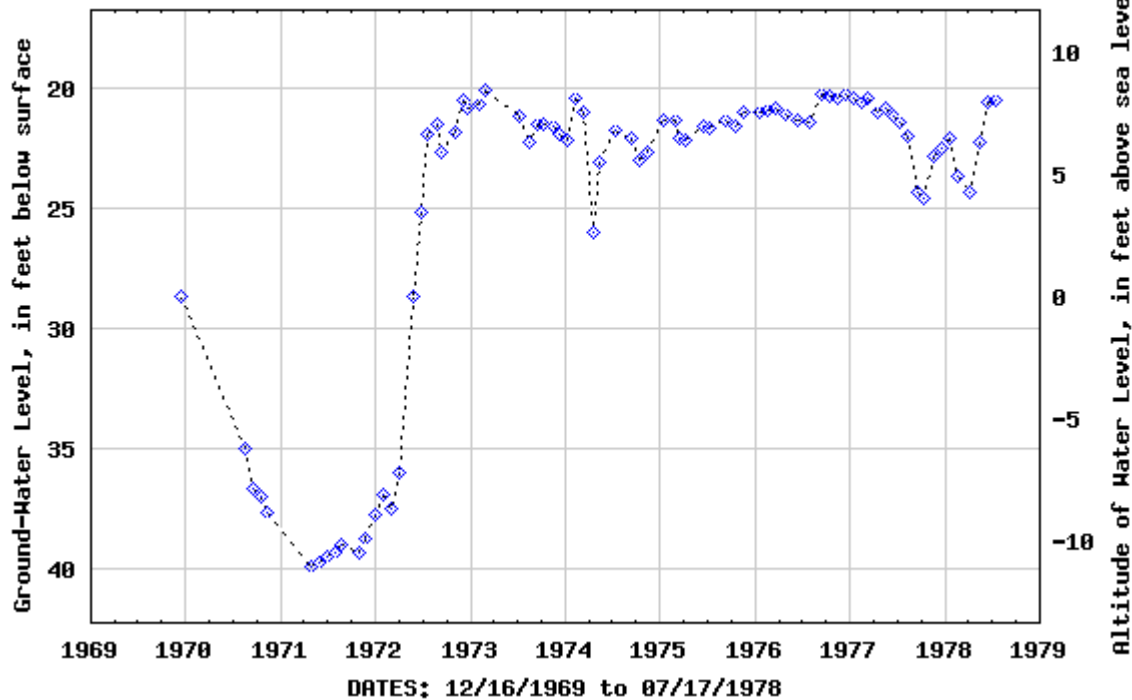
Site Identification Number 335700078000004
 Local Number BR-162 SOUTHPORT RS2 GG32 K-6
 Latitude 335656.78
 Longitude 780044.13
 Well Depth 70.0
 Land Surface Elevation 28.68
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 16, 1969	28.68	SEP 08, 1972	22.69	NOV 14, 1974	22.67	JAN 11, 1977	20.40
AUG 14, 1970	34.99	OCT 31	21.83	JAN 14, 1975	21.31	FEB 15	20.53
SEP 18	36.67	NOV 30	20.48	FEB 26	21.27	MAR 10	20.41
OCT 19	37.01	DEC 22	20.78	MAR 14	22.05	APR 14	20.94
NOV 10	37.73	JAN 31, 1973	20.63	APR 11	22.12	MAY 18	20.80
APR 29, 1971	39.94	FEB 28	20.08	JUN 13	21.60	JUN 16	21.14
MAY 27	39.81	JUL 11	21.15	JUL 09	21.66	JUL 13	21.37
JUN 25	39.55	AUG 15	22.25	SEP 09	21.28	AUG 08	21.99
JUL 29	39.37	SEP 11	21.45	OCT 15	21.59	SEP 15	24.33
AUG 25	39.00	OCT 11	21.51	NOV 14	20.99	OCT 10	24.59
OCT 28	39.33	NOV 13	21.53	JAN 14, 1976	20.95	NOV 22	22.80
NOV 24	38.80	DEC 10	21.90	FEB 16	20.88	DEC 16	22.49
DEC 30	37.74	JAN 11, 1974	22.14	MAR 17	20.81	JAN 19, 1978	22.08
JAN 27, 1972	36.92	FEB 11	20.37	APR 26	21.03	FEB 22	23.62
FEB 29	37.49	MAR 12	21.00	JUN 10	21.30	APR 05	24.31
APR 04	36.03	APR 16	25.99	JUL 26	21.41	MAY 15	22.19
MAY 22	28.66	MAY 10	23.09	SEP 13	20.19	JUN 13	20.59
JUN 23	25.18	JUL 15	21.69	OCT 14	20.31	JUL 17	20.47
JUL 19	21.93	SEP 11	22.07	NOV 16	20.39		
AUG 23	21.52	OCT 15	22.95	DEC 16	20.19		

HIGHEST 20.08 FEB 28, 1973
 LOWEST 39.94 APR 29, 1971

USGS 335700078000004 BR-162 SOUTHPORT RS2 GG32 K-6

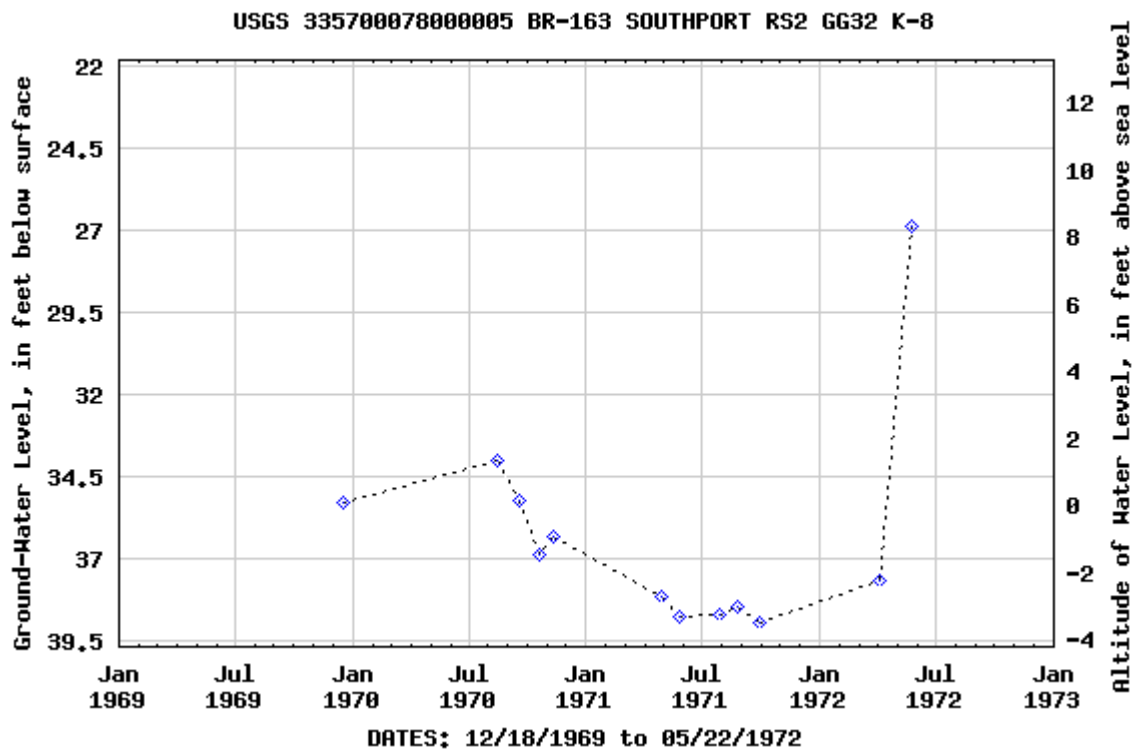


Site Identification Number 335700078000005
 Local Number BR-163 SOUTHPORT RS2 GG32 K-8
 Latitude 335656.78
 Longitude 780044.13
 Well Depth 70.0
 Land Surface Elevation 35.28
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 18, 1969	35.28	OCT 19, 1970	36.89	MAY 27, 1971	38.74	SEP 29, 1971	38.97
AUG 14, 1970	34.00	NOV 10	36.31	JUL 29	38.72	APR 04, 1972	37.69
SEP 18	35.25	APR 29, 1971	38.17	AUG 25	38.43	MAY 22	26.88

HIGHEST 26.88 MAY 22, 1972
 LOWEST 38.97 SEP 29, 1971



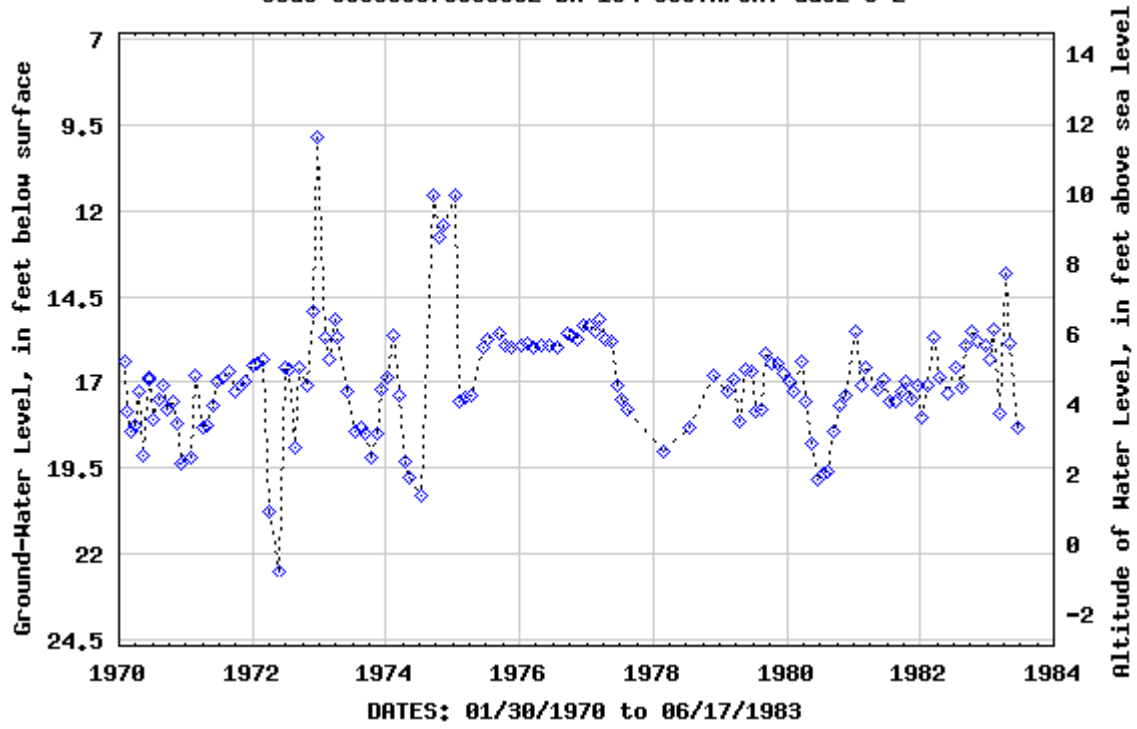
Site Identification Number 335553078005502
 Local Number BR-164 SOUTHPORT GG32 U-2
 Latitude 335554
 Longitude 780054
 Well Depth 75.0
 Land Surface Elevation 21.56
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 30, 1970	16.42	SEP 08, 1972	16.56	MAR 17, 1976	15.97	JUN 16, 1980	19.81
FEB 18	17.88	OCT 31	17.09	APR 26	15.93	JUL 15	19.68
MAR 06	18.42	NOV 30	14.94	JUN 10	15.93	AUG 14	19.62
24	18.25	DEC 22	9.84	JUL 26	15.96	SEP 17	18.43
APR 22	17.25	JAN 31, 1973	15.69	SEP 13	15.60	OCT 14	17.65
MAY 14	19.12	FEB 28	16.34	OCT 14	15.65	NOV 13	17.40
JUN 14	16.84	MAR 30	15.14	NOV 16	15.73	JAN 13, 1981	15.51
16	16.92	APR 06	15.69	DEC 16	15.32	FEB 09	17.07
JUL 03	18.07	JUN 07	17.29	JAN 11, 1977	15.37	MAR 11	16.57
AUG 02	17.53	JUL 11	18.43	FEB 15	15.51	MAY 14	17.23
26	17.12	AUG 15	18.29	MAR 10	15.16	JUN 10	16.89
SEP 18	17.80	SEP 11	18.50	APR 14	15.73	JUL 15	17.56
OCT 19	17.54	OCT 11	19.22	MAY 18	15.79	AUG 14	17.55
NOV 10	18.21	NOV 13	18.47	JUN 16	17.12	SEP 15	17.28
DEC 10	19.37	DEC 10	17.20	JUL 13	17.51	OCT 16	16.96
22	19.31	JAN 11, 1974	16.87	AUG 08	17.81	NOV 12	17.50
JAN 29, 1971	19.18	FEB 11	15.66	FEB 22, 1978	19.03	DEC 15	17.12
FEB 24	16.78	MAR 12	17.36	JUL 17	18.30	JAN 12, 1982	18.00
MAR 31	18.32	APR 16	19.33	NOV 27	16.82	FEB 11	17.09
APR 29	18.26	MAY 10	19.77	FEB 12, 1979	17.29	MAR 11	15.72
MAY 27	17.65	JUL 15	20.33	MAR 13	16.93	APR 14	16.87
JUN 25	16.95	SEP 11	11.52	APR 17	18.15	MAY 26	17.30
JUL 29	16.83	OCT 15	12.79	MAY 16	16.62	JUL 15	16.59
AUG 25	16.68	NOV 14	12.40	JUN 19	16.71	AUG 17	17.18
SEP 29	17.25	JAN 14, 1975	11.56	JUL 17	17.84	SEP 10	15.93
OCT 28	17.10	FEB 06	17.57	AUG 15	17.81	OCT 14	15.52
NOV 24	16.95	MAR 14	17.46	SEP 11	16.16	NOV 10	15.82
DEC 30	16.49	APR 11	17.41	OCT 11	16.44	DEC 20	15.94
JAN 27, 1972	16.46	JUN 13	16.01	NOV 15	16.47	JAN 17, 1983	16.31
FEB 29	16.32	JUL 09	15.77	DEC 12	16.73	FEB 10	15.48
APR 04	20.79	SEP 09	15.55	JAN 11, 1980	16.99	MAR 15	17.90
MAY 22	22.54	OCT 15	15.95	FEB 12	17.29	APR 11	13.82
JUN 23	16.54	NOV 14	15.96	MAR 18	16.41	MAY 10	15.85
JUL 19	16.64	JAN 14, 1976	15.91	APR 11	17.56	JUN 17	18.30
AUG 23	18.89	FEB 16	15.85	MAY 19	18.80		

HIGHEST 9.84 DEC 22, 1972
 LOWEST 22.54 MAY 22, 1972

USGS 335553078005502 BR-164 SOUTHPORT GG32 U-2



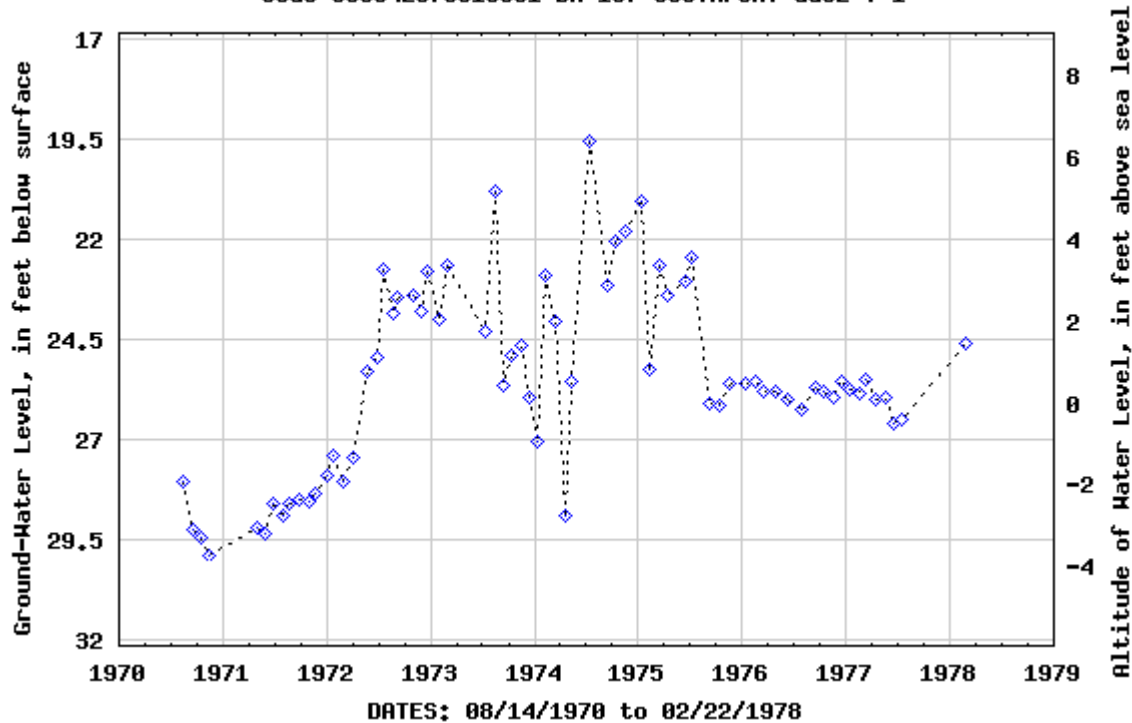
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 Local Number BR-167 SOUTHPORT GG32 T-1
 Latitude 335642
 Longitude 780100
 Well Depth 191
 Land Surface Elevation 26.05
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 14, 1970	28.07	JUN 23, 1972	24.94	MAR 12, 1974	24.06	FEB 16, 1976	25.54
SEP 18	29.26	JUL 19	22.74	APR 16	28.88	MAR 17	25.79
OCT 19	29.44	AUG 23	23.84	MAY 10	25.53	APR 26	25.80
NOV 10	29.92	SEP 08	23.45	JUL 15	19.54	JUN 10	26.01
APR 29, 1971	29.21	OCT 31	23.39	SEP 11	23.15	JUL 26	26.27
MAY 27	29.37	NOV 30	23.79	OCT 15	22.05	SEP 13	25.72
JUN 25	28.62	DEC 22	22.79	NOV 14	21.78	OCT 14	25.80
JUL 29	28.88	JAN 31, 1973	23.99	JAN 14, 1975	21.06	NOV 16	25.94
AUG 25	28.62	FEB 28	22.64	FEB 06	25.27	DEC 16	25.53
SEP 29	28.50	JUL 11	24.30	MAR 14	22.66	JAN 11, 1977	25.76
OCT 28	28.54	AUG 15	20.79	APR 11	23.41	FEB 15	25.84
NOV 24	28.37	SEP 11	25.64	JUN 13	23.05	MAR 10	25.51
DEC 30	27.89	OCT 11	24.90	JUL 09	22.45	APR 14	26.02
JAN 27, 1972	27.39	NOV 13	24.64	SEP 09	26.09	MAY 18	25.93
FEB 29	28.06	DEC 10	25.97	OCT 15	26.16	JUN 16	26.60
APR 04	27.44	JAN 11, 1974	27.05	NOV 14	25.60	JUL 13	26.48
MAY 22	25.29	FEB 11	22.88	JAN 14, 1976	25.59	FEB 22, 1978	24.61

HIGHEST 19.54 JUL 15, 1974
 LOWEST 29.92 NOV 10, 1970

USGS 335642078010001 BR-167 SOUTHPORT GG32 T-1



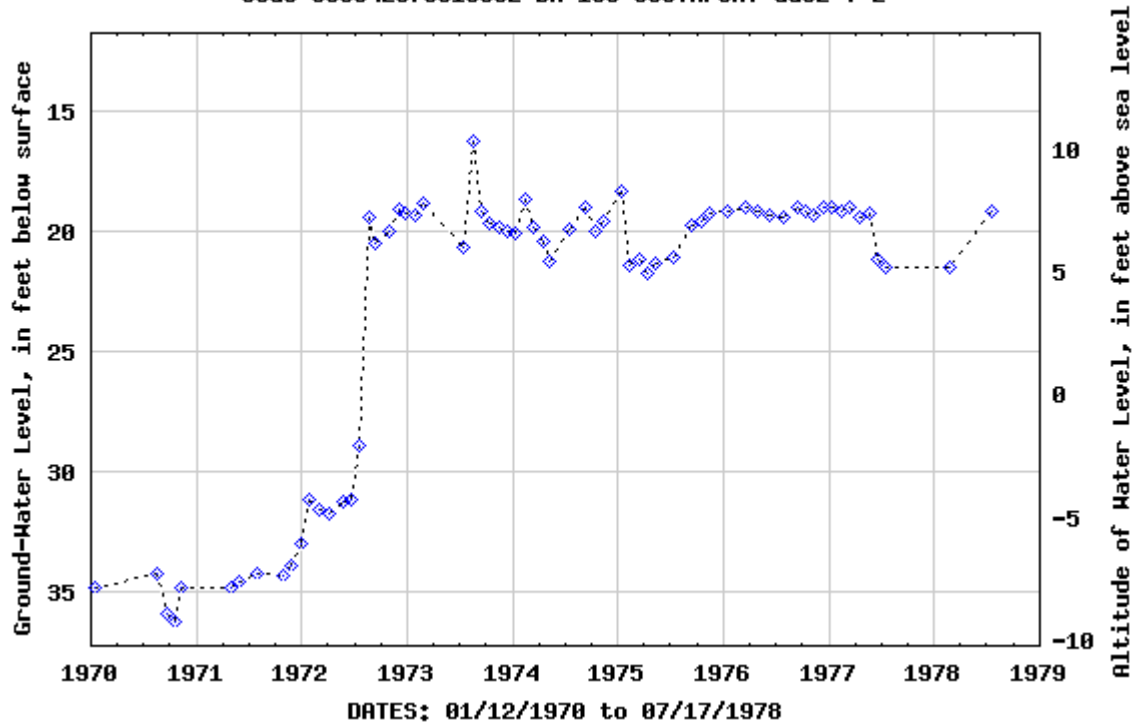
Site Identification Number 335642078010002
 Local Number BR-186 SOUTHPORT GG32 T-2
 Latitude 335643
 Longitude 780059
 Well Depth 70.0
 Land Surface Elevation 26.74
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 12, 1970	34.88	JAN 27, 1972	31.16	JAN 31, 1973	19.32	APR 16, 1974	20.37
AUG 14	34.26	FEB 29	31.64	FEB 28	18.82	MAY 10	21.27
SEP 18	35.99	APR 04	31.80	JUL 11	20.66	JUL 15	19.87
OCT 19	36.28	MAY 22	31.27	AUG 15	16.24	SEP 11	19.00
NOV 10	34.86	JUN 23	31.17	SEP 11	19.16	OCT 15	20.01
APR 29, 1971	34.88	JUL 19	28.97	OCT 11	19.67	NOV 14	19.56
MAY 27	34.64	AUG 23	19.42	NOV 13	19.85	JAN 14, 1975	18.30
JUL 29	34.31	SEP 08	20.49	DEC 10	20.01	FEB 06	21.42
OCT 28	34.37	OCT 31	20.02	JAN 11, 1974	20.03	MAR 14	21.15
NOV 24	33.95	NOV 30	19.07	FEB 11	18.69	APR 11	21.75
DEC 30	33.04	DEC 22	19.22	MAR 12	19.83	MAY 13	21.33
JUL 09, 1975	21.08	APR 26, 1976	19.15	DEC 16, 1976	18.98	JUN 16, 1977	21.14
SEP 09	19.77	JUN 10	19.33	JAN 11, 1977	19.02	JUL 13	21.49
OCT 15	19.57	JUL 26	19.39	FEB 15	19.15	FEB 22, 1978	21.48
NOV 14	19.24	SEP 13	19.01	MAR 10	18.98	JUL 17	19.11
JAN 14, 1976	19.13	OCT 14	19.14	APR 14	19.37		
MAR 17	19.01	NOV 10	19.30	MAY 18	19.22		

HIGHEST 16.24 AUG 15, 1973
 LOWEST 36.28 OCT 19, 1970

USGS 335642078010002 BR-186 SOUTHPORT GG32 T-2

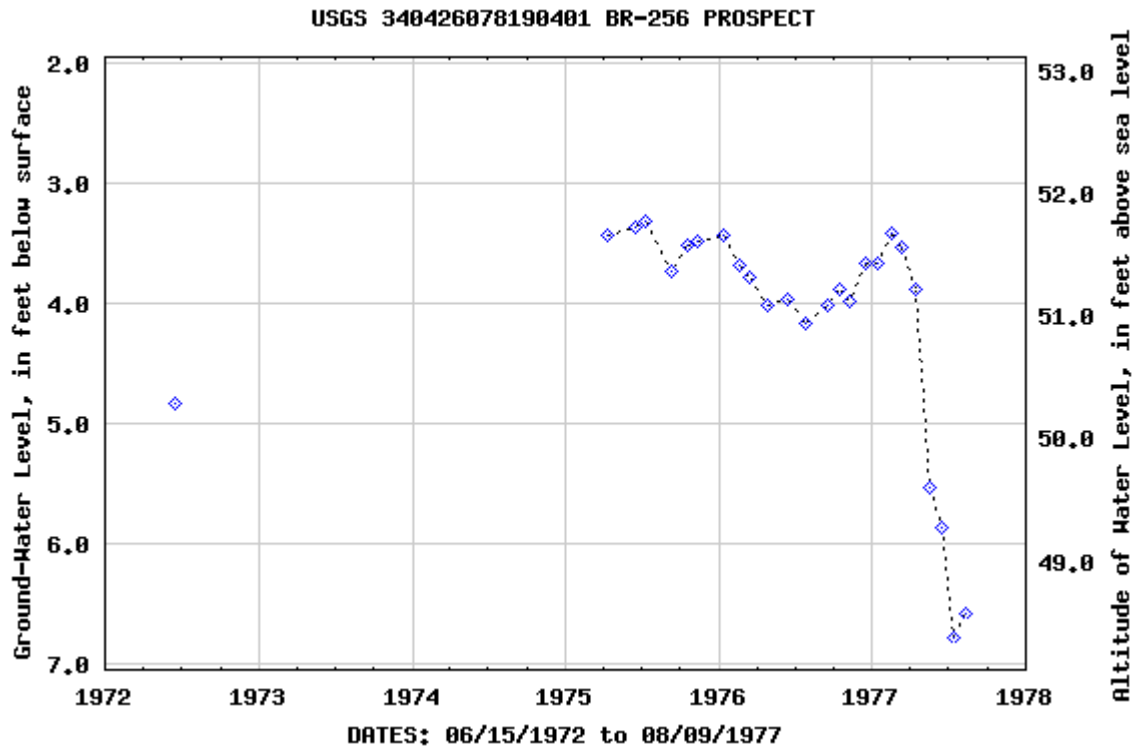


Site Identification Number 340426078190401
 Local Number BR-256 PROSPECT
 Latitude 340426
 Longitude 781904
 Well Depth 60.0
 Land Surface Elevation 55.11
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 15, 1972	4.84	JAN 13, 1976	3.43	OCT 15, 1976	3.89	MAY 17, 1977	5.53
APR 10, 1975	3.43	FEB 18	3.69	NOV 09	3.99	JUN 16	5.86
JUN 16	3.36	MAR 15	3.79	DEC 15	3.67	JUL 11	6.79
JUL 09	3.32	APR 26	4.01	JAN 11, 1977	3.67	AUG 09	6.59
SEP 10	3.73	JUN 11	3.96	FEB 15	3.41		
OCT 16	3.51	JUL 26	4.16	MAR 10	3.53		
NOV 12	3.49	SEP 16	4.01	APR 14	3.89		

