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Southern Wood Piedmont Gulf

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**Southern Wood Piedmont Company**

January 11, 2007

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Mr. Keith Snavely
Hydrogeologist
North Carolina Department of Environment and Natural Resources
Inactive Hazardous Sites Branch
Superfund Section
401 Oberlin Road – Suite 150
Raleigh, NC 27605

Re: SWP – Gulf (NCD 053 488 557)
AOC Docket #02-SF-203
Screening Level Ecological Risk Assessment

Dear Mr. Snavely:

Enclosed are two copies of a Screening-Level Ecological Risk Assessment of the Drainage Ditch and Cedar Creek Near the Southern Wood Piedmont Facility in Gulf, North Carolina. This document follows the Work Plan Memorandum for the Preparation of Human Health and Ecological Risk Assessment at the Former SWP Facility in Gulf, NC dated February 9, 2006 and comments in my May 5, 2006 response to NCDENR's April 19, 2006 work plan comments.

Please contact me at 864-599-1070, extension 103 if you have questions or comments.

Sincerely,

William P. Arrants
General Manager

Enclosures

cc: J. H. Samuelian, AMEC
G. D. Kuntz, Schnabel

amec

STATE FILE

# SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT OF THE DRAINAGE DITCH AND CEDAR CREEK NEAR THE SOUTHERN WOOD PIEDMONT FACILITY IN GULF, NORTH CAROLINA

Submitted to:

**Southern Wood Piedmont Company**
591 Springfield Road
Spartanburg, South Carolina 29303

Submitted by:

AMEC Earth & Environmental
Portland, Maine 04101

11 January 2007

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## LIST OF ACRONYMS

| | |
|---|---|
| ADD | Average Daily Dose |
| BERA | Baseline Ecological Risk Assessment |
| BGS | Below Ground Surface |
| COPEC | Chemical of Potential Ecological Concern |
| CSM | Conceptual Site Model |
| ERA | Ecological Risk Assessment |
| ERAGS | Ecological Risk Assessment Guidance for Superfund |
| ESI | Environmental Site Inspection |
| HpCDD | Heptachlorodibenzo-p-dioxin Congeners |
| HQ | Hazard Quotient |
| $HQ_{screen}$ | Screening Hazard Quotient |
| MS/MSD | Matrix Spike/Matrix Spike Duplicate |
| NCDENR | North Carolina Department of Environment and Natural Resources |
| OCDD | Octachlorodibenzo-p-dioxin |
| PAHs | Polycyclic Aromatic Hydrocarbons |
| PCDD/Fs | Polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans |
| QC | Quality Control |
| RBP | Rapid Bioassessment Protocol |
| RME | Reasonable Maximum Exposure |
| SLERA | Screening-Level Ecological Risk Assessment |
| SMDP | Scientific/Management Decision Point |
| SVOCs | Semi-Volatile Organic Compounds |
| SWP | Southern Wood Piedmont |
| TCLP | Toxic Characteristic Leaching Procedure |
| TEF | Toxic Equivalency Factor |
| TEQ | Toxic Equivalents Quotient |
| TOC | Total Organic Carbon |
| TRVs | Toxicity Reference Values |
| USEPA | US Environmental Protection Agency |
| USF&WS | US Fish and Wildlife Service |
| USGS | US Geological Survey |
| VOCs | Volatile Organic Compounds |
| WPM | Work Plan Memorandum |

# EXECUTIVE SUMMARY

AMEC has prepared this Screening Level Ecological Risk Assessment (SLERA) of Cedar Creek and the Drainage Ditch adjacent to the former Southern Wood Piedmont (SWP) property in Gulf, North Carolina. This SLERA was prepared in accordance with NCDENR (2003) guidance, and includes the following key elements:

- Step 1: Preliminary problem formulation and ecological effects evaluation; and
- Step 2: Preliminary exposure assessment and risk calculation

The SLERA expands on the information presented in the Work Plan Memorandum (WPM; AMEC, 2006), dated 7 February 2006, and includes the results of an ecological field survey performed from 18 to 20 July 2006. This survey addressed the components for the *Checklist for Ecological Assessments/Sampling* (NCDENR, 2003), which is provided as Appendix A to this SLERA. Although not explicitly required by NCDENR (2003), the field data sheets from the Rapid Bioassessment Protocol (RBP; USEPA, 1998a) were also completed to facilitate habitat assessment of Cedar Creek and the Drainage Ditch. The analytical results from the collections of sediment samples (total organic carbon and grain size), which were also collected during this field survey, are also reported in this SLERA. The chemical data summary and screening tables from NCDENR (2003) are provided in Appendix B and the individual sample results are tabulated in Appendix C.

## E.1 Facility Summary

The SWP facility was a former wood-preserving plant that treated wood using creosote and pentachlorophenol. Figure 1 shows the general site location map of this facility. Historical aerial photographs of the facility from 1962, 1979 and 2004 are shown in Appendix A, Attachment A3. Operations at this facility ceased in 1980. An on-site Drainage Ditch discharges to Cedar Creek, which merges with the Deep River about 1.75 miles east of the property. Cedar Creek is not part of the SWP property, except for a small portion on the northern side where the creek serves as the property boundary with the adjoining parcel. Historical sampling of the creek has shown evidence of polycyclic aromatic hydrocarbons (PAHs), pentachlorophenol, and polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans (PCDD/Fs) in the near creek soils and sediments. Trace levels of PAHs and pentachlorophenol were reported in the historical surface water samples. Based on the current understanding of local transport mechanisms, these chemicals likely entered the creek either dissolved in the aqueous phase or adsorbed to the particulate phase during historical releases, rather than as non-aqueous oil phase.

