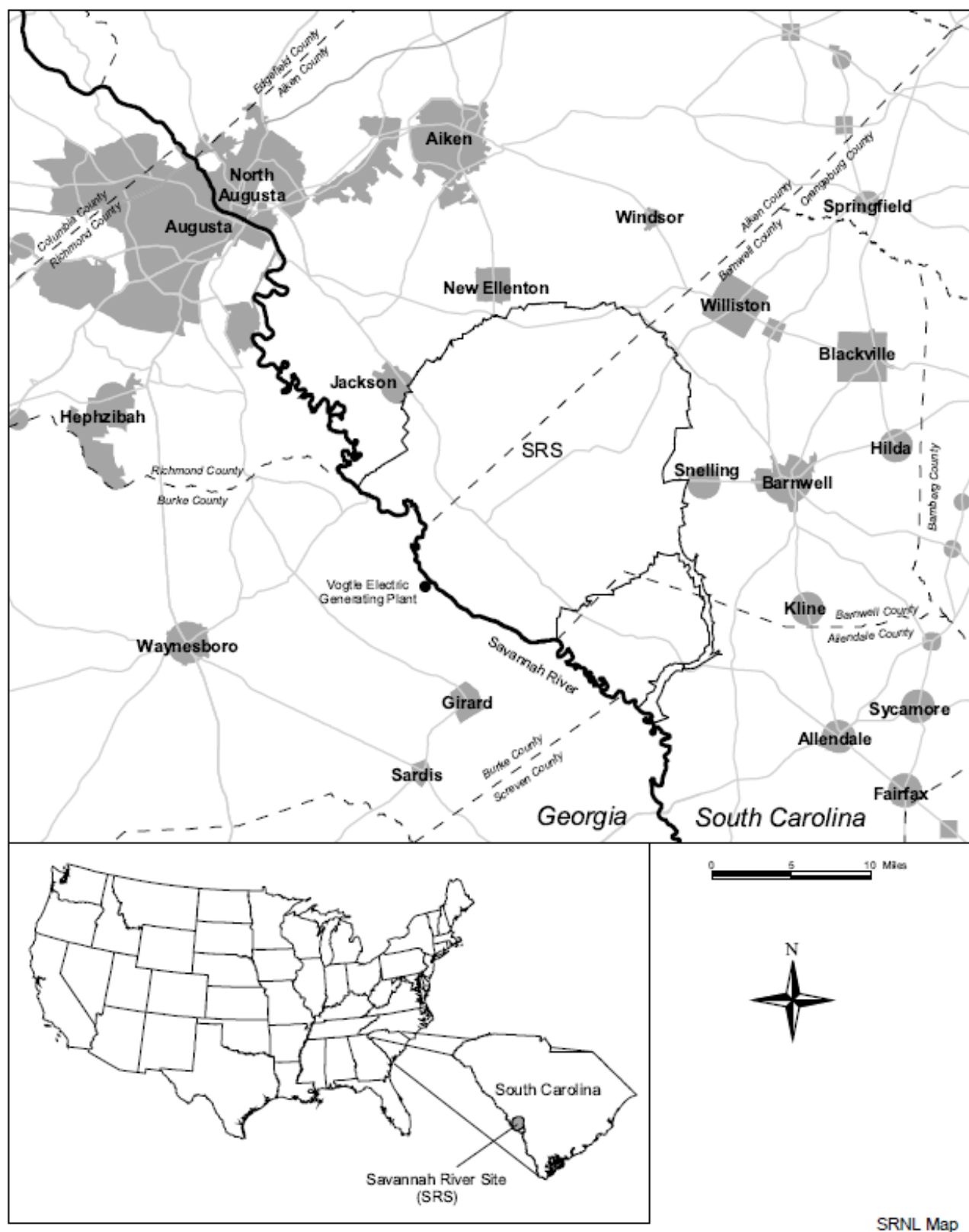


# 2011 Maps

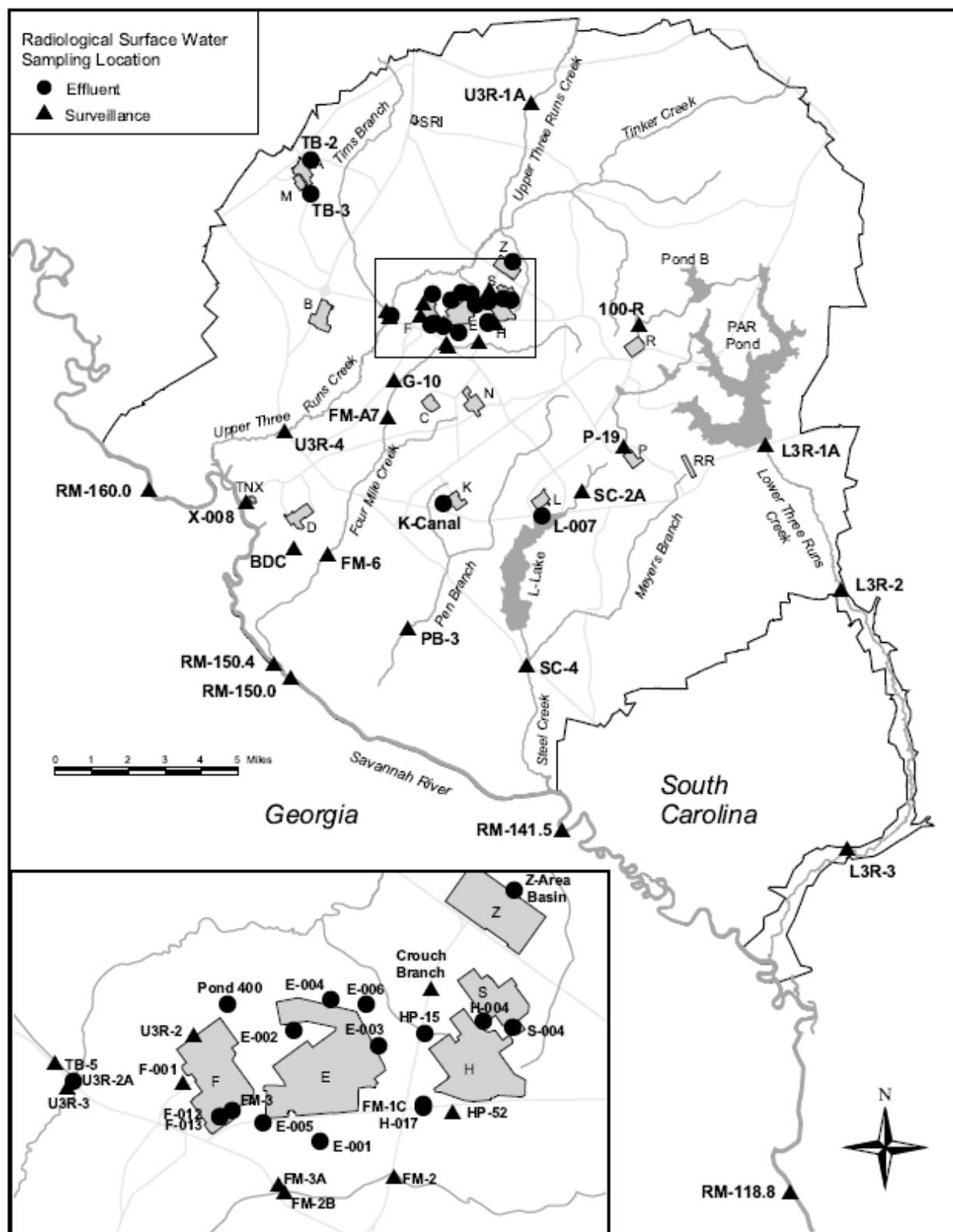
<b>Figure</b>	<b>Page</b>
Figure 1. The Savannah River Site .....	3
Figure 2. Radiological Surface Water Sampling Locations.....	4
Figure 3. Radiological Surface Water Sampling Locations.....	5
Figure 4. NPDES Stormwater Outfall Locations.....	6
Figure 5. Radiological Air Surveillance Sampling Locations .....	7
Figure 6. SRS Thermoluminescent Dosimeter (TLD) Sampling Locations .....	8
Figure 7. Fish Sampling Locations .....	9
Figure 8. Radiological Soil Sampling Locations .....	10
Figure 9. Radiological Sediment Sampling Locations .....	11
Figure 10. Radiological Vegetation Sampling Locations .....	12
Figure 11. Swamp Contamination .....	13
Figure 12. Savannah River Swamp Trails .....	14
Figure 13. Nonradiological Surface Water Sampling Locations .....	15
Figure 14. Domestic Water Systems.....	16
Figure 15. Nonradiological Sediment Sampling Locations.....	17
Figure 16. Sector-Specific Adult Maximally Exposed Individual Air Pathway Doses (in mrem) for 2011 .....	18
Figure 17. Wind Rose for SRS, 2002-2006.....	19
Figure 18. Facilities Monitored by the SRS Monitoring Well Network.....	20
Figure 19. Water Table Contours at SRS .....	21
Figure 20. Potentiometric Surface of the Gordon Aquifer at SRS.....	22
Figure 21. Potentiometric Surface of the Crouch Branch Aquifer at SRS .....	23
Figure 22. Potentiometric Surface of the McQueen Branch Aquifer at SRS.....	24
Figure 23. Wells Along Site Boundary Between A/M Areas and Jackson, SC (Nearest Population Center).....	25
Figure 24. Burke/Screven County, GA Well Locations .....	26
Figure 25. Reference Map Showing Universal Transverse Mercator (UTM) Coordinates.....	27
Figure 26. TCE Isoconcentration and Potentiometric Surface Map of the M-Area Aquifer Zone at the M-Area and Met Lab HWMFs, Second Half 2011 .....	28
Figure 27. TCE Isoconcentration Contour Map of the Composite Lost Lake Aquifer Zone at the M-Area and Met Lab HWMFs, Second Half 2011 .....	29
Figure 28. TCE Isoconcentration and Potentiometric Surface Map of the Crouch Branch Confining Unit at the M-Area and Met Lab HWMFs, Second Half 2011 .....	30
Figure 29. Tritium Concentration and Potentiometric Surface in the Upper Aquifer Zone of the Upper Three Runs Aquifer at the GSA, Third Quarter 2011 .....	31

Figure 30. Tritium Concentration and Potentiometric Surface in the Lower Aquifer Zone of the Upper Three Runs Aquifer at the GSA, Third Quarter 2011 .....	32
Figure 31. Tritium Concentration and Potentiometric Surface in the Gordon Aquifer the GSA, Third Quarter 2011 .....	33



**Figure 1. The Savannah River Site**

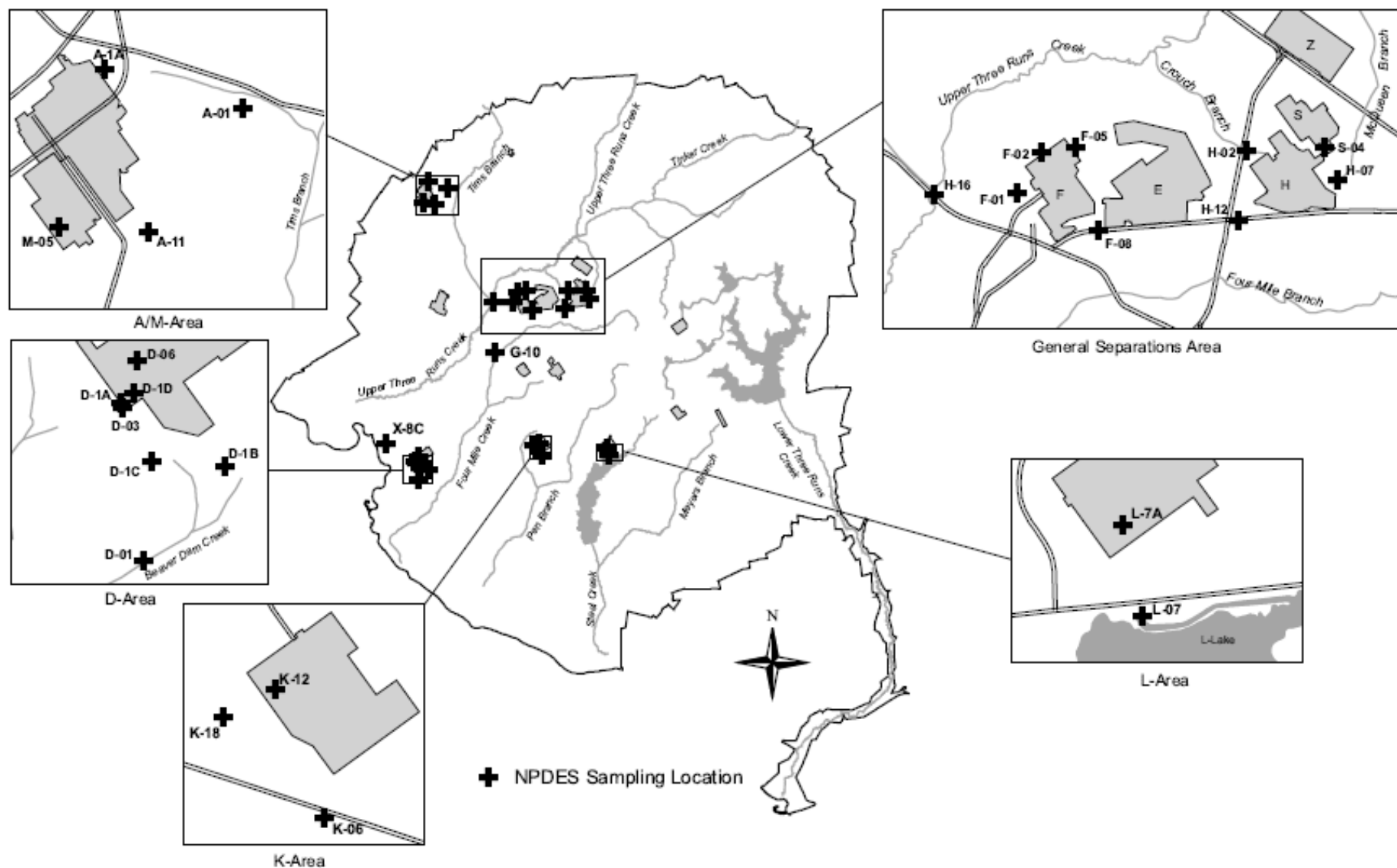
SRS is located in South Carolina, about 12 miles south of Aiken, SC, and about 15 miles southeast of Augusta, GA. The Savannah River flows along a portion of the Site's southwestern border.