HIGHEST 3.32 JUL 09, 1975
 LOWEST 6.79 JUL 11, 1977



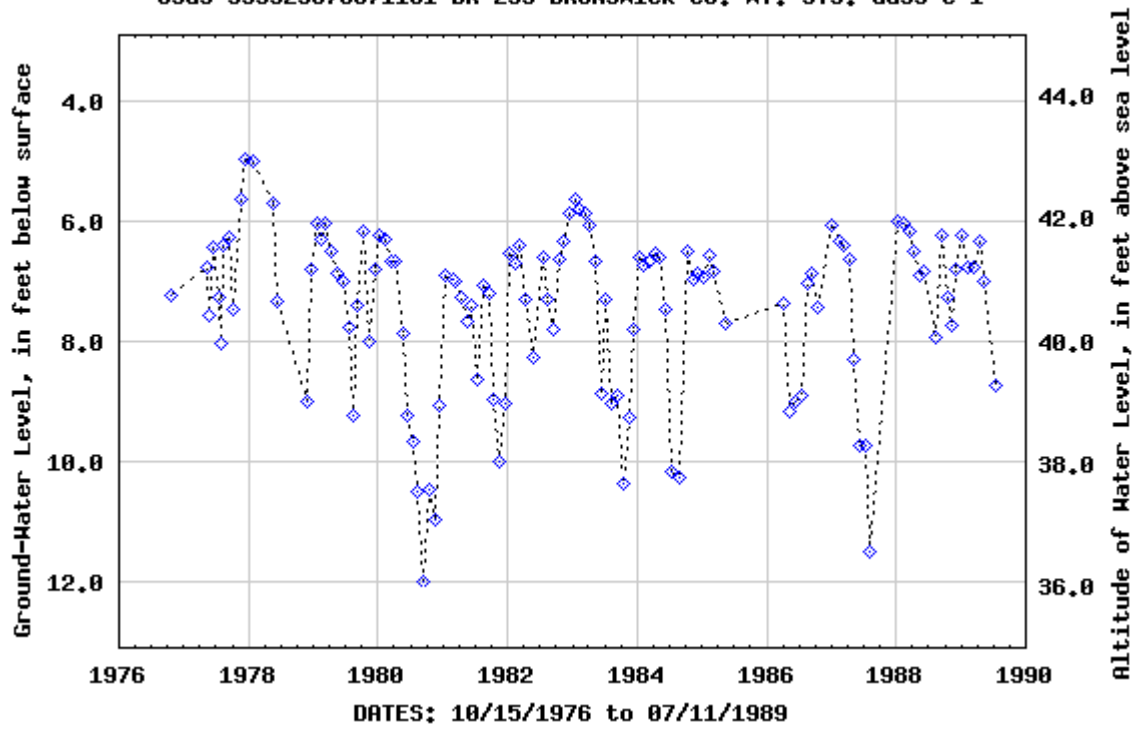
Site Identification Number 335929078071101
 Local Number BR-259 BRUNSWICK CO. WT.
 Latitude 335929
 Longitude 780711
 Well Depth 100
 Land Surface Elevation 47.99
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1976	7.23	AUG 08, 1977	6.39	MAY 15, 1978	5.69	MAR 13, 1979	6.02
MAY 09, 1977	6.78	SEP 15	6.25	JUN 13	7.32	APR 12	6.51
18	7.57	OCT 10	7.45	NOV 27	9.01	MAY 15	6.88
JUN 16	6.43	NOV 22	5.63	DEC 14	6.79	JUN 15	6.99
JUL 13	7.28	DEC 16	4.96	JAN 26, 1979	6.03	JUL 17	7.77
25	8.03	JAN 23, 1978	5.00	FEB 12	6.30	AUG 14	9.24
SEP 10, 1979	7.40	OCT 13, 1981	8.97	DEC 09, 1983	7.80	MAR 11, 1987	6.40
OCT 10	6.18	NOV 12	10.00	JAN 09, 1984	6.59	APR 09	6.64
NOV 15	7.99	DEC 15	9.05	FEB 09	6.72	MAY 11	8.30
DEC 12	6.81	JAN 12, 1982	6.52	MAR 15	6.68	JUN 12	9.74
JAN 11, 1980	6.23	FEB 11	6.70	APR 12	6.52	JUL 07	9.74
FEB 12	6.30	MAR 11	6.40	MAY 10	6.61	AUG 07	11.49
MAR 20	6.65	APR 14	7.29	JUN 11	7.46	JAN 14, 1988	6.00
APR 10	6.65	MAY 26	8.28	JUL 10	10.18	FEB 08	6.03
MAY 19	7.88	JUL 23	6.59	AUG 31	10.28	MAR 15	6.15
JUN 16	9.25	AUG 17	7.31	OCT 10	6.51	APR 07	6.51
JUL 15	9.66	SEP 20	7.80	NOV 13	6.97	MAY 10	6.91
AUG 13	10.49	OCT 14	6.64	DEC 10	6.86	31	6.84
SEP 11	12.01	NOV 10	6.33	JAN 14, 1985	6.92	AUG 11	7.92
OCT 14	10.46	DEC 20	5.88	FEB 11	6.58	SEP 14	6.22
NOV 13	10.97	JAN 17, 1983	5.64	MAR 11	6.82	OCT 12	7.25
DEC 11	9.06	FEB 10	5.81	MAY 13	7.69	NOV 08	7.72
JAN 13, 1981	6.90	MAR 15	5.85	APR 07, 1986	7.37	DEC 05	6.81
FEB 25	6.95	APR 11	6.05	MAY 08	9.16	JAN 09, 1989	6.24
MAR 11	7.01	MAY 10	6.67	JUN 09	9.01	FEB 06	6.77
APR 10	7.28	JUN 17	8.86	JUL 11	8.89	MAR 09	6.75
MAY 14	7.68	JUL 11	7.29	AUG 14	7.04	APR 12	6.34
JUN 10	7.41	AUG 10	9.04	SEP 05	6.85	MAY 09	7.00
JUL 15	8.62	SEP 09	8.91	OCT 13	7.42	JUL 11	8.73
AUG 12	7.05	OCT 13	10.36	JAN 06, 1987	6.06		
SEP 15	7.20	NOV 16	9.28	FEB 12	6.34		

HIGHEST 4.96 DEC 16, 1977
 LOWEST 12.01 SEP 11, 1980

USGS 335929078071101 BR-259 BRUNSWICK CO, MT. SYS. GG33 C-1



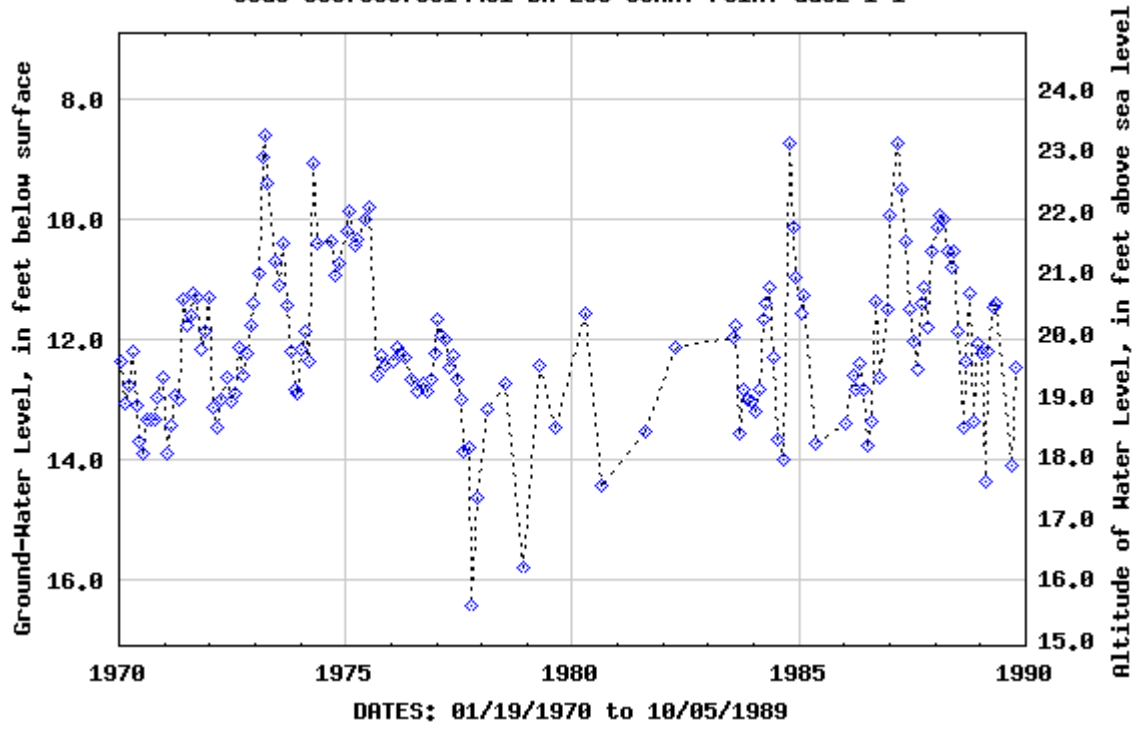
Site Identification Number 335755078014401
 Local Number BR-260 SUNNY POINT GG32 I-1
 Latitude 335755
 Longitude 780144
 Well Depth 198
 Land Surface Elevation 31.9
 Primary Aquifer Castle Hayne

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 19, 1970	12.38	SEP 18, 1970	13.32	MAY 27, 1971	11.32	JAN 29, 1972	13.15
FEB 18	13.07	OCT 15	13.34	JUN 25	11.76	FEB 29	13.48
MAR 24	12.76	NOV 10	12.97	JUL 29	11.59	APR 04	13.00
APR 22	12.19	DEC 22	12.63	AUG 25	11.24	MAY 22	12.65
MAY 18	13.11	JAN 29, 1971	13.90	SEP 29	11.31	JUN 22	13.05
JUN 10	13.70	FEB 24	13.42	OCT 28	12.17	JUL 19	12.90
JUL 10	13.92	MAR 31	12.94	NOV 24	11.86	AUG 23	12.15
AUG 15	13.34	APR 29	12.99	DEC 30	11.29	SEP 28	12.60
OCT 31, 1972	12.25	JAN 14, 1976	12.36	AUG 11, 1983	11.77	APR 09, 1987	9.49
NOV 30	11.75	FEB 16	12.14	SEP 09	13.56	MAY 11	10.35
DEC 22	11.40	MAR 17	12.24	OCT 13	12.85	JUN 12	11.51
JAN 31, 1973	10.90	APR 26	12.30	NOV 16	13.00	JUL 07	12.05
FEB 28	8.95	JUN 10	12.68	DEC 09	13.04	AUG 07	12.50
MAR 30	8.60	JUL 26	12.86	JAN 09, 1984	13.20	SEP 09	11.41
APR 06	9.40	SEP 13	12.75	FEB 09	12.82	OCT 05	11.14
JUN 07	10.70	OCT 14	12.88	MAR 15	11.68	NOV 09	11.81
JUL 11	11.09	NOV 16	12.67	APR 12	11.40	DEC 07	10.54
AUG 15	10.40	DEC 16	12.25	MAY 10	11.14	JAN 14, 1988	10.14
SEP 11	11.43	JAN 11, 1977	11.67	JUN 11	12.31	FEB 08	9.92
OCT 11	12.21	FEB 15	11.93	JUL 10	13.67	MAR 03	9.99
NOV 13	12.84	MAR 10	12.01	SEP 05	14.00	APR 07	10.53
DEC 10	12.91	APR 14	12.47	OCT 10	8.73	MAY 09	10.79
JAN 11, 1974	12.18	MAY 18	12.26	NOV 13	10.13	31	10.54
FEB 11	11.87	JUN 16	12.68	DEC 10	10.97	JUL 06	11.88
MAR 12	12.38	JUL 13	13.01	JAN 14, 1985	11.57	AUG 11	13.48
APR 16	9.06	AUG 08	13.86	FEB 11	11.25	SEP 07	12.38
MAY 10	10.40	SEP 15	13.82	MAY 15	13.75	OCT 12	11.24
SEP 11	10.36	OCT 10	16.44	JAN 14, 1986	13.41	NOV 08	13.37
OCT 15	10.92	NOV 22	14.64	MAR 18	12.61	DEC 05	12.08
NOV 14	10.74	FEB 22, 1978	13.16	APR 07	12.85	JAN 09, 1989	12.25
JAN 14, 1975	10.18	JUL 17	12.75	MAY 08	12.39	FEB 06	14.38
FEB 06	9.86	NOV 27	15.82	JUN 09	12.85	MAR 06	12.19
MAR 14	10.42	APR 17, 1979	12.45	JUL 07	13.78	APR 12	11.48
APR 11	10.34	AUG 15	13.48	AUG 08	13.38	MAY 09	11.39
JUN 13	9.98	APR 11, 1980	11.55	SEP 05	11.35	SEP 07	14.12
JUL 09	9.80	AUG 14	14.44	OCT 13	12.65	OCT 05	12.48
SEP 09	12.61	AUG 14, 1981	13.54	DEC 09	11.49		
OCT 15	12.26	APR 14, 1982	12.13	JAN 06, 1987	9.93		
NOV 14	12.45	JUL 15, 1983	11.95	MAR 11	8.72		

HIGHEST 8.60 MAR 30, 1973
 LOWEST 16.44 OCT 10, 1977

USGS 335755078014401 BR-260 SUNNY POINT GG32 I-1



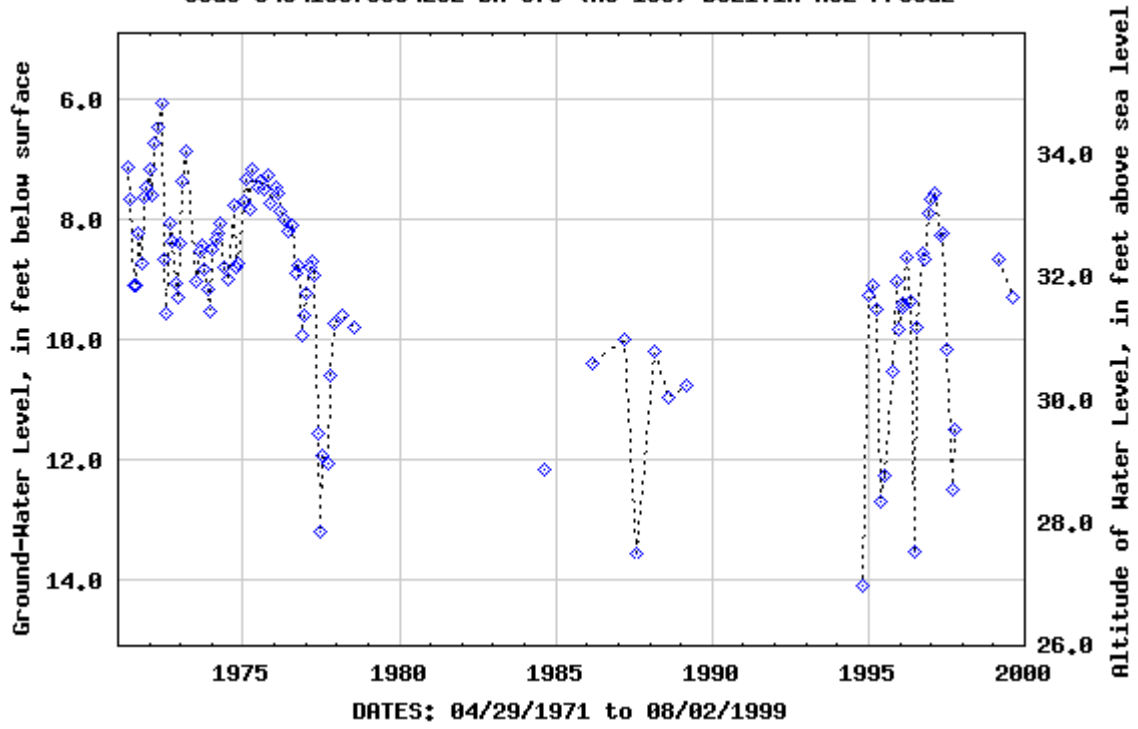
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 Local Number BR-078 (NC-180) BOLIVIA RS2 FF33d2
 Latitude 340416.21
 Longitude 780841.94
 Well Depth 140
 Land Surface Elevation 40.97
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 29, 1971	7.12	NOV 14, 1973	9.16	SEP 16, 1976	8.91	APR 05, 1995	9.50
MAY 27	7.67	DEC 11	9.53	OCT 14	8.77	MAY 31	12.70
JUN 25	9.11	JAN 11, 1974	8.48	NOV 09	9.94	JUL 11	12.28
JUL 29	9.11	FEB 15	8.34	DEC 16	9.59	OCT 03	10.55
AUG 25	8.23	MAR 12	8.24	JAN 11, 1977	9.24	NOV 21	9.02
SEP 29	8.74	APR 16	8.06	FEB 15	8.78	DEC 12	9.82
OCT 28	7.62	MAY 13	8.78	MAR 10	8.68	JAN 24, 1996	9.47
NOV 24	7.45	JUL 19	9.01	APR 14	8.94	FEB 13	9.41
DEC 30	7.17	SEP 10	7.77	MAY 18	11.58	MAR 19	8.62
JAN 27, 1972	7.59	OCT 15	8.80	JUN 16	13.20	MAY 02	9.38
FEB 29	6.74	NOV 15	8.72	JUL 11	11.95	JUN 12	13.54
APR 04	6.44	JAN 13, 1975	7.70	SEP 19	12.08	JUL 24	9.81
MAY 22	6.05	FEB 07	7.32	OCT 11	10.61	SEP 19	8.55
JUN 22	8.65	MAR 13	7.84	NOV 21	9.74	OCT 07	8.67
JUL 21	9.55	APR 08	7.17	FEB 22, 1978	9.61	DEC 10	7.89
AUG 22	8.05	JUN 16	7.47	JUL 17	9.80	JAN 06, 1997	7.65
SEP 28	8.35	JUL 08	7.36	AUG 30, 1984	12.17	FEB 20	7.56
OCT 31	9.05	SEP 10	7.48	MAR 11, 1986	10.41	APR 17	8.25
NOV 30	9.30	OCT 16	7.27	MAR 09, 1987	10.01	MAY 13	8.24
DEC 22	8.40	NOV 14	7.71	AUG 10	13.59	JUL 07	10.18
JAN 22, 1973	7.35	JAN 14, 1976	7.47	MAR 07, 1988	10.20	SEP 17	12.50
FEB 28	6.85	FEB 18	7.56	AUG 11	10.96	OCT 15	11.52
JUL 11	9.03	MAR 17	7.87	MAR 07, 1989	10.77	MAR 11, 1999	8.66
AUG 14	8.52	APR 26	7.98	NOV 03, 1994	14.10	AUG 02	9.31
SEP 17	8.42	JUN 11	8.19	JAN 05, 1995	9.28		
OCT 12	8.83	JUL 26	8.11	FEB 22	9.10		

HIGHEST 6.05 MAY 22, 1972
 LOWEST 14.10 NOV 03, 1994

USGS 340416078084202 BR-078 (NC-180) BOLIVIA RS2 FF33d2

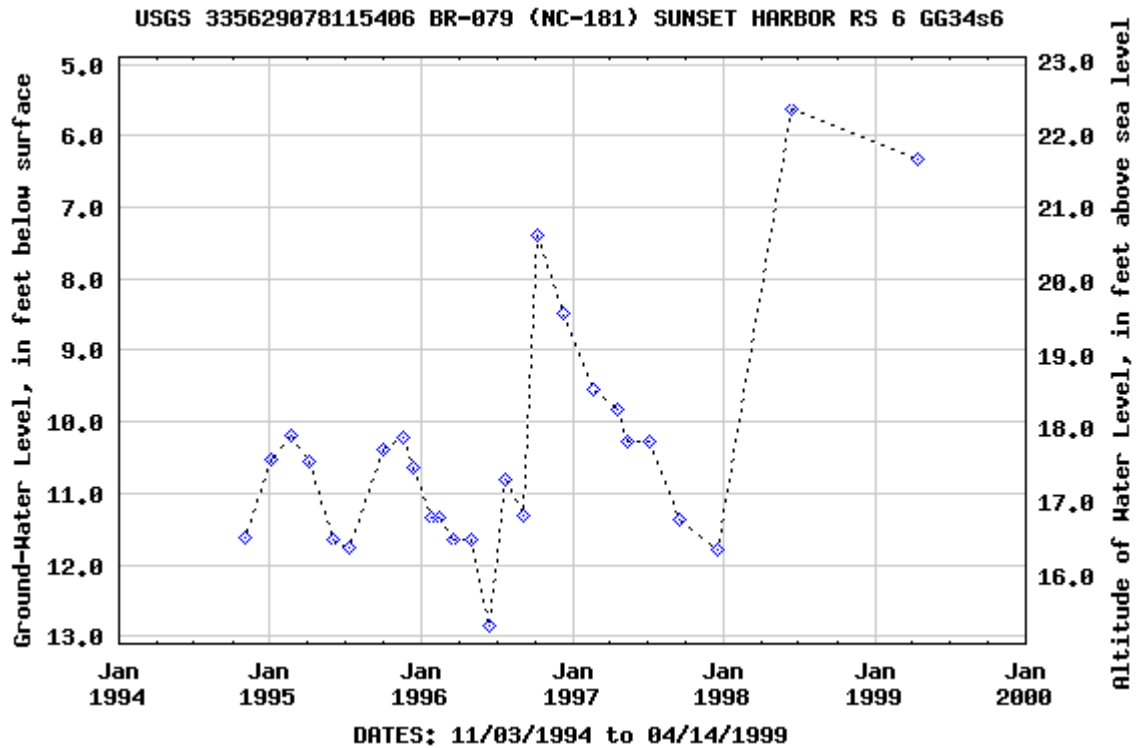


Site Identification Number 335629078115406
 Local Number BR-079 (NC-181) SUNSET HARBOR RS 6 GG34s6
 Latitude 335628.43
 Longitude 781157.23
 Well Depth 102
 Land Surface Elevation 28.06
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 03, 1994	11.61	NOV 20, 1995	10.21	JUL 24, 1996	10.80	JUL 07, 1997	10.28
JAN 05, 1995	10.54	DEC 13	10.64	SEP 05	11.31	SEP 17	11.37
FEB 22	10.18	JAN 25, 1996	11.35	OCT 07	7.40	DEC 17	11.78
APR 05	10.56	FEB 13	11.35	DEC 11	8.49	JUN 15, 1998	5.63
MAY 31	11.65	MAR 20	11.66	FEB 20, 1997	9.54	APR 14, 1999	6.33
JUL 11	11.75	MAY 01	11.64	APR 17	9.84		
OCT 03	10.40	JUN 12	12.85	MAY 14	10.27		

HIGHEST 5.63 JUN 15, 1998
 LOWEST 12.85 JUN 12, 1996



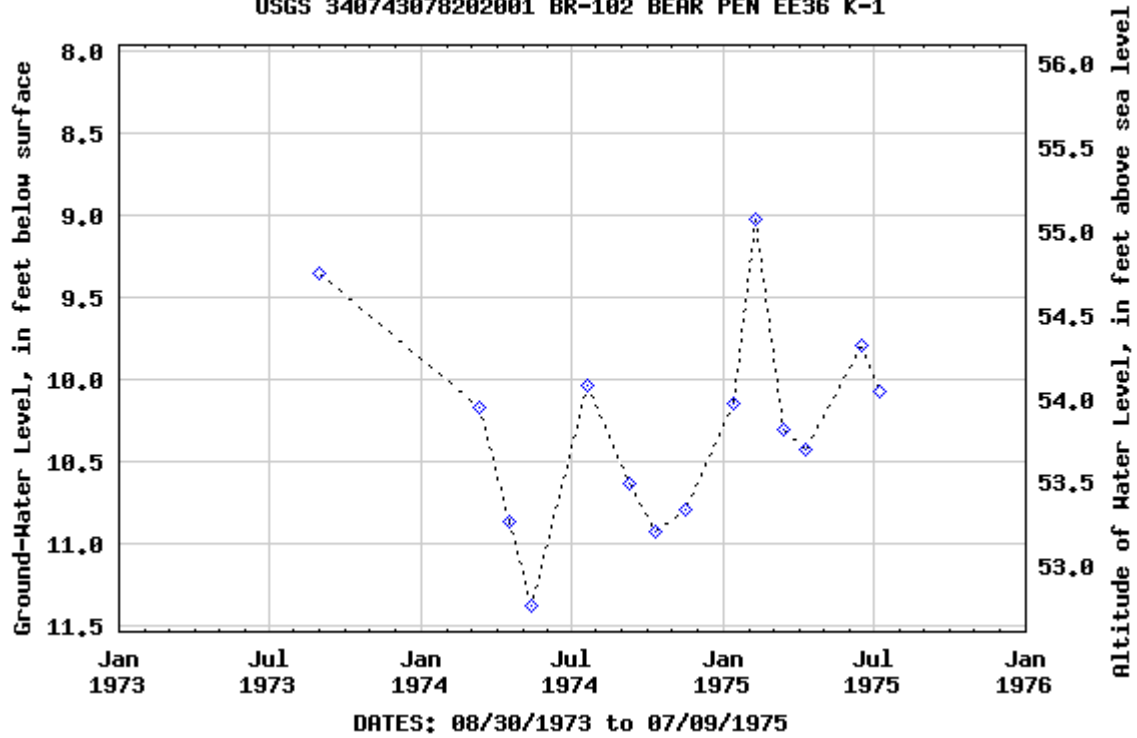
Site Identification Number 340743078202001
 Local Number BR-102 BEAR PEN EE36 K-1
 Latitude 340742.37
 Longitude 782020.81
 Well Depth 51.0
 Land Surface Elevation 64.11
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 30, 1973	9.36	APR 16, 1974	10.87	JUL 19, 1974	10.04	OCT 10, 1974	10.93
MAR 11, 1974	10.17	MAY 13	11.37	SEP 10	10.63	NOV 15	10.79
JAN 13, 1975	10.15	MAR 13, 1975	10.31	JUN 16, 1975	9.79		
FEB 07	9.02	APR 10	10.42	JUL 09	10.07		