## E.2 Site-Specific Ecological Setting

An ecological field survey of the Drainage Ditch and Cedar Creek was performed in July 2006. There were areas of standing water, areas of low stream flow between the ponded areas in Cedar Creek, and areas of dry streambeds (e.g., Appendix D, Figure D-2, photographs 5 though 10, 12, and 14). The only discernible flow was observed in the ripple areas between the areas of standing water within the creek. To facilitate the assessment of the Drainage Ditch and Cedar Creek, the Rapid Bioassessment Protocol (RBP) worksheets were completed.

It has been reported that the benthic community in Cedar Creek is depauperate due to natural conditions (NCDENR, 1999a). The substrate is clayey with some sands and silt, and rock (see photographs provided in Appendix D). Suitable substrates are available only on leaf packs and fallen limbs. Furthermore, as reported by NCDENR (1999b), the creek tends to have low to non-existent flows during drier periods, further reducing the potential for the establishment of a significant benthic community. The macroinvertebrates that were observed during the July 2006 were limited in both number and species (Appendix A, Table A1-6). Macroinvertebrates that spend their entire life cycle in aquatic environments, such as amphipods, were absent from nearly all sampling locations. Semi-aquatic invertebrates, which spend their larval stages in aquatic environments but are aerial as adults (e.g., mayflies), were observed at a number of stations. The stations with the largest number and diversity of semi-aquatic invertebrates were at stations E2, located near the confluence of Cedar Creek and the Deep River, and E6, (located in the northern tributary of Cedar Creek near the confluence with Cedar Creek (Appendix D, Figure D-1).

The RBP total habitat scores were similar across all of the evaluated stations, ranging from 21 to 34.5. Seven of the eight stations (E1 though E5, E7 and E8) would be categorized as "poor" habitats, with the remaining station (E6) was categorized as "poor to fair."

These factors likely contribute to the absence of a significant fish population in Cedar Creek. During the July 2006 field survey fish were not observed within Cedar Creek. The eastern mosquitofish, *Gambusia affinis,* was observed in the Drainage Ditch. Mosquitofish are commonly found in ditches and small ponds in the southeastern US, are native to North Carolina.

## E.3 Chemical Database

Analytical data were available for sediments and surface water samples collected as part of prior field investigations. The historical datasets were supplemented with sediment samples collected for total organic carbon and grain size analyses as part of the ecological field survey in July 2006.

All sediment samples represented surface samples collected from depths no greater than one foot. Sediments were collected from the Drainage Ditch in 1983, 1990, 1995, 2002, and 2006 (TOC and grain size only). Sediments were collected from the Drainage Ditch in 1983, 1990, 1995, 1998, 2002, and 2006 (TOC and grain size only). These samples were analyzed for one or more of the following parameters: volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), inorganics, PCDD/Fs, TOC and grain size. Sediment samples from both the Drainage Ditch and Cedar Creek were also collected in 2004 for toxic characteristic leaching procedure (TCLP) analysis.

Unfiltered surface water samples were collected from Cedar Creek in 1990 and 1995. Many of these were co-located with sediment samples. Samples collected in 1990 were analyzed only for VOCs and SVOCs. Samples collected in 1995 were analyzed for VOCs, SVOCs, and inorganics. There was no standing water in the Drainage Ditch during either of these two prior field investigations, so there is no surface water data available from this area.

## E.4 Abiotic Screen

For the SLERA, the abiotic screen is performed using screening hazard quotients ($HQ_{screen}$). These are calculated as the ratio of the maximum concentration of each contaminant detected in each media (or the maximum sample quantitation limit if the results are all non-detect) and the screening benchmark for each chemical. The primary benchmark for comparison is the EPA Region IV Ecological Screening Value (ESV), although alternate values were evaluated when an ESV was not available for a given chemical or media. The SLERA screening tables were completed and are presented in Appendix B.

### E.4.1 Sediment Abiotic Screen Results

The sediment Dioxin-TEQ values were screened against the conservative PCDD/F sediment criteria from EPA Region IV (2.5 ng/Kg dw), which was derived from benthic toxicity tests. This value was used despite the naturally depauperate nature of the benthic community in the Drainage Ditch or Cedar Creek, as reported by NCDENR (1999b) and confirmed by the ecological survey performed in July 2006. Since the Dioxin-TEQ values were greater than the conservative sediment screening criteria, Dioxin-TEQs were retained as a COPECs for the SLERA.

All five VOCs reported in the sediment samples were present at a frequency of at least 5%, although less than 20 samples were available for this comparison. USEPA Region IV has not established sediment screening criteria for VOCs (Appendix Table B-2). Although the maximum concentrations in either the Drainage Ditch or Cedar Creek were greater than the background

maximum values, none of the VOCs were retained as COPECs since they are transient in the environment.

All 17 of the inorganics reported in the sediment samples were detected at a frequency greater than 5%. Six of these had conservative screening criteria available, and the maximum values for three inorganics (arsenic, cobalt, and nickel) exceeded the screening values (Appendix Table B-4). The maximum concentrations for all three inorganics were within regional background concentrations. For the 11 inorganics that lacked screening criteria, all but one (potassium) had maximum concentrations above site specific concentrations, but all of these were also within regional background concentrations. Since there was no known or suspected use of inorganics at the former SWP facility, none of the inorganics were retained as COPECs.