EC&ACP/SRNL Map

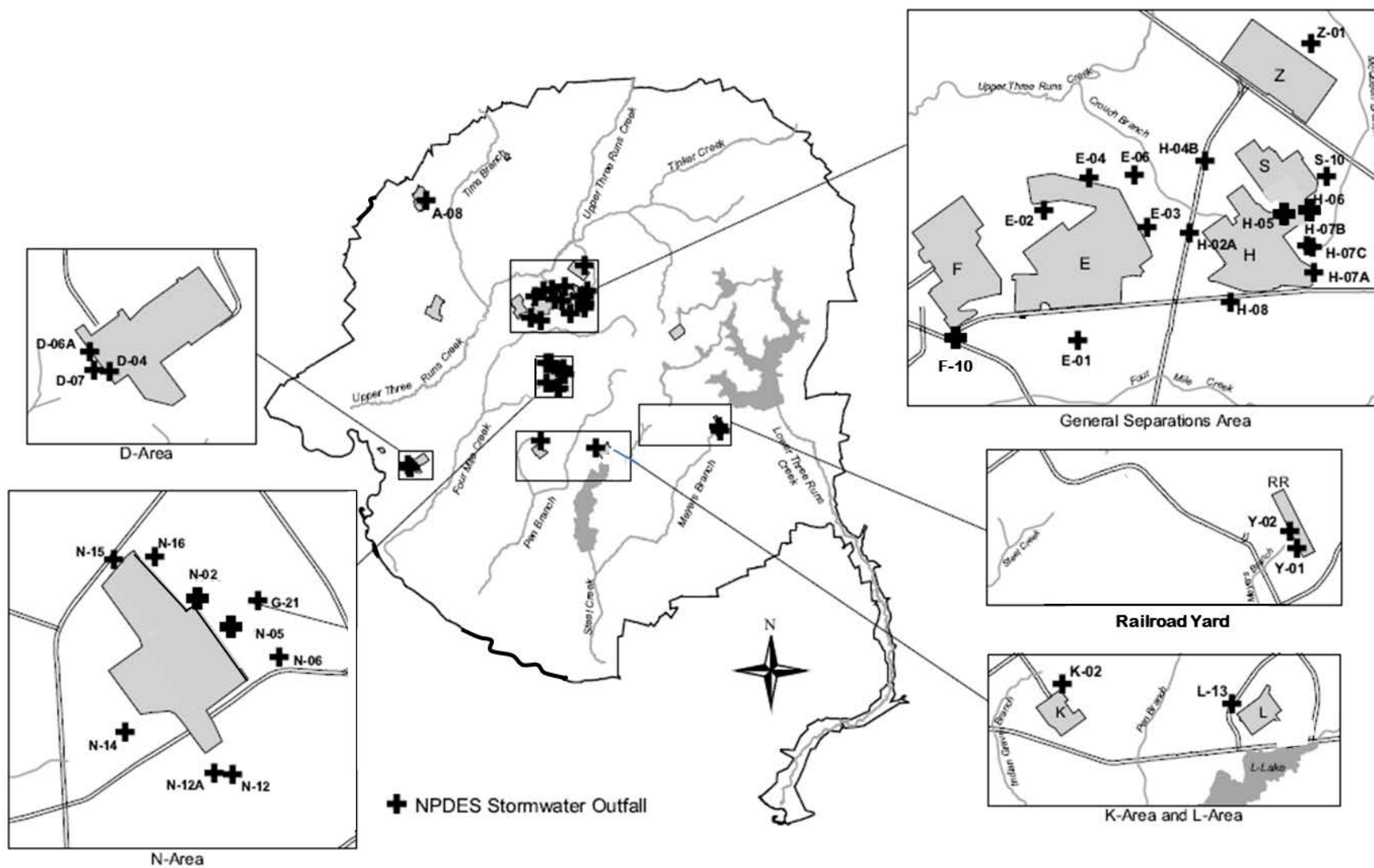
**Figure 2. Radiological Surface Water Sampling Locations**

Surveillance and effluent sampling points are near SRS facilities, on site streams, and on the Savannah River.



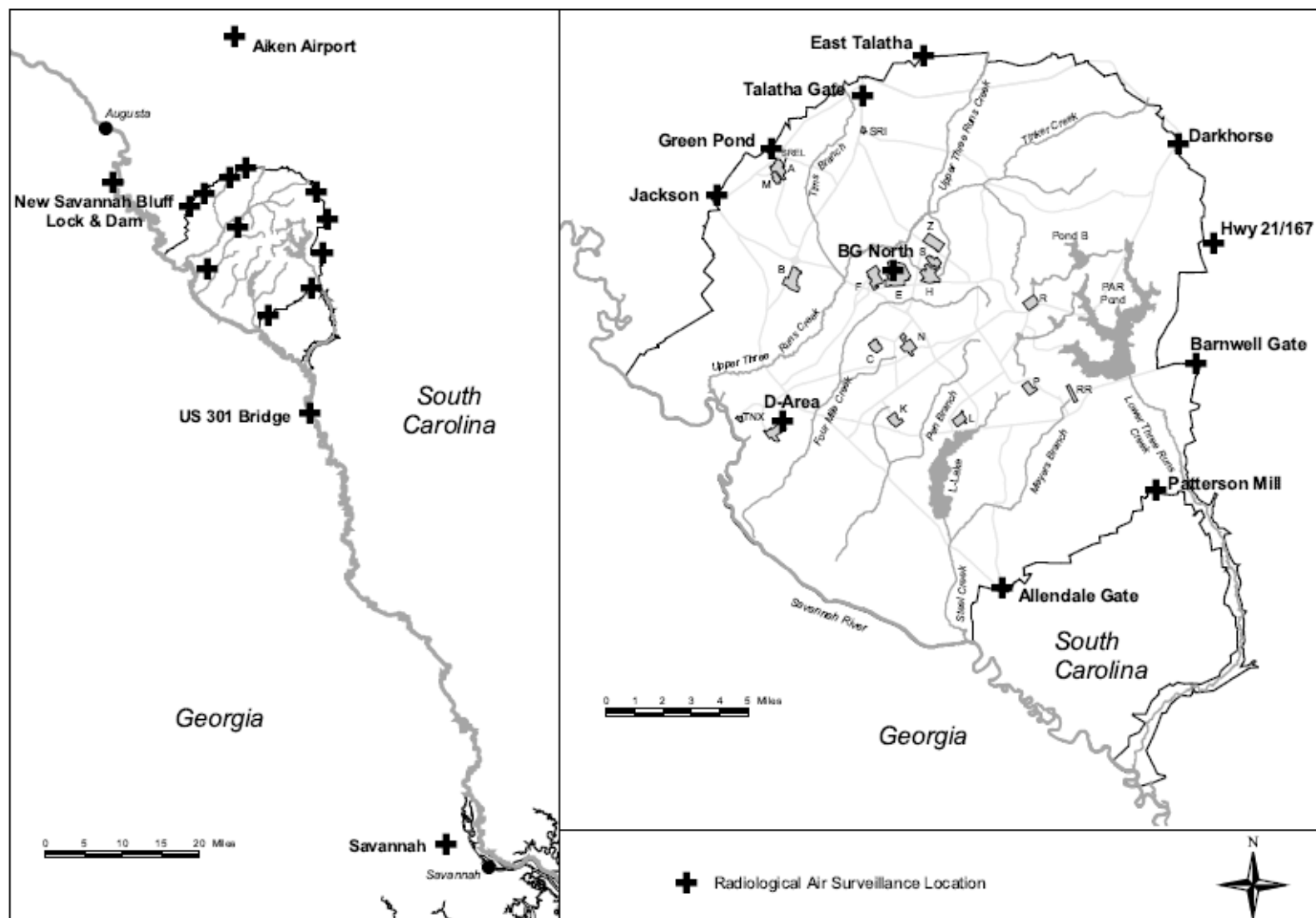
**Figure 3. Radiological Surface Water Sampling Locations**

Twenty-eight industrial wastewater outfalls were regulated at SRS in 2011 under NPDES Permits SC0000175 and SC0047431. Of the 28 outfalls, one (Outfall 002) appears in Permit SC0047431 but has never existed – and thus is not included on the map.



**Figure 4. NPDES Stormwater Outfall Locations**

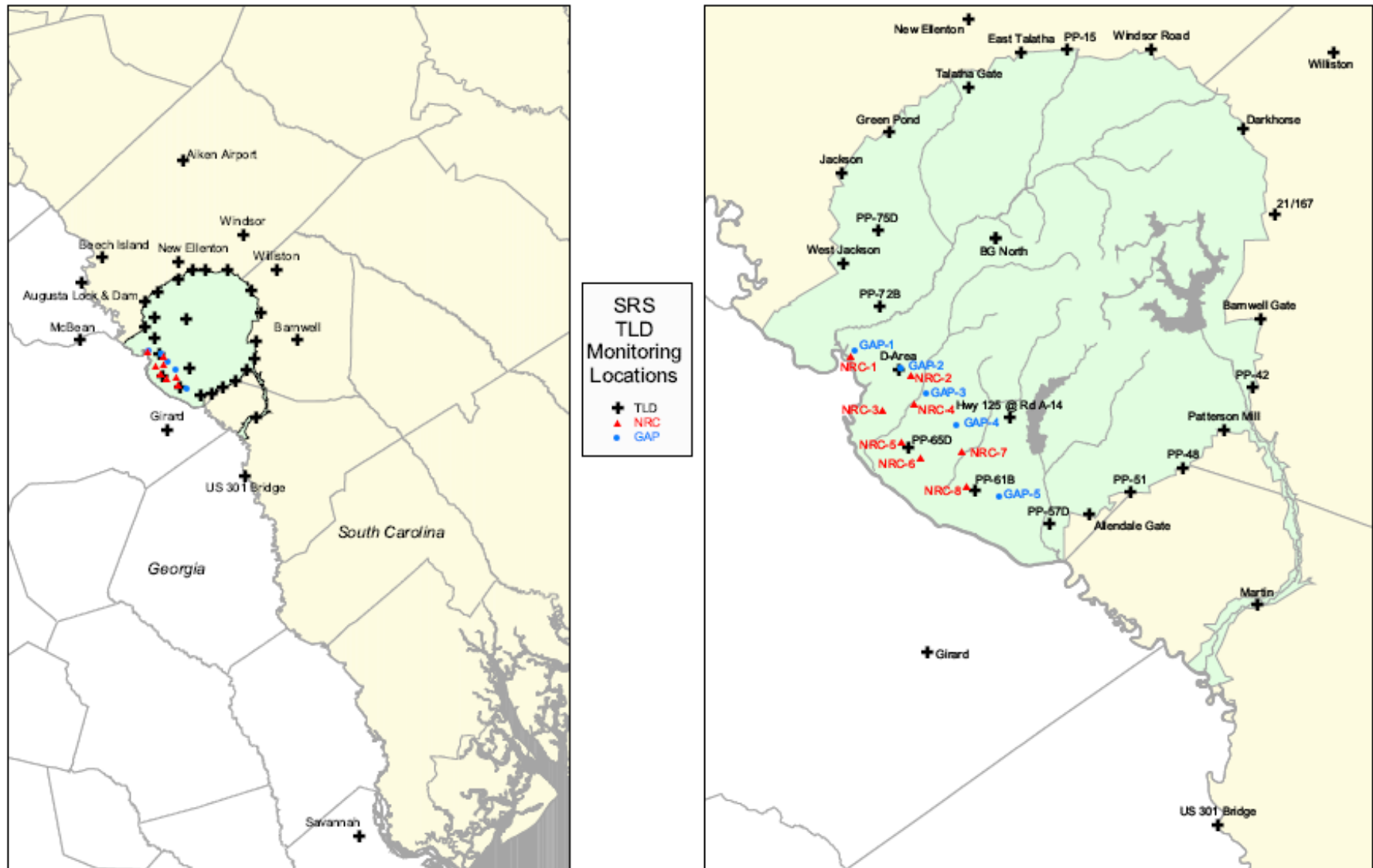
Thirty-two industrial stormwater outfalls were regulated at SRS in 2011 under Permit SCR000000, the NPDES General Permit for Stormwater Discharges associated with Industrial Activity (except construction activity).



**Figure 5. Radiological Air Surveillance Sampling Locations**

The SRS air surveillance program consists of 11 stations located on site or along the site perimeter, as well as three stations approximately 25 miles from the site perimeter (located near the U.S. Hwy 301 Bridge over the Savannah River, near the New Savannah Bluff Lock and Dam, also known as the Augusta Lock and Dam; and at the Aiken airport) and one about 100 miles from the site perimeter (near Savannah, GA).





**Figure 6. SRS Thermoluminescent Dosimeter (TLD) Sampling Locations**

Ambient gamma radiation exposure is measured at SRS at the following locations: Plant Vogtle vicinity, population centers, air surveillance stations, and site perimeter stations.