HIGHEST 9.02 FEB 07, 1975
 LOWEST 11.37 MAY 13, 1974

USGS 340743078202001 BR-102 BEAR PEN EE36 K-1



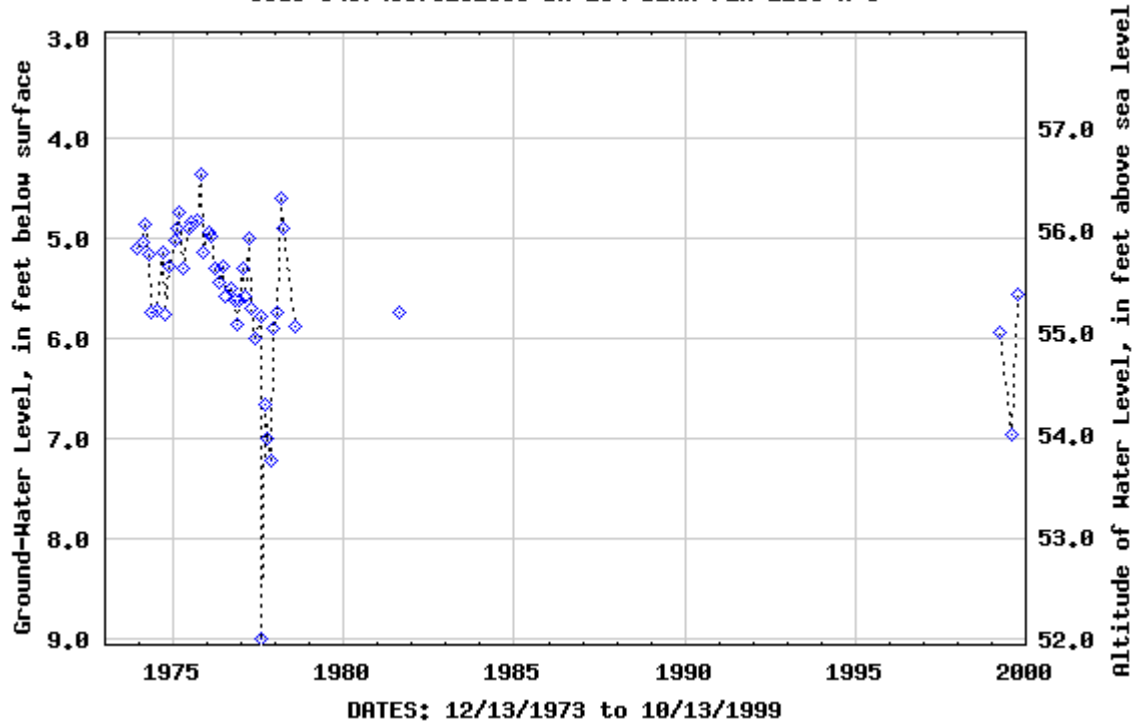
Site Identification Number 340743078202003
 Local Number BR-104 BEAR PEN EE36 K-3
 Latitude 340742.37
 Longitude 782020.81
 Well Depth 52.0
 Land Surface Elevation 60.94
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 13, 1973	5.10	APR 10, 1975	5.29	SEP 16, 1976	5.50	OCT 11, 1977	7.01
FEB 13, 1974	5.04	JUN 16	4.90	OCT 15	5.61	NOV 21	7.23
MAR 11	4.85	JUL 09	4.84	NOV 09	5.85	DEC 14	5.90
APR 16	5.16	SEP 12	4.81	DEC 15	5.61	JAN 18, 1978	5.73
MAY 13	5.73	OCT 17	4.36	JAN 13, 1977	5.30	FEB 24	4.59
JUL 19	5.71	NOV 12	5.13	FEB 16	5.58	APR 03	4.89
SEP 10	5.13	JAN 13, 1976	4.93	MAR 14	4.99	JUL 20	5.87
OCT 10	5.76	FEB 18	4.98	APR 15	5.70	AUG 17, 1981	5.73
NOV 15	5.27	MAR 15	5.30	MAY 17	6.01	MAR 30, 1999	5.94
JAN 13, 1975	5.01	APR 27	5.44	JUL 28	5.77	AUG 03	6.96
FEB 07	4.90	JUN 17	5.27	AUG 10	9.00	OCT 13	5.56
MAR 13	4.74	JUL 20	5.58	SEP 19	6.67		

HIGHEST 4.36 OCT 17, 1975
 LOWEST 9.00 AUG 10, 1977

USGS 340743078202003 BR-104 BEAR PEN EE36 K-3



Site Identification Number 340743078202006
 Local Number BR-107 BEAR PEN EE36 K-6
 Latitude 340742.37
 Longitude 782020.81
 Well Depth 110
 Land Surface Elevation 61
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 21, 1978	9.85	AUG 03, 1999	7.90	OCT 13, 1999	6.46
	HIGHEST	6.46	OCT 13, 1999		
	LOWEST	9.85	JUN 21, 1978		

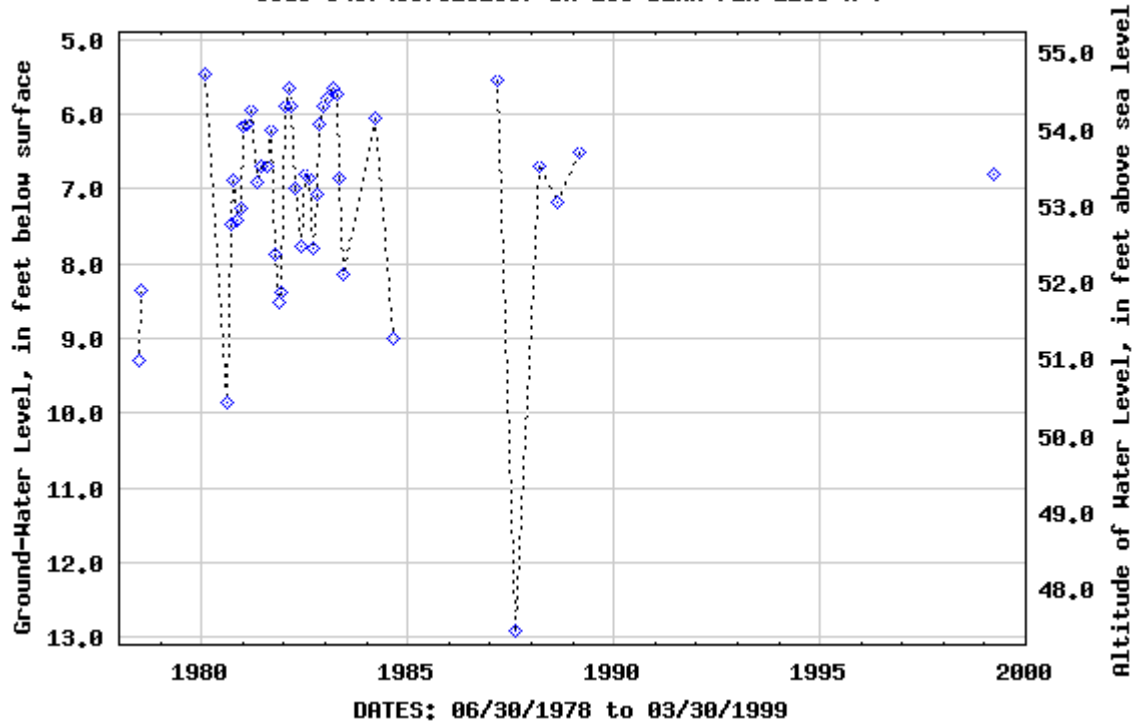
Site Identification Number 340743078202007
 Local Number BR-108 BEAR PEN EE36 K-7
 Latitude 340742.37
 Longitude 782020.81
 Well Depth 44.0
 Land Surface Elevation 60.27
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 30, 1978	9.29	MAY 14, 1981	6.91	MAY 26, 1982	7.76	JUN 17, 1983	8.15
JUL 20	8.36	JUN 10	6.70	JUL 15	6.79	MAR 12, 1984	6.06
FEB 11, 1980	5.45	AUG 13	6.68	AUG 16	6.84	AUG 28	8.99
AUG 12	9.86	SEP 15	6.20	SEP 10	7.79	MAR 09, 1987	5.55
SEP 11	7.48	OCT 13	7.88	OCT 14	7.06	AUG 10	12.91
OCT 14	6.87	NOV 12	8.52	NOV 10	6.14	MAR 07, 1988	6.68
NOV 12	7.42	DEC 15	8.38	DEC 20	5.88	AUG 16	7.17
DEC 11	7.26	JAN 12, 1982	5.88	JAN 17, 1983	5.77	MAR 07, 1989	6.50
JAN 12, 1981	6.16	FEB 11	5.64	MAR 15	5.64	MAR 30, 1999	6.80
FEB 09	6.12	MAR 11	5.88	APR 11	5.72		
MAR 11	5.93	APR 14	6.98	MAY 10	6.85		

HIGHEST 5.45 FEB 11, 1980
 LOWEST 12.91 AUG 10, 1987

USGS 340743078202007 BR-108 BEAR PEN EE36 K-7



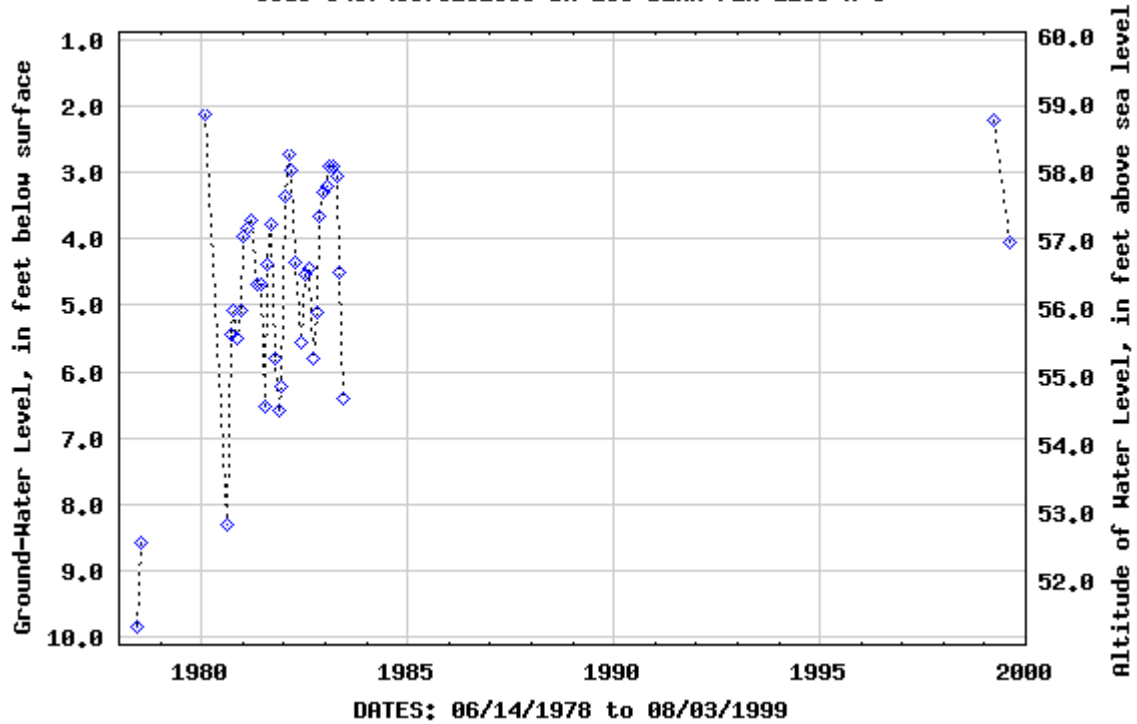
Site Identification Number 340743078202008
 Local Number BR-109 BEAR PEN EE36 K-8
 Latitude 340742.37
 Longitude 782020.81
 Well Depth 110
 Land Surface Elevation 61.06
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 14, 1978	9.85	MAR 11, 1981	3.73	FEB 11, 1982	2.72	JAN 17, 1983	3.21
JUL 20	8.56	MAY 14	4.70	MAR 11	2.96	FEB 10	2.90
FEB 11, 1980	2.12	JUN 10	4.68	APR 14	4.35	MAR 15	2.91
AUG 12	8.29	JUL 15	6.53	MAY 26	5.57	APR 11	3.05
SEP 11	5.44	AUG 13	4.38	JUL 15	4.53	MAY 10	4.52
OCT 14	5.08	SEP 15	3.77	AUG 16	4.46	JUN 17	6.39
NOV 12	5.51	OCT 13	5.80	SEP 10	5.80	MAR 30, 1999	2.23
DEC 11	5.09	NOV 12	6.59	OCT 14	5.12	AUG 03	4.04
JAN 12, 1981	3.96	DEC 15	6.22	NOV 10	3.67		
FEB 09	3.85	JAN 12, 1982	3.37	DEC 20	3.31		

HIGHEST 2.12 FEB 11, 1980
 LOWEST 9.85 JUN 14, 1978

USGS 340743078202008 BR-109 BEAR PEN EE36 K-8



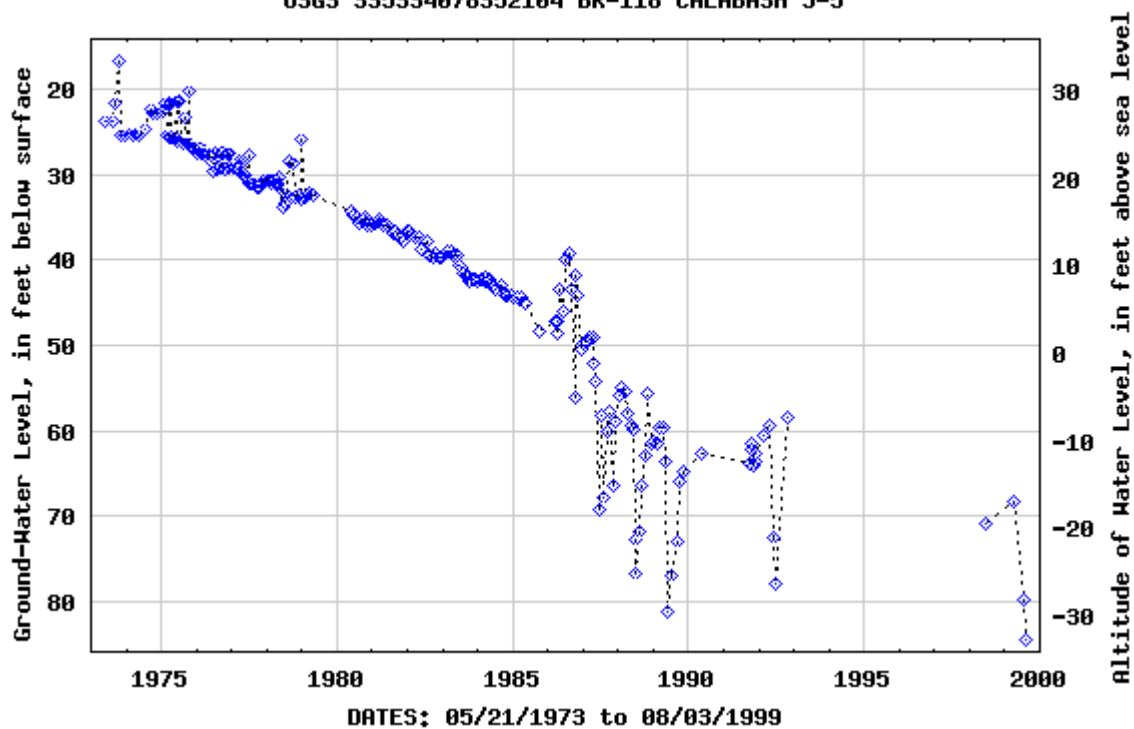
Site Identification Number 335334078352104
 Local Number BR-118 CALABASH J-5
 Latitude 335333.70
 Longitude 783522.30
 Well Depth 358
 Land Surface Elevation 50.93
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 21, 1973	23.61	JUN 11, 1976	27.59	SEP 26, 1978	28.57	JUL 26, 1983	40.91
AUG 16	23.64	23	29.50	OCT 26	32.58	AUG 10	41.48
SEP 17	21.55	JUL 21	27.54	NOV 28	32.43	SEP 09	42.04
OCT 12	16.65	26	29.36	DEC 20	32.86	22	41.79
NOV 14	25.21	AUG 26	29.08	27	25.70	OCT 13	42.58
DEC 11	25.26	SEP 16	27.49	JAN 30, 1979	32.58	NOV 16	42.31
JAN 10, 1974	25.14	23	29.05	MAR 01	32.48	DEC 09	42.34
FEB 15	25.00	OCT 13	27.48	28	32.09	JAN 09, 1984	42.48
MAR 12	25.32	25	29.41	APR 24	32.48	FEB 09	42.22
APR 16	25.15	NOV 09	27.43	MAY 22, 1980	34.31	MAR 12	42.44
MAY 13	25.39	29	29.16	JUN 26	34.82	27	42.02
JUL 19	24.60	DEC 14	27.34	JUL 28	34.88	APR 12	42.38
SEP 10	22.35	21	28.90	AUG 29	35.62	MAY 10	42.30
OCT 10	22.81	JAN 12, 1977	29.09	SEP 25	35.25	JUN 11	42.85
NOV 15	22.70	25	29.04	OCT 27	34.94	JUL 10	43.38
JAN 13, 1975	22.42	FEB 22	28.68	NOV 20	35.91	AUG 30	43.00
FEB 07	21.56	23	29.38	DEC 19	35.84	SEP 25	43.79
26	25.33	MAR 15	28.40	JAN 27, 1981	35.57	OCT 10	44.01
MAR 13	21.45	24	29.40	FEB 27	35.45	NOV 13	44.08
24	25.55	APR 14	28.70	MAR 25	35.24	DEC 10	44.13
APR 10	21.65	26	29.87	APR 22	36.00	JAN 14, 1985	44.47
21	25.66	MAY 18	30.15	JUN 02	35.78	FEB 11	44.28
MAY 22	25.62	25	30.08	JUL 31	36.81	MAR 11	44.50
JUN 16	21.31	JUN 13	30.24	AUG 25	36.68	25	44.29
19	26.00	23	27.72	SEP 24	36.99	MAY 13	45.12
JUL 08	21.20	JUL 11	30.91	OCT 28	37.32	OCT 07	48.36
23	25.98	26	30.85	NOV 24	37.70	07	48.33
AUG 21	26.24	AUG 09	30.87	DEC 24	36.69	MAR 12, 1986	47.23
SEP 10	23.14	SEP 16	31.40	JAN 25, 1982	36.56	APR 07	47.14
30	26.26	OCT 11	31.49	MAR 22	37.19	10	48.63
OCT 16	20.24	NOV 21	30.87	APR 28	37.34	MAY 06	43.31
22	26.21	DEC 15	30.44	MAY 27	38.81	JUN 09	45.97
NOV 15	26.66	JAN 18, 1978	30.38	JUL 22	37.72	JUL 07	39.90
24	26.72	FEB 15	30.37	AUG 24	39.37	AUG 08	39.19
DEC 29	26.78	21	30.94	SEP 28	39.73	SEP 05	43.39
JAN 13, 1976	27.36	MAR 28	30.88	OCT 25	39.12	OCT 06	56.12
26	27.10	APR 03	30.37	NOV 29	39.76	13	41.78
FEB 18	27.33	26	30.88	DEC 23	39.73	NOV 06	44.21
24	27.03	MAY 11	30.28	JAN 25, 1983	39.12	DEC 09	50.48
MAR 15	27.38	JUN 14	33.78	FEB 25	39.04	JAN 06, 1987	49.84
25	27.27	22	31.93	MAR 25	38.99	FEB 11	49.42
APR 22	27.49	JUL 20	32.02	APR 26	39.40	MAR 09	49.06
26	27.40	21	33.39	MAY 26	39.44	APR 09	49.11
MAY 25	28.26	AUG 30	28.46	JUN 28	40.52	17	52.19
MAY 11, 1987	54.32	MAY 09, 1988	59.38	APR 12, 1989	59.70	DEC 09, 1991	62.67
JUN 12	69.30	31	59.77	MAY 09	63.63	FEB 11, 1992	60.48
JUL 07	58.23	JUN 22	72.91	JUN 05	81.25	APR 30	59.40
AUG 10	67.96	JUL 06	76.85	JUL 11	77.10	MAY 26	72.55
SEP 09	60.35	AUG 16	71.96	SEP 07	73.08	JUN 30	78.09
09	60.20	SEP 07	66.51	OCT 05	65.96	NOV 06	58.57
OCT 05	57.65	OCT 12	62.94	NOV 03	64.85	JUN 15, 1998	70.83
NOV 09	66.49	NOV 08	55.57	MAY 14, 1990	62.66	APR 14, 1999	68.36
DEC 07	58.96	DEC 05	62.49	SEP 26, 1991	63.85	JUL 14	79.86
JAN 14, 1988	55.87	05	61.56	OCT 14	62.32	AUG 03	84.66
FEB 08	54.87	JAN 09, 1989	61.26	28	61.49		
MAR 08	55.34	FEB 06	61.53	NOV 18	64.10		
APR 07	58.06	MAR 07	59.59	25	63.59		

HIGHEST 16.65 OCT 12, 1973
LOWEST 84.66 AUG 03, 1999

USGS 335334078352104 BR-118 CALABASH J-5



Site Identification Number 335334078352106
 Local Number BR-123 CALABASH J-7
 Latitude 335333.70
 Longitude 783522.30
 Well Depth 56
 Land Surface Elevation 47.28
 Primary Aquifer Surficial

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 24, 1973	11.55	APR 14, 1999	17.81	JUL 14, 1999	16.69	AUG 03, 1999	22.18
	HIGHEST	11.55	JUL 24, 1973				
	LOWEST	22.18	AUG 03, 1999				

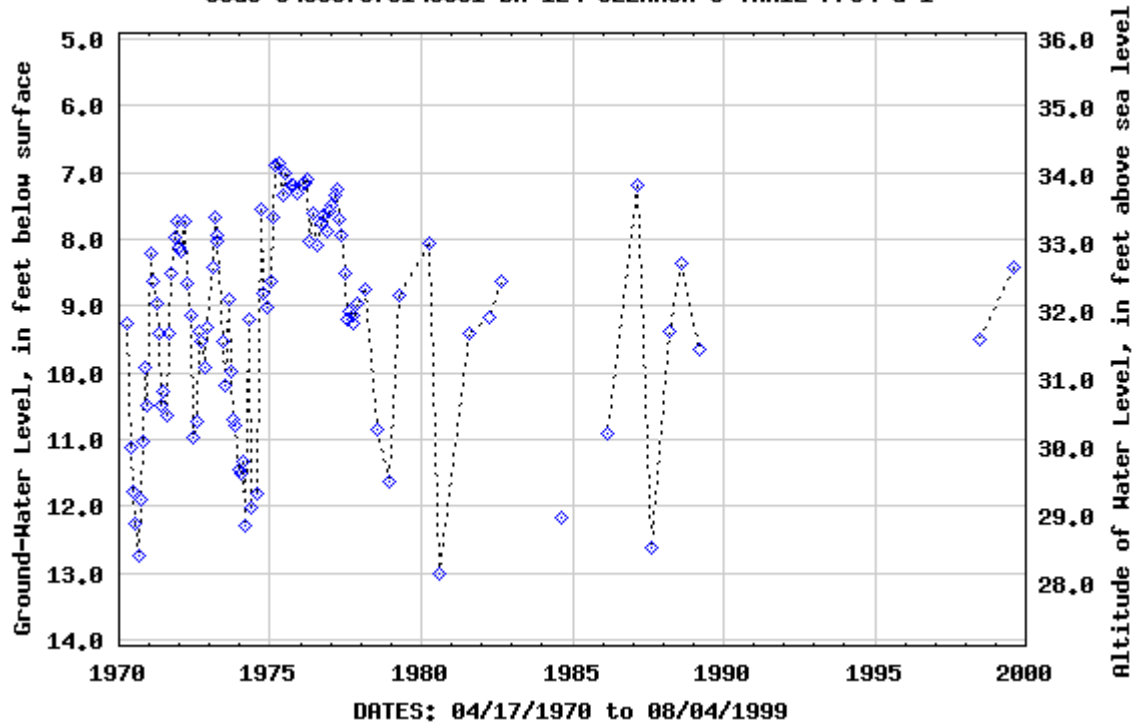
Site Identification Number 340307078140601
 Local Number BR-124 CLEMMON'S TRAIL FF34 G-1
 Latitude 340313.52
 Longitude 781413.07
 Well Depth 154
 Land Surface Elevation 41.1
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 17, 1970	9.26	DEC 30, 1971	8.11	NOV 14, 1973	10.78	JAN 14, 1976	7.18
MAY 14	11.12	JAN 27, 1972	8.19	DEC 11	11.45	FEB 18	7.15
JUN 10	11.77	FEB 29	7.73	JAN 11, 1974	11.50	MAR 17	7.10
JUL 10	12.26	APR 04	8.66	FEB 15	11.34	APR 26	8.04
AUG 20	12.75	MAY 22	9.13	MAR 12	12.28	JUN 11	7.60
SEP 25	11.89	JUN 22	10.98	APR 16	9.21	JUL 26	8.10
OCT 12	11.04	JUL 21	10.73	MAY 13	12.01	SEP 16	7.77
NOV 10	9.93	AUG 22	9.38	JUL 19	11.80	OCT 14	7.64
DEC 10	10.49	SEP 28	9.53	SEP 10	7.54	NOV 09	7.89
JAN 29, 1971	8.20	OCT 31	9.93	OCT 10	8.80	DEC 16	7.58
FEB 24	8.64	NOV 30	9.33	NOV 15	9.01	JAN 11, 1977	7.50
MAR 31	8.97	JAN 31, 1973	8.43	JAN 13, 1975	8.62	FEB 15	7.33
APR 29	9.42	FEB 28	7.68	FEB 07	7.66	MAR 10	7.24
MAY 27	10.49	MAR 30	7.93	MAR 13	6.90	APR 14	7.70
JUN 25	10.28	APR 06	8.03	APR 08	6.87	MAY 18	7.95
JUL 29	10.64	JUN 07	9.53	JUN 16	7.33	JUN 16	8.50
AUG 25	9.41	JUL 11	10.20	JUL 08	7.01	JUL 11	9.19
SEP 29	8.52	AUG 14	8.91	SEP 10	7.20	AUG 09	9.08
OCT 28	7.96	SEP 17	9.99	OCT 16	7.18	SEP 19	9.15
NOV 26	7.73	OCT 12	10.69	NOV 14	7.31	OCT 11	9.26
NOV 21, 1977	8.96	APR 10, 1980	8.07	AUG 30, 1984	12.18	AUG 11, 1988	8.37
FEB 22, 1978	8.74	AUG 12	13.00	MAR 11, 1986	10.91	MAR 07, 1989	9.66
JUL 17	10.84	AUG 12, 1981	9.42	MAR 09, 1987	7.18	JUN 15, 1998	9.50
DEC 14	11.62	APR 06, 1982	9.17	AUG 10	12.62	AUG 04, 1999	8.41
APR 12, 1979	8.83	AUG 16	8.64	MAR 07, 1988	9.37		

HIGHEST 6.87 APR 08, 1975
 LOWEST 13.00 AUG 12, 1980

USGS 340307078140681 BR-124 CLEMMON'S TRAIL FF34 G-1



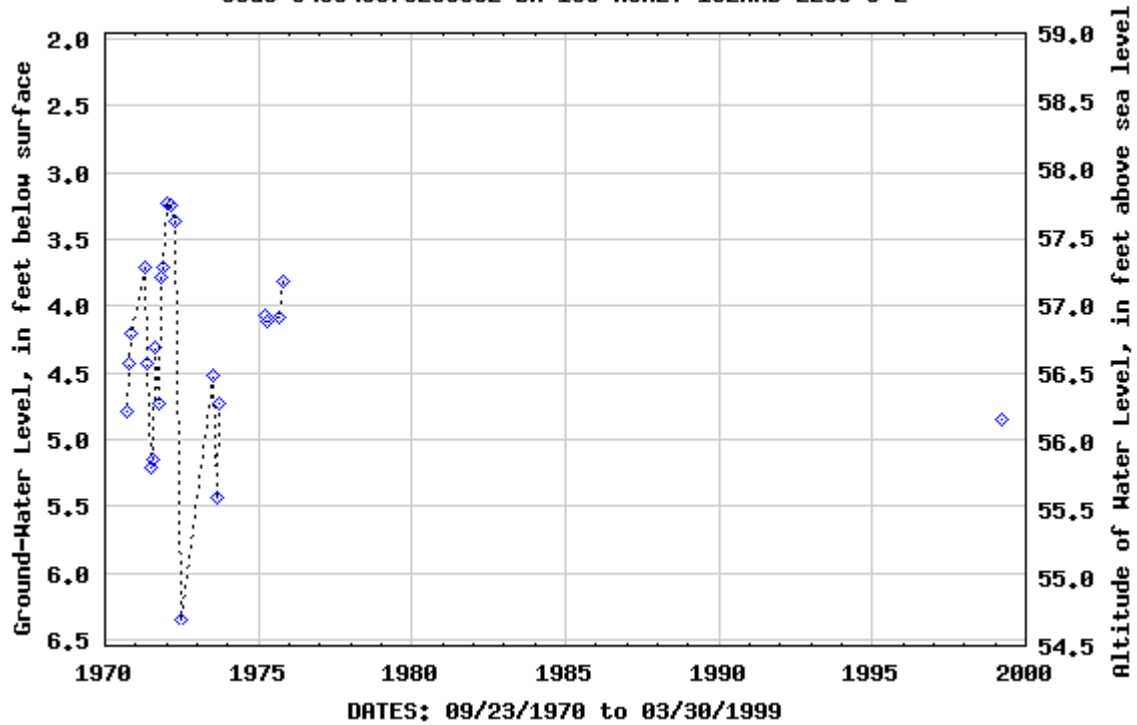
Site Identification Number 340846078200902
 Local Number BR-135 HONEY ISLAND EE36
 Latitude 340846
 Longitude 782010
 Well Depth 100
 Land Surface Elevation 61
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 23, 1970	4.79	JUL 29, 1971	5.15	FEB 29, 1972	3.24	MAR 13, 1975	4.07
OCT 15	4.43	AUG 25	4.31	APR 04	3.37	APR 10	4.11
NOV 10	4.20	SEP 29	4.73	JUN 22	6.35	SEP 12	4.08
APR 29, 1971	3.71	OCT 29	3.78	JUL 11, 1973	4.52	OCT 17	3.81
MAY 27	4.43	NOV 29	3.71	AUG 16	5.44	MAR 30, 1999	4.85
JUN 25	5.21	DEC 30	3.23	SEP 17	4.73		