Of the 22 SVOCs detected in the sediment samples, 20 were detected at a frequency greater than 5%, 11 of which had conservative sediment screening criteria (Appendix Table B-3). All 11 of these SVOCs exceeded the sediment screening criteria, and all but one [benzo(a)pyrene] were also greater than the site-specific background. Therefore, all 11 SVOCs were retained as COPECs. For the nine SVOCs that were detected at a frequency greater than 5% but which lacked sediment screening criteria, all but two [benzo(b)fluoranthene and indeno(1,2,3-cd)pyrene] were also greater than their corresponding site-specific background. These two PAHs were conservatively retained as COPECs, along with the other PAHs and phenolic compounds that lacked screening criteria and were detected at a frequency greater than 5%.

### E.4.2 Surface Water Abiotic Screen Results

Pentachlorophenol was the only organic chemical detected in the surface water samples. The maximum detected result (0.15 mg/L) yielded $HQ_{screen}$ values above one for both the USEPA Region IV acute and chronic ESVs ($HQ_{screen}$ values of 7.5 and 11.5, respectively). The maximum detected pentachlorophenol concentration was also above the National Water Quality Criteria ($HQ_{screen}$ value of 10.0). Pentachlorophenol was detected in two (plus a duplicate sample) of the 20 samples, all of which were collected from the same location near the confluence of the Drainage Ditch and Cedar Creek. Pentachlorophenol was not detected in any of the remaining samples collected from Cedar Creek and the sample quantiation limit for these results were well below the screening value. Surface water samples were not available from the Drainage Ditch since no water was present in any of the prior field sampling events.

USEPA Region IV acute and chronic ESVs were available for only four (aluminum, mercury, nickel and zinc) of the 11 inorganics detected in either the Cedar Creek background or downstream samples. The $HQ_{screen}$ values based on the acute ESVs were all below one, except for aluminum ($HQ_{screen}$ of 1.7). All of the $HQ_{screen}$ values based on the chronic ESVs were all also below one, except for aluminum ($HQ_{screen}$ of 14.9) and mercury ($HQ_{screen}$ of 16.7).

Of the 11 inorganics detected in the surface water samples, two (aluminum and mercury) had maximum positive results that yielded $HQ_{screen}$ values greater than one based on the comparison to the EPA Region IV ESVs; iron had an $HQ_{screen}$ value greater than one when compared to its NC Class C water quality criterion. However, none of the inorganics were retained as COPECs for further analysis in the ERA for the following reasons:

- Aluminum: Aluminum is commonly encountered in unfiltered water analyses where it is co-extracted from the suspended solids. Although the USEPA Region IV ESVs and the NC Class C water quality criteria were based on total recoverable aluminum, USEPA (2002b) recognizes that particle-associated aluminum may be less toxic than the dissolved form (typically aluminum hydroxide) of this chemical. Although the downstream average aluminum concentration was slightly greater than that observed in the background samples (0.83 versus 0.51 mg/L), the aluminum concentrations were within regionally background conditions (0.007 to 1.47 mg/L; USGS, 2003).

- Mercury: The single positive result (at the detection limit) for mercury was detected in a downstream sample (SW-029-SW) but was not detected in the corresponding field duplicate (SW-129-SW) for this sample. It was also not detected in any of the four background samples. These results indicate that this result was not likely site-related.

- Iron: The spatial distribution of iron (Figure 4) shows that only one sample exceeded the Class C water quality criterion near the site, while the remaining exceedances were located on tributaries that discharge to Cedar Creek well downstream of the former SWP facility. These results indicated that the iron may be more indicative of other natural or anthropogenic sources rather than any site related disposal activities.

## E.5 Strategic Management Decision Point

The final portion of SLERA Step 2 is the Strategic Management Decision Point (SMDP). SMDPs provide an opportunity to fine tune and focus any additional activities to address the specific goals of the different steps in the ERAGS process (USEPA, 1997). For example, SMDPs provide the opportunity to exit the process where the weight of evidence supports no further action.

Existing habitat conditions in the Drainage Ditch and Cedar Creek were determined to be poor or poor-to-fair, based on application of the RBP process during the ecological survey performed in July 2006. These results are consistent with the conclusions made during a prior survey of Cedar Creek reported by NCDENR (1999b). The naturally depauperate conditions of Cedar Creek preclude the development of a robust creek-wide benthic or fish community.

Mosquitofish, a native fish species in North Carolina often used for mosquito control, was observed only in the in the Drainage Ditch near the confluence with Cedar Creek.

Based on the results of the July 2006 field survey, and review of prior studies performed on both Cedar Creek and the Drainage Ditch (e.g., NCDENR, 1999b) it was concluded that that natural low flow conditions of the creek and ditch preclude the development of a robust system-wide benthic population or fishery. Consequently, assessment endpoints based upon direct contact of sediments to these receptors would have limited value for risk management decisions.

The abiotic chemical screen performed as part of the SLERA indicate that the maximum chemical concentrations for pentachlorophenol in surface water (observed only at the confluence of the Drainage Ditch and Cedar Creek near the facility), and PCDD/Fs, some metals, PAHs, and phenolics exceeded their sediment screening benchmarks (i.e., HQscreen values greater than one) indicating that there is the potential for adverse ecological effects and that the need for a more thorough assessment needs to be evaluated against additional weight-of-evidence criteria, such as the ecological condition of the creek and ditch.