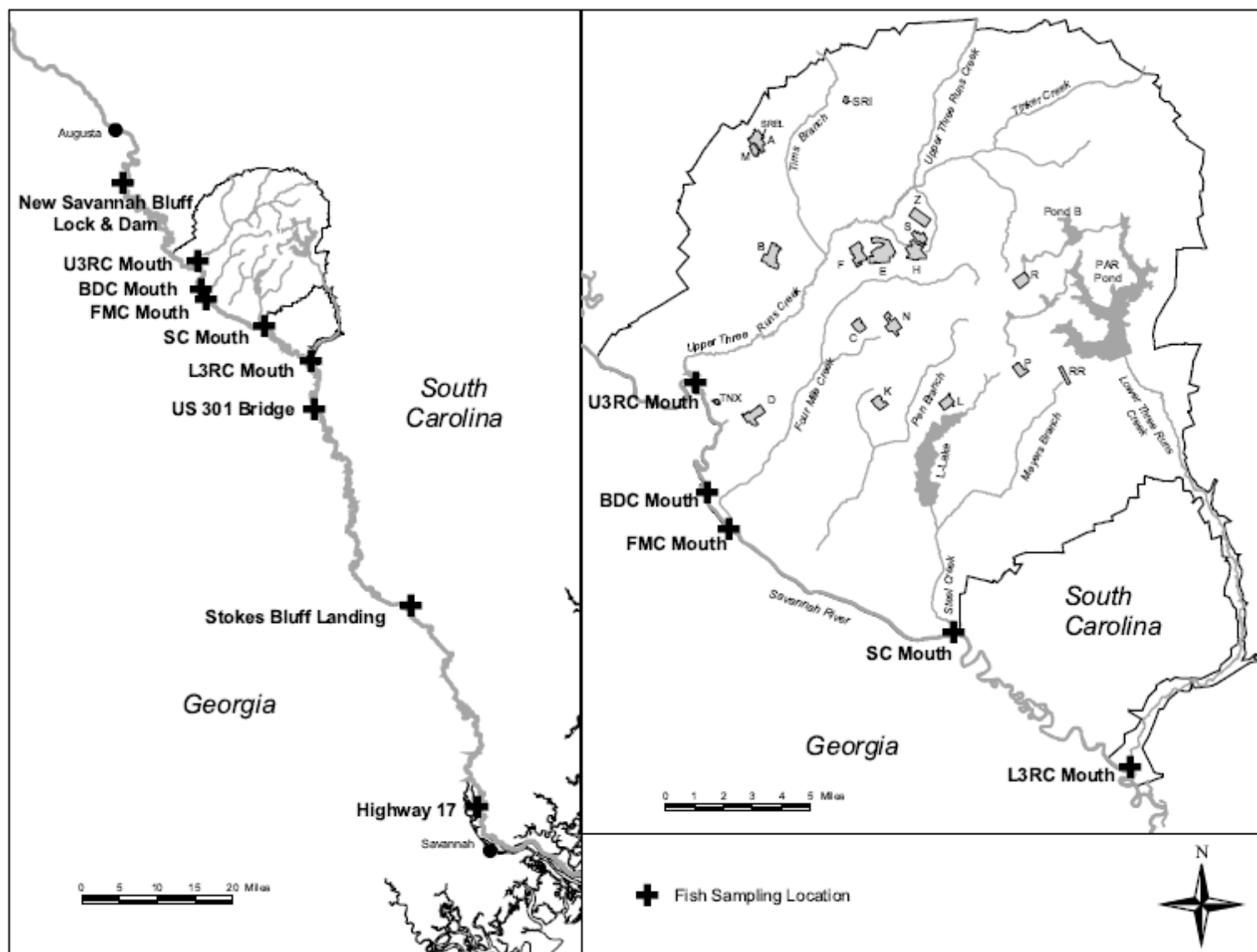
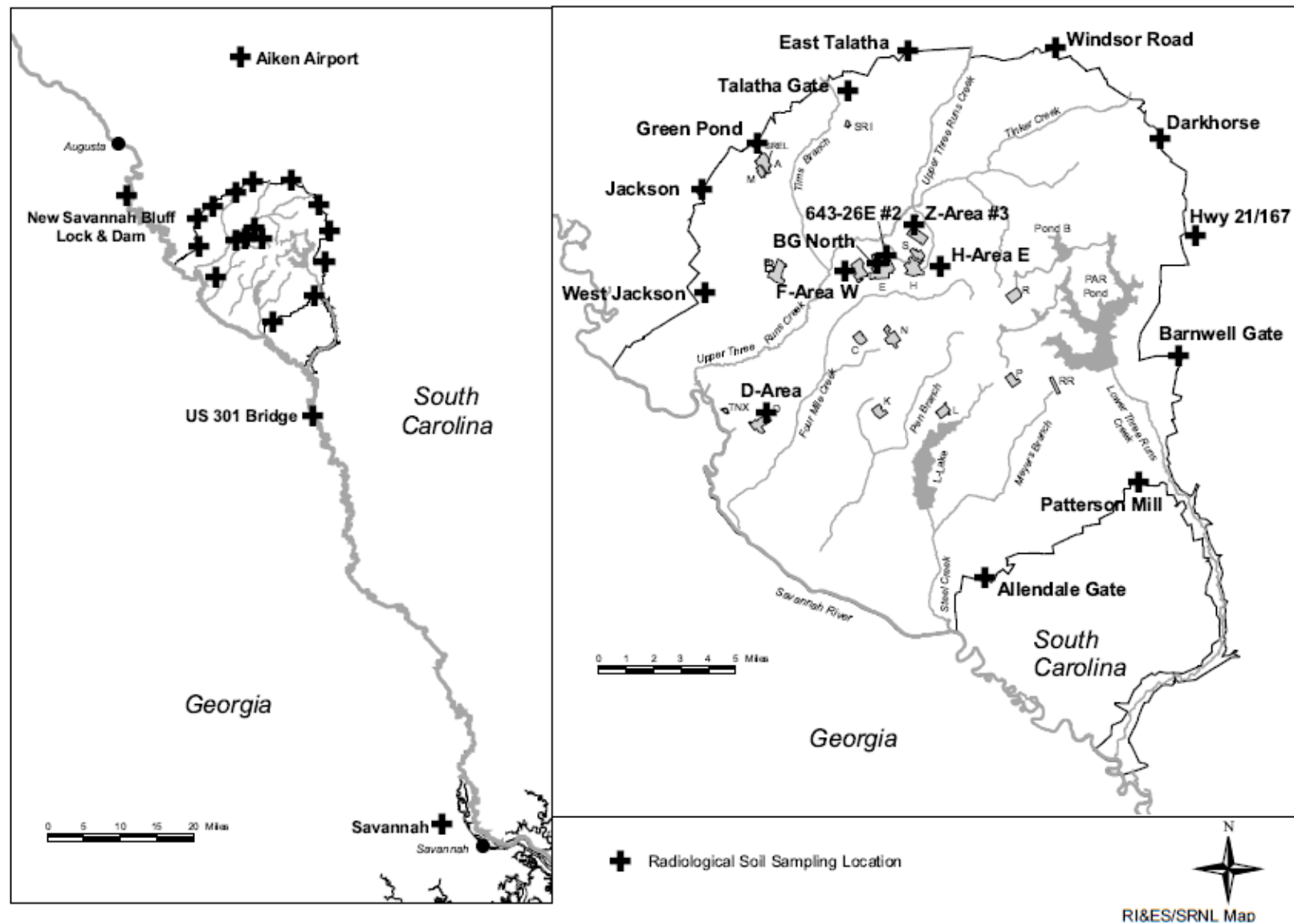


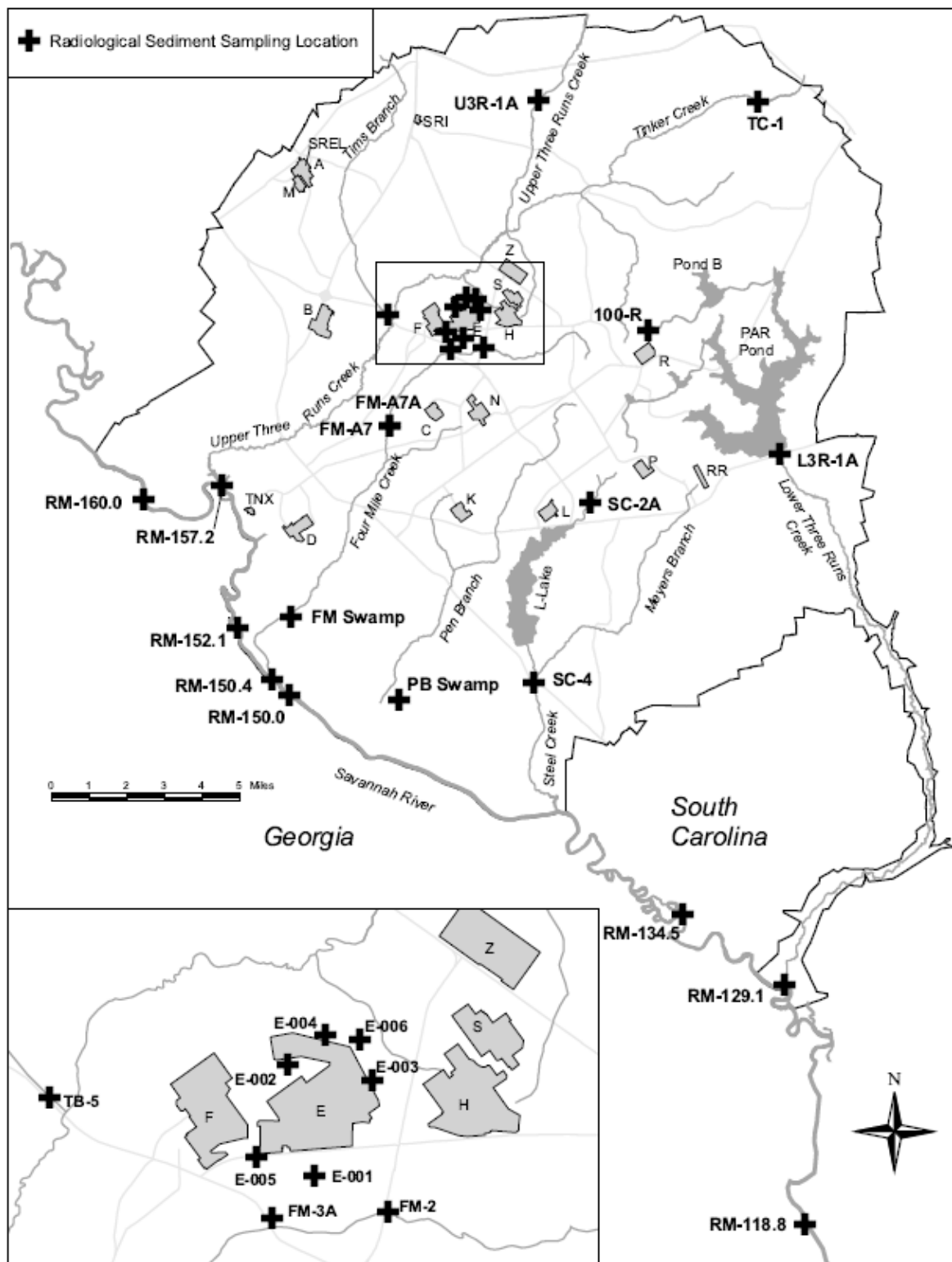
Figure 7. Fish Sampling Locations

SRS collects fish (for both radiological and nonradiological analyses) from the Savannah River above, adjacent to, and below the site, as well as at Stokes Bluff Landing and near Savannah, GA.



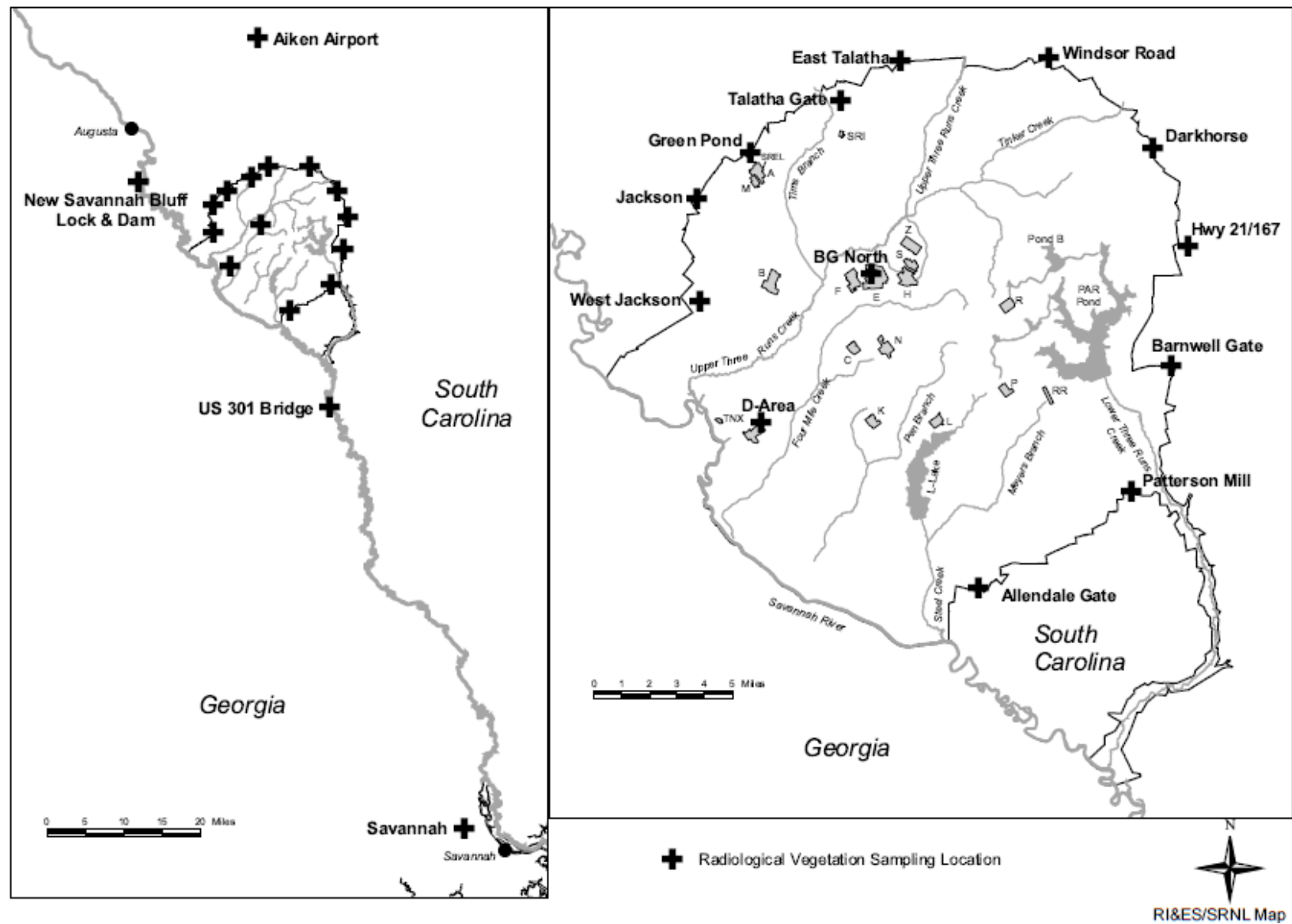
**Figure 8. Radiological Soil Sampling Locations**

SRS collected soil samples in 2011 from five onsite locations, 12 site perimeter locations, and four offsite locations.