HIGHEST 3.23 DEC 30, 1971
 LOWEST 6.35 JUN 22, 1972

USGS 340846078200902 BR-135 HONEY ISLAND EE36 J-2



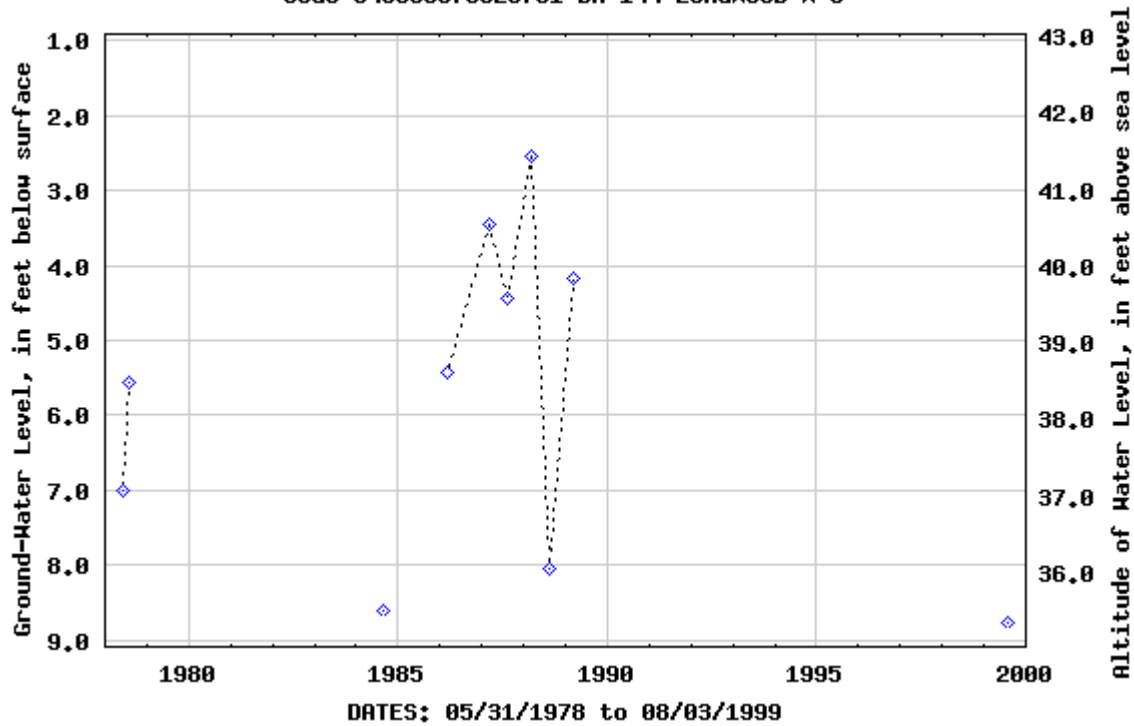
Site Identification Number 340003078325701
 Local Number BR-144 LONGWOOD X-5
 Latitude 340005.37
 Longitude 783331.89
 Well Depth 65
 Land Surface Elevation 44.03
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 31, 1978	7.01	MAR 12, 1986	5.43	MAR 08, 1988	2.54	AUG 03, 1999	8.76
JUL 21	5.57	MAR 09, 1987	3.46	AUG 11	8.04		
AUG 30, 1984	8.61	AUG 10	4.44	MAR 07, 1989	4.18		

HIGHEST 2.54 MAR 08, 1988
 LOWEST 8.76 AUG 03, 1999

USGS 340003078325701 BR-144 LONGWOOD X-5



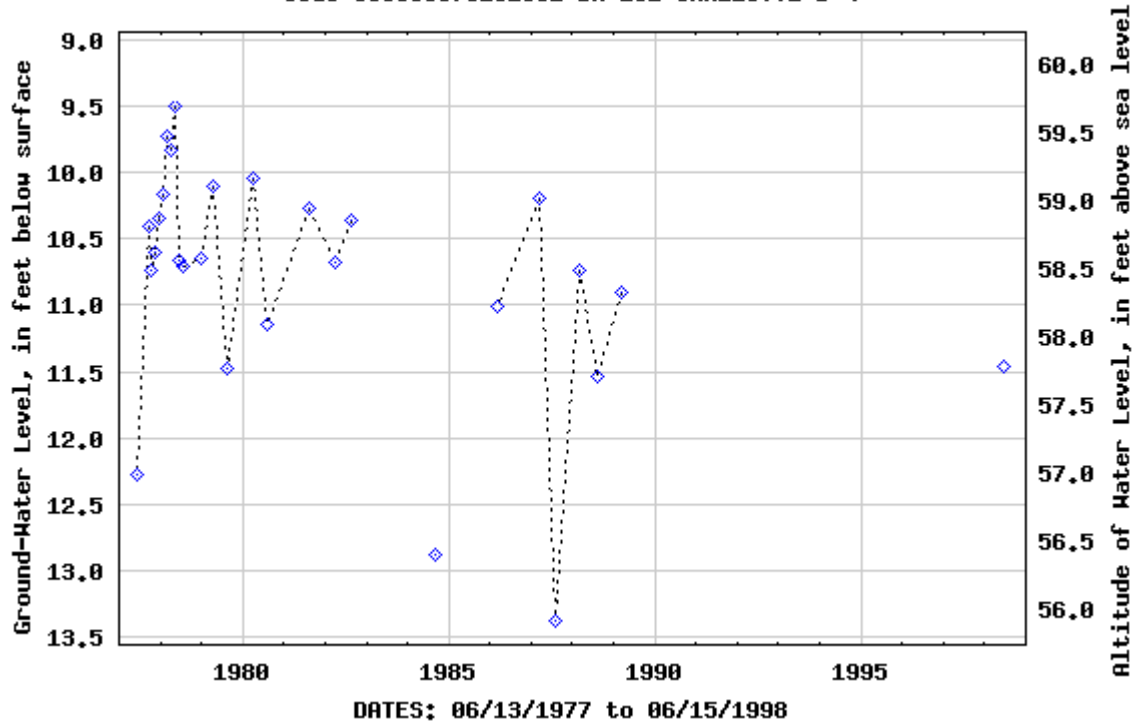
Site Identification Number 335930078262002
 Local Number BR-152 SHALLOTTE B-4
 Latitude 335929.79
 Longitude 782618.14
 Well Depth 70.0
 Land Surface Elevation 69.24
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 13, 1977	12.28	APR 03, 1978	9.84	APR 09, 1980	10.05	MAR 09, 1987	10.20
SEP 16	10.40	MAY 11	9.50	AUG 12	11.15	AUG 10	13.38
OCT 11	10.74	JUN 14	10.66	AUG 06, 1981	10.27	MAR 08, 1988	10.74
NOV 21	10.60	JUL 21	10.71	APR 06, 1982	10.67	AUG 12	11.53
DEC 15	10.34	DEC 20	10.64	AUG 16	10.36	MAR 07, 1989	10.90
JAN 18, 1978	10.17	APR 12, 1979	10.10	AUG 30, 1984	12.87	JUN 15, 1998	11.46
FEB 24	9.73	AUG 13	11.48	MAR 11, 1986	11.01		

HIGHEST 9.50 MAY 11, 1978
 LOWEST 13.38 AUG 10, 1987

USGS 335930078262002 BR-152 SHALLOTTE B-4



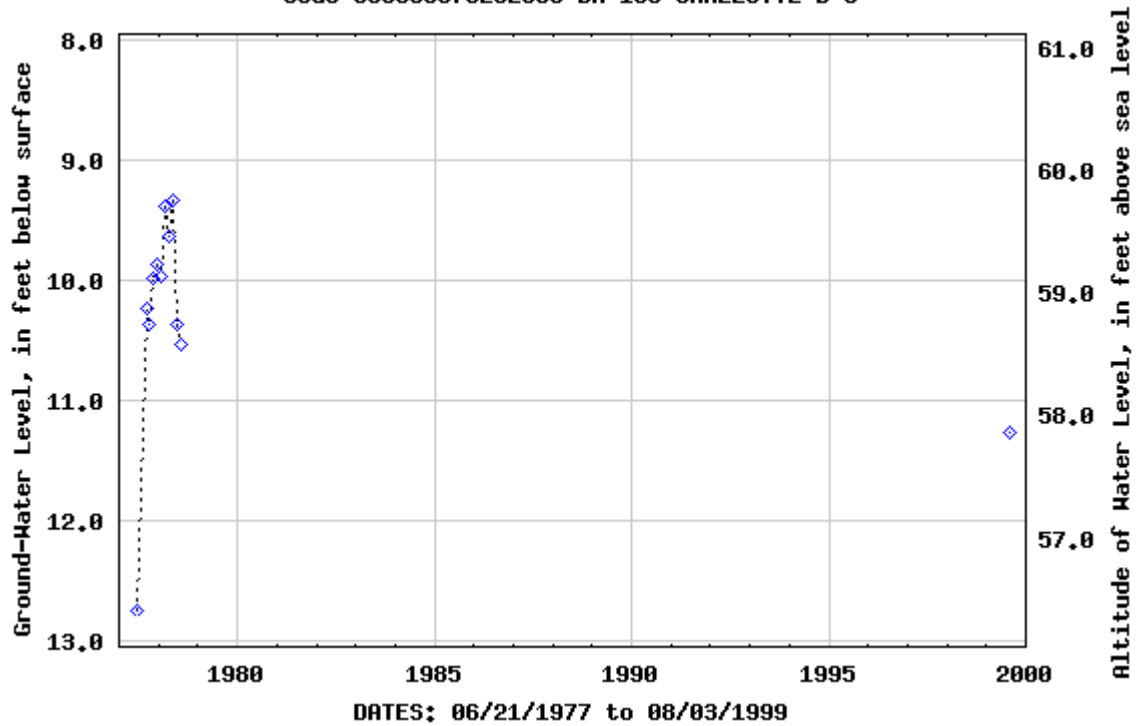
Site Identification Number 335930078262003
 Local Number BR-153 SHALLOTTE B-5
 Latitude 335929.79
 Longitude 782618.14
 Well Depth 120
 Land Surface Elevation 69.11
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 21, 1977	12.75	NOV 21, 1977	9.99	FEB 24, 1978	9.39	JUN 14, 1978	10.36
SEP 16	10.24	DEC 15	9.86	APR 03	9.64	JUL 21	10.54
OCT 11	10.36	JAN 18, 1978	9.97	MAY 11	9.34	AUG 03, 1999	11.26

HIGHEST 9.34 MAY 11, 1978
 LOWEST 12.75 JUN 21, 1977

USGS 335930078262003 BR-153 SHALLOTTE B-5



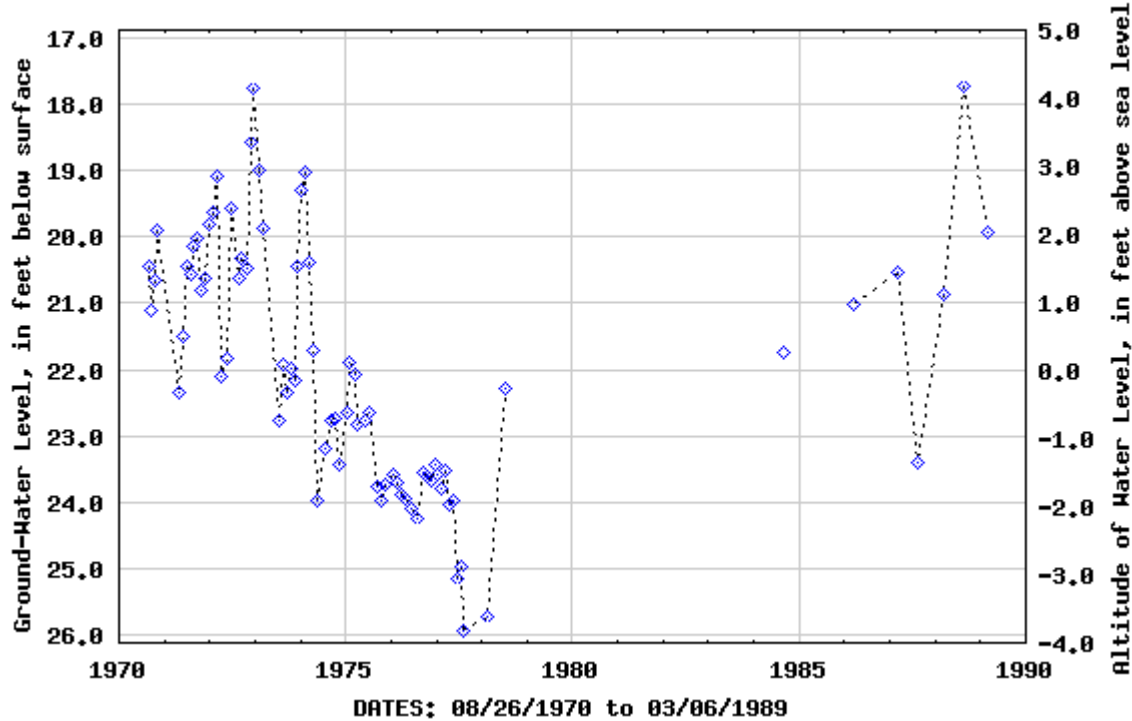
Site Identification Number 335553078005501
 Local Number BR-165 SOUTHPORT GG32 U-1
 Latitude 335553
 Longitude 0780055
 Well Depth 103
 Land Surface Elevation 22
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 26, 1970	20.45	SEP 08, 1972	20.31	OCT 15, 1974	22.73	NOV 16, 1976	23.68
SEP 18	21.11	OCT 31	20.46	NOV 14	23.43	DEC 16	23.42
OCT 19	20.65	NOV 30	18.56	JAN 14, 1975	22.65	JAN 11, 1977	23.57
NOV 10	19.89	DEC 22	17.76	FEB 06	21.90	FEB 15	23.78
APR 29, 1971	22.35	JAN 31, 1973	19.01	MAR 14	22.08	MAR 10	23.52
MAY 27	21.50	FEB 28	19.86	APR 11	22.83	APR 14	24.03
JUN 25	20.45	JUL 11	22.76	JUN 13	22.78	MAY 18	23.96
JUL 29	20.56	AUG 15	21.91	JUL 09	22.64	JUN 16	25.15
AUG 25	20.14	SEP 11	22.35	SEP 09	23.75	JUL 13	24.98
SEP 29	20.02	OCT 11	21.99	OCT 15	23.97	AUG 08	25.95
OCT 28	20.80	NOV 13	22.17	NOV 14	23.73	FEB 22, 1978	25.72
NOV 24	20.62	DEC 10	20.43	JAN 14, 1976	23.57	JUL 17	22.28
DEC 30	19.82	JAN 11, 1974	19.29	FEB 16	23.70	SEP 05, 1984	21.75
JAN 27, 1972	19.64	FEB 11	19.02	MAR 17	23.87	MAR 18, 1986	21.02
FEB 29	19.09	MAR 12	20.39	APR 26	23.93	MAR 11, 1987	20.53
APR 04	22.11	APR 16	21.70	JUN 10	24.09	AUG 07	23.39
MAY 22	21.82	MAY 10	23.96	JUL 26	24.26	MAR 08, 1988	20.86
JUN 23	19.56	JUL 15	23.18	SEP 13	23.55	AUG 11	17.73
AUG 23	20.61	SEP 11	22.78	OCT 14	23.62	MAR 06, 1989	19.92

HIGHEST 17.73 AUG 11, 1988
 LOWEST 25.95 AUG 08, 1977

USGS 335553078005501 BR-165 SOUTHPORT GG32 U-1



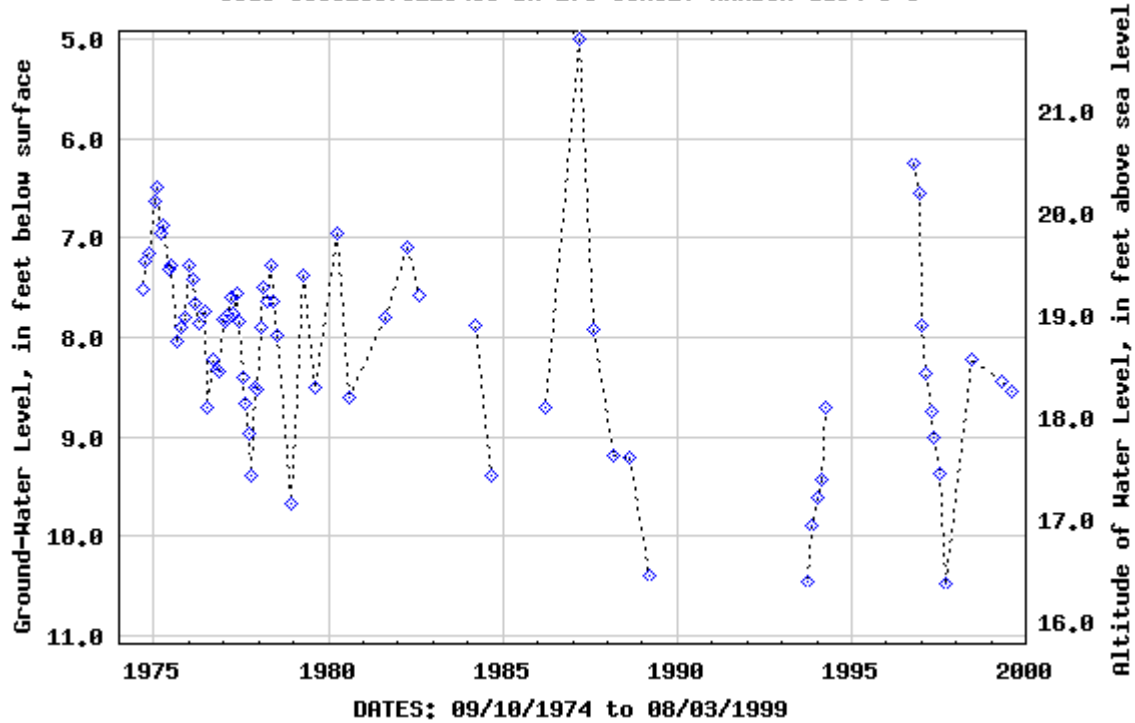
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 Local Number BR-175 SUNSET HARBOR GG34 S-5
 Latitude 335628.43
 Longitude 781157.23
 Well Depth 102
 Land Surface Elevation 26.78
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 10, 1974	7.52	SEP 16, 1976	8.22	APR 05, 1978	7.64	AUG 11, 1988	9.21
OCT 10	7.24	OCT 14	8.33	MAY 15	7.28	MAR 09, 1989	10.39
NOV 15	7.15	NOV 09	8.35	JUN 13	7.64	OCT 04, 1993	10.45
JAN 13, 1975	6.63	DEC 16	7.81	JUL 17	7.97	NOV 15	9.90
FEB 07	6.50	JAN 11, 1977	7.83	DEC 14	9.67	JAN 05, 1994	9.61
MAR 13	6.95	FEB 15	7.77	APR 12, 1979	7.37	FEB 23	9.43
APR 10	6.87	MAR 10	7.59	AUG 14	8.50	MAR 30	8.70
JUN 16	7.32	APR 14	7.75	APR 10, 1980	6.96	OCT 07, 1996	6.24
JUL 08	7.27	MAY 18	7.56	AUG 14	8.61	DEC 11	6.55
SEP 10	8.05	JUN 16	7.83	AUG 11, 1981	7.79	JAN 06, 1997	7.87
OCT 16	7.89	JUL 13	8.40	APR 14, 1982	7.10	FEB 20	8.36
NOV 14	7.80	AUG 09	8.66	AUG 16	7.58	APR 17	8.75
JAN 13, 1976	7.28	SEP 19	8.97	MAR 12, 1984	7.88	MAY 14	9.00
FEB 16	7.41	OCT 10	9.38	AUG 31	9.39	JUL 07	9.36
MAR 17	7.65	NOV 22	8.51	MAR 18, 1986	8.70	SEP 17	10.47
APR 26	7.86	DEC 16	8.53	MAR 11, 1987	5.00	JUN 15, 1998	8.22
JUN 10	7.73	JAN 23, 1978	7.90	AUG 07	7.91	APR 14, 1999	8.44
JUL 21	8.71	FEB 22	7.50	MAR 08, 1988	9.18	AUG 03	8.55

HIGHEST 5.00 MAR 11, 1987
 LOWEST 10.47 SEP 17, 1997

USGS 335629078115408 BR-175 SUNSET HARBOR GG34 S-5



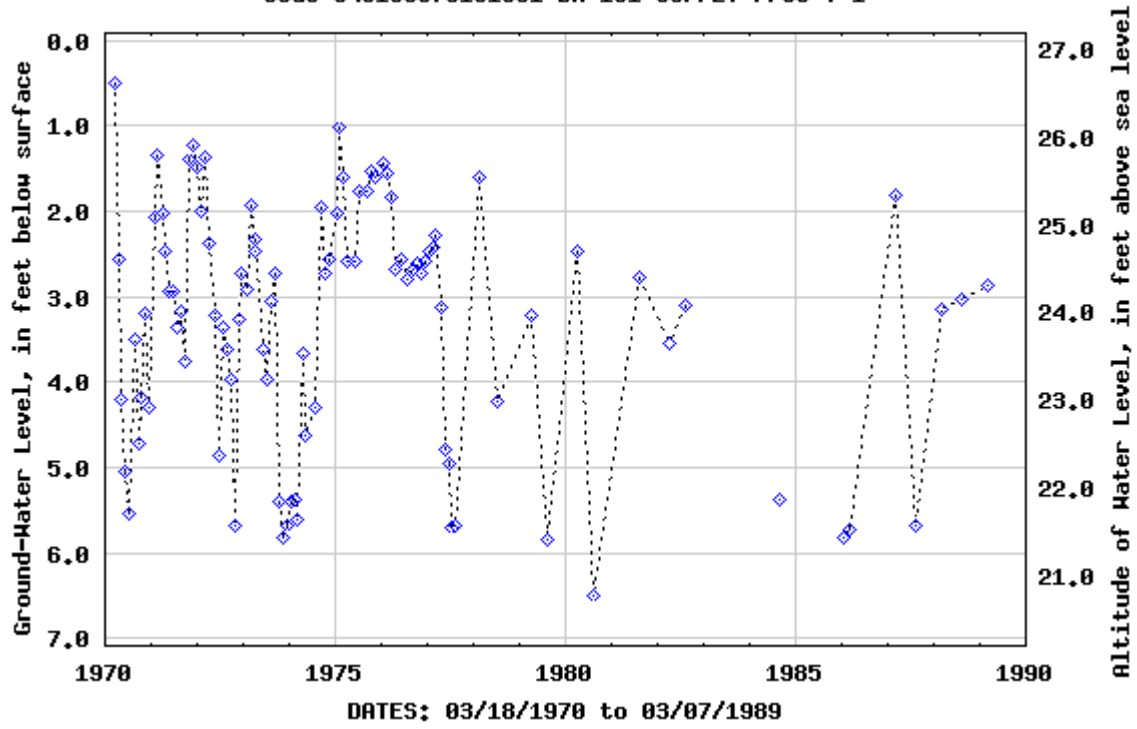
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 Local Number BR-181 SUPPLY FF35 V-1
 Latitude 340059
 Longitude 0781614
 Well Depth 41.0
 Land Surface Elevation 27.19
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 18, 1970	.49	JAN 29, 1971	2.07	NOV 26, 1971	1.23	OCT 31, 1972	5.67
APR 22	2.56	FEB 24	1.34	DEC 30	1.49	NOV 30	3.27
MAY 14	4.21	MAR 31	2.02	JAN 27, 1972	2.01	DEC 22	2.72
JUN 10	5.05	APR 29	2.46	FEB 29	1.37	JAN 31, 1973	2.92
JUL 09	5.53	MAY 27	2.93	APR 04	2.37	FEB 28	1.92
AUG 21	3.50	JUN 25	2.93	MAY 22	3.22	MAR 30	2.47
SEP 25	4.71	JUL 29	3.37	JUN 22	4.87	APR 06	2.32
OCT 12	4.19	AUG 25	3.18	JUL 21	3.37	JUN 07	3.62
NOV 10	3.19	SEP 29	3.76	AUG 22	3.62	JUL 11	3.98
DEC 10	4.30	OCT 28	1.38	SEP 28	3.97	AUG 14	3.06
SEP 17, 1973	2.72	MAR 13, 1975	1.60	NOV 09, 1976	2.73	AUG 12, 1980	6.50
OCT 12	5.41	APR 10	2.58	DEC 16	2.59	AUG 12, 1981	2.77
NOV 14	5.81	JUN 16	2.58	JAN 11, 1977	2.48	APR 06, 1982	3.55
DEC 11	5.69	JUL 08	1.77	FEB 15	2.43	AUG 16	3.09
JAN 11, 1974	5.40	SEP 10	1.76	MAR 10	2.28	AUG 30, 1984	5.37
FEB 15	5.38	OCT 16	1.54	APR 14	3.13	JAN 13, 1986	5.82
MAR 12	5.60	NOV 14	1.59	MAY 18	4.78	MAR 11	5.73
APR 16	3.66	JAN 14, 1976	1.44	JUN 16	4.96	MAR 11, 1987	1.81
MAY 13	4.63	FEB 18	1.55	JUL 11	5.71	AUG 07	5.67
JUL 19	4.30	MAR 17	1.83	AUG 09	5.67	MAR 07, 1988	3.15
SEP 10	1.95	APR 26	2.68	FEB 22, 1978	1.59	AUG 11	3.02
OCT 10	2.72	JUN 11	2.57	JUL 17	4.23	MAR 07, 1989	2.87
NOV 15	2.56	JUL 26	2.79	APR 13, 1979	3.22		
JAN 13, 1975	2.02	SEP 16	2.67	AUG 14	5.84		
FEB 06	1.01	OCT 14	2.62	APR 09, 1980	2.47		