Based on the results of the SLERA Steps 1 and 2, it is recommended to proceed to Step 3, *Refinement of COPECs and Problem Formulation*. Some of the components of Step 3 have been addressed in this SLERA. As stated earlier the focus of this SLERA was on Steps 1 and 2 of the ERAGS process, consistent with NCDENR (2003) SLERA guidance. Following review of this document by NCDENR, an ERAGS Step 3 report will be prepared which can then be used by NCDENR to determine the need for the preparation of the BERA.

# 1.0 INTRODUCTION

AMEC has prepared this Screening Level Ecological Risk Assessment (SLERA) of Cedar Creek and the Drainage Ditch adjacent to the former Southern Wood Piedmont (SWP) property in Gulf, North Carolina. This SLERA was prepared in accordance with North Carolina Department of Environment and Natural Resources (NCDENR,2003) guidance, and includes the following key elements:

- Step 1: Preliminary problem formulation and ecological effects evaluation; and
- Step 2: Preliminary exposure assessment and risk calculation

The SLERA expands on the information presented in the Work Plan Memorandum (WPM; AMEC, 2006), dated 7 February 2006, and includes the results of an ecological field survey performed from 18 to 20 July 2006. This survey addressed the components for the *Checklist for Ecological Assessments/Sampling* (NCDENR, 2003), which is provided as Appendix A to this SLERA. Although not explicitly required by NCDENR (2003), the field data sheets from the Rapid Bioassessment Protocol (RBP; USEPA, 1998a) were also completed to facilitate habitat assessment of Cedar Creek and the Drainage Ditch. The analytical results from the collections of sediment samples (total organic carbon and grain size), which were also collected during this field survey, are also reported in this SLERA. The chemical data summary and screening tables from NCDENR (2003) are provided in Appendix B and the individual sample results are tabulated in Appendix C.

Section 2 presents the results of the Step 1 assessment, which includes a summary of the ecological setting, the results from the ecological field survey performed in July 2006, potential fate and transport mechanism, potentially complete exposure pathways, and the preliminary Conceptual Site Model (CSM). Section 3 presents the results of the Step 2 assessment, which includes a summary of the data collected to-date, the abiotic screening, uncertainty and data gap assessment, and a summary of the Scientific/Management Decision Point (SMDP). Additional supporting documentation is provided in appendices.

# 2.0 STEP 1: PRELIMINARY PROBLEM FORMULATION AND ECOLOGICAL EFFECTS EVALUATION

## 2.1 Ecological Setting

This section provides information concerning the SWP facility operations history relevant to the SLERA, and regional and site-specific ecological conditions.

### 2.1.1 Facility Summary

The SWP-Gulf facility (Gulf, North Carolina) was a former wood-preserving plant that treated wood using creosote and pentachlorophenol. Figure 1 shows the general site location map of this facility. Historical aerial photographs of the facility from 1962, 1979 and 2004 are shown in Appendix A, Attachment A3. Operations at this facility ceased in 1980. An on-site Drainage Ditch discharges to Cedar Creek which merges with the Deep River about 1.75 miles east of the property. Cedar Creek is not part of the SWP property, except for a small portion on the northern side where the creek serves as the property boundary with the adjoining parcel[1]. Historical sampling of the creek has shown evidence of polycyclic aromatic hydrocarbons (PAHs), pentachlorophenol, and polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans (PCDD/Fs) in the near creek soils and sediments. Trace levels of PAHs and pentachlorophenol were reported in the historical surface water samples. Based on the current understanding of local transport mechanisms, these chemicals likely entered the creek either dissolved in the aqueous phase or adsorbed to the particulate phase during historical releases, rather than as non-aqueous oil phase. The concentrations of several of the PAHs and PCDD/Fs are above conservative screening levels for human or ecological receptors in some of the sediment samples. The 1999 Revised Expanded Site Inspection (ESI) prepared by NCDENR (1999a) concluded that no water supply wells, intakes, or wetlands had been impacted due to site-related activities.

### 2.1.2 Regional Ecological Summary

Cedar Creek traverses an undeveloped area used for pines grown for timber as well as natural pines and hardwood forest. In addition to receiving surface water flow from the Drainage Ditch during storm events, there are three northern tributaries and one southern tributary to Cedar Creek downstream from the site (see Appendix D, Figure D-1). Historically clay and coal mining has occurred in the area. Naturally occurring coal seam outcrops are also present. Flow in Cedar Creek has been reported to be seasonally intermittent, reducing to pools of water between dry streambeds during the summer months (NCDENR, 1999b). Streamflow data for Cedar Creek is not available from the USGS, although the hydrologic condition of Cedar Creek reported by NCDENR (1999b) was confirmed during the July 2006 field survey.

Runoff is the major source of water for the creek due to the poor reported groundwater recharge capacity through the surface soils in the upper Cape Fear basin (NCDENR, 1999b). There is also a small man-made pond (about 1,200 $ft^2$ – 0.03 acre – in area) that is not hydrologically connected to Cedar Creek located east of the Drainage Ditch. This pond was created during

[1] Additional detail concerning the property boundaries and adjoining properties is provided in the Remedial Action Plan prepared by Schnabel Engineering and Associates.

excavation of soils used as backfill for the southern ponds on site and was not present during facility operations (see aerial photographs provided in Appendix A, Attachment A3).