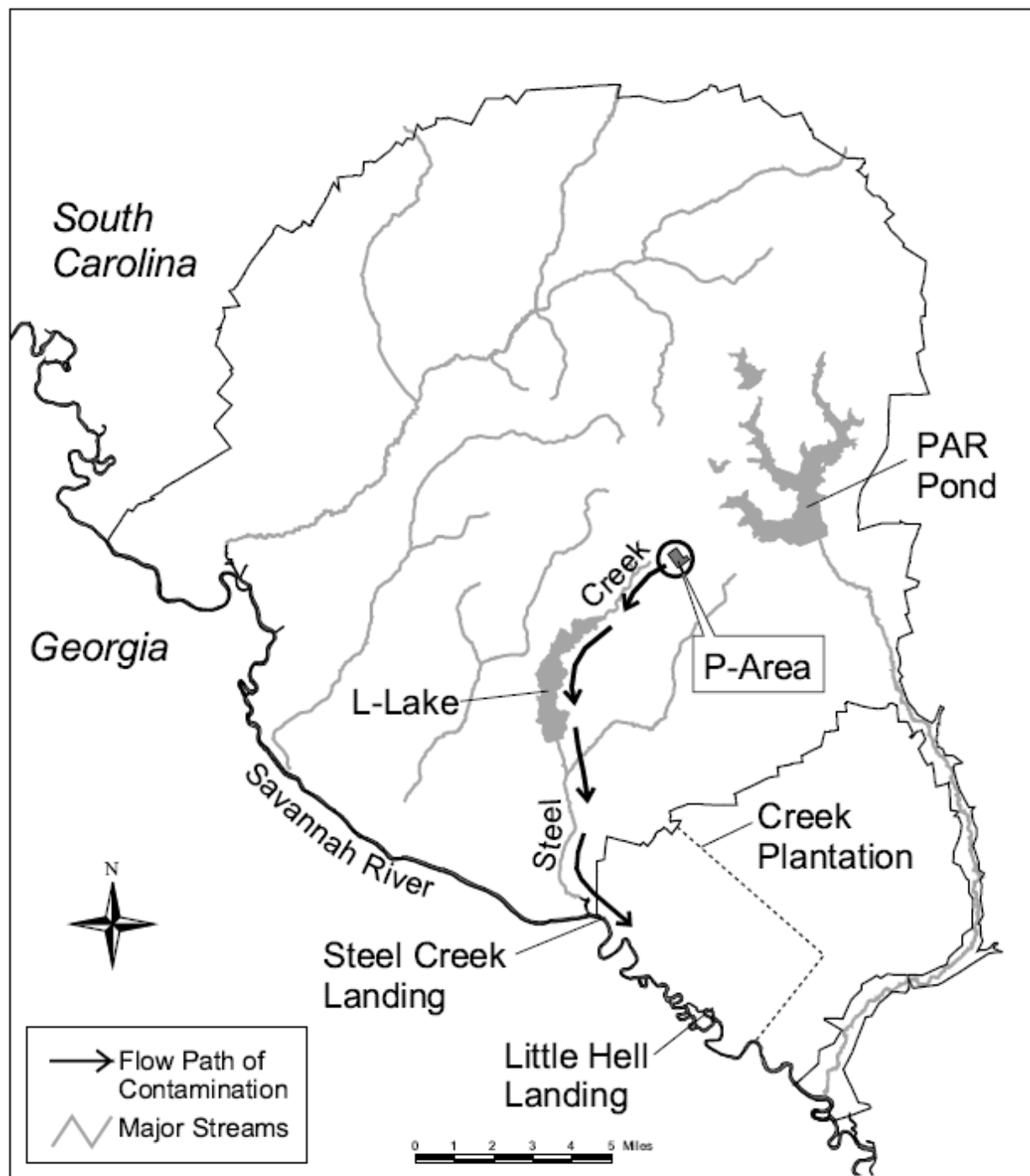
**Figure 9. Radiological Sediment Sampling Locations**

Sediment samples were collected in 2011 at eight Savannah River locations—upriver of, adjacent to, and downriver of the site—and 19 onsite locations.



**Figure 10. Radiological Vegetation Sampling Locations**

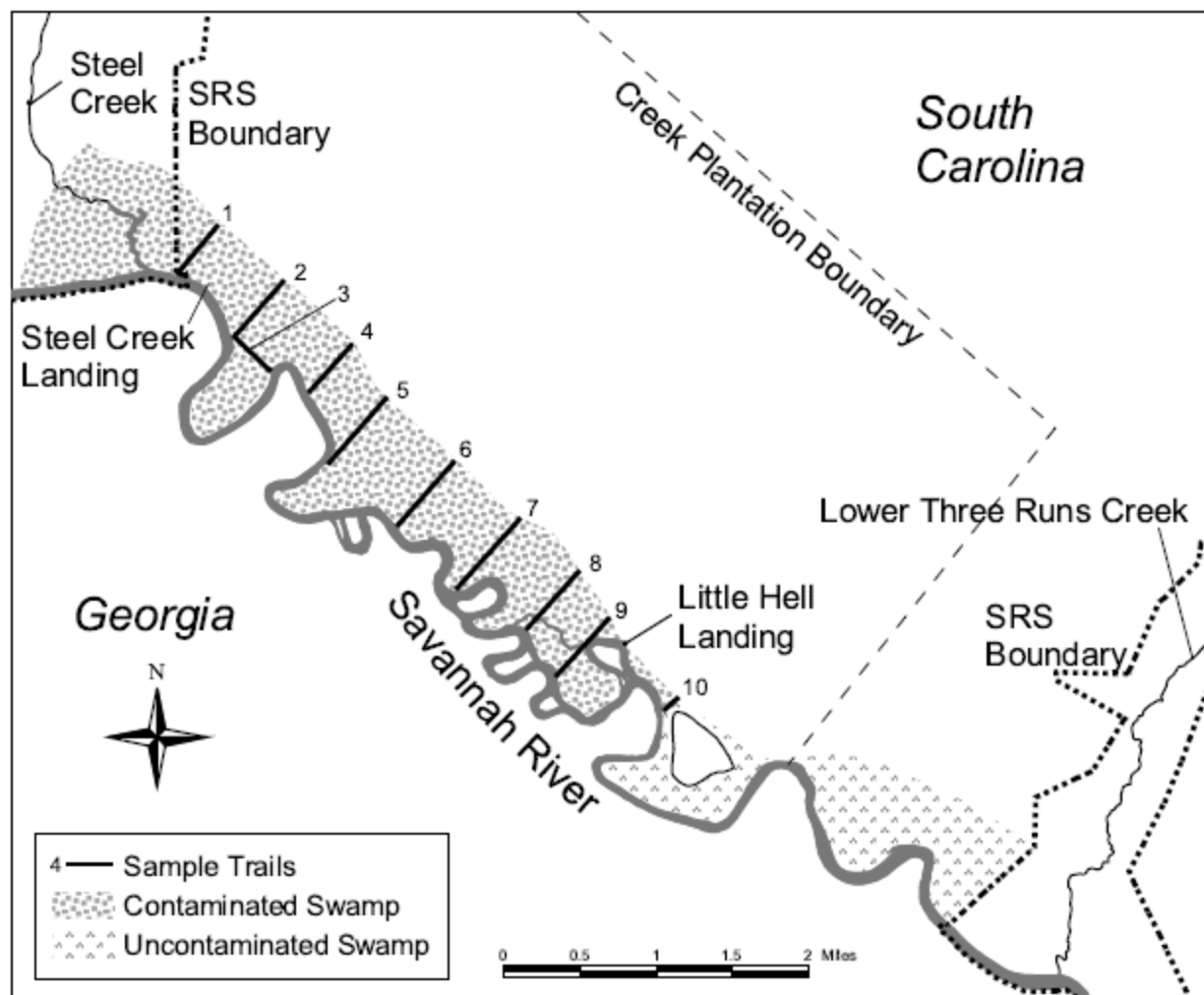
Vegetation samples were collected for radiological analysis in 2011 from 13 locations on site or along the site perimeter, and from four offsite locations.



SRNL Map

**Figure 11. Swamp Contamination**

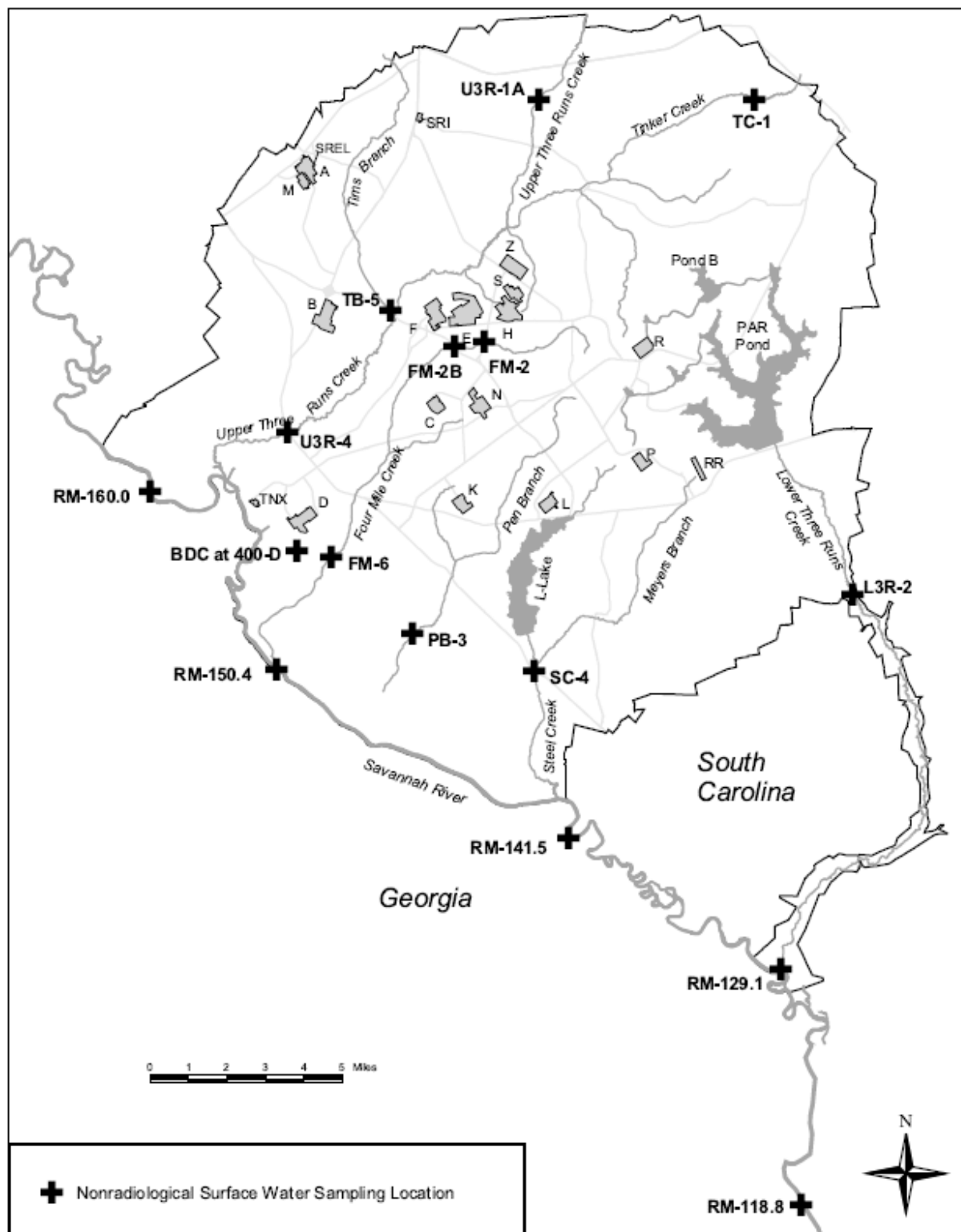
Radioactivity released from SRS operations contaminated the Savannah River Swamp between Steel Creek and Little Hell Landing—an area outside the SRS boundary – during the 1960s. Approximately 25 curies of cesium-137 and 1 curies of cobalt-60 were released from the P-Area storage basin to Steel Creek – L-Lake did not exist at the time of the release—and migrated downstream to a part of the swamp.



SRNL Map

**Figure 12. Savannah River Swamp Trails**

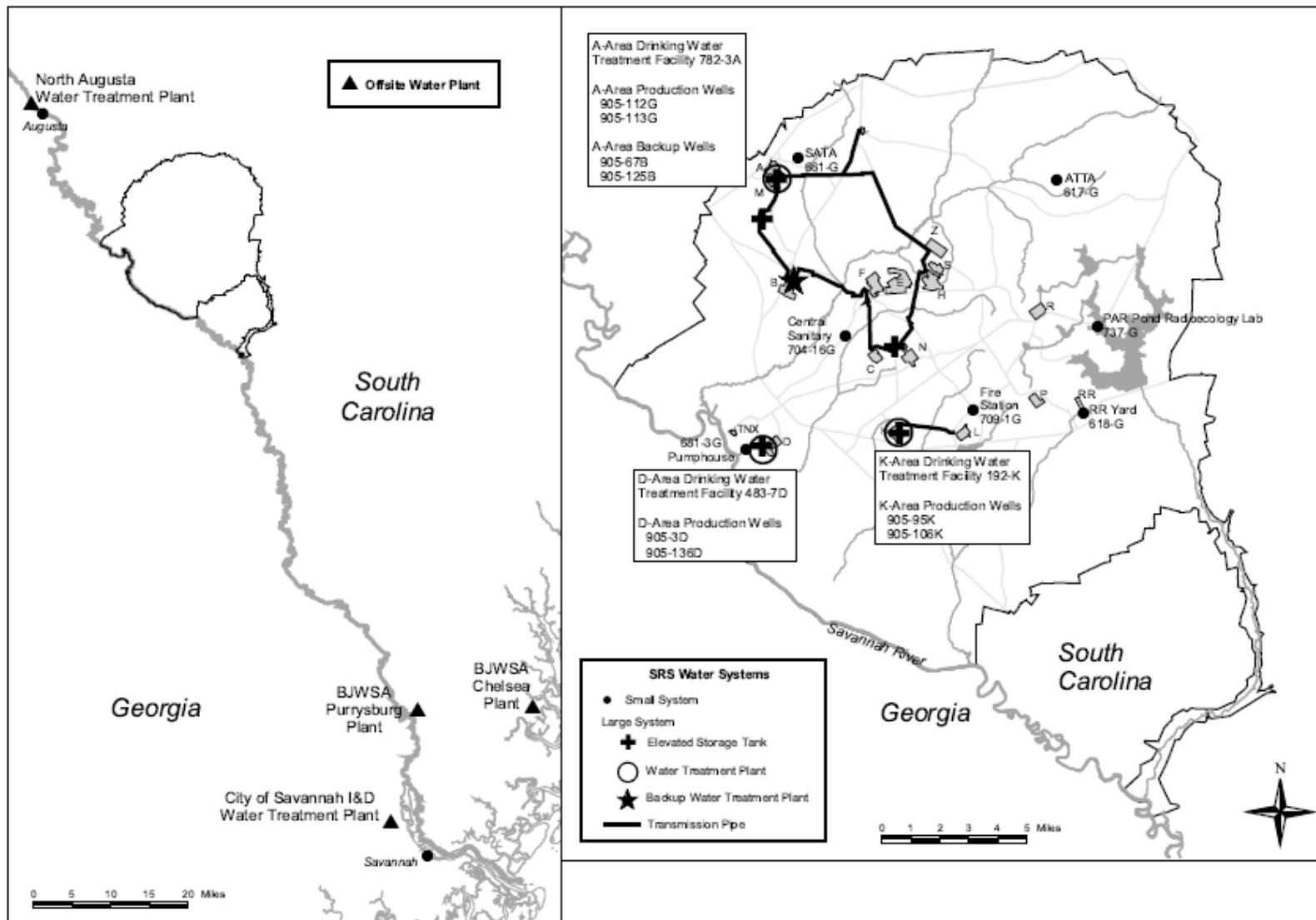
Ten sampling trails were established in the Savannah River Swamp in 1974 so that surveys could be conducted on the movement of contamination from SRS operations.