HIGHEST .49 MAR 18, 1970
 LOWEST 6.50 AUG 12, 1980

USGS 340100078161801 BR-181 SUPPLY FF35 V-1



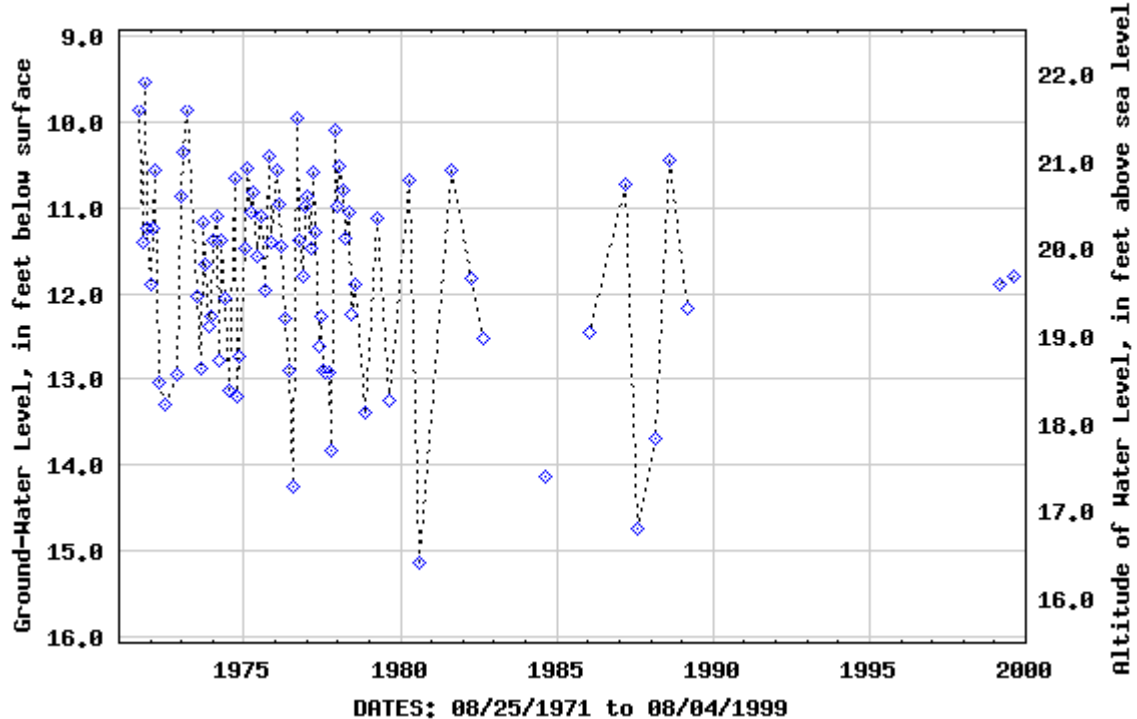
Site Identification Number 341018078095501
 Local Number BR-182 TOWN CREEK Y-1
 Latitude 341018
 Longitude 780956
 Well Depth 50.0
 Land Surface Elevation 31.5
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 25, 1971	9.85	DEC 11, 1973	12.27	NOV 14, 1975	11.40	AUG 09, 1977	12.93
SEP 29	11.41	JAN 11, 1974	11.37	JAN 14, 1976	10.55	SEP 19	12.93
OCT 28	9.53	FEB 11	11.09	FEB 18	10.95	OCT 11	13.83
NOV 24	11.24	MAR 12	12.77	MAR 17	11.44	NOV 21	10.09
DEC 30	11.88	APR 17	11.37	APR 26	12.30	DEC 15	10.97
JAN 27, 1972	11.24	MAY 13	12.05	JUN 11	12.90	JAN 18, 1978	10.50
FEB 29	10.56	JUL 19	13.13	JUL 26	14.25	FEB 22	10.79
APR 04	13.04	SEP 11	10.65	SEP 16	9.96	APR 03	11.36
JUN 22	13.30	OCT 15	13.20	OCT 14	11.38	MAY 11	11.04
OCT 31	12.95	NOV 15	12.73	NOV 09	11.79	JUN 15	12.24
DEC 22	10.86	JAN 14, 1975	11.48	DEC 16	10.97	JUL 21	11.88
JAN 22, 1973	10.35	FEB 07	10.53	JAN 11, 1977	10.87	NOV 22	13.39
FEB 28	9.85	MAR 13	11.05	FEB 15	11.48	APR 12, 1979	11.13
JUL 11	12.04	APR 08	10.82	MAR 10	10.58	AUG 14	13.24
AUG 15	12.88	JUN 13	11.57	APR 14	11.29	APR 10, 1980	10.67
SEP 17	11.16	JUL 08	11.09	MAY 18	12.62	AUG 14	15.14
OCT 12	11.65	SEP 10	11.96	JUN 16	12.26	AUG 12, 1981	10.56
NOV 14	12.38	OCT 16	10.40	JUL 13	12.89	APR 15, 1982	11.83
AUG 17, 1982	12.52	MAR 09, 1987	10.71	AUG 12, 1988	10.44	AUG 04, 1999	11.80
AUG 30, 1984	14.14	AUG 10	14.75	MAR 07, 1989	12.18		
JAN 13, 1986	12.46	MAR 07, 1988	13.69	MAR 11, 1999	11.89		

HIGHEST 9.53 OCT 28, 1971
 LOWEST 15.14 AUG 14, 1980

USGS 341018078095501 BR-182 TOWN CREEK Y-1



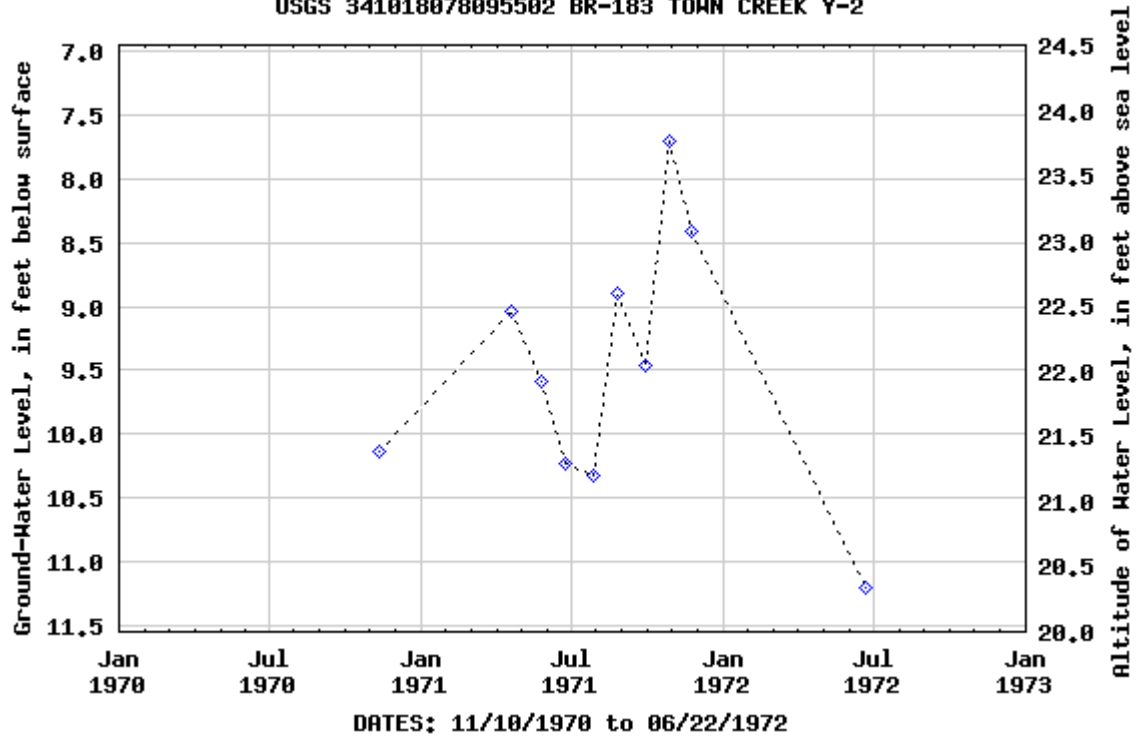
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 Local Number BR-183 TOWN CREEK Y-2
 Latitude 341018
 Longitude 780956
 Well Depth 50.0
 Land Surface Elevation 31.5
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 10, 1970	10.13	JUN 25, 1971	10.23	SEP 29, 1971	9.46	JUN 22, 1972	11.20
APR 20, 1971	9.04	JUL 29	10.33	OCT 28	7.70		
MAY 27	9.59	AUG 25	8.90	NOV 24	8.41		

HIGHEST 7.70 OCT 28, 1971
 LOWEST 11.20 JUN 22, 1972

USGS 341018078095502 BR-183 TOWN CREEK Y-2



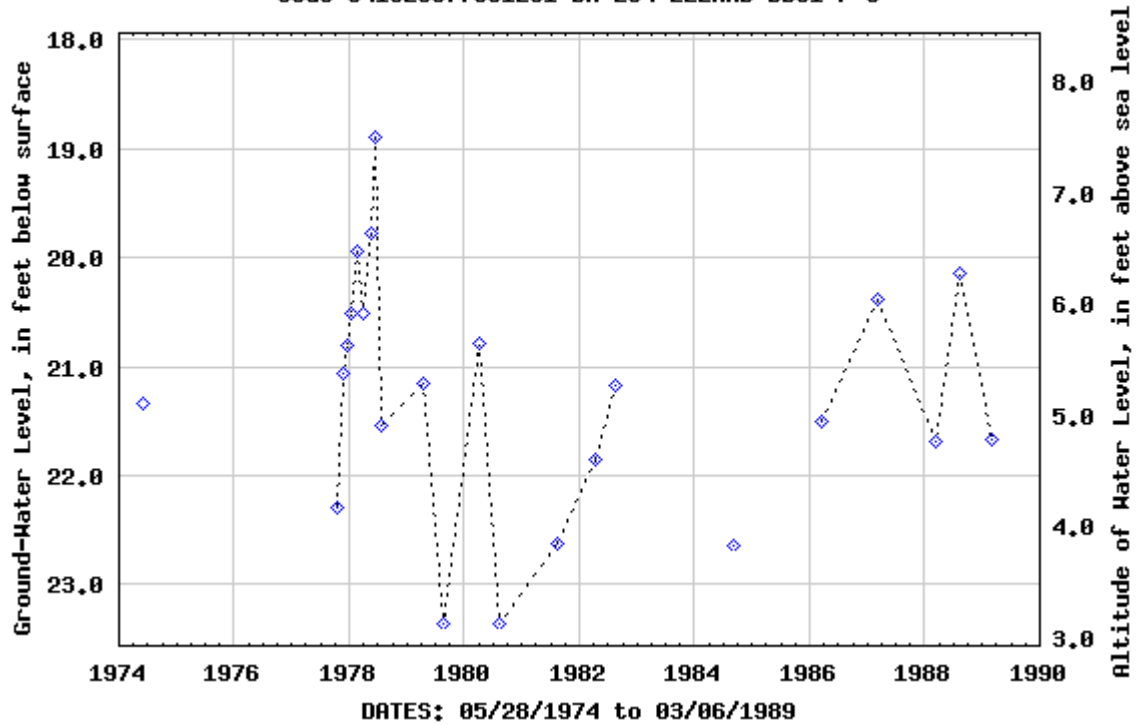
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 Local Number BR-254 LELAND DD31 F-8
 Latitude 341328
 Longitude 775912
 Well Depth 96.0
 Land Surface Elevation 26.43
 Primary Aquifer Peedee

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 28, 1974	21.33	APR 05, 1978	20.52	APR 11, 1980	20.79	MAR 18, 1986	21.51
OCT 10, 1977	22.30	MAY 15	19.77	AUG 15	23.36	MAR 11, 1987	20.38
NOV 21	21.07	JUN 13	18.90	AUG 14, 1981	22.62	MAR 08, 1988	21.69
DEC 16	20.80	JUL 17	21.54	APR 15, 1982	21.86	AUG 11	20.15
JAN 19, 1978	20.52	APR 13, 1979	21.16	AUG 18	21.18	MAR 06, 1989	21.67
FEB 22	19.95	AUG 15	23.36	SEP 05, 1984	22.65		

HIGHEST 18.90 JUN 13, 1978
 LOWEST 23.36 AUG 15, 1979 AUG 15, 1980

USGS 341328077591201 BR-254 LELAND DD31 F-8



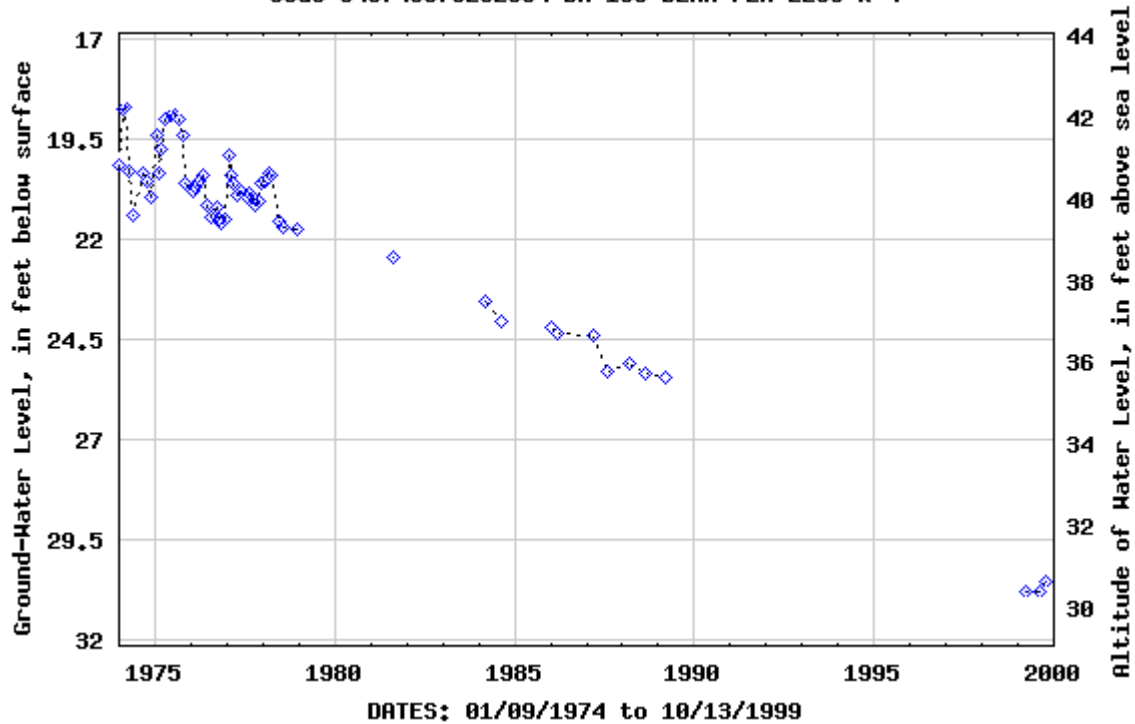
Site Identification Number 340743078202004
 Local Number BR-105 BEAR PEN EE36 K-4
 Latitude 340742.37
 Longitude 782020.81
 Well Depth 1330
 Land Surface Elevation 61.06
 Primary Aquifer Black Creek

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 09, 1974	20.15	OCT 17, 1975	19.37	APR 15, 1977	20.88	MAR 12, 1984	23.54
FEB 13	18.71	NOV 12	20.60	MAY 17	20.77	AUG 28	24.06
MAR 11	18.66	JAN 13, 1976	20.81	JUL 28	20.96	JAN 13, 1986	24.21
APR 16	20.28	FEB 18	20.68	AUG 10	20.86	MAR 12	24.36
MAY 13	21.41	MAR 15	20.52	SEP 19	20.92	MAR 09, 1987	24.39
SEP 10	20.35	APR 27	20.39	OCT 11	21.12	AUG 10	25.30
OCT 10	20.54	JUN 11	21.15	NOV 21	21.04	MAR 07, 1988	25.10
NOV 15	20.93	JUL 20	21.43	DEC 14	20.57	AUG 16	25.35
JAN 13, 1975	19.40	SEP 16	21.19	JAN 18, 1978	20.55	MAR 07, 1989	25.45
FEB 07	20.35	OCT 15	21.47	FEB 24	20.35	MAR 30, 1999	30.82
MAR 13	19.75	NOV 09	21.59	APR 03	20.41	AUG 03	30.81
APR 10	18.99	DEC 15	21.47	JUN 15	21.56	OCT 13	30.59
JUN 16	18.87	JAN 13, 1977	19.88	JUL 20	21.67		
JUL 09	18.83	FEB 16	20.38	DEC 20	21.74		
SEP 12	18.97	MAR 14	20.59	AUG 17, 1981	22.42		

HIGHEST 18.66 MAR 11, 1974
 LOWEST 30.82 MAR 30, 1999

USGS 340743078202004 BR-105 BEAR PEN EE36 K-4



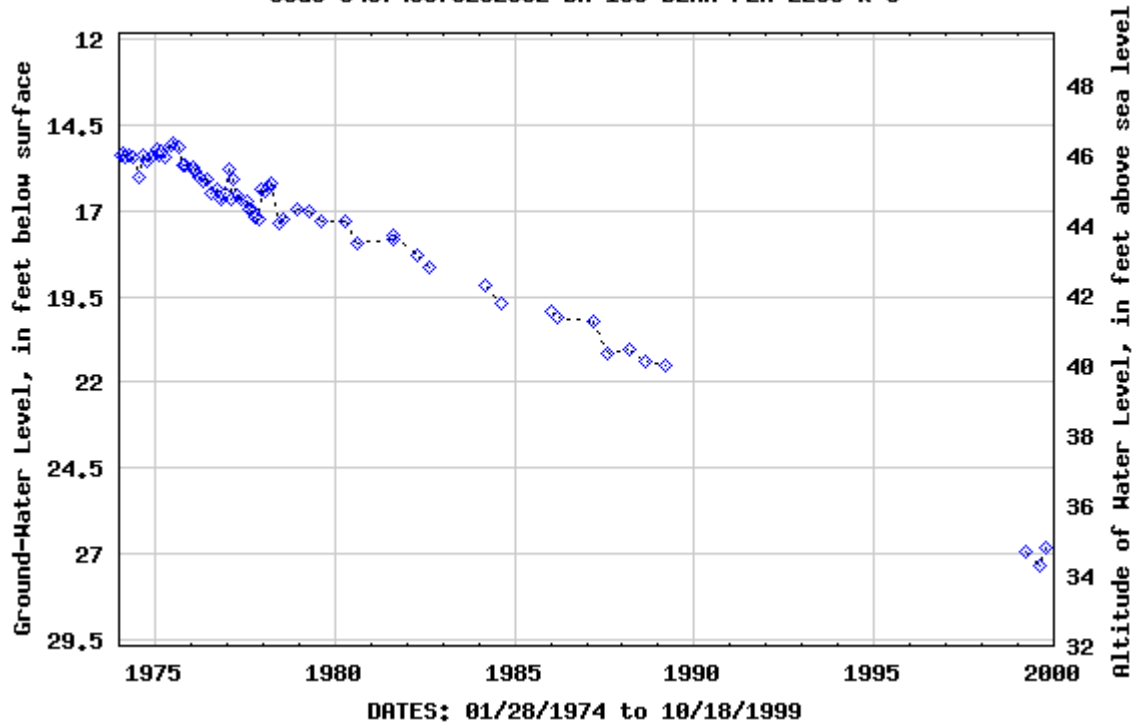
Site Identification Number 340743078202002
 Local Number BR-106 BEAR PEN EE36 K-5
 Latitude 340742.37
 Longitude 782020.81
 Well Depth 654
 Land Surface Elevation 61.50
 Primary Aquifer Black Creek

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 28, 1974	15.39	JUN 16, 1975	15.11	NOV 09, 1976	16.64	JAN 18, 1978	16.42
FEB 13	15.32	JUL 09	15.03	DEC 15	16.51	FEB 24	16.34
MAR 11	15.42	SEP 12	15.13	JAN 13, 1977	15.81	APR 03	16.22
APR 16	15.37	OCT 17	15.65	FEB 16	16.65	JUN 15	17.34
MAY 13	15.44	NOV 12	15.69	MAR 14	16.09	JUL 20	17.26
JUL 19	16.04	JAN 13, 1976	15.74	APR 15	16.54	DEC 20	16.98
SEP 10	15.37	FEB 18	15.83	MAY 17	16.66	APR 12, 1979	17.01
OCT 10	15.55	MAR 15	16.05	JUL 28	16.73	AUG 14	17.33
NOV 15	15.46	APR 27	16.13	AUG 10	16.95	APR 10, 1980	17.29
JAN 13, 1975	15.20	JUN 11	16.09	SEP 19	17.02	AUG 12	17.96
FEB 07	15.41	JUL 20	16.50	OCT 11	17.19	AUG 13, 1981	17.85
MAR 13	15.26	SEP 16	16.38	NOV 21	17.25	17	17.70
APR 10	15.44	OCT 15	16.60	DEC 14	16.40	APR 14, 1982	18.32
AUG 16, 1982	18.63	MAR 12, 1986	20.11	AUG 16, 1988	21.39	OCT 18, 1999	26.84
MAR 12, 1984	19.19	MAR 09, 1987	20.20	MAR 07, 1989	21.53		
AUG 28	19.70	AUG 10	21.15	MAR 30, 1999	26.93		
JAN 12, 1986	19.93	MAR 07, 1988	21.06	AUG 03	27.32		

HIGHEST 15.03 JUL 09, 1975
 LOWEST 27.32 AUG 03, 1999

USGS 340743078202002 BR-106 BEAR PEN EE36 K-5



Site Identification Number 335334078352102
 Local Number BR-116 CALABASH J-3
 Latitude 335333.70
 Longitude 783522.30
 Well Depth 660
 Land Surface Elevation 47.59
 Primary Aquifer Black Creek

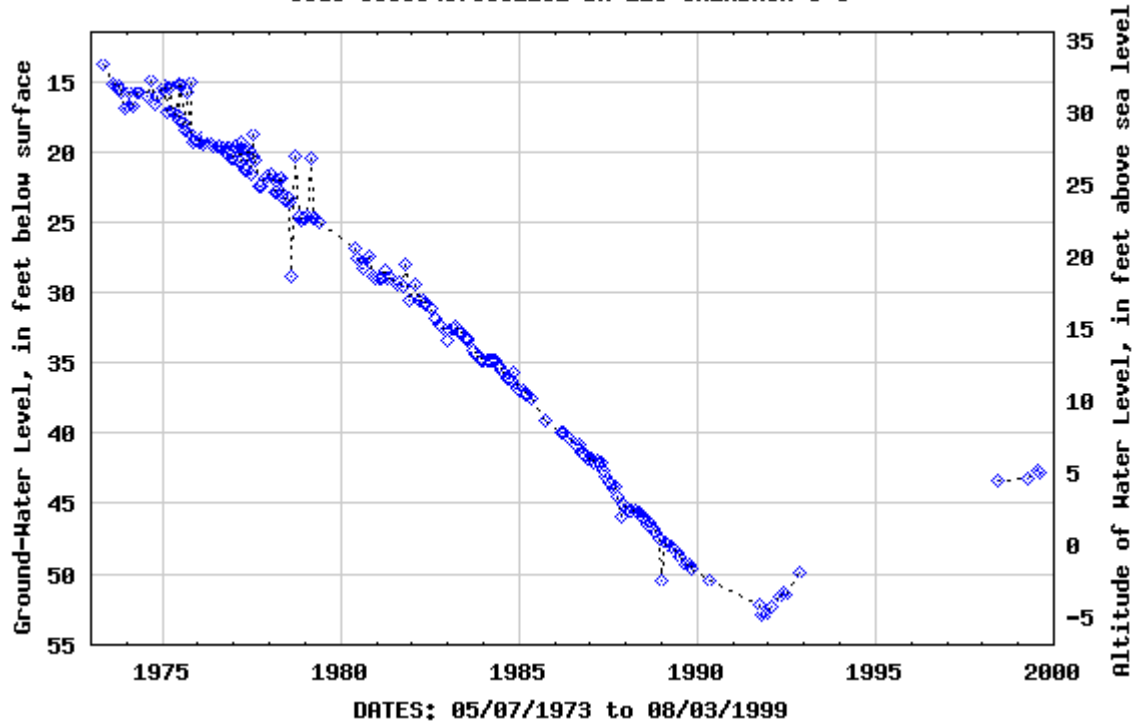
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 07, 1973	13.79	SEP 10, 1975	15.72	JAN 12, 1977	19.61	JUL 21, 1978	23.33
AUG 16	15.08	30	18.54	25	19.75	AUG 20	28.76
SEP 17	15.13	OCT 16	15.03	FEB 22	19.53	SEP 26	20.34
OCT 12	15.50	22	18.67	23	20.70	OCT 26	24.58
NOV 14	15.74	NOV 15	19.33	MAR 15	19.34	NOV 27	24.82
DEC 11	16.81	24	19.10	24	20.70	DEC 20	24.73
JAN 10, 1974	16.67	DEC 29	19.09	APR 14	19.67	27	24.70
22	15.69	JAN 13, 1976	19.22	26	21.34	JAN 30, 1979	24.54
FEB 15	16.60	26	19.06	MAY 18	19.78	MAR 01	20.49
MAR 12	16.73	FEB 18	19.37	25	21.30	28	24.70
APR 16	15.72	24	19.10	JUN 13	19.87	APR 24	24.74
MAY 13	15.78	MAR 15	19.24	23	21.52	MAY 25	25.01
JUL 19	16.00	25	19.08	JUL 11	20.24	MAY 22, 1980	26.85
SEP 10	14.90	APR 22	19.23	26	18.70	JUN 26	27.58
OCT 10	16.64	26	19.21	AUG 09	20.50	JUL 28	27.81
NOV 15	16.00	MAY 25	19.22	SEP 16	22.38	AUG 29	28.28
JAN 13, 1975	15.48	JUN 11	19.61	OCT 11	22.47	SEP 25	27.51
FEB 07	15.23	23	19.42	NOV 21	21.82	OCT 27	27.43
26	17.08	JUL 21	19.53	DEC 15	21.68	NOV 20	28.88
MAR 13	15.38	26	19.61	JAN 18, 1978	21.59	DEC 19	29.02
24	17.06	AUG 26	19.55	FEB 15	21.78	JAN 27, 1981	28.93
APR 10	15.34	SEP 16	19.41	27	22.87	FEB 27	29.00
21	17.18	23	19.73	MAR 28	22.80	MAR 25	28.46
MAY 22	17.27	OCT 13	19.54	APR 03	21.78	APR 22	28.98
JUN 16	15.10	25	20.20	26	22.78	JUN 02	29.01
19	17.70	NOV 09	19.72	MAY 11	21.84	JUL 31	29.39
JUL 08	15.16	29	20.38	JUN 14	23.39	AUG 25	29.28
23	17.87	DEC 14	19.55	22	23.43	SEP 24	29.55
AUG 21	18.40	21	20.48	JUL 20	23.52	OCT 28	27.98
NOV 24, 1981	30.50	APR 12, 1984	34.75	JAN 06, 1987	41.85	DEC 05, 1988	47.45
JAN 25, 1982	29.34	MAY 10	34.83	FEB 11	42.06	JAN 09, 1989	50.43
MAR 22	30.50	JUN 11	35.22	MAR 09	42.01	FEB 06	47.86
APR 28	30.57	JUL 10	35.60	APR 09	42.30	MAR 07	47.88
MAY 27	30.87	AUG 30	36.17	17	42.04	APR 12	48.01
JUL 22	31.12	SEP 25	36.11	MAY 11	42.62	MAY 09	48.21
AUG 24	31.80	OCT 10	36.21	JUN 12	43.15	JUN 05	48.51
SEP 28	32.30	NOV 13	35.72	JUL 07	43.45	JUL 11	48.74
OCT 25	32.36	DEC 10	36.81	AUG 18	43.89	SEP 07	49.38
NOV 29	32.71	JAN 14, 1985	36.94	SEP 09	43.86	OCT 05	49.38
DEC 23	33.45	FEB 11	37.00	09	43.85	NOV 03	49.71
JAN 25, 1983	32.65	MAR 11	37.19	OCT 05	44.51	MAY 14, 1990	50.50
FEB 25	32.49	25	37.21	NOV 09	45.92	SEP 26, 1991	52.20
MAR 25	32.43	MAY 13	37.56	DEC 07	45.11	OCT 14	52.98
APR 26	32.69	OCT 07	39.05	JAN 14, 1988	45.31	28	52.91
MAY 26	32.96	MAR 12, 1986	39.88	FEB 08	45.44	NOV 18	53.00
JUN 28	33.29	APR 07	39.93	MAR 08	45.53	25	52.90
JUL 15	33.21	10	39.95	APR 07	45.50	FEB 11, 1992	52.38
26	33.45	MAY 06	40.24	MAY 09	45.70	APR 30	51.60
SEP 22	34.08	JUN 09	40.36	31	45.79	MAY 26	51.40
OCT 13	34.38	JUL 07	40.60	JUN 22	45.94	JUN 30	51.50
NOV 16	34.59	AUG 08	40.74	JUL 06	46.11	NOV 06	49.95
DEC 09	34.78	SEP 05	40.81	AUG 16	46.46	JUN 15, 1998	43.42
JAN 09, 1984	34.79	OCT 06	41.42	SEP 07	46.39	APR 14, 1999	43.28
FEB 09	34.85	13	41.38	OCT 12	46.80	JUL 14	42.67
MAR 12	34.86	NOV 06	41.54	NOV 08	47.11	AUG 03	42.85
27	34.78	DEC 09	41.80	DEC 05	47.48		