*Natural Heritage Program*

A total of 57 species or groups of organisms were identified in the 11 August 2006 update of the North Carolina National Heritage Program for the Chatham County area. These include one animal assemblage (colonial wading bird colony), 14 invertebrate species, one natural community (Piedmont longleaf pine forest), 14 vascular plants, and 10 vertebrate animals (Appendix A, Table A2-1). This compilation differs slightly from the compilation provided in the WPM (AMEC, 2006) since a more recent update of the data from the National Heritage Program was used.

### 2.1.3 Site-Specific Ecological Setting

*Cedar Creek and the Drainage Ditch*

The benthic community in Cedar Creek is depauperate due to natural conditions (NCDENR, 1999a). The substrate is clayey with some sands and silt, and rock (see photographs provided in Appendix D). Favorable substrates are limited to leaf packs and fallen limbs. Furthermore, as reported by NCDENR (1999b), the creek tends to have low to non-existent flows during drier periods, further reducing the potential for the establishment of a significant benthic community. During the field survey performed in July 2006 there were areas of standing water, areas of low stream flow between the ponded areas in Cedar Creek, and areas of dry streambeds (e.g., Appendix D, Figure D-2, photographs 5 though 10, 12, and 14). The only discernible flow was observed in the ripple areas between the areas of standing water within the creek.

The macroinvertebrates that were observed during July 2006 were limited in both number and species (Appendix A, Table A1-6). Macroinvertebrates that spend their entire life cycle in aquatic environments, such as amphipods, were absent from nearly all sampling locations. Semi-aquatic invertebrates, which spend their larval stages in aquatic environments but are aerial as adults (e.g., mayflies), were observed at a number of stations. The stations with the largest number and diversity of semi-aquatic invertebrates were at stations E2, located near the confluence of Cedar Creek and the Deep River, and E6, located in the northern tributary of Cedar Creek near the confluence with Cedar Creek (Appendix D, Figure D-1).

These factors - intermittent flow, low food abundance - likely contribute to the absence of a significant fish population in Cedar Creek. During the July 2006 field survey fish were not observed within Cedar Creek. The eastern mosquitofish, *Gambusia affinis*, was observed in the Drainage Ditch. Mosquitofish are commonly found in ditches and small ponds in the

southeastern US, are native to North Carolina, and are often part of integrated pest management programs where they provide mosquito control (Apperson et al., 2004).

Shells from the invasive freshwater clam *Corbicula fluminea* were also commonly observed in the dry streambeds of Cedar Creek during the July 2006 survey. No attempts were made during this survey to locate live beds of this species within Cedar Creek or the Drainage Ditch.

*Wetland Areas*

Although wetland areas are present both on the site and adjacent to the site, they have not been mapped by the USFWS National Wetlands Inventory, presumably because of their relatively small size. The NCDENR concluded that wetland areas of any significant size are restricted to the Cedar Creek channel itself (Appendix A, Attachment A1-1). These wetland areas near the creek s are also fragmented and may be characterized as "moist woods" which are not readily apparent in aerial photography to be wetlands. Wetlands along Cedar Creek, Deep River, and tributaries to both systems are considered to be temporarily and seasonally flooded broad-leaved deciduous forested wetlands (Geraghty and Miller, 1994).

As summarized by Geraghty and Miller (1994), the wetlands associated with Cedar Creek and nearby waterbodies are typically vegetated by river birch (*Betula nigra*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), yellow poplar (*Liriodendron tulipifera*), sycamore (*Platanus occidentalis*), American elm (*Ulmus americana*), sugar berry (*Celtis laevigata*), bitternut hickory (*Carya cordiformis*), box elder (*Acer negundo*), and swamp chestnut oak (*Quercus michauxii*); seasonally-flooded wetlands have increased occurrence of swamp chestnut oak, black gum (*Nyssa sylvatica*), willow oak (*Quercus phellos*), water hickory (*Carya aquatica*), river birch, and Southern red oak (*Quercus falcata*). Additional observations of the flora of the wetland areas are provided in Appendix A.

*Man-Made Pond*

There is a small man-made pond located southeast of the juncture of the Drainage Ditch and Cedar Creek (Figure C-1, station E9; Appendix A, Attachment A3, Figure A3-2). This pond was constructed after site operations ceased and was excavated for borrow material to cover the southern ponds on-site. The pond is located upstream of the Drainage Ditch and Cedar Creek, and there is no hydrologic connection between the pond and Cedar Creek. There is small overflow from the pond which enters a smaller depression area which ultimately discharges to the drainage ditch. Overflow to this smaller depression area likely occurs only during pond overflow events.

The completed "non-flowing aquatic feature" portion of the NCDENR (2003) checklist summarizes the results of the field observations of the man-made pond (see Appendix A, pages A-24 through A-26). The pond is approximately 1,200 $ft^2$ (0.03 acre) in total area and approximately 6-ft deep based on surface observations. This pond appears to be stocked by the landowner, since uniform sized fish (bass) were observed within the pond. Herons were observed in the shallows of this pond, but not at either the Drainage Ditch or Cedar Creek. This pond was examined as part of the ecological survey, but was not a component of any of the prior field investigations. Due to the absence of a potential for site contaminants to be discharged to the site pond (did not exist during site operation) and any hydrologic connection from the pond to either the Drainage Ditch or Cedar Creek further evaluation of the man-made pond is not warranted.