**Figure 13. Nonradiological Surface Water Sampling Locations**

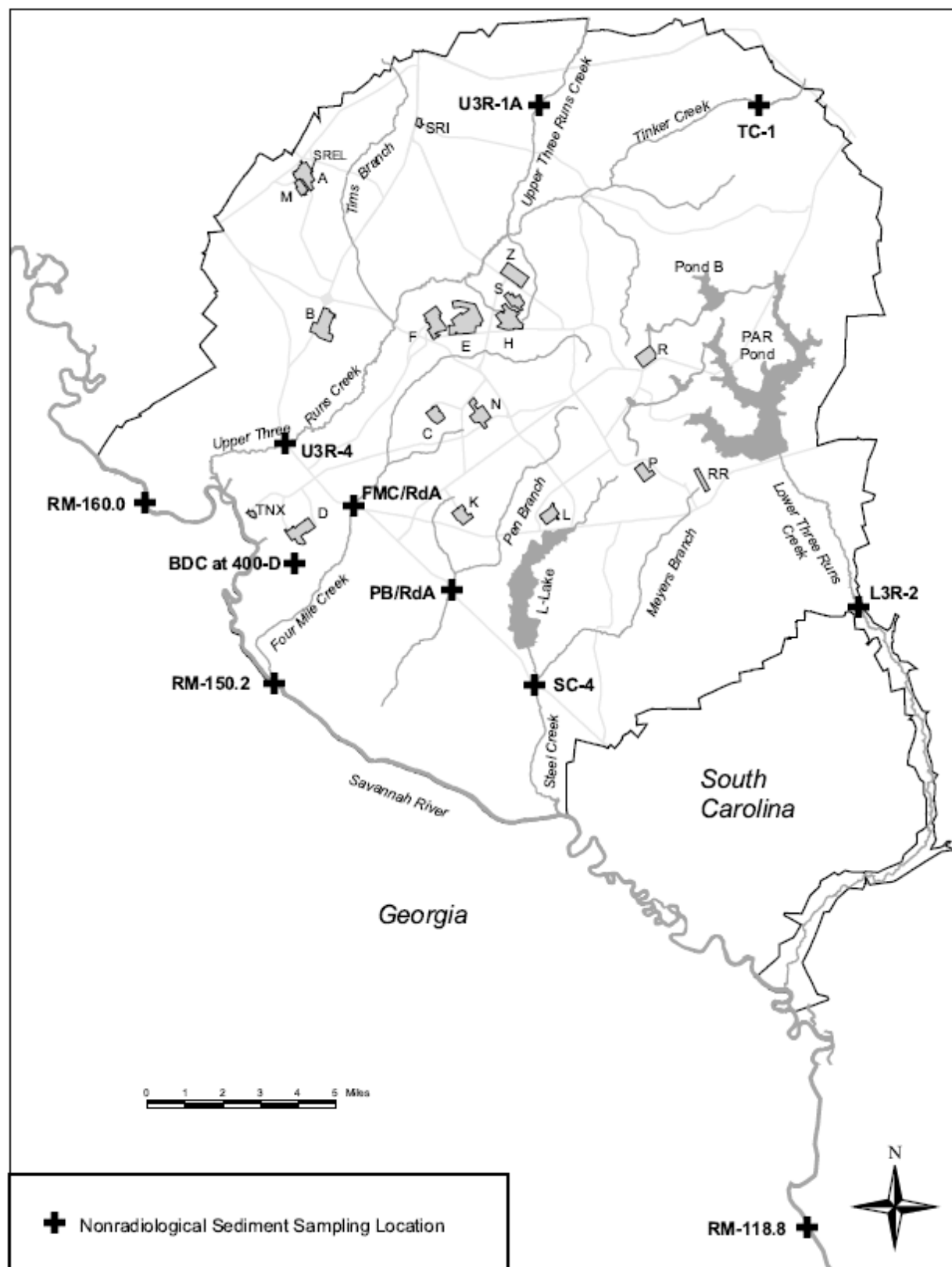
Surface water samples are collected from five Savannah River and 11 SRS stream locations and are analyzed for various chemical and physical properties.





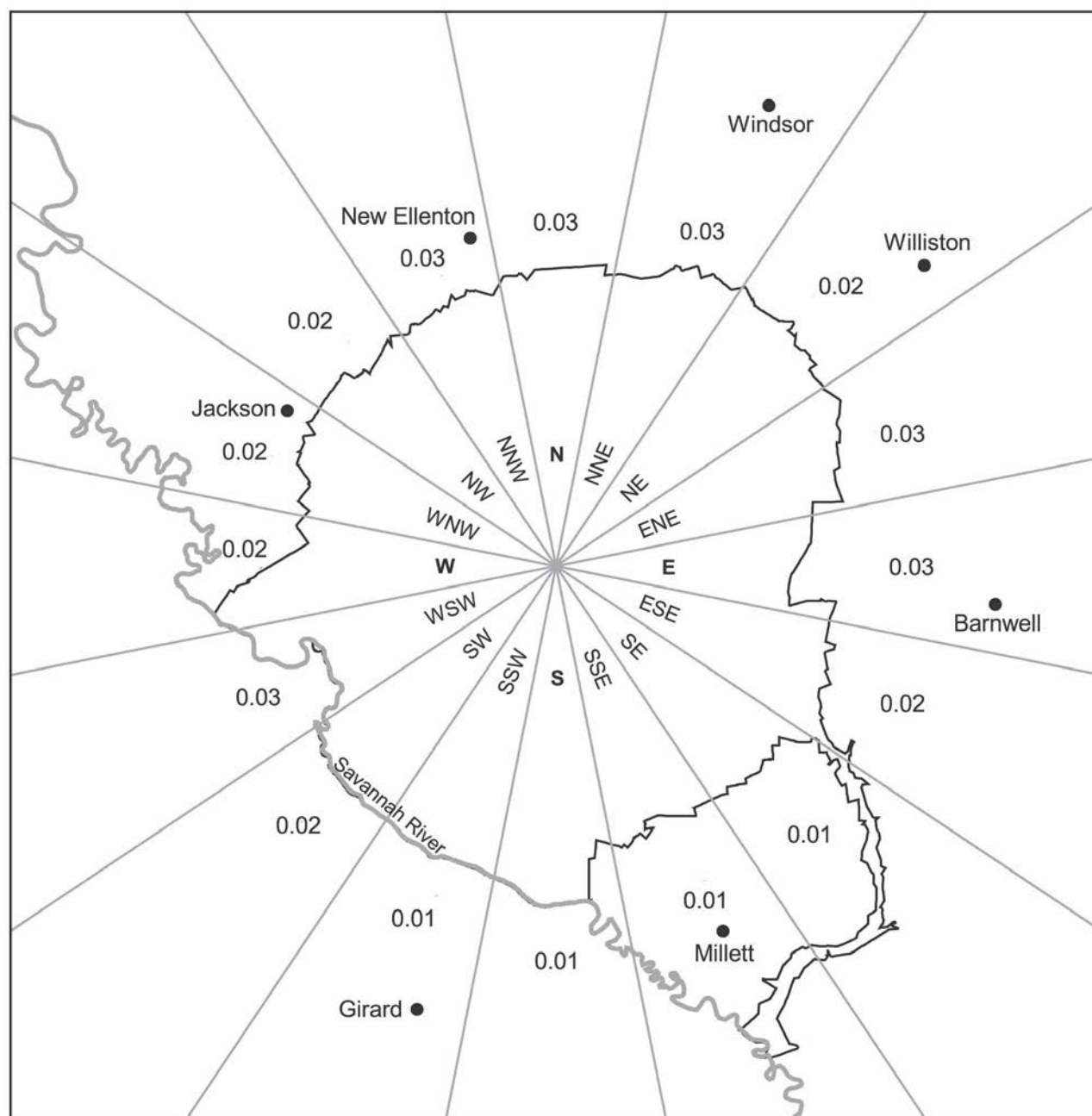
**Figure 14. Domestic Water Systems**

Most of the drinking water at SRS is supplied by three "large" systems, which require regulatory oversight and thus are sampled on a regular basis. The site also has 14 "small" domestic water facilities, which serve populations of fewer than 25 persons, but only seven of the smaller systems (as shown on the map) require regulatory oversight and must be sampled. The three larger systems have transmission pipes, elevated storage tanks, water treatment plants, and a backup water treatment plant.

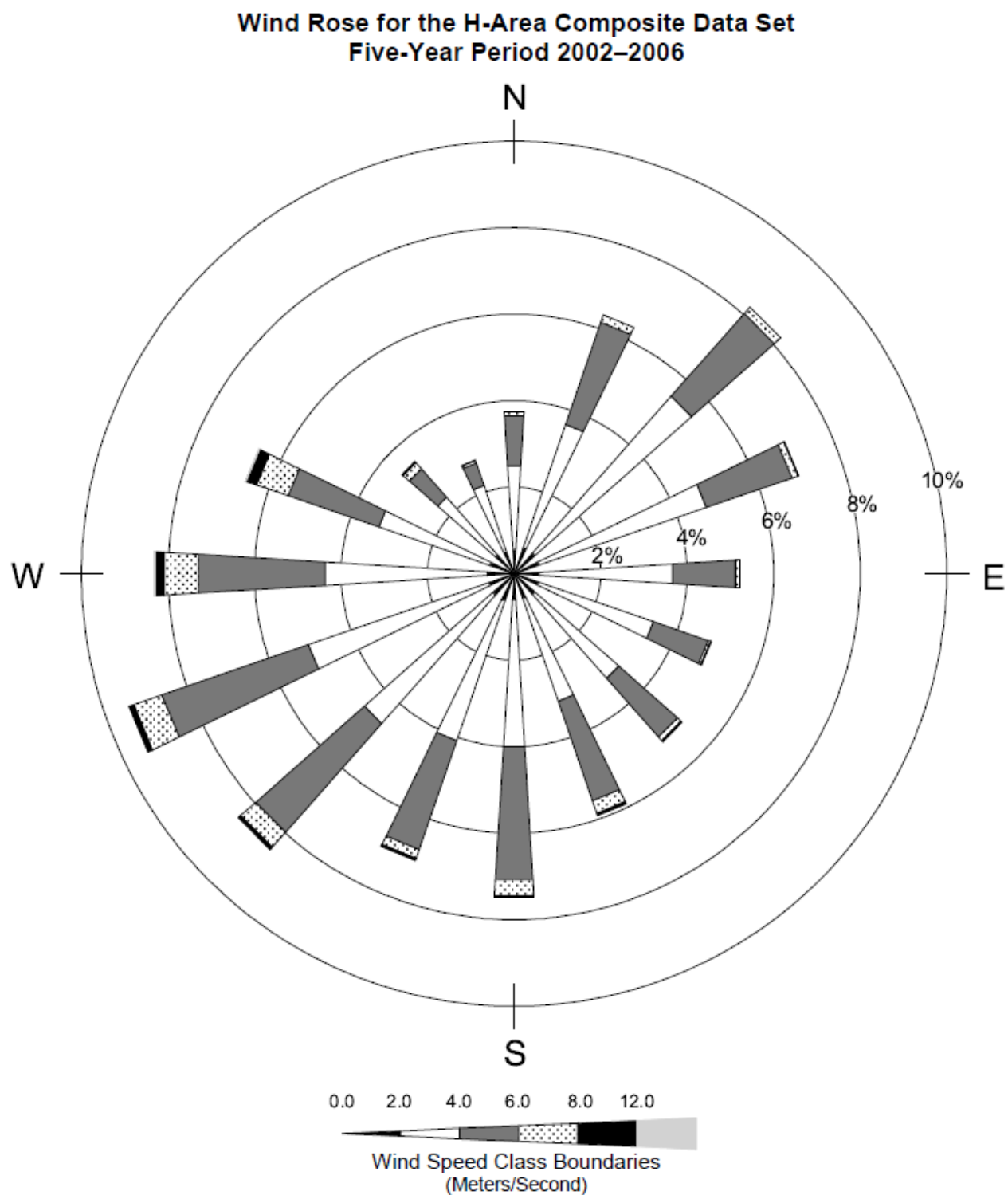


**Figure 15. Nonradiological Sediment Sampling Locations**

Sediment samples are collected at eight onsite stream locations and three Savannah River locations. The samples are analyzed for various inorganic contaminants (metals) and pesticides/herbicides.



**Figure 16. Sector-Specific Adult Maximally Exposed Individual Air Pathway Doses (in mrem) for 2011**  
 Maximally exposed individual (MEI) site boundary doses from airborne releases are shown for each of the 16 major compass point directions surrounding SRS. In 2011, the due north sector had the highest MEI dose (0.05 mrem).



