Section Description

A-A' is a dip-oriented section on the western side of the State running along the Ga-SC border. It originates in northern Aiken County, traverses the Savannah River Site (SRS), and terminates in Beaufort County at Hilton Head Island. The section was constructed with 10 core holes and 2 water wells. One inch on the vertical scale is equivalent to 200 feet of depth. The distance, in miles, between two adjacent wells is provided on the section.

Updip core holes, **AIK-2448** and **AIK-2449**, were drilled by the USGS in 1998 to evaluate groundwater availability (USGS WRIR 02-4075) and to investigate the geology and hydrogeology of the region (SCDNR Report 43). Water levels in well **AIK-2449** are currently monitored by the South Carolina Department of Natural Resources (SCDNR).

Continuing downdip, **AIK-817** is a core hole at the C-2 well-cluster site, which was drilled in 1987 by the South Carolina Water Resources Commission (SCWRC) (SCWRC Open-File Report 23). The C-well sites were funded by the U.S. Department of Energy and constructed by the SCWRC in the late 1980s and early 1990s along the outside perimeter of the Savannah River Site (SRS). Each of the C-well sites—there are a total of eight—has a continuous core drilled to bedrock, geophysical logs, and up to 10 monitoring wells. Information from the cores and logs was used to delineate and map the hydrogeologic units of the area, and wells were constructed in each major aquifer to determine vertical hydraulic gradients and to establish a permanent observational well network around SRS (SCDNR Open-File Report 1). Five monitoring wells were drilled at the C-2 site, three of which are monitored for water level fluctuations by SCDNR.

Core holes **AIK-892**, **BRN-303**, and **BRN-335** were all drilled at SRS by the Westinghouse Savannah River Company in the 1980s (SCDNR Report 5). These cores are part of the P-well cluster sites that were drilled to delineate hydrogeologic units and monitor groundwater levels at SRS (SRS DPST-88-627). Like the C-well sites, each P-well site—there are a total of eighteen—has a continuous core drilled either to bedrock or to the Cape Fear Formation, geophysical logs, and up to nine monitoring wells. Information from the cores and logs was used to delineate and map the hydrogeologic units at SRS, and wells were constructed in each major aquifer to determine vertical hydraulic gradients and to establish a permanent observational well network inside SRS. **AIK-892** is the core hole at the P-30 cluster site, located in northern SRS; **BRN-303** is the core hole at the P-19 site, located in central SRS; and **BRN-0335** is the core hole at the P-21 site, located in southern SRS. Water levels in the P-wells are measured periodically by SRS personnel.

Drilled in 1992, **ALL-357** is a core hole at the C-7 well-cluster site located just south of SRS in northern Allendale County (SCDNR Open-File Report 3). Nine wells were constructed at the site, all of which are monitored by SCDNR for water levels. Continuing downdip, well **ALL-348** is in central Allendale County and is a core hole at the C-10 well-cluster site (SCWRC Open-File Report 32). Drilled in 1989, 10 wells were constructed at the site, most of which are monitored by SCDNR for water levels. An aquifer test of the Gordon aquifer yielded a transmissivity of 1,096 ft^2/d (feet squared per day) pumping at a rate of 197 gpm (gallons per minute), and a test of the Crouch Branch aquifer produced a transmissivity of 7,427 ft^2/d pumping at a rate of 206 gpm.

Well **HAM-191** is a public supply well drilled for the Town of Hampton in 1987. Screened mainly in the Crouch Branch aquifer, an aquifer test pumping at a rate of 709 gpm yielded a transmissivity of 3,900 ft^2/d. Continuing to the southeast along the section line, well **JAS-0426** is a core hole drilled in 1996 by SCDNR at the C-15 well-cluster site in northern Jasper County. A continuous core was prohibitively

expensive to drill at the site owing to the thickness of the Coastal Plain (2,800 feet) so only sidewall cores at 10- to 30-foot intervals were obtained. An aquifer test of the Middle Floridan aquifer produced a transmissivity of 452 ft^2/d pumping at a rate of 96 gpm. Four monitoring wells were drilled at the site that are currently monitored by SCDNR for water levels.

Well **BFT-2067** is a golf course irrigation well drilled in 1992 in northern Beaufort County. Open to the Middle Floridan confining unit and Middle Floridan aquifer, an aquifer test pumping at a rate of 508 gpm produced a transmissivity of 15,000 ft^2/d. The last well on the section, **BFT-2055**, is a deep core hole drilled at Hilton Head Island in 1992 by SCWRC. Owing to the thickness of the Coastal Plain (3,830 ft), a continuous core was prohibitively expensive to drill and, as such, sidewall cores were collected at various intervals from land surface to bedrock. Completed as a well in the basal Gramling aquifer, water levels in the well are monitored by SCDNR.

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