### 2.1.4 Rapid Bioassessment Protocol Results

The Rapid Bioassessment Protocol (RBP; USEPA, 1998a) scores the habitat using nine metrics and four categories (i.e., poor, fair, good, and excellent). Locations are evaluated by the field ecologist and scored into these four categories for each of the metrics. Each category is scored based on a range of values (e.g., 0 to 3 for "poor"). The scores are then totaled across all nine metrics, and the habitat quality can be approximated as shown below (sums of the low and high end values for each category and metric):

| ***Total RBP Scores*** | |
|---|---|
| Excellent | 111 to 135 |
| Good | 75 to 102 |
| Fair | 39 to 66 |
| Poor | 0 to 30 |

The RBP worksheets (USEPA, 1998a) were used to evaluate one station in the Drainage Ditch (E8), and seven stations in Cedar Creek (stations E1 through E7) The survey locations are shown in Figure C-1 and the RBP scores are summarized in Table 1. Samples were not collected from Station E9 (the man-made pond), so it was excluded from this table. The total habitat scores were similar across all of the evaluated stations. These ranged from 21 to 34.5. Seven of the eight stations (E1 though E5, E7 and E8) would be categorized as "poor" habitats, with the remaining station (E6) categorized as "poor to fair." These results are consistent with the conclusion from NCDENR (1999b) of the poor habitat for benthic invertebrates in Cedar Creek. Results from the field measurements collected at these stations are presented in Appendix Table A1-4.

## 2.2 Fate and Transport Mechanisms

Transport of COPECs from the former SWP facility to the Drainage Ditch and Cedar Creek likely occurred in the particulate or dissolved phases, since there is no history of an oil-phase release during any of the facility operations. When water is present in the ditch or creek, larval stages of emergent insects may come in contact with, and accumulate some of, the COPECs, which can then represent a source of exposure to predators that feed on these organisms. Similarly, when the ditch or creek are dry, terrestrial invertebrates or plants may accumulate some of the COPECs which in turn serve as a potential exposure pathway for higher trophic level organisms that feed on these prey species.

## 2.3 Potentially Complete Exposure Pathways

### 2.3.1 Preliminary Conceptual Site Models

The CSM for the SLERA uses previously collected information to identify complete exposure pathways. Only complete pathways provide a route of exposure, and therefore a potential risk. Complete pathways are defined by four components. If any one of the components is missing, the pathway is not considered complete and, therefore, no risk will be associated with that pathway. The CSM for the SLERA is presented in Figure 2 and summarized in Table 2.

Based on the results of the July 2006 field survey, and review of prior studies performed on both Cedar Creek and the Drainage Ditch (e.g., NCDENR, 1999b) it was concluded that that natural low flow conditions of the creek and ditch preclude the development of a robust system-wide benthic population or fishery. Consequently, assessment endpoints based upon direct contact of sediments to these receptors would have limited value for risk management decisions.

# 3.0 STEP 2: PRELIMINARY EXPOSURE ESTIMATE AND RISK CALCULATION

## 3.1 Data Collection

Figures 3A and 3B show the locations for the samples collected as part of the different field investigations from the Drainage Ditch and Cedar Creek, respectively. Table 3 summarizes the media, depths of samples collected, date collected, target analyte groups, and data sources for the historical and 2006 sampling efforts of the Drainage Ditch and Cedar Creek.

In July 2006, samples for total organic carbon (TOC) and grain size were collected from 15 of the sediment sampling locations collected previously for PCDD/F analysis to fill a data gap in the existing dataset. These samples included the following:

- Two sediment samples from the Drainage Ditch adjoining the former SWP facility.
- Four sediment samples from Cedar Creek background areas. These are from tributaries to Cedar Creek.
- Nine sediment samples along Cedar Creek.

The supplemental sample locations are listed in Table 4 and are shown on Figures 3A and 3B. The TOC and grain size data will be used to assess any potential effects on chemical bioavailability and can also be useful for deriving site-specific remediation goals.

The analytical results were compiled into an MS-Access database to facilitate data evaluation. The analytical data summaries presented in the WPM (AMEC, 2006) were based on summary tables included in prior reports, which were often missing detection limits for non-detect results. Since the submission of the WPM these data gaps were identified, the missing data located to the extent possible, and the database was updated to reflect the missing results. The original laboratory reports were also reviewed to the extent available to adjust for any transcription errors. Finally, the total organic carbon and sediment particle size results from the supplemental field investigation performed in July 2006 were added to the database. Sample-specific analytical results are tabulated in Appendix C.

*Detection Limits*

The SLERA Guidance (NCDENR, 2003) includes a comparison of the detection limits for any non-detect results as part of the abiotic screening process. The premise for this is to avoid the "false negative" conclusion that there is no risk in those cases where a chemical has the potential to exert an adverse ecological effect at concentrations below the sample quantitation limits. Tables 5 and 6 present the maximum sample quantitation limits for those chemicals that were not detected in any of the sediment or surface water samples, respectively. These tables separate the results for background, Drainage Ditch (sediments only) and Cedar Creek. Appendix Tables B-5 (for SVOCs) and B-6 (for inorganics) summarize the results irrespective of sampled area, consistent with NCDENR (2003) guidance.

## 3.2 Screening Values

This section summarizes the screening values that will be used to assess the maximum chemical concentrations in the surface water and sediments from prior sampling events. The primary benchmarks for these comparisons are the EPA Region IV Ecological Screening Value (ESV; USEPA, 2001c), although alternate values were evaluated when an ESV was not available for a particular chemical or media. The latter are discussed when appropriate in the screening assessments in Sections 3.3.2 and 3.3.4, for sediments and surface water, respectively.