SRNL Graphic

**Figure 17. Wind Rose for SRS, 2002-2006**

This wind rose graphically depicts the percent of occurrence frequencies of six wind speed categories by 16 cardinal wind direction sectors at SRS. The wind speed categories are defined on the plot; direction is defined as the sector *from* which the wind blows. The data used to generate the wind rose consist of hourly averages of wind speed and direction at the H-Area meteorological tower for the 5-year period 2002–2006; measurements were taken 200 ft. above the ground.

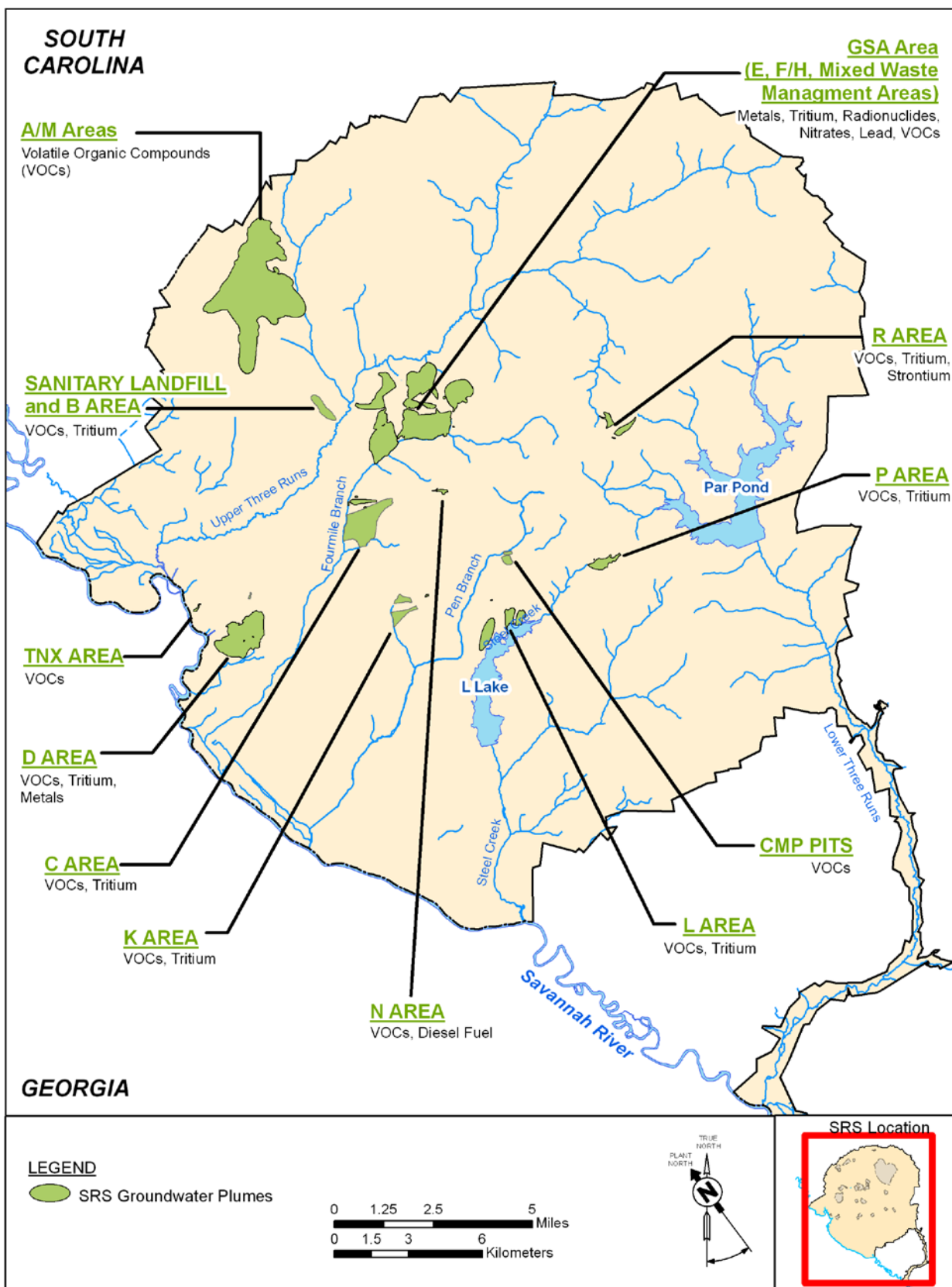
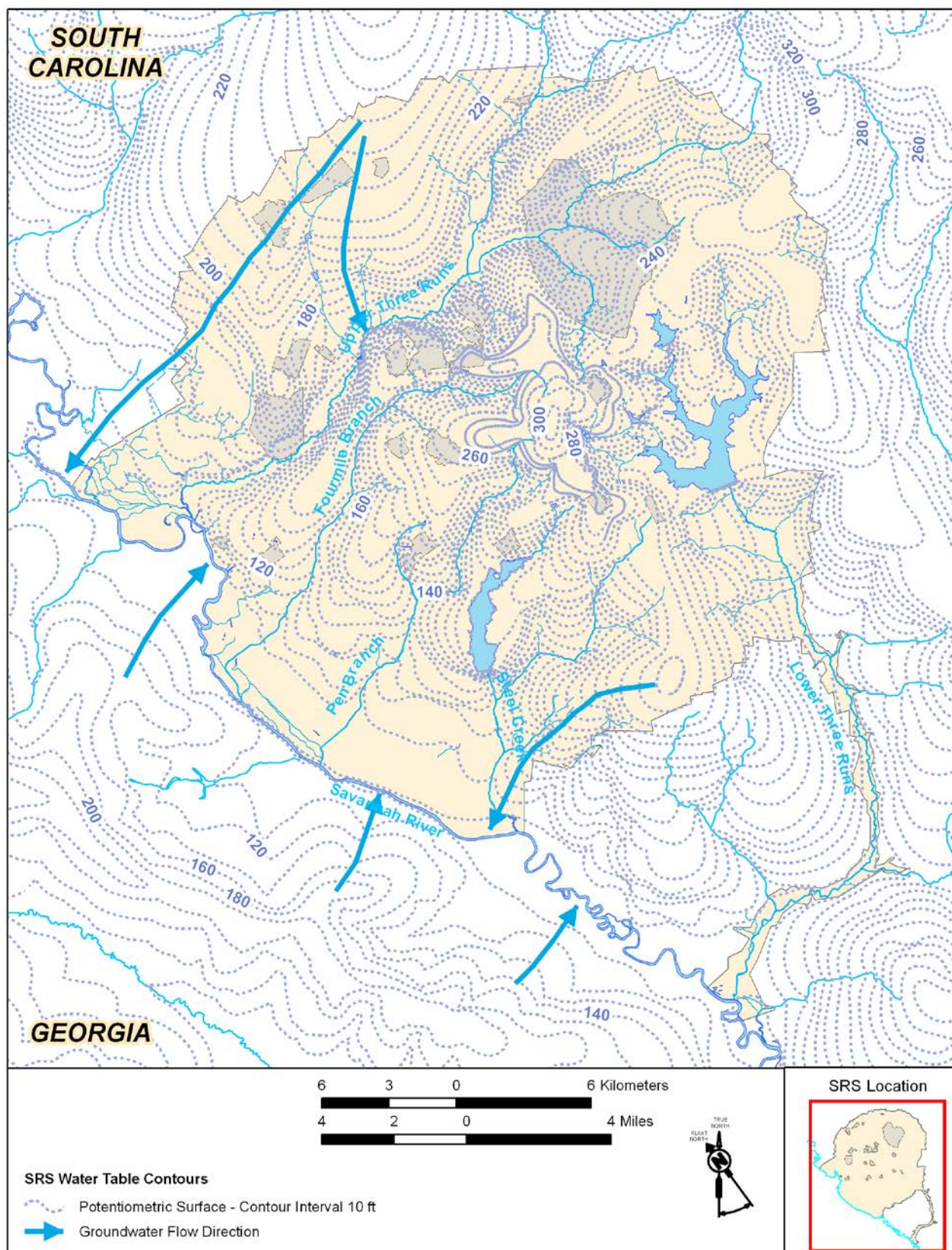


