Abstract

Although older, deeper aquifers are present throughout the county, the water within those is too saline for potable use. Until the Cape Fear Public Utilities Authority (Cape Fear) groundwater treatment plant went on-line in the fall of 2009, Cape Fear relied on shallow domestic wells to supply potable water. In 2010, 92 percent of the county’s population relied on shallow domestic wells for potable water. With the in-service of the new Cape Fear Public Utilities Authority groundwater treatment plant, it was necessary to characterize the hydraulic properties of the surficial, Castle Hayne, and Peedee aquifers that underlie the area near the new nanofiltration plant. The Cape Fear Public Utilities Authority (Cape Fear) conducted a series of pumping tests at various CDPs and selected sites across northern New Hanover County in order to characterize the hydraulic properties of the surficial, Castle Hayne, and Peedee aquifers that underlie the area near the new nanofiltration plant.

Methods of Investigation

The study area is located in New Hanover County, North Carolina, near the coastal plain of the southeastern United States. The study area is located in the Coastal Plain Physiographic Province of North Carolina. The study area includes the Cape Fear Peninsula and is located between the Cape Fear River and the Atlantic Ocean. The study area is located in the westernmost coastal plain physiographic province of the state of North Carolina. The study area is located in the southern portion of New Hanover County. The study area is located in the Cape Fear Peninsula and is located between the Cape Fear River and the Atlantic Ocean.

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