### 3.2.1 Hardness Dependent Screening Values

The acute and chronic aqueous screening values for seven metals (cadmium, chromium (III), copper, lead, nickel, silver and zinc) are dependent upon the hardness of the surface water samples. Hardness was not reported in the historical databases, but was calculated using the following equation from NCDENR (2003):

$$\text{Hardness} = [2.497 \times \text{Ca (mg/L)}] + [4.118 * \text{Mg (mg/L)}]$$

Calcium and magnesium were not always target analytes in the prior investigations. However, based on the available dataset (total of 11 surface water results), the calculated hardness concentrations ranged from 9.6 to 30.7 mg/L, with an average of 24 mg/L. The sample-specific hardness data were used to develop the screening values for the surface water abiotic screen presented in Section 3.3.4. This adjustment was required only for zinc, since all other hardness-dependent inorganics were not detected in the surface water samples. The calculated acute and chronic criteria for zinc used for the screening, and based on the average water hardness, are summarized in the table below.

***Calculation of acute and chronic criteria for screening zinc results***

| Benchmark | Equation | Calculated Criteria (µg/L) |
|---|---|---|
| Acute | $e^{(0.8473(\ln H)+0.8604)}$ | 34.9 |
| Chronic | $e^{(0.8473(\ln H)+0.7614)}$ | 31.6 |

The sample-specific hardness was calculated and used to develop the sample-specific screening values when the calcium and magnesium results were available.

### 3.2.2 pH Dependent Screening Values

The acute and chronic screening values for pentachlorophenol are dependent upon the pH of the surface water samples. Measurements of pH were not available from the historical database, but were measured in the field during the July 2006 ecological survey. The pH ranged from 6.94 to 7.74, with an average of 7.41 in Cedar Creek. Only one sample was collected from the Drainage Ditch, which had a pH of 6.91. The calculated acute and chronic criteria for pentachlorophenol used for the screening, and based on the average pH in Cedar Creek and the measured pH from the single Drainage Ditch sample, are summarized in the table below.

***Calculation of acute and chronic screening criteria for pentachlorophenol***

| | | Calculated Criteria (µg/L) | |
|---|---|---|---|
| **Benchmark** | **Equation** | **Cedar Creek** | **Drainage Ditch** |
| Acute | $e^{(1.005(pH)-4.83)}$ | 13.7 | 8.3 |
| Chronic | $e^{(1.005(pH)-5.29)}$ | 8.6 | 5.2 |

As noted above the pH values were not available for the historical surface water samples collected for chemical analysis. Therefore, the values shown in the table above were used for the screening of the historical pentachlorophenol surface water results.

### 3.2.3 Dioxins and Furans

Van den Berg et al. (1998, 2006)[2] compiled dioxin Toxic Equivalency Factors (TEFs) for mammals, fish and birds. TEFs are used as weighting factors for the non-2,3,7,8-TCDD dioxin and furan congeners to generate 2,3,7,8-TCDD equivalent toxic potency (i.e., toxic equivalents; TEQ). The equation used for the TEQ calculations is shown below.

$$TEQ = \sum[PCDD_i \times TEF_i] + \sum[PCDF_i \times TEF_i]$$

Where:

TEQ = 2,3,7,8-TCDD toxic equivalents;
$PCDD_i$ = the concentration of the individual polychlorinated dibenzo-p-dioxin congener;
$PCDF_i$ = the concentration of the individual polychlorinated dibenzofuran congener; and
$TEF_i$ = the TEFs for the individual non-2,3,7,8-TCDD congeners

The sum of these products - the TEQ - is assumed to yield a comparable toxicological effect as 2,3,7,8-TCDD. The TEQ is treated like an individual chemical for summary statistics and exposure calculations. Consistent with the conservative nature of the SLERA guidance (NCDENR, 2003), any non-detect PCDD/F congener results were set to one-half the reported detection limits for the TEQ calculations.

## 3.3 Chemical Results and Abiotic Screen

Information concerning the number, types and media sampled to-date for this project are discussed below by media. For the SLERA, the abiotic screen is performed using screening

[2] Van den Berg (2006) only updated the mammalian TEFs. The avian and fish TEFs were from the Van den Berg (1998) publication.

hazard quotients ($HQ_{screen}$). These are calculated as the ratio of the maximum concentration of each contaminant detected in each media (or the maximum sample quantitation limit if the results are all non-detect) and the screening benchmark for each chemical. The primary benchmark for comparison is the EPA Region IV Ecological Screening Value (ESV), although alternate values were evaluated when an ESV was not available for a given chemical or media. The latter are discussed when appropriate in the screening assessments in Sections 3.3.2 and 3.3.4, for sediments and surface water, respectively.

### 3.3.1 Sediment Chemical Results

All sediment samples represented surface samples collected from depths no greater than one foot. Sediments were collected from the Drainage Ditch in 1983, 1990, 1995, 2002, and 2006 (TOC and grain size only). Sediments were collected from the Drainage Ditch in 1983, 1990, 1995, 1998, 2002, and 2006 (TOC and grain size only). These samples were analyzed for one or more of the following parameters: volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), inorganics, PCDD/Fs, TOC and grain size. Sediment samples from both the Drainage Ditch and Cedar Creek were also collected in 2004 for toxic characteristic leaching procedure (TCLP) analysis.