Figure 18. Facilities Monitored by the SRS Monitoring Well Network





**Figure 19. Water Table Contours at SRS**

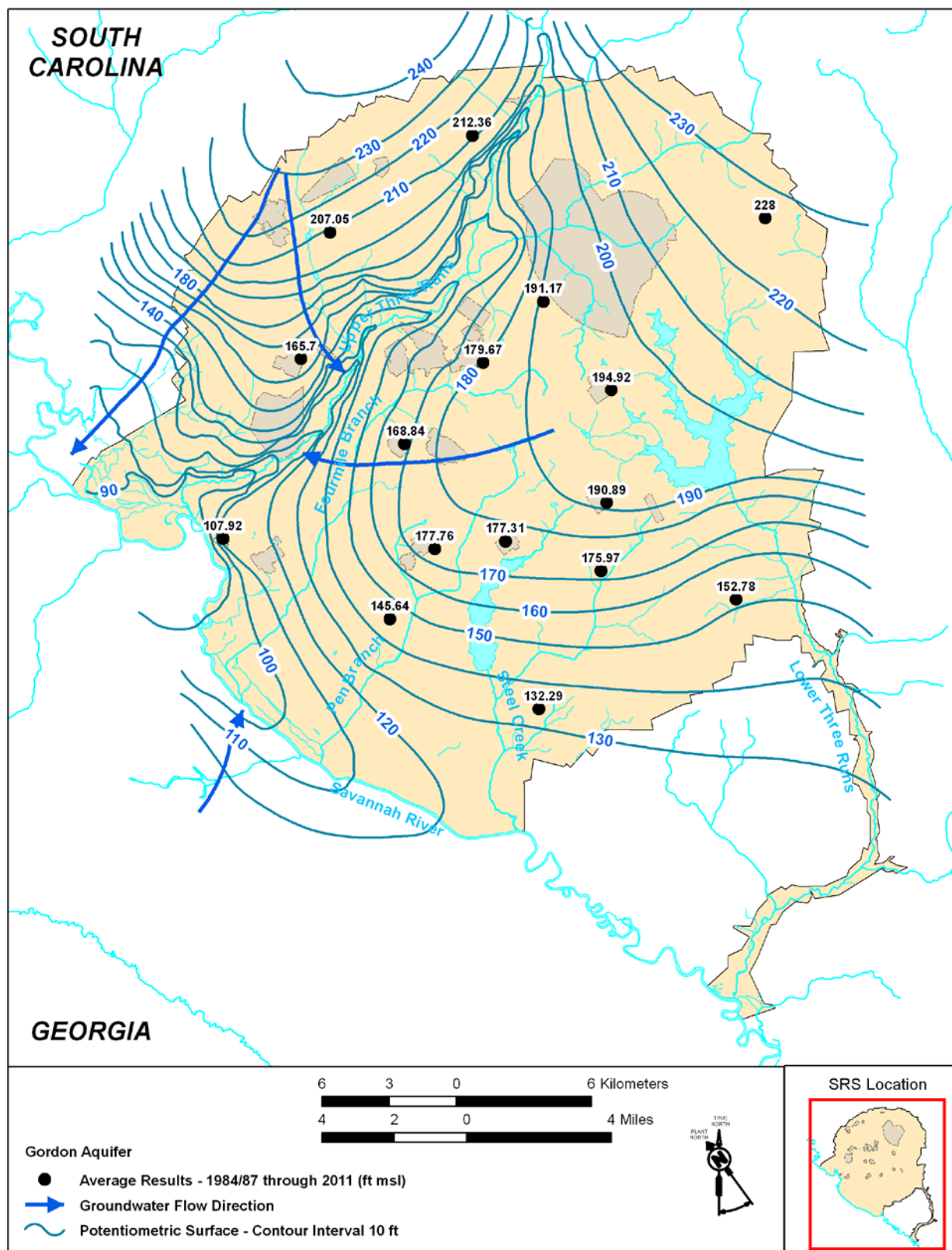


Figure 20. Potentiometric Surface of the Gordon Aquifer at SRS



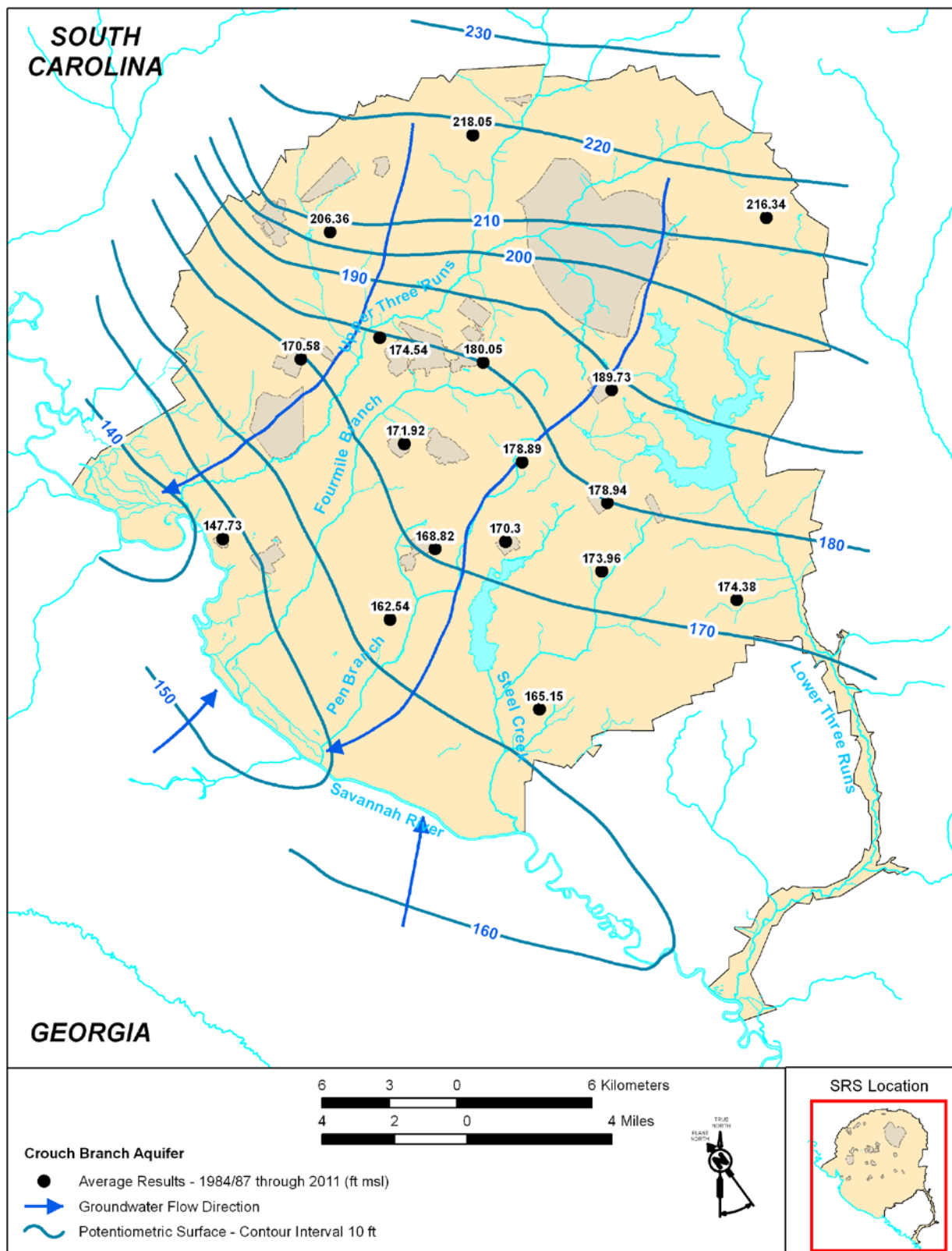


Figure 21. Potentiometric Surface of the Crouch Branch Aquifer at SRS

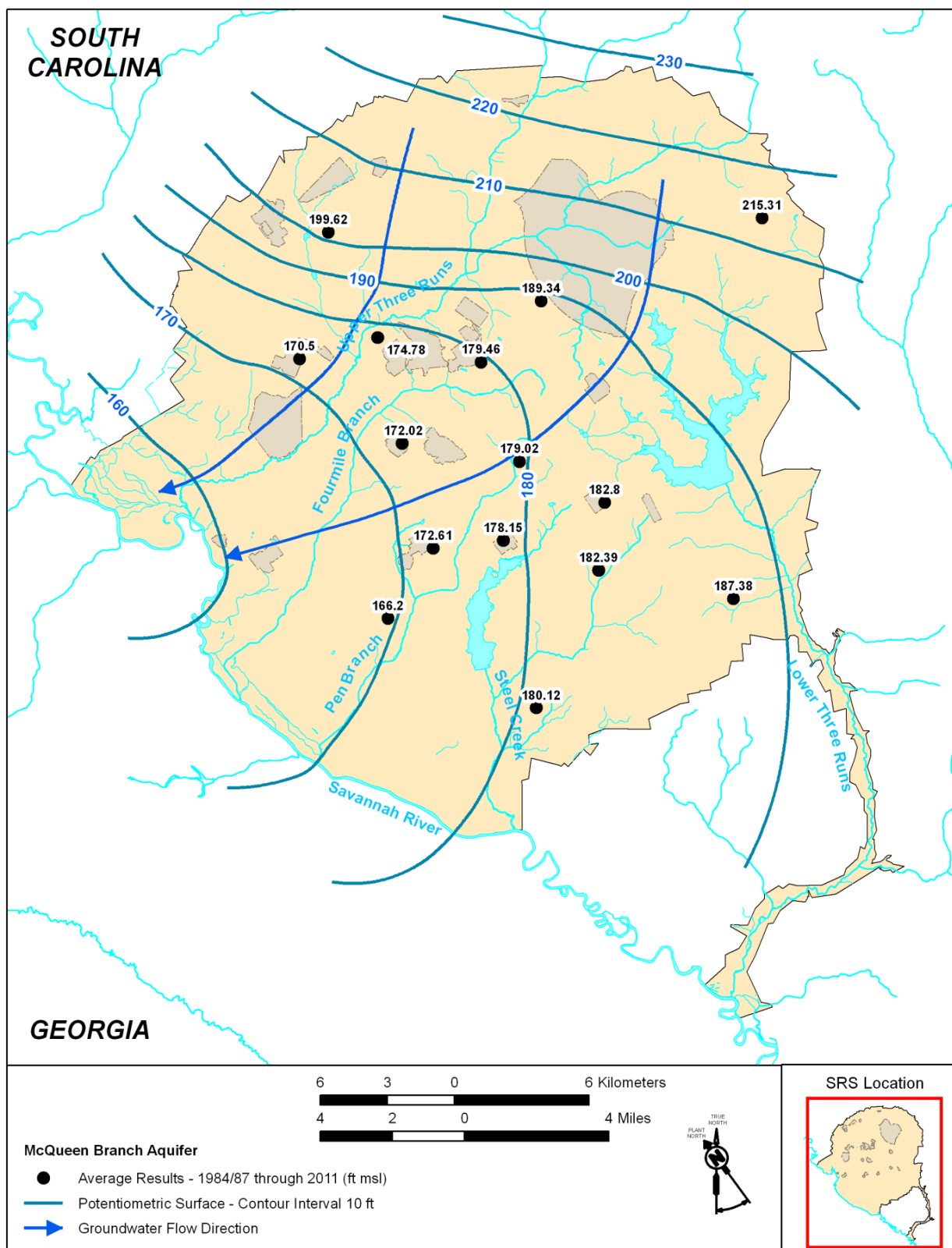
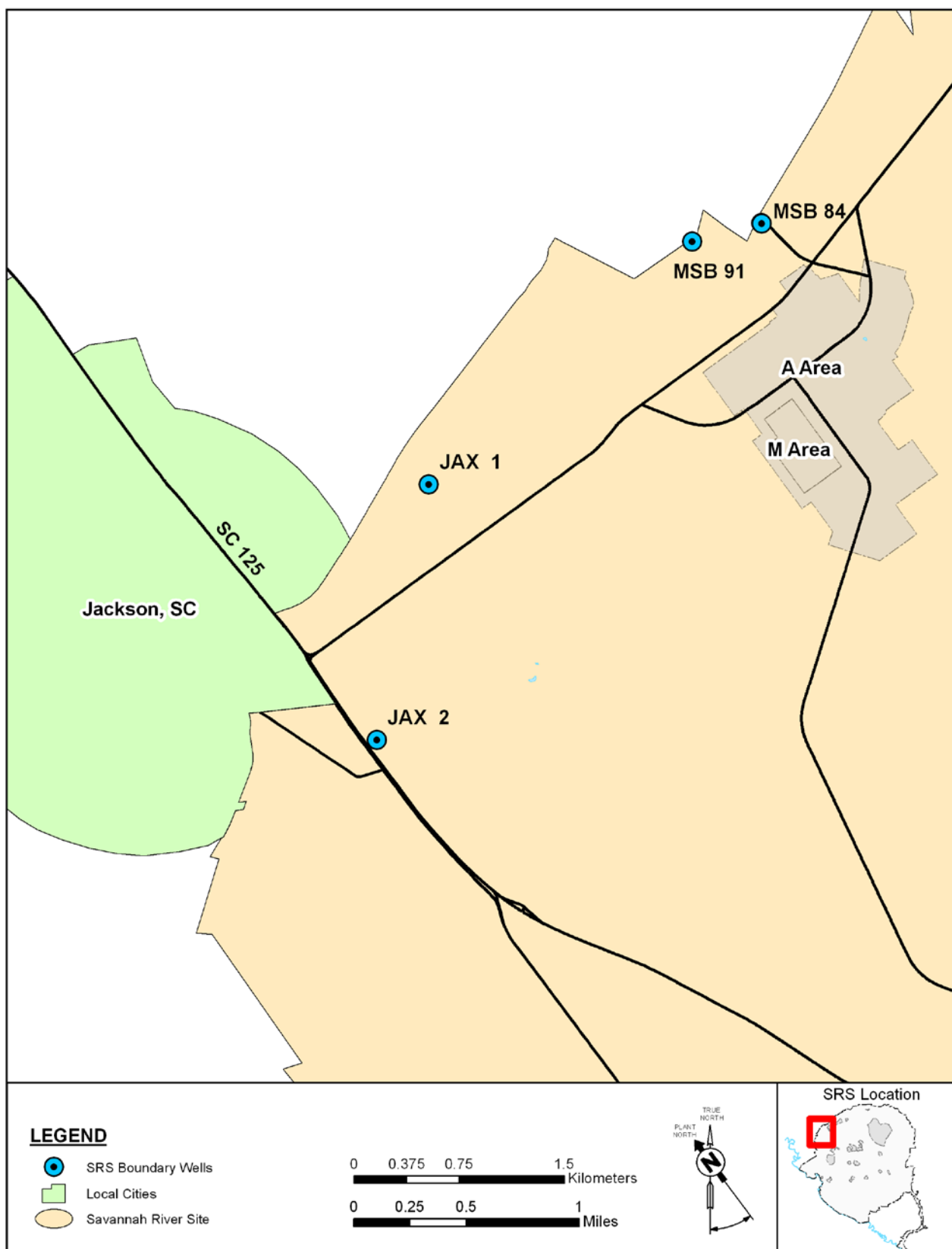