HIGHEST 13.79 MAY 07, 1973

LOWEST 53.00 NOV 18, 1991

USGS 335334078352102 BR-116 CALABASH J-3



Site Identification Number 335334078352103
 Local Number BR-117 CALABASH J-4
 Latitude 335333.70
 Longitude 783522.30
 Well Depth 516
 Land Surface Elevation 47.38
 Primary Aquifer Black Creek

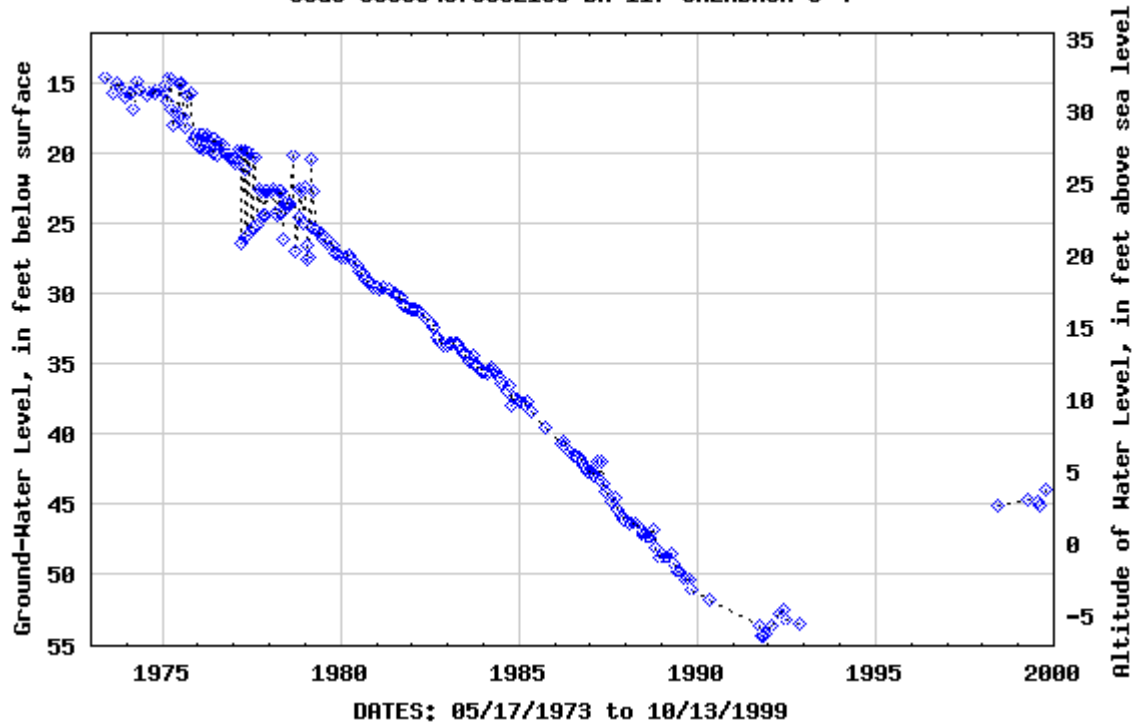
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 17, 1973	14.61	FEB 15, 1974	15.68	OCT 10, 1974	15.72	MAR 24, 1975	16.84
AUG 16	15.77	MAR 12	16.80	NOV 15	15.48	APR 10	14.68
SEP 17	14.97	APR 16	14.88	JAN 13, 1975	15.59	21	18.02
OCT 12	15.32	MAY 13	15.44	FEB 07	15.16	MAY 22	17.02
DEC 11	16.00	JUL 19	15.84	26	16.22	JUN 16	15.04
JAN 10, 1974	15.60	SEP 10	15.60	MAR 13	14.62	18	17.49
JUL 08, 1975	14.95	DEC 15, 1977	22.70	MAR 09, 1981	29.54	MAR 25, 1985	37.67
23	17.47	JAN 18, 1978	22.69	MAY 14	29.68	MAY 13	38.33
AUG 21	18.09	FEB 15	22.60	JUN 10	29.76	OCT 07	39.52
SEP 10	15.88	27	24.32	JUL 15	29.99	MAR 12, 1986	40.71
OCT 16	15.64	MAR 28	24.35	AUG 12	30.18	APR 07	40.76
NOV 15	19.08	APR 03	22.66	SEP 13	30.32	10	40.47
24	18.82	26	24.24	OCT 13	30.83	MAY 06	41.09
DEC 29	18.55	MAY 11	22.67	NOV 12	31.03	JUN 09	41.25
JAN 13, 1976	19.51	24	26.09	DEC 15	31.10	JUL 07	41.49
26	18.75	JUN 14	23.59	JAN 12, 1982	31.15	AUG 08	41.54
FEB 18	19.64	22	23.66	FEB 11	31.17	SEP 05	41.69
29	18.77	JUL 20	23.61	MAR 11	31.23	OCT 06	41.96
MAR 15	19.62	21	23.65	APR 06	31.34	13	42.25
25	18.74	AUG 30	20.06	MAY 26	31.62	NOV 06	42.41
APR 26	19.57	SEP 26	26.96	JUL 15	32.09	DEC 09	42.67
MAY 25	19.03	OCT 25	24.52	AUG 13	32.45	JAN 06, 1987	42.72
JUN 11	19.98	26	22.52	SEP 10	33.09	FEB 11	42.92
23	19.02	NOV 28	22.64	OCT 14	33.46	MAR 09	41.96
JUL 21	20.13	DEC 20	24.98	NOV 10	33.63	APR 09	43.17
26	19.37	27	22.42	DEC 20	33.62	17	41.98
AUG 26	19.27	JAN 30, 1979	27.57	JAN 17, 1983	33.60	MAY 11	43.48
SEP 16	19.84	FEB 01	26.59	FEB 10	33.57	JUN 12	44.05
23	19.45	11	27.40	MAR 15	33.52	AUG 10	44.83
OCT 13	19.93	MAR 01	20.45	APR 11	33.52	SEP 09	44.80
25	19.98	12	25.31	MAY 10	33.80	09	44.50
NOV 09	20.25	30	22.64	JUN 17	34.20	OCT 05	45.40
DEC 14	20.23	APR 12	25.45	JUL 15	34.37	NOV 09	45.87
JAN 12, 1977	20.69	MAY 15	25.50	AUG 10	34.75	DEC 07	46.02
25	20.44	JUN 19	25.76	SEP 09	34.72	JAN 14, 1988	46.23
FEB 22	19.65	JUL 16	26.11	22	34.44	FEB 08	46.34
23	20.69	AUG 13	26.47	OCT 13	35.07	MAR 08	46.44
MAR 15	19.52	SEP 10	26.28	NOV 16	35.29	APR 07	46.42
24	26.47	OCT 10	26.53	DEC 09	35.49	MAY 09	46.62
APR 14	19.70	NOV 15	27.12	JAN 09, 1984	35.50	31	46.74
26	21.06	DEC 11	27.21	FEB 09	35.61	JUN 22	47.26
27	25.98	JAN 11, 1980	27.38	MAR 12	35.59	JUL 06	47.08
MAY 18	19.82	FEB 11	27.40	27	35.19	AUG 16	47.43
25	25.88	MAR 21	27.31	APR 12	35.46	SEP 07	47.38
JUN 13	20.01	APR 09	27.50	MAY 10	35.58	OCT 12	46.73
23	25.58	MAY 13	27.75	JUN 11	35.99	NOV 08	48.07
JUL 11	20.18	JUN 11	28.02	JUL 10	36.37	DEC 05	48.33
26	25.24	JUL 14	28.39	AUG 30	36.91	05	48.76
AUG 09	20.25	AUG 13	28.60	SEP 25	36.55	JAN 09, 1989	48.57
25	25.06	SEP 11	28.96	OCT 10	37.93	FEB 06	48.80
SEP 16	22.51	OCT 10	29.15	NOV 13	37.32	MAR 07	48.85
OCT 11	22.70	NOV 10	29.38	DEC 10	37.53	APR 12	48.47
25	24.44	DEC 09	29.50	JAN 14, 1985	37.73	MAY 09	49.16
NOV 21	22.76	JAN 13, 1981	29.52	FEB 11	37.75	JUN 05	49.84
29	24.40	FEB 09	29.62	MAR 11	37.93	JUL 11	49.73
SEP 07, 1989	50.37	OCT 14, 1991	54.38	APR 30, 1992	52.72	APR 14, 1999	44.67
OCT 05	50.40	28	54.33	MAY 26	52.53	JUL 14	44.81
NOV 03	51.05	NOV 18	54.39	JUN 30	53.18	AUG 03	45.08

MAY 14, 1990	51.84	25	54.25	NOV 06	53.46	OCT 13	43.93
SEP 26, 1991	53.58	FEB 11, 1992	53.58	JUN 15, 1998	45.06		

HIGHEST 14.61 MAY 17, 1973
 LOWEST 54.39 NOV 18, 1991

USGS 335334078352103 BR-117 CALABASH J-4



Site Identification Number 335742078294702
 Local Number BR-127 GRISSETTOWN K-3a
 Latitude 335742
 Longitude 782947
 Well Depth 355
 Land Surface Elevation 42.03
 Primary Aquifer Black Creek

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 03, 1977	16.72	NOV 07, 1977	16.72	NOV 08, 1977	8.14
	HIGHEST	8.14	NOV 08, 1977		
	LOWEST	16.72	NOV 03, 1977	NOV 07, 1977	

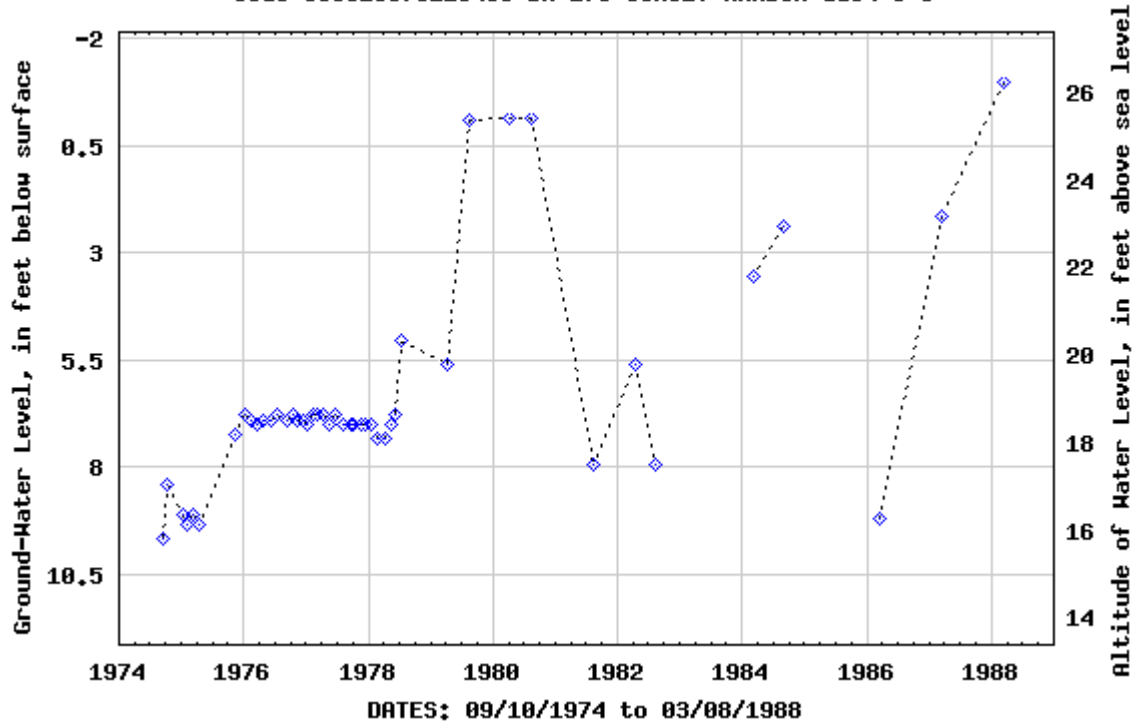
Site Identification Number 335629078115403
 Local Number BR-173 SUNSET HARBOR GG34 S-3
 Latitude 335628.43
 Longitude 781157.23
 Well Depth 663
 Land Surface Elevation 25.37
 Primary Aquifer Black Creek

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM (READINGS ABOVE LAND SURFACE INDICATED BY "--")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 10, 1974	9.66	JUL 21, 1976	6.79	SEP 19, 1977	7.02	APR 10, 1980	-.15
OCT 10	8.40	SEP 16	6.90	OCT 10	7.02	AUG 14	-.15
JAN 13, 1975	9.10	OCT 14	6.79	NOV 22	7.02	AUG 13, 1981	7.94
FEB 07	9.33	NOV 09	6.90	DEC 16	7.02	APR 14, 1982	5.63
MAR 13	9.10	DEC 16	6.90	JAN 23, 1978	7.02	AUG 16	7.94
APR 10	9.33	JAN 11, 1977	7.02	FEB 22	7.36	MAR 12, 1984	3.55
NOV 14	7.25	FEB 15	6.79	APR 05	7.36	AUG 31	2.40
JAN 13, 1976	6.79	MAR 10	6.79	MAY 15	7.02	MAR 18, 1986	9.20
FEB 16	6.90	APR 14	6.79	JUN 13	6.79	MAR 11, 1987	2.16
MAR 17	7.02	MAY 18	7.02	JUL 17	5.05	MAR 08, 1988	-1.00
APR 26	6.90	JUN 16	6.79	APR 12, 1979	5.63		
JUN 10	6.90	AUG 09	7.02	AUG 14	-.10		

HIGHEST -1.00 MAR 08, 1988
 LOWEST 9.66 SEP 10, 1974

USGS 335629078115403 BR-173 SUNSET HARBOR GG34 S-3



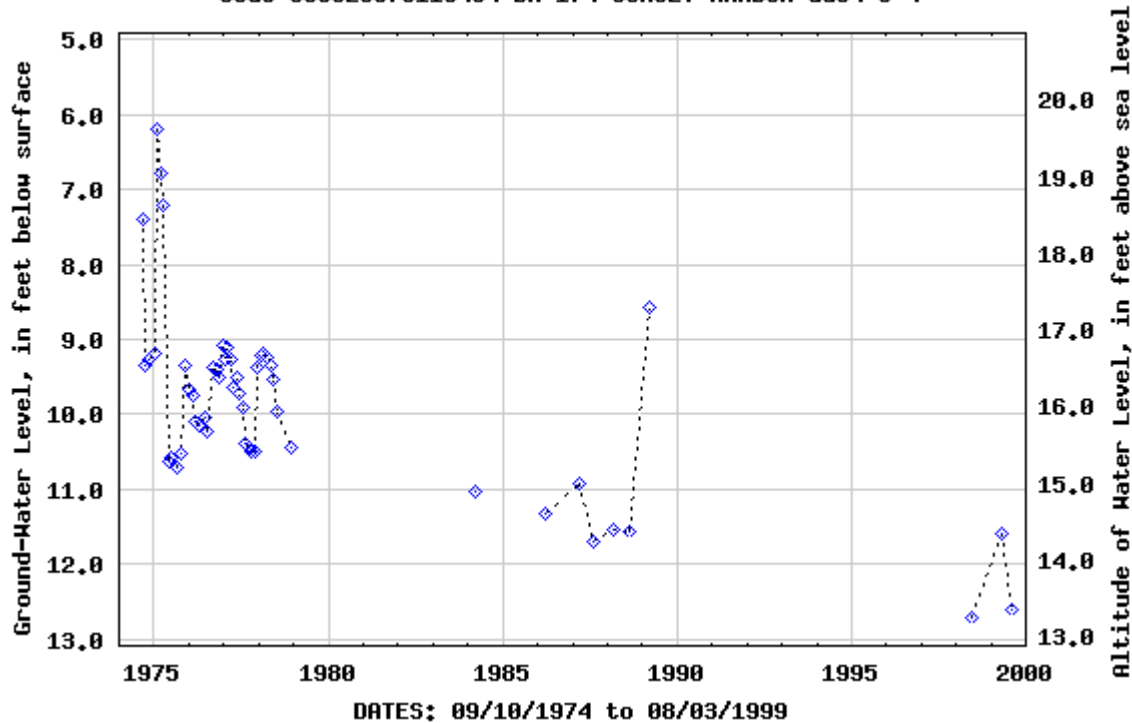
Site Identification Number 335629078115404
 Local Number BR-174 SUNSET HARBOR GG34 S-4
 Latitude 335628.43
 Longitude 781157.23
 Well Depth 332
 Land Surface Elevation 25.87
 Primary Aquifer Black Creek

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 10, 1974	7.39	FEB 16, 1976	9.75	MAY 18, 1977	9.50	JUL 17, 1978	9.95
OCT 10	9.36	MAR 17	10.10	JUN 16	9.71	DEC 14	10.45
NOV 15	9.28	APR 26	10.16	JUL 13	9.90	MAR 12, 1984	11.02
JAN 13, 1975	9.19	JUN 10	10.04	AUG 09	10.38	MAR 18, 1986	11.32
FEB 07	6.19	JUL 21	10.24	SEP 19	10.45	MAR 11, 1987	10.93
MAR 13	6.77	SEP 16	9.37	OCT 10	10.51	AUG 07	11.69
APR 10	7.22	OCT 14	9.39	NOV 22	10.51	MAR 08, 1988	11.54
JUN 16	10.64	NOV 09	9.52	DEC 16	9.38	AUG 11	11.58
JUL 08	10.58	DEC 16	9.09	JAN 23, 1978	9.22	MAR 09, 1989	8.57
SEP 10	10.70	JAN 11, 1977	9.26	FEB 22	9.18	JUN 15, 1998	12.72
OCT 16	10.52	FEB 15	9.11	APR 05	9.24	APR 14, 1999	11.60
NOV 14	9.34	MAR 10	9.27	MAY 15	9.35	AUG 03	12.62
JAN 13, 1976	9.66	APR 14	9.65	JUN 13	9.53		

HIGHEST 6.19 FEB 07, 1975
 LOWEST 12.72 JUN 15, 1998

USGS 335629078115404 BR-174 SUNSET HARBOR GG34 S-4



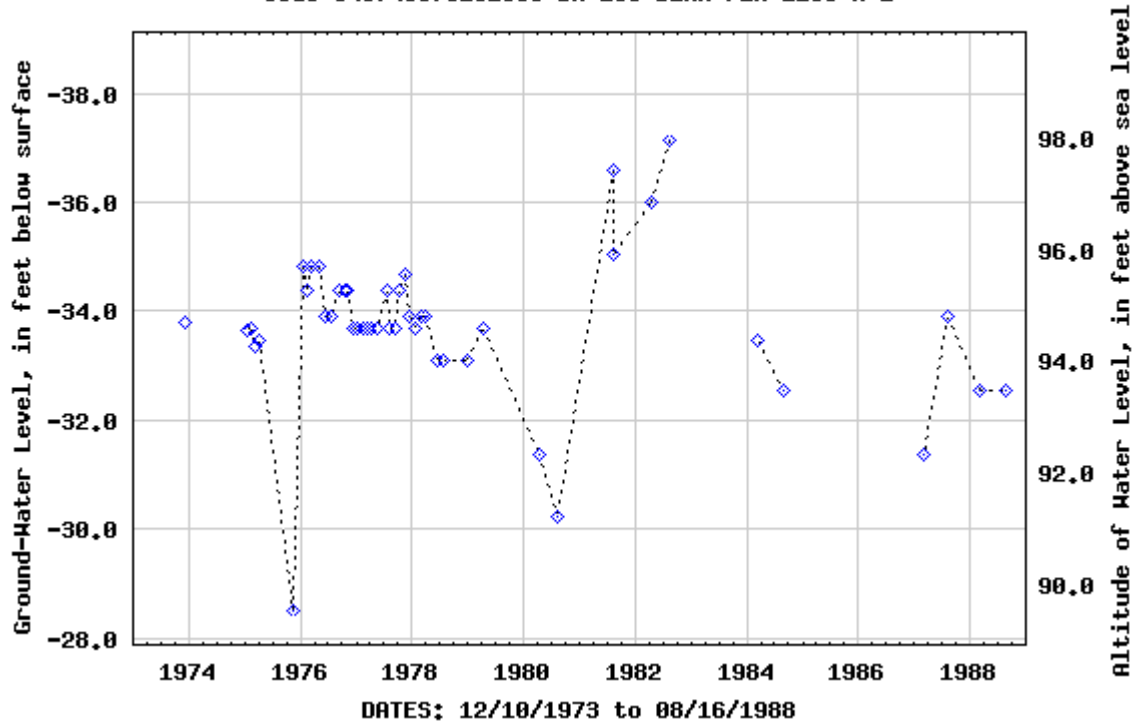
Site Identification Number 340743078202005
 Local Number BR-103 BEAR PEN EE36 K-2
 Latitude 340742.37
 Longitude 782020.81
 Well Depth 1140
 Land Surface Elevation 60.91
 Primary Aquifer Cape Fear

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM (READINGS ABOVE LAND SURFACE INDICATED BY "--")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 10, 1973	-34	SEP 16, 1976	-34	OCT 11, 1977	-34	AUG 13, 1981	-37
JAN 13, 1975	-34	OCT 15	-34	NOV 21	-35	17	-35
FEB 07	-34	NOV 09	-34	DEC 14	-34	APR 14, 1982	-36
MAR 13	-33	DEC 15	-34	JAN 18, 1978	-34	AUG 12	-37
APR 10	-33	JAN 13, 1977	-34	FEB 24	-34	MAR 12, 1984	-33
NOV 12	-28	FEB 16	-34	APR 03	-34	AUG 28	-33
JAN 13, 1976	-35	MAR 14	-34	JUN 15	-33	MAR 09, 1987	-31
FEB 18	-34	APR 15	-34	JUL 20	-33	AUG 10	-34
MAR 15	-35	MAY 17	-34	JAN 04, 1979	-33	MAR 07, 1988	-33
APR 27	-35	JUL 28	-34	APR 12	-34	AUG 16	-33
JUN 11	-34	AUG 10	-34	APR 10, 1980	-31		
JUL 20	-34	SEP 19	-34	AUG 12	-30		

HIGHEST -37 AUG 13, 1981 AUG 12, 1982
 LOWEST -28 NOV 12, 1975

USGS 340743078202005 BR-103 BEAR PEN EE36 K-2



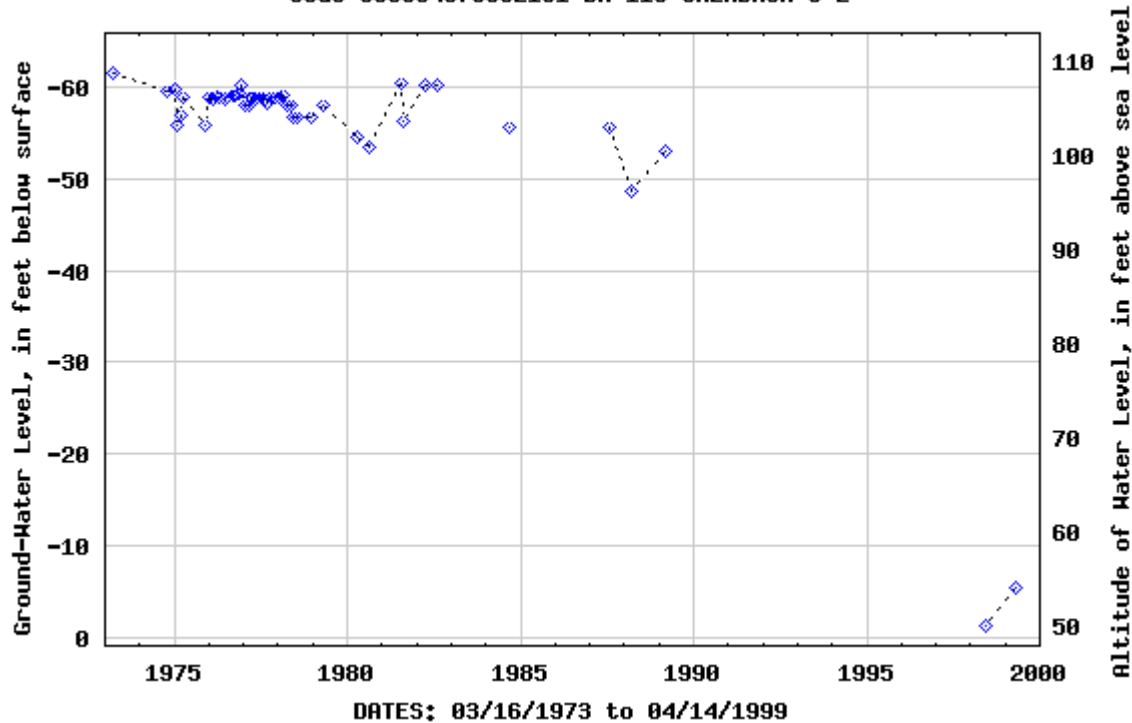
Site Identification Number 335334078352101
 Local Number BR-115 CALABASH J-2
 Latitude 335333.70
 Longitude 783522.30
 Well Depth 1050
 Land Surface Elevation 47.98
 Primary Aquifer Cape Fear

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM (READINGS ABOVE LAND SURFACE INDICATED BY "--")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 16, 1973	-62	SEP 16, 1976	-59	OCT 11, 1977	-59	JUL 30, 1981	-60
OCT 10, 1974	-60	OCT 13	-59	NOV 21	-59	AUG 12	-56
JAN 13, 1975	-60	NOV 09	-59	DEC 15	-59	APR 06, 1982	-60
FEB 07	-56	DEC 14	-60	JAN 18, 1978	-59	AUG 13	-60
MAR 13	-57	JAN 12, 1977	-58	FEB 15	-59	AUG 30, 1984	-56
APR 10	-59	FEB 22	-58	APR 03	-58	AUG 07, 1987	-56
NOV 15	-56	MAR 15	-59	MAY 11	-58	MAR 08, 1988	-49
JAN 13, 1976	-59	APR 14	-59	JUN 14	-57	MAR 07, 1989	-53
FEB 18	-59	MAY 18	-59	JUL 21	-57	JUN 15, 1998	-1.25
MAR 15	-59	JUN 13	-59	DEC 20	-57	APR 14, 1999	-5.41
APR 26	-59	JUL 11	-59	APR 12, 1979	-58		
JUN 11	-59	AUG 09	-59	APR 10, 1980	-54		
JUL 21	-59	SEP 16	-58	AUG 13	-53		