Figure 22. Potentiometric Surface of the McQueen Branch Aquifer at SRS



**Figure 23. Wells along Site Boundary between A/M Areas and Jackson, SC (Nearest Population Center)**

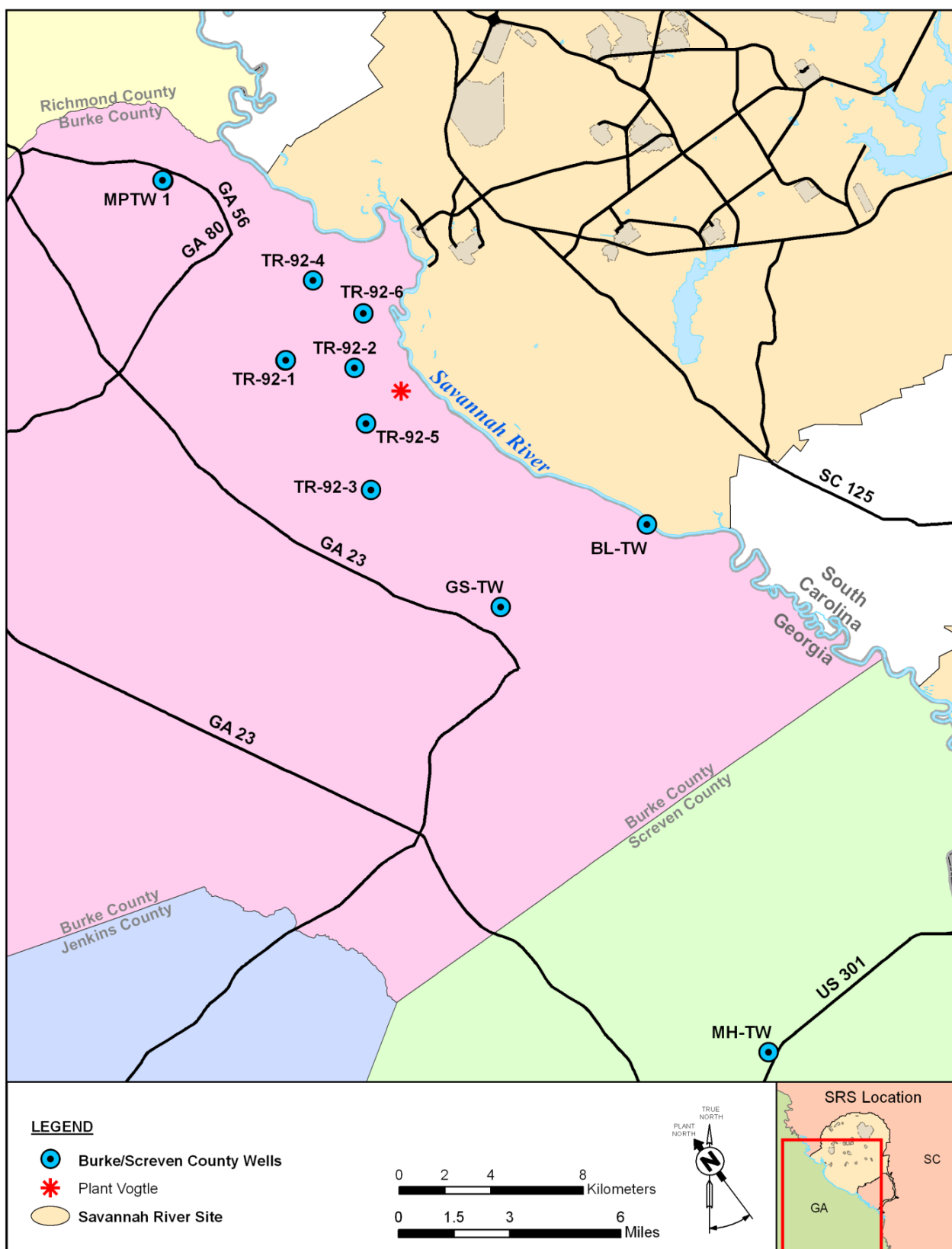


Figure 24. Burke/Screven County, GA Well Locations

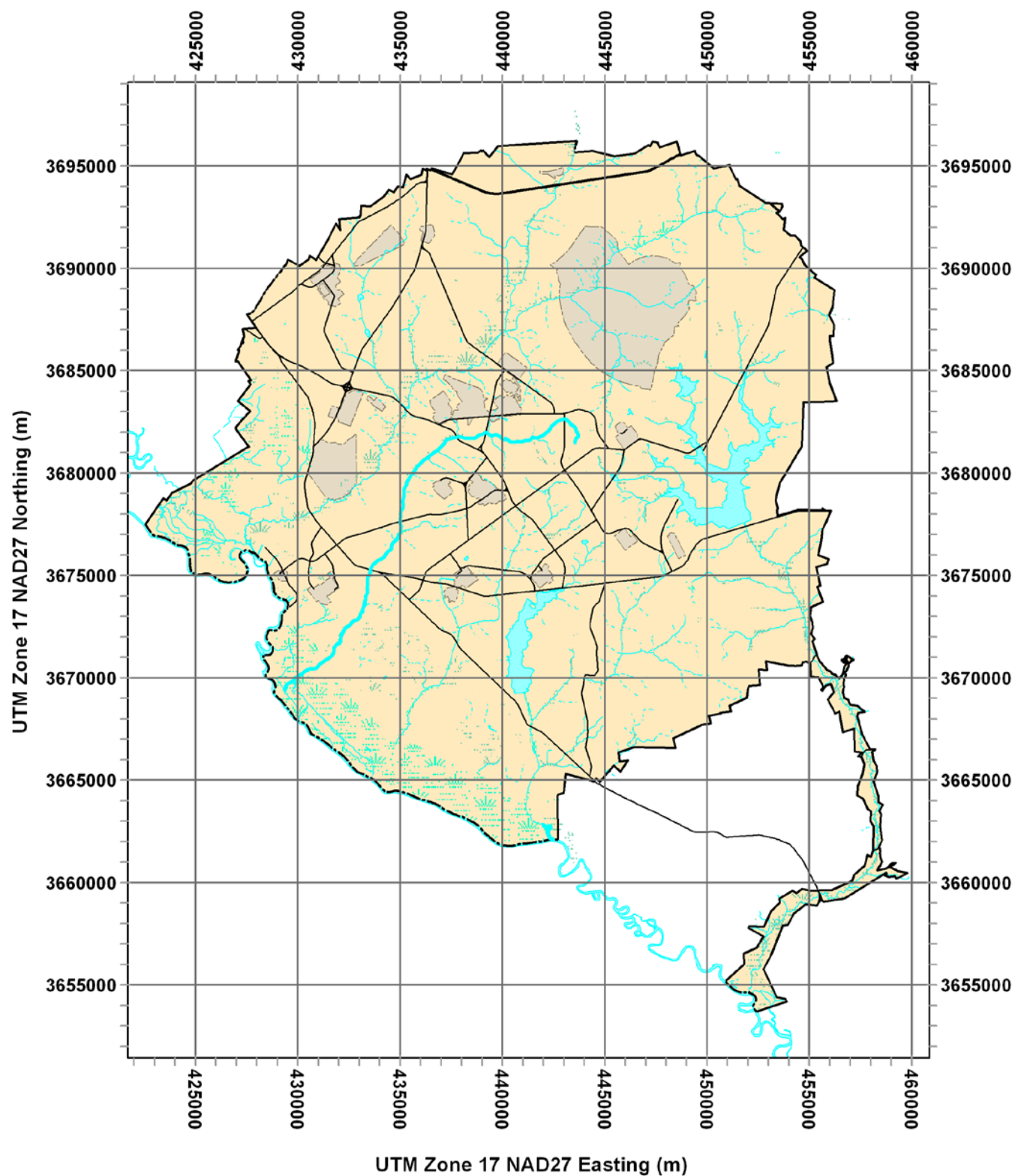
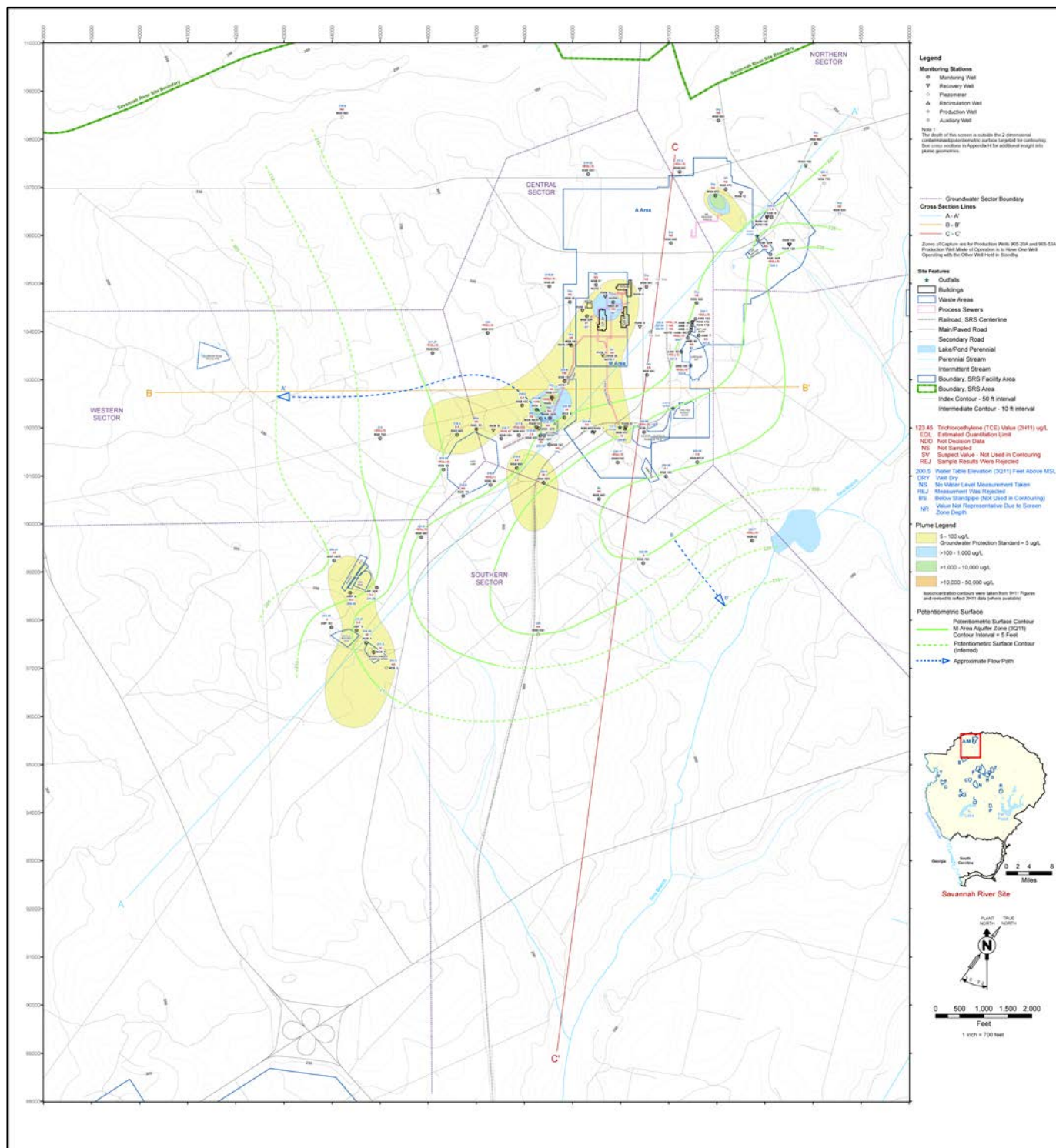
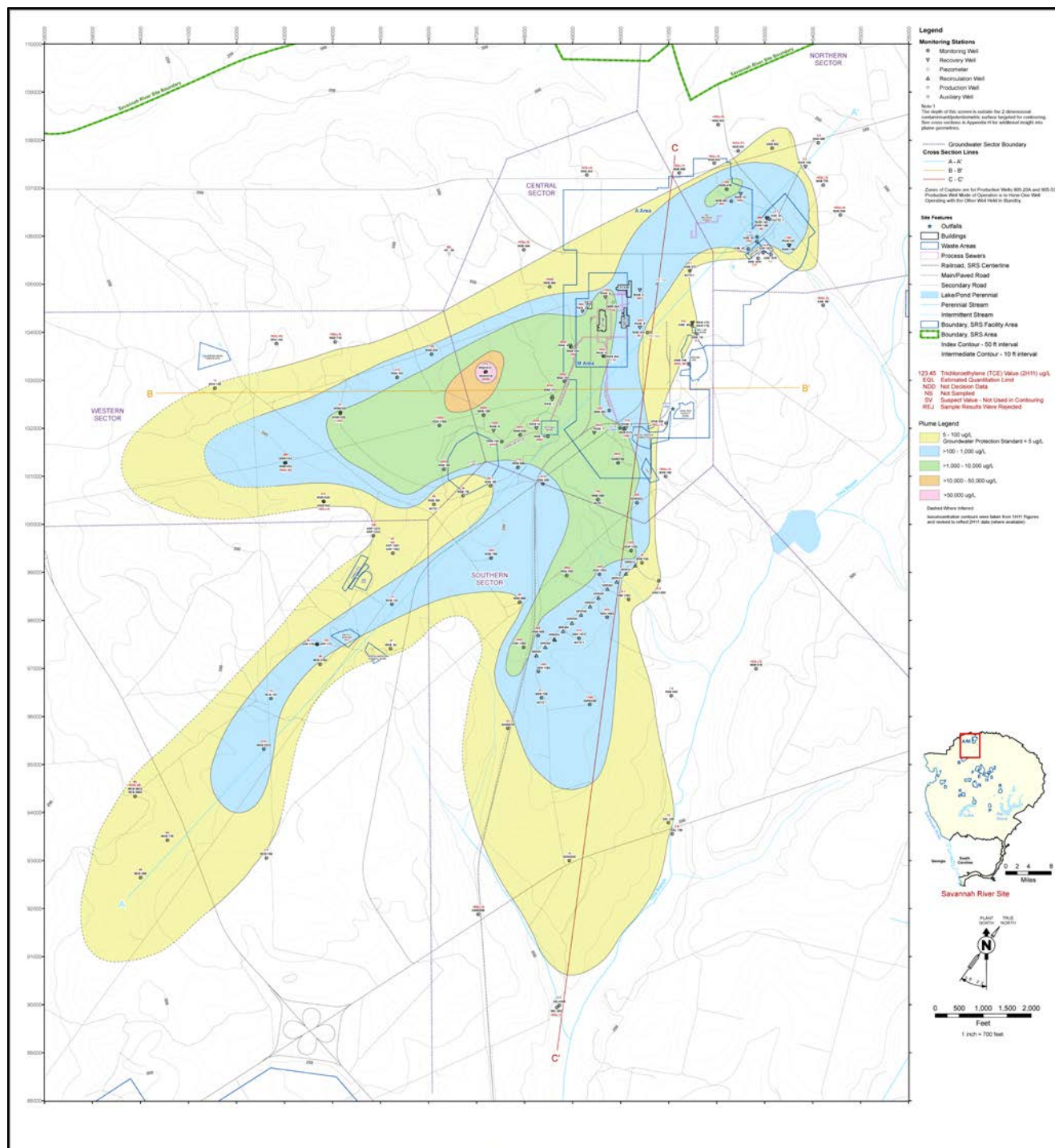


Figure 25. Reference Map Showing Universal Transverse Mercator (UTM) Coordinates



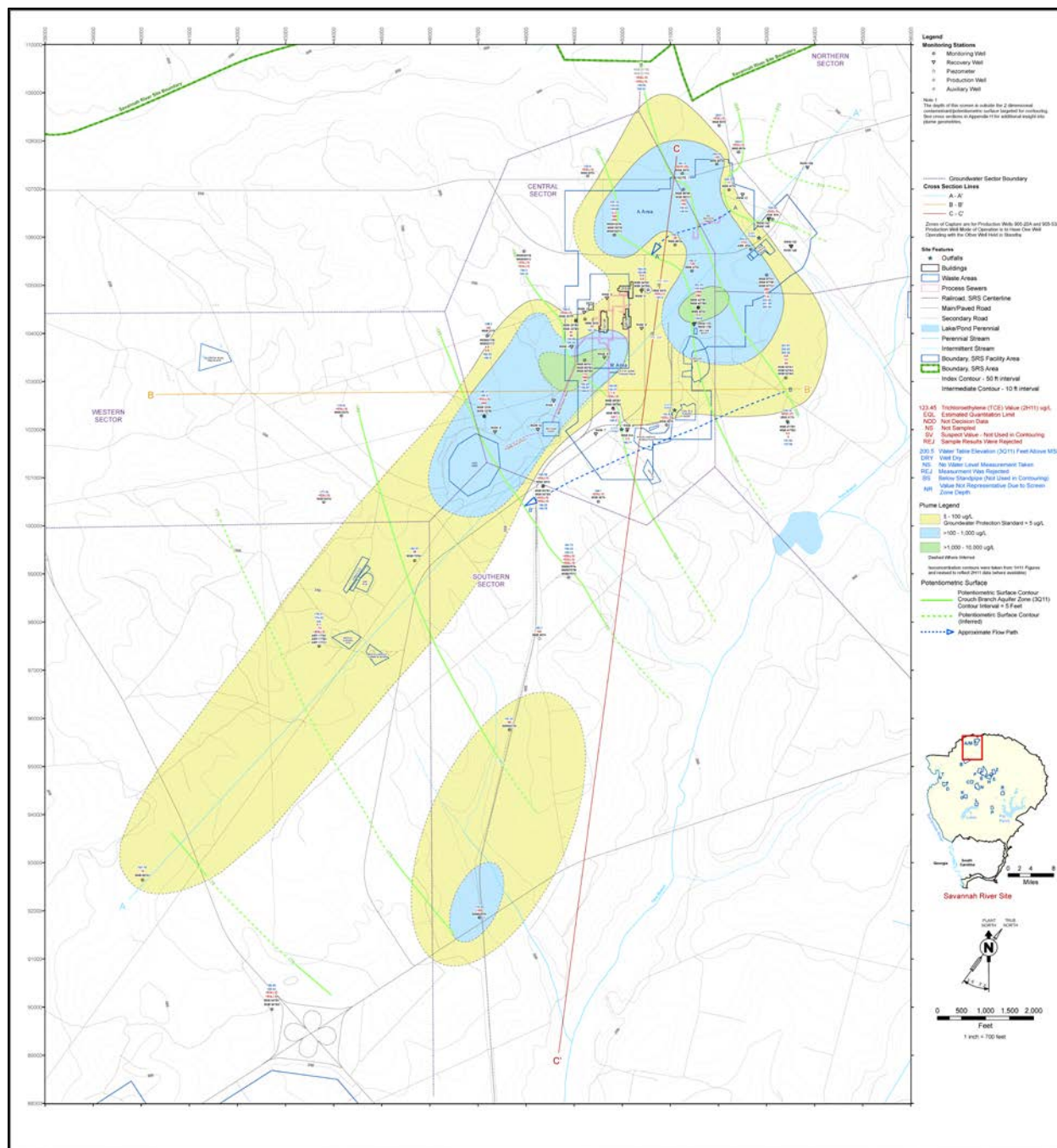


**Figure 26. TCE Isoconcentration and Potentiometric Surface Map of the M-Area Aquifer Zone at the M-Area and Met Lab HWMFs, Second Half 2011**



**Figure 27. TCE Isoconcentration Contour Map of the Composite Lost Lake Aquifer Zone at the M-Area and Met Lab HWMFs, Second Half 2011**





**Figure 28. TCE Isoconcentration and Potentiometric Surface Map of the Crouch Branch Confining Unit at the M-Area and Met Lab HWMFs, Second Half 2011**