HIGHEST -62 MAR 16, 1973
 LOWEST -1.25 JUN 15, 1998

USGS 335334078352101 BR-115 CALABASH J-2

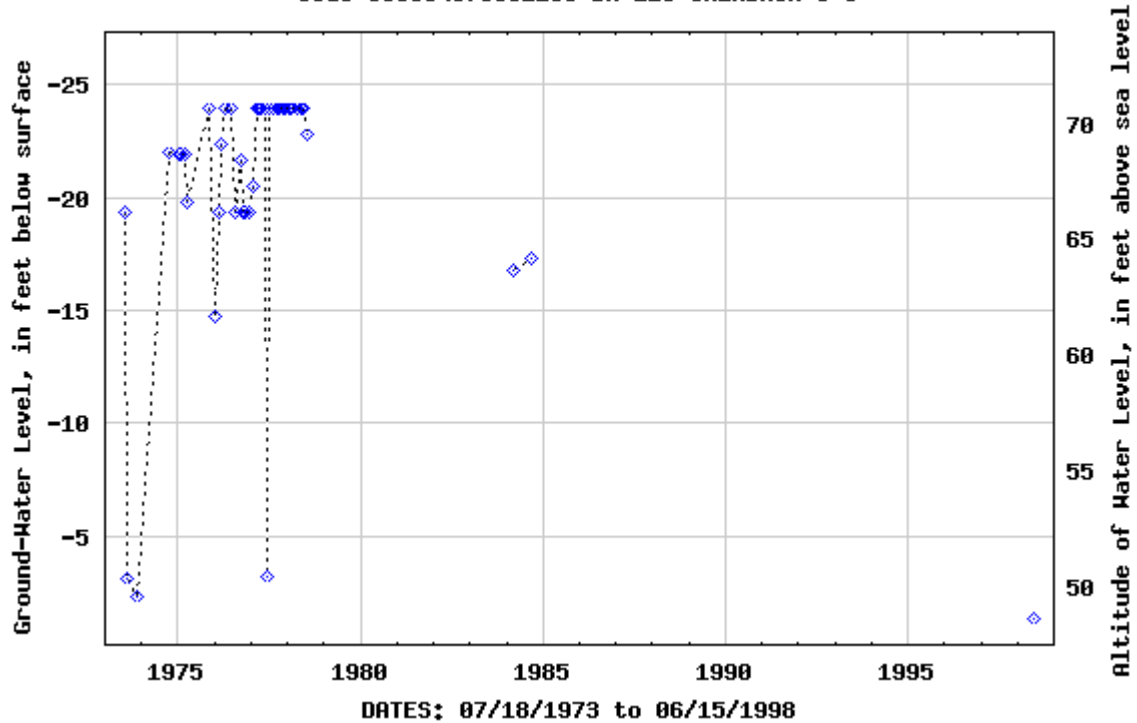


Site Identification Number 335334078352105
 Local Number BR-119 CALABASH J-6
 Latitude 335333.70
 Longitude 783522.30
 Well Depth 904
 Land Surface Elevation 46.96
 Primary Aquifer Cape Fear

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM (READINGS ABOVE LAND SURFACE INDICATED BY "--")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 18, 1973	-19	FEB 18, 1976	-19	FEB 22, 1977	-24	DEC 15, 1977	-24
AUG 16	-3	MAR 15	-22	MAR 15	-24	JAN 18, 1978	-24
NOV 14	-2	APR 26	-24	APR 14	-24	FEB 15	-24
OCT 10, 1974	-22	JUN 11	-24	MAY 18	-24	APR 03	-24
JAN 13, 1975	-22	JUL 21	-19	JUN 13	-3	MAY 11	-24
FEB 07	-22	SEP 16	-22	JUL 11	-24	JUN 14	-24
MAR 13	-22	OCT 13	-19	AUG 09	-24	JUL 21	-23
APR 10	-20	NOV 09	-19	SEP 16	-24	MAR 12, 1984	-17
NOV 15	-24	DEC 14	-19	OCT 11	-24	AUG 30	-17
JAN 13, 1976	-15	JAN 12, 1977	-21	NOV 21	-24	JUN 15, 1998	-1.33
		HIGHEST -24	NOV 15, 1975	APR 26, 1976	JUN 11, 1976	FEB 22, 1977	MAR 15, 1977
APR 14, 1977	MAY 18, 1977	JUL 11, 1977	AUG 09, 1977	SEP 16, 1977	OCT 11, 1977	NOV 21, 1977	DEC 15, 1977
		LOWEST -1.33	JUN 15, 1998	APR 03, 1978	MAY 11, 1978	JUN 14, 1978	

USGS 335334078352105 BR-119 CALABASH J-6



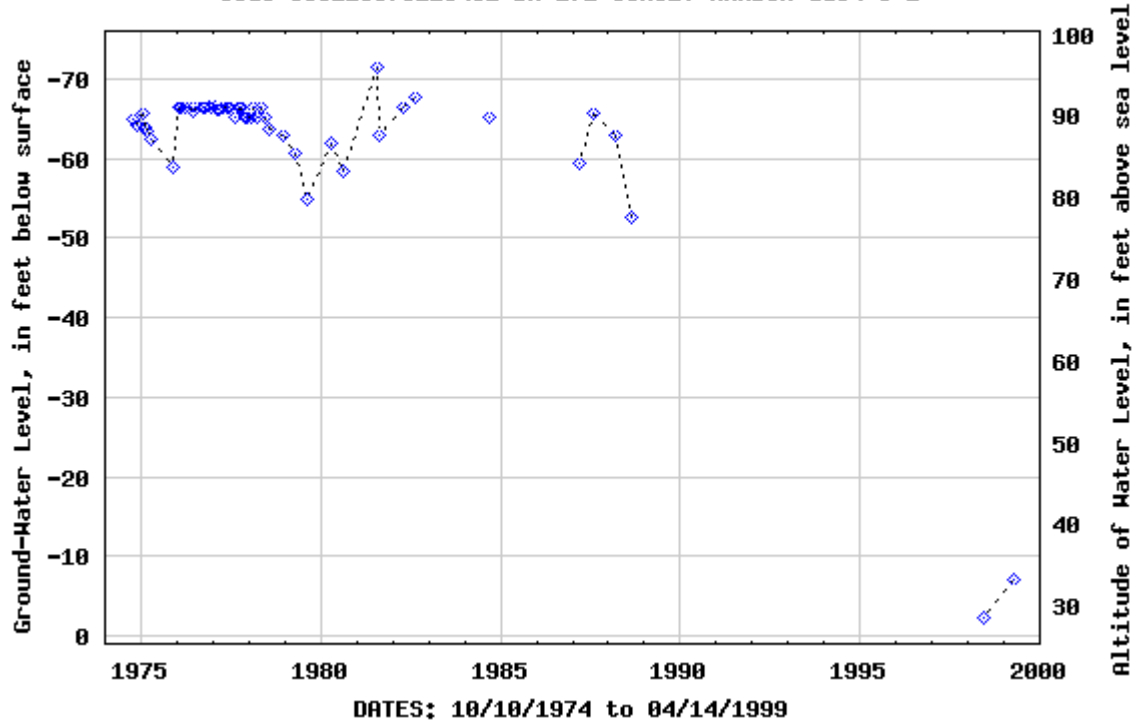
Site Identification Number 335229078115402
 Local Number BR-172 SUNSET HARBOR GG34 S-2
 Latitude 335628.43
 Longitude 781157.23
 Well Depth 1300
 Land Surface Elevation 25.40
 Primary Aquifer Cape Fear

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM (READINGS ABOVE LAND SURFACE INDICATED BY "--")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1974	-65	SEP 16, 1976	-66	NOV 22, 1977	-65	JUL 30, 1981	-71
NOV 26	-64	OCT 14	-66	DEC 16	-65	AUG 13	-63
JAN 13, 1975	-66	NOV 09	-67	JAN 23, 1978	-65	APR 14, 1982	-66
FEB 07	-64	DEC 16	-66	FEB 22	-66	AUG 16	-68
MAR 13	-63	JAN 11, 1977	-67	APR 05	-65	AUG 31, 1984	-65
APR 10	-62	FEB 15	-66	MAY 15	-66	MAR 11, 1987	-60
NOV 14	-59	MAR 10	-66	JUN 13	-65	AUG 10	-66
JAN 13, 1976	-66	APR 14	-66	JUL 17	-64	MAR 08, 1988	-63
FEB 16	-66	MAY 18	-66	DEC 14	-63	AUG 16	-53
MAR 17	-66	JUN 16	-66	APR 12, 1979	-61	JUN 15, 1998	-2.17
APR 26	-66	AUG 09	-65	AUG 14	-55	APR 14, 1999	-7.18
JUN 10	-66	SEP 19	-66	APR 10, 1980	-62		
JUL 21	-66	OCT 10	-66	AUG 14	-58		

HIGHEST -71 JUL 30, 1981
 LOWEST -2.17 JUN 15, 1998

USGS 335229078115402 BR-172 SUNSET HARBOR GG34 S-2

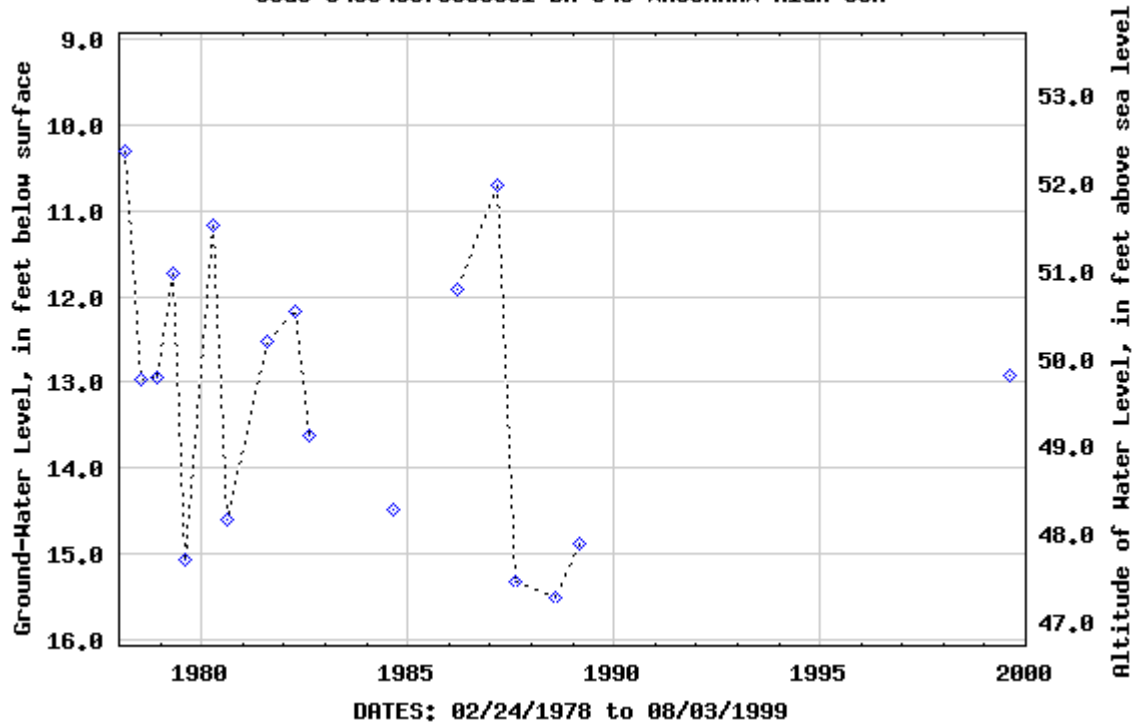


Site Identification Number 340345078305001
 Local Number BR-049 WACCAMAW HIGH SCH
 Latitude 340345.0
 Longitude 783050.0
 Well Depth 40.0
 Land Surface Elevation 62.72
 Primary Aquifer undifferentiated Cretaceous

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 24, 1978	10.30	APR 09, 1980	11.16	AUG 28, 1984	14.49	MAR 07, 1989	14.88
JUL 21	12.96	AUG 12	14.61	MAR 17, 1986	11.91	AUG 03, 1999	12.93
DEC 12	12.95	AUG 06, 1981	12.52	MAR 09, 1987	10.69		
APR 23, 1979	11.73	APR 06, 1982	12.18	AUG 10	15.33		
AUG 13	15.07	AUG 13	13.63	AUG 11, 1988	15.51		
		HIGHEST	10.30 FEB 24, 1978				
		LOWEST	15.51 AUG 11, 1988				

USGS 340345078305001 BR-049 WACCAMAW HIGH SCH



Supplemental data 1B—Continuous gound-water-level data for Brunswick County, North Carolina.

335629078115406. Local number, BR-080 (NC-182) Sunset Harbor RS GG34s7.

LOCATION.--Lat 33°56'29.05", long 78°11'56.22", Hydrologic Unit 03040207, 1 mi north of Sunset Harbor, and 4.3 mi south of State Highway 211 on Secondary Road 1112. Owner: DENR (North Carolina Department of Environment and Natural Resources).

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

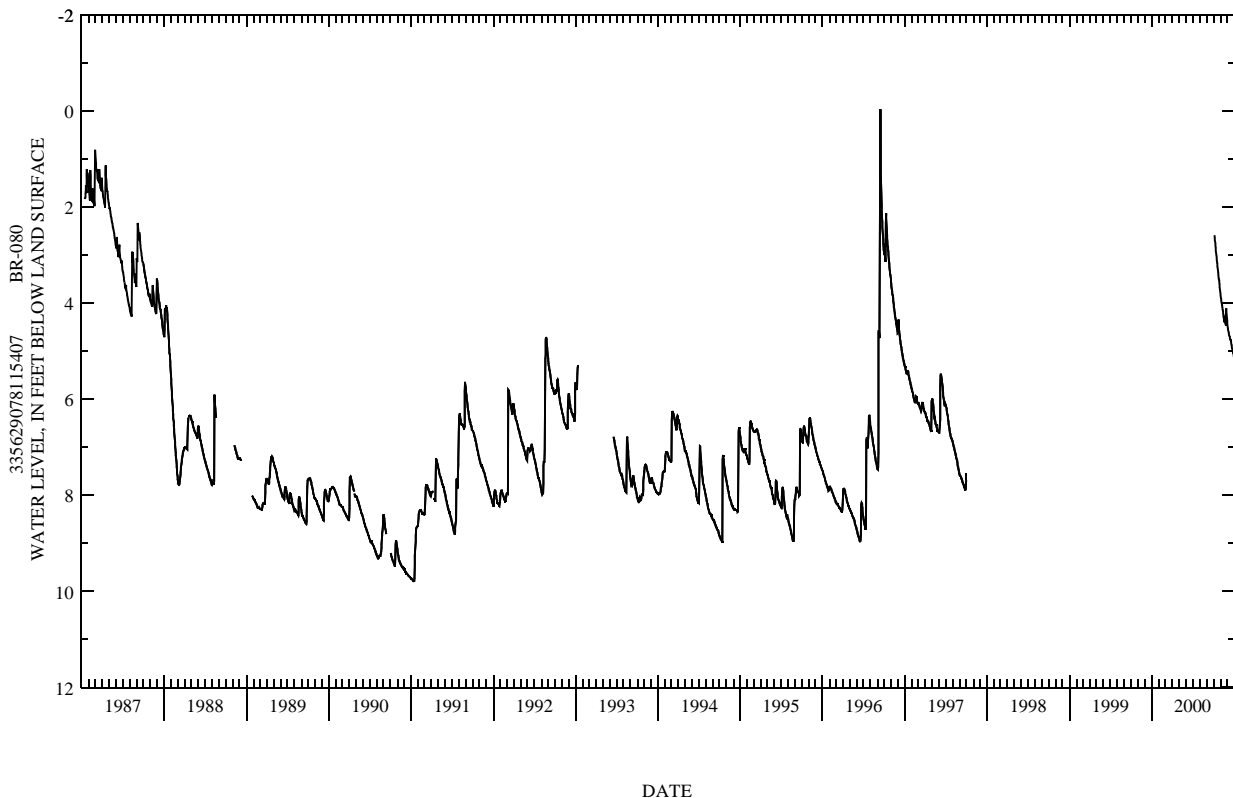
WELL CHARACTERISTICS.--Drilled observation well, drilled to 15 ft, diameter 4 in., cased to 10 ft, screened interval from 10 to 15 ft.

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

DATUM.--Land-surface datum is 28.06 ft above sea level (levels by DENR). Measuring point: Top of instrument shelf, 2.65 ft above land-surface datum.

PERIOD OF RECORD.--Continuous record from January 1987 to September 1997, and October 2000 to present

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.19 ft below land-surface datum, Sept. 12, and 13, 1996; lowest water level recorded, 9.80 ft below land-surface datum, Jan. 15 and 16, 1991.



335631078003606. Local number, BR-083 (NC-199) Southport RS 6 GG32t6.

LOCATION.--Lat 35°56'31.42", long 78°00'35.08", Hydrologic Unit 03030005, north of Southport on SR 1527 .45 miles northeast of intersection of SR 1526. Owner: DENR (North Carolina Department of Environment and Natural Resources).

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

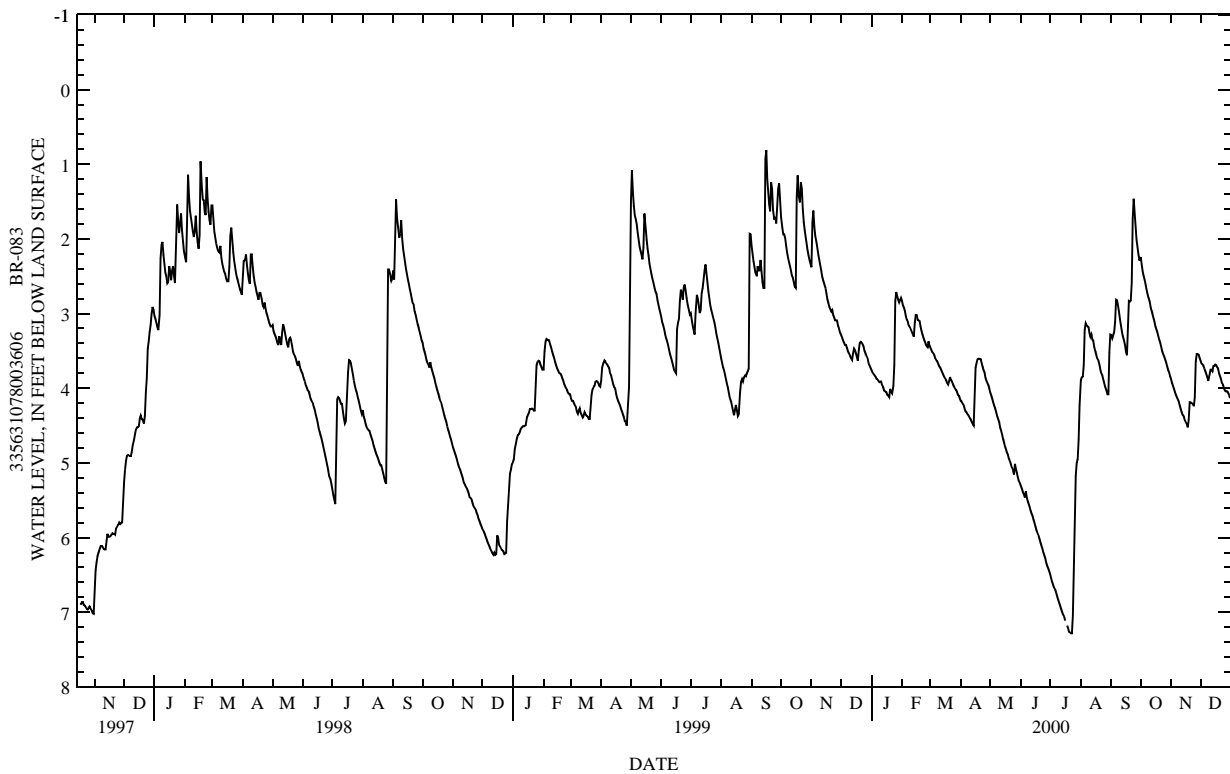
WELL CHARACTERISTICS.--Drilled observation well, depth 23 ft, diameter 4 in., cased to 11 ft, screened 11 to 21 ft; measured depth 20.8 ft, September 1997.

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.69 ft below land-surface datum, Feb. 17, 1998; lowest water level recorded, 7.29 ft below land-surface datum, July 22, 2000.



335535078011001. Local number, BR-012 (NC-022).

LOCATION.--Lat 33°55'35", long 78°01'10", Hydrologic Unit 030030005, at Southport on N. Howe St.. Owner: Town of Southport.

AQUIFER.--Castle Hayne aquifer of Late Cretaceous age.

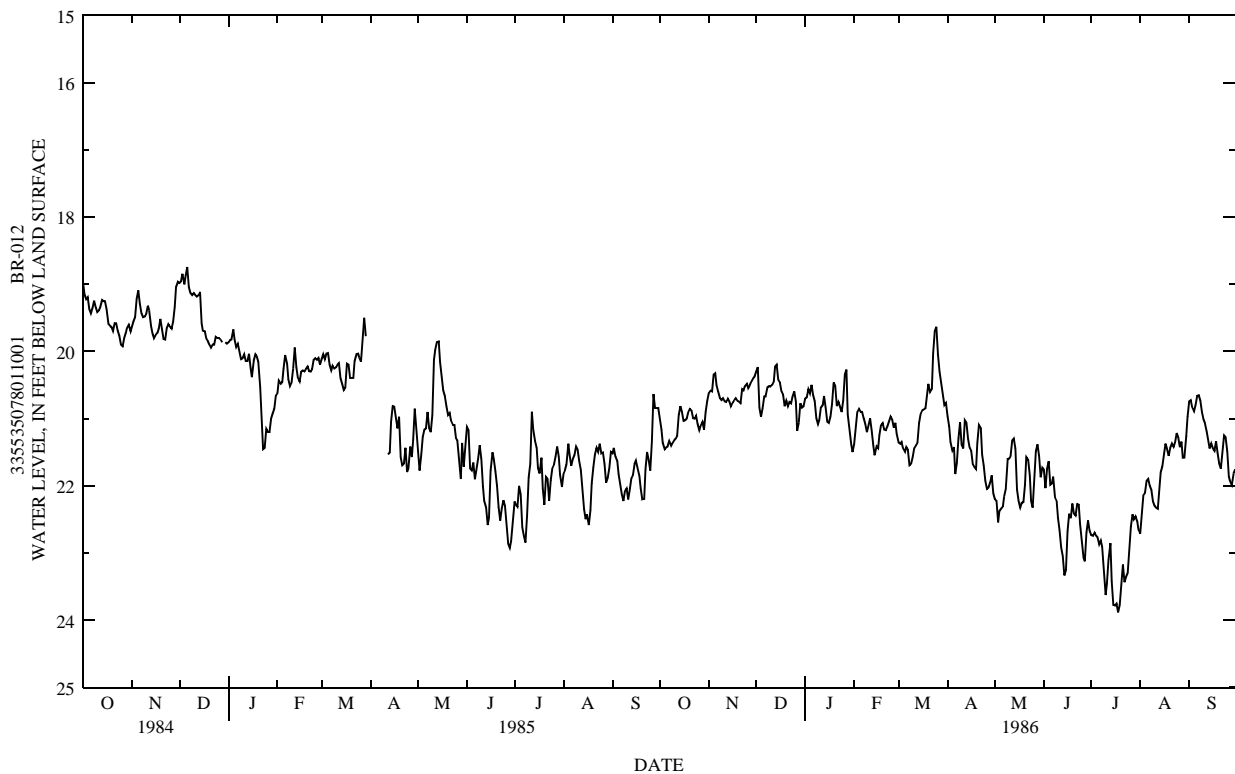
WELL CHARACTERISTICS.--Drilled observation well, drilled to 161 ft, diameter 10 in., cased to 60 ft, open hole to 161 ft.

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

DATUM.--Land-surface datum is 20.5 ft above sea level. Measuring point: Top of instrument shelf, 5.27 ft above land-surface datum.

PERIOD OF RECORD.--Continuous record from October 1984 to September 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 18.74 ft below land-surface datum, Dec. 6, 1984; lowest water level recorded, 23.88 ft below land-surface datum, July 18, 1986.



335631078003604. Local number, BR-081 (NC-197) Southport RS 6 GG32t4.

LOCATION.--Lat 35°56'31.42", long 78°00'35.08", Hydrologic Unit 03030005, north of Southport on SR 1527 .45 miles north-east of intersection of SR 1526. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Late Cretaceous age.

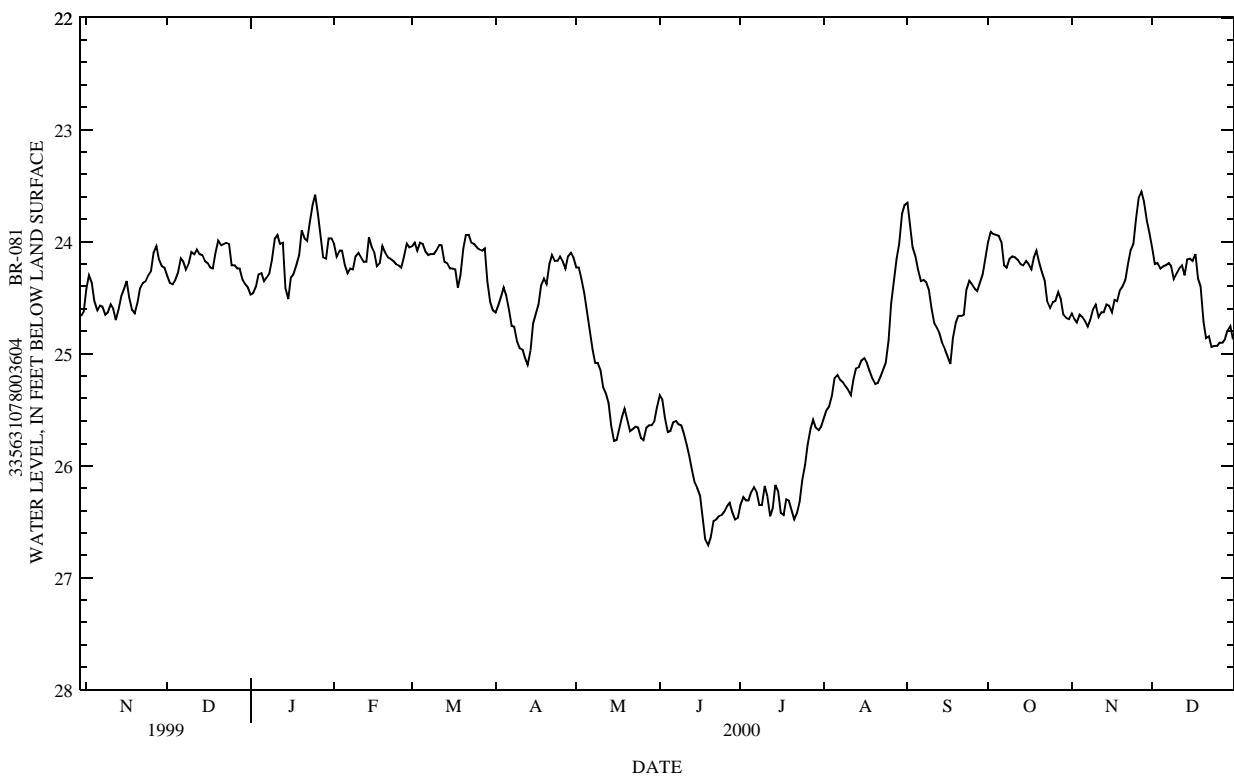
WELL CHARACTERISTICS.--Drilled observation well, depth 200 ft, diameter 6 in., cased to 93.5 ft, open hole 93.5 to 200 ft; measured depth 199 ft, September 1997.

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

DATUM.--Land-surface datum is 28.08 ft above sea level. Measuring point: Top of casing, 1.17 ft above land-surface datum.

PERIOD OF RECORD.--Continuous record from October 1999 to present.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.47 ft below land-surface datum, Jan. 24 & 25, 2000; lowest water level measured, 26.78 ft below land-surface datum, June 18, 2000.



335631078003605. Local number, BR-082 (NC-198) Southport RS 6 GG32t5.

LOCATION.--Lat 35°56'31.42", long 78°00'35.08", Hydrologic Unit 03030005, north of Southport on SR 1527 .45 miles north-east of intersection of SR 1526. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Late Cretaceous age.

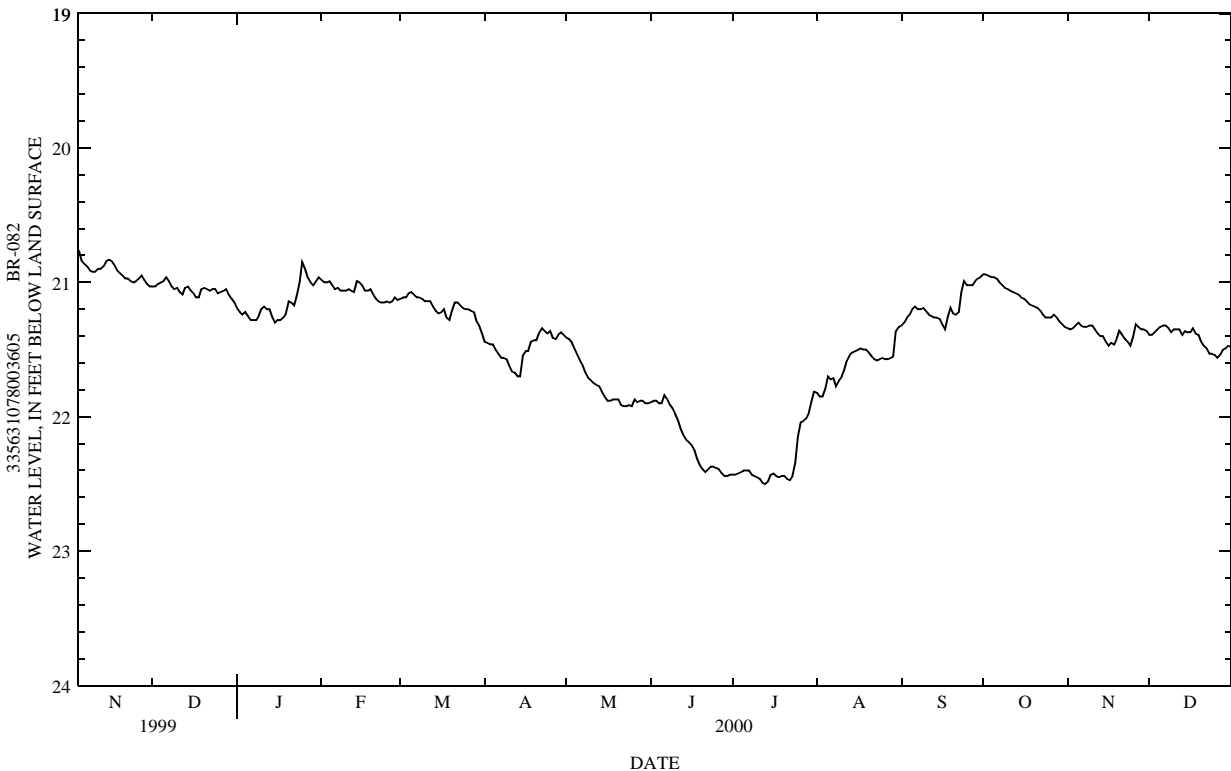
WELL CHARACTERISTICS.--Drilled observation well, depth 74 ft, diameter 4 in., cased to 64 ft, screened 64 to 74 ft; measured depth 72.0 ft, September 1997.

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

DATUM.--Land-surface datum is 28.26 ft above sea level. Measuring point: Top of casing, 2.20 ft above land-surface datum.

PERIOD OF RECORD.--Continuous record from November 1999 to present.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.68 ft below land-surface datum, Nov.11, 1999; lowest water level measured, 22.57 ft below land-surface datum, July. 17, 2000.



340416078084202. Local number, BR-099 FF33 D-1

LOCATION.--Lat 34°04'16.94", long 78°08'40.80", Hydrologic Unit 03040207, In the town of Bolivia at Town Hall on U.S. Highway 17. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Castle Hayne aquifer of Late Cretaceous age.

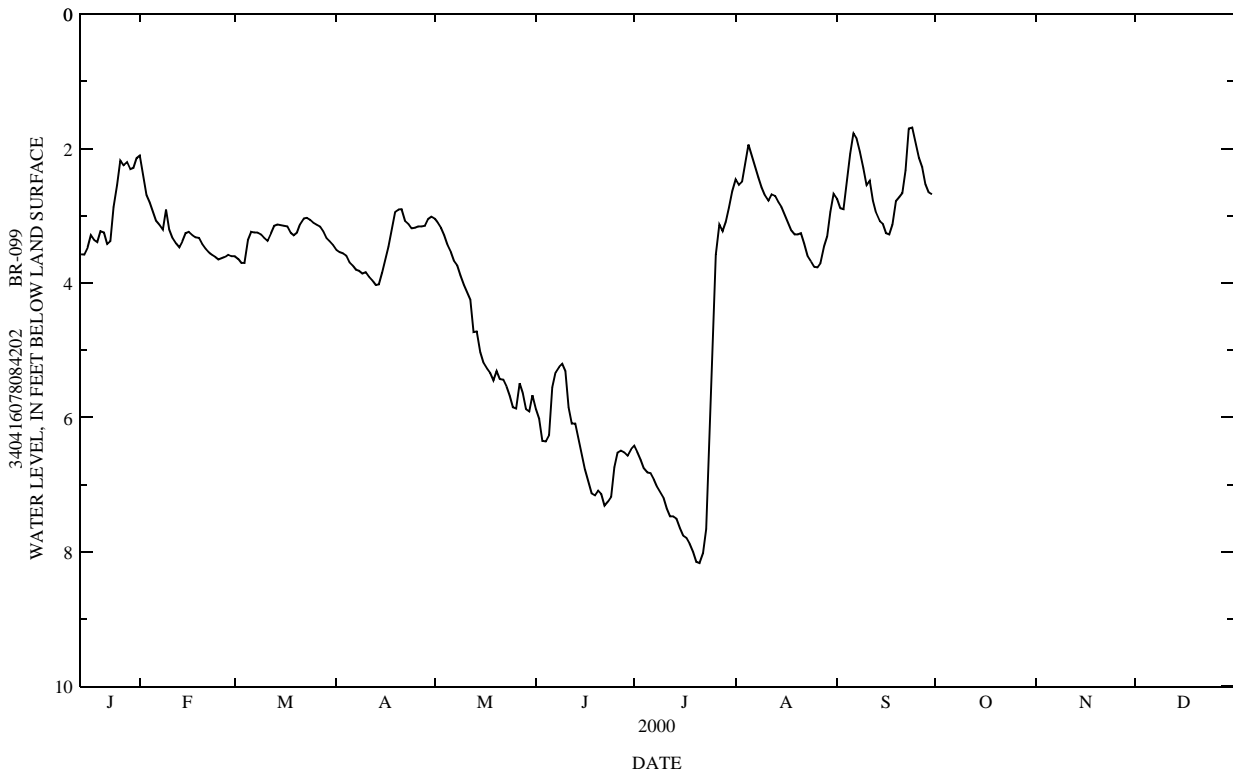
WELL CHARACTERISTICS.--Drilled observation well, depth 60 ft, diameter 4 in., cased to 50 ft, screened from 50 to 60 ft.

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

DATUM.--Land-surface datum is 41.26 ft above sea level. Measuring point: Top of casing 0.38 ft above land-surface datum.

PERIOD OF RECORD.-- Continuous record from January 2000 to present.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.55 ft. below land-surface datum, Sept 23, 2000; lowest water level recorded, 8.24 ft. below land-surface datum, July 20 & 21, 2000.



335849078054301. Local number, BR-100.

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

AQUIFER.--Castle Hayne of Late Cretaceous age.

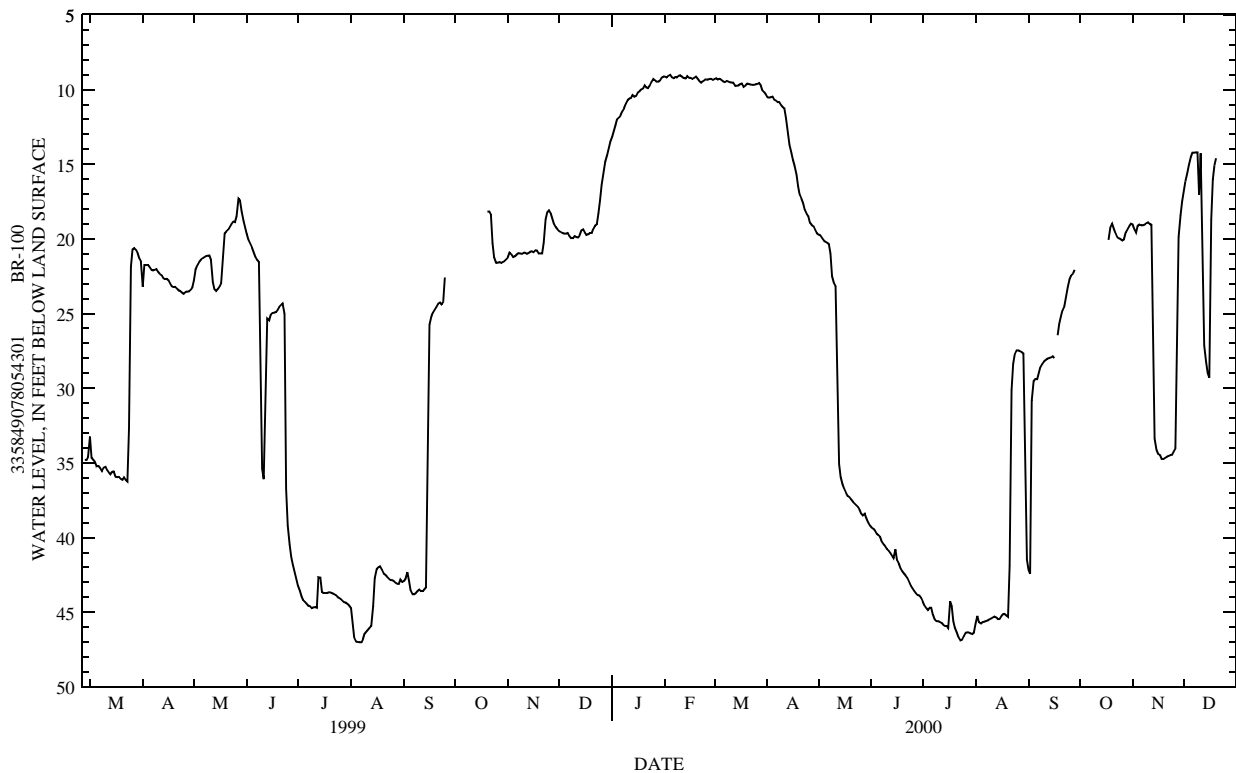
WELL CHARACTERISTICS.--Drilled observation well, depth 158 ft, diameter 6 in., cased and open hole depth unknown.

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

DATUM.--Land-surface datum is 5+6 ft above sea level (from topographic map). Measuring point: Top of instrument shelf, 2.42 ft above land-surface datum.

PERIOD OF RECORD.--Continuous record from February 1999 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.95 ft below land-surface datum, February 4, 2000; lowest water level measured, 47.04 ft below land-surface datum, August 6, 7,, 1997.



340416078084202. Local number, BR-078 (NC-180) Bolivia.

LOCATION.--Lat 34°04'17.37", long 78°08'41.46", Hydrologic Unit 03040207, In the town of Bolivia at Town Hall on U.S. Highway 17. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Peedee aquifer of Late Cretaceous age.

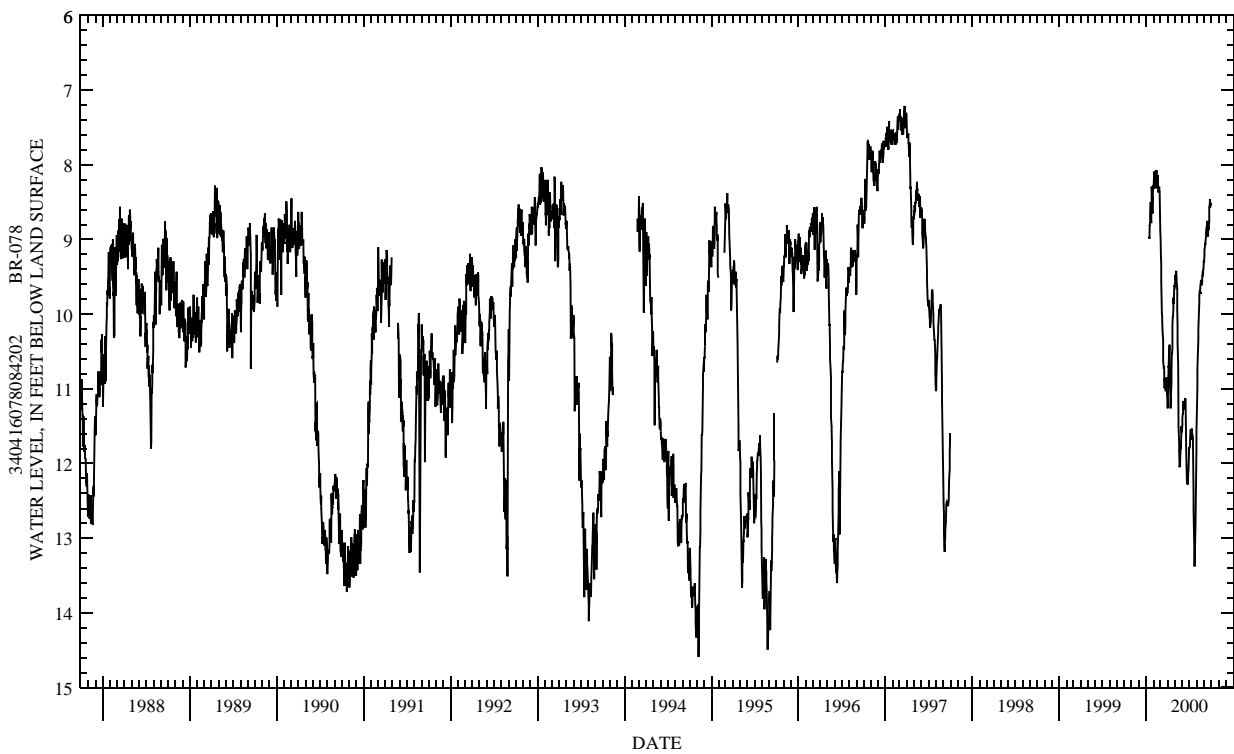
WELL CHARACTERISTICS.--Drilled observation well, depth 140 ft, diameter 4 in., cased to 92 ft, open hole to 140 ft.

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

DATUM.--Land-surface datum is 40.97 ft above sea level. Measuring point: Top of casing 0.89 ft above land-surface datum.

PERIOD OF RECORD.--Continuous record from May 1987 to Sept. 1997 and Jan. 2000 to present.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 5.52 ft below land-surface datum, Aug. 14, 1973;
lowest water level recorded, 15.07 ft below land-surface datum, Sept. 4, 1975.



335629078115406. Local number, BR-079 (NC-181) Sunset Harbor RS GG34s6.

LOCATION.--Lat 33°56'29.05", long 78°11'56.22", Hydrologic Unit 03040207, 1 mi north of Sunset Harbor, and 4.3 mi south of State Highway 211 on Secondary Road 1112. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Peedee aquifer of Late Cretaceous age.

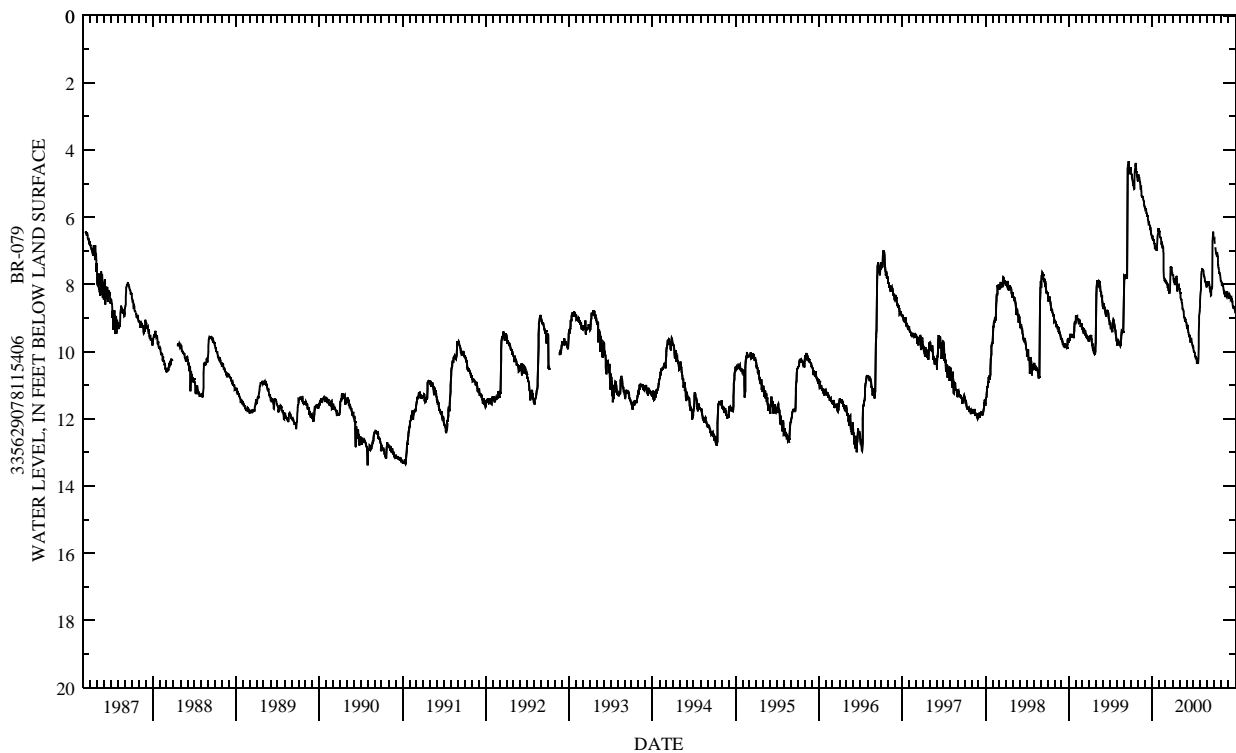
WELL CHARACTERISTICS.--Drilled observation well, drilled to 102 ft, diameter 6 in., cased to 84 ft, open hole to 102 ft.

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

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

PERIOD OF RECORD.--Continuous record from March 1987 to present.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.24 ft below land-surface datum, Oct. 22, 1999; lowest water level recorded, 13.53 ft below land-surface datum, Aug. 1, 1990.



340743078202006. Local number, BR-107 Bear Pen EE36k-6.

LOCATION.--Lat 34°07'42.98", long 78°20'19.82", Hydrologic Unit 03040206, 9 miles north of Supply on Federal Rd., near NC Forest Service airstrip. Owner: DENR (North Carolina Department of Environment and Natural Resources).

AQUIFER.--Peedee aquifer of Late Cretaceous age.

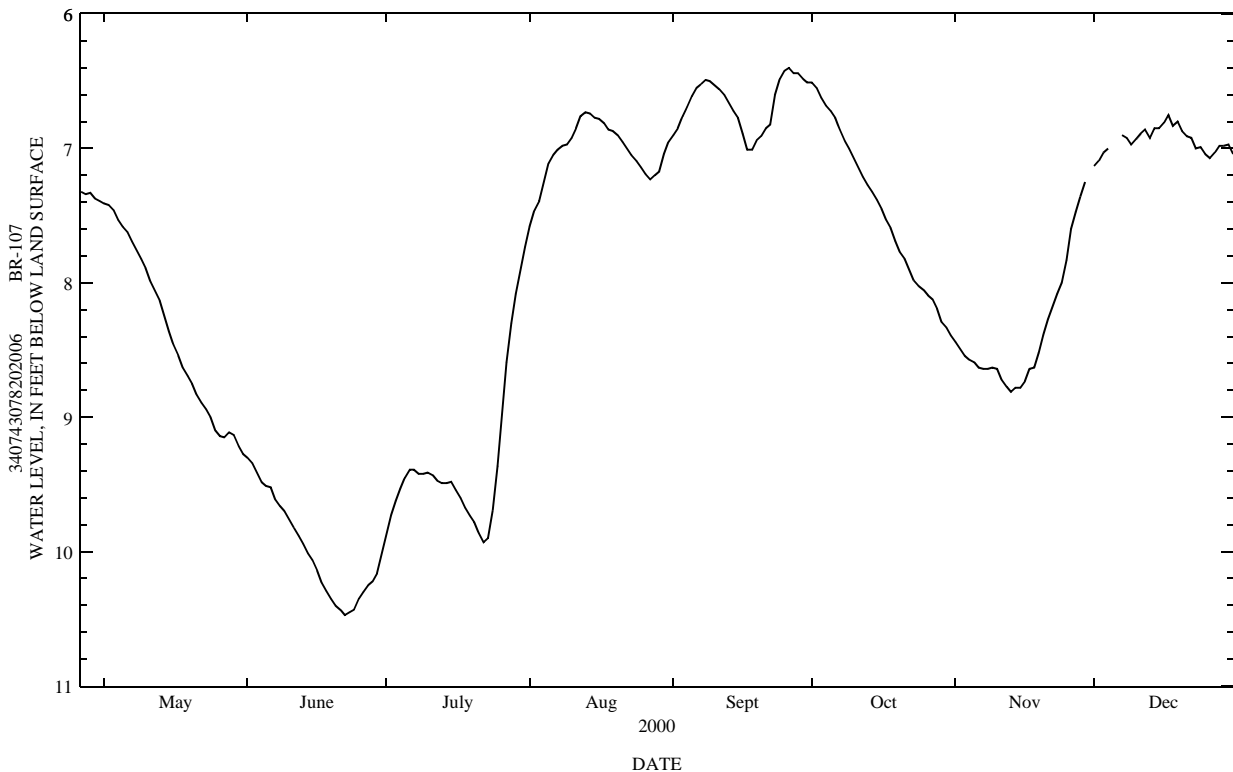
WELL CHARACTERISTICS.--Drilled observation well, depth 110 ft, diameter 4 in., cased to 48 ft, open interval from 48 to 110 ft.

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

DATUM.--Land-surface datum is 61.00 ft above sea level. Measuring point: Top of instrument shelf, 0.69 ft above land-surface datum.

PERIOD OF RECORD.--Continuous record from April 2000 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.37 ft below land-surface datum, Sept. 26, 2000; lowest water level measured, 10.50 ft below land-surface datum, June 22, 2000.



340743078202002. Local number, BR-106; Bear Pen EE36k-5.

LOCATION.--Lat 34°07'42.98", long 78°20'19.82", Hydrologic Unit 03040206, 9 miles north of Supply on Federal Rd., near NC forest Service airstrip. Owner: DENR (North Carolina Department of Environment and Natural Resources).

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

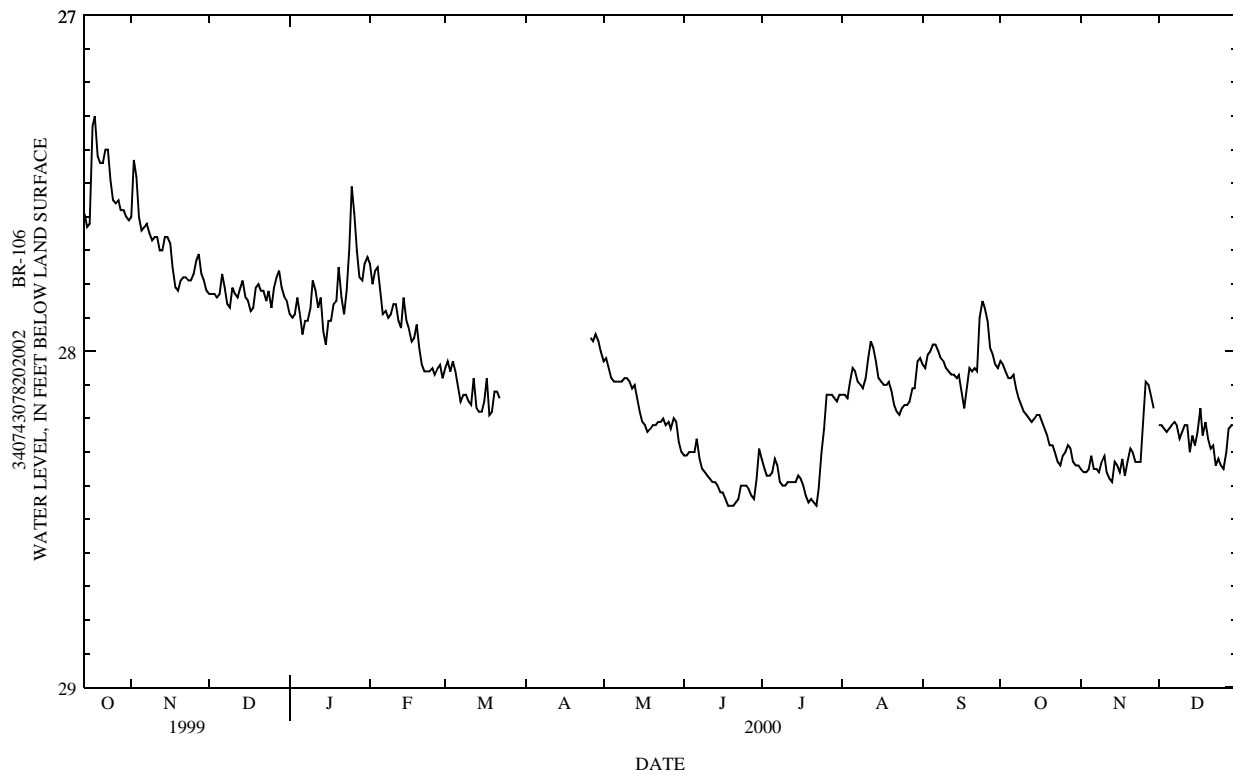
WELL CHARACTERISTICS.--Drilled observation well, depth 654 ft, diameter 2.5 in., cased to 644 ft, screened interval from 644 to 654 ft.

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

DATUM.--Land-surface datum is 61.50 ft above sea level. Measuring point: Top of casing, 3.07 ft above land-surface datum.

PERIOD OF RECORD.--Continuous record from October 1999 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.19 ft below land-surface datum, Oct. 17, 1999; lowest water level measured, 28.48 ft below land-surface datum, July 22, 2000.



335631078003604. Local number, BR-116 Calabash J3.

LOCATION.--Lat 33°53'34.32", long 78°35'21.34", Hydrologic Unit 030040207, .75 miles west of Country Club Dr. on Carolina Shores Dr. Owner: DENR (North Carolina Department of Environment and Natural Resources).

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

WELL CHARACTERISTICS.--Drilled observation well, depth 660, diameter 2.5 in., cased to 644 ft and from 654 to 660, screened interval from 644 to 654.

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

DATUM.--Land-surface datum is 47.59 ft above sea level. Measuring point: Top of casing, 2.79 ft above land-surface datum.

PERIOD OF RECORD.--Continuous record from October 1999 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.33 ft below land-surface datum, Sept. 25, 2000; lowest water level measured, 43.59 ft below land-surface datum, July 22 and 23, 2000.