*Upstream (Background) Sediment Samples*

Only one VOC (toluene) was detected in one of the sediment samples collected from the background area. Up to 13 SVOCs, all of which were PAHs, were reported in the background samples. These chemicals were detected infrequently in these samples, and were present in only one or two of the collected samples. Seventeen inorganics were reported in the background samples. These concentrations were generally consistent with background concentrations reported in North Carolina (USGS, 2003). PCDD/F congeners were detected in most of the background samples. Three congeners (1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF and OCDD) were the most frequently detected PCDD/F congeners. The toxic equivalence quotient (TEQ) concentrations were similar to those reported as background (USEPA, 1998b).

*Drainage Ditch Sediment Samples*

Five VOCs (benzene, ethylbenzene, styrene, toluene, and xylenes) were detected in the sediment samples collected from the Drainage Ditch. These five VOCs were infrequently detected in these samples, present in one to three of the up to 11 collected samples.

Up to 25 SVOCs, which included both PAHs and phenolic compounds, were detected in the sediment samples collected from the Drainage Ditch. Of these 25 SVOCs, the mean detection

frequency of PAHs was 40% (range: 8 to 86%) and the mean detection frequency of phenolics was 14% (range: 5 to 25%). In nearly all cases, the mean concentrations of the SVOCs were greater in the Drainage Ditch samples than in the background samples [the single exception was benzo(b)fluoranthene]. These results will be compared to sediment benchmarks as part of the chemical screening.

Up to 17 inorganics were detected in the sediment samples collected from the Drainage Ditch. Of these 17 inorganics, the mean detection frequency was 87% (range: 20 to 100%). The mean concentrations of the inorganics were greater in the Drainage Ditch samples than in the background samples. These results will be compared to sediment benchmarks as part of the chemical screening.

All of the PCDD/F congeners were detected in the sediment samples collected from the Drainage Ditch. The mean detection frequency was 68% (range: 17 to 100%). The mean concentrations of the PCDD/F congeners were greater in the Drainage Ditch samples than in the background samples. The mean and range of PCDD/F congeners and dioxin-TEQ were also greater than those observed in Cedar Creek. These results will be compared to sediment benchmarks as part of the chemical screening.

Two sediment samples were collected from the downstream portion of the Drainage Ditch in 2006 for TOC and grain size analyses (Table 5). Both samples contained high proportions of sand and silt (81.9 and 84.6%). The TOC content ranged from 0.51 to 0.9% (mean: 0.71%).

*Cedar Creek Sediment Samples*

Three VOCs (ethylbenzene, toluene and xylenes) were detected in the sediment samples collected from Cedar Creek. These three VOCs were infrequently detected in these samples, present in one to three of the up to eight collected samples.

Up to 24 SVOCs, which included both PAHs and phenolic compounds, were detected in the sediment samples collected from Cedar Creek. Of these 24 SVOCs, the mean detection frequency of PAHs was 36% (range: 6 to 71%) and the mean detection frequency of phenolics was 9% (range: 3 to 13%). In all cases, the mean concentrations of the SVOCs were lower in Cedar Creek than in the Drainage Ditch samples. These results will be compared to sediment benchmarks as part of the chemical screening.

Up to 18 inorganics were detected in the sediment samples collected from Cedar Creek. Of these 18 inorganics, the mean detection frequency was 78% (range: 22 to 100%). The mean concentrations of the inorganics were similar to those from the Drainage Ditch samples. These results will be compared to sediment benchmarks as part of the chemical screening.

All of the PCDD/F congeners were detected in the sediment samples collected from Cedar Creek. The mean detection frequency was 68% (range: 24 to 100%). The mean concentrations of the PCDD/F congeners and dioxin-TEQ were lower than those observed in the Drainage Ditch samples. These results will be compared to sediment benchmarks as part of the chemical screening.

Some of the PCDD/F congeners may be introduced from other sources. For example, woodland fires caused by accident (e.g., lightning strikes), for maintenance of fire breaks, or for removal of underbrush and unsuitable woody material occur in the vicinity of the former SWP facility can contribute to PCDD/F loadings (typically as octachlorodibenzo-p-dioxin [OCDD] and hepta-chlorinated dibenzo-p-dioxins [HpCDD]) in the area (USEPA, 1998b). An assessment of this contribution will be performed as part of the ERAGS Step 3 assessment.

Thirteen sediment samples were collected from the downstream portion of the Cedar Creek in 2006 for TOC and grain size analyses (Table 5). With two exceptions (SW-051-SD and SW-052-SD; both classified as silty clays) these samples all contained high proportions of sand and silt. The TOC content ranged from 0.05 to 4.42% (mean: 1.0%).

### 3.3.2 Sediment Screening Results

The preceding section summarized the chemical results in the sediments by area (i.e., background, Drainage Ditch and Cedar Creek). Consistent with NCDENR (2003) guidance, the sediment results from all areas were combined for COPEC screening[3]. The $HQ_{screen}$ values were calculated using both the maximum positive result for each detected chemical concentration in the sediments, and also the maximum sample quantitation limit (SQL) for those chemicals that were not detected in any of the sediment samples, consistent with SLERA guidance (NCDENR, 2003). The screening results are presented in Appendix Tables B-1, B-2, B-3 and B-4 for PCDD/Fs, VOCs, SVOCs and inorganics, respectively, and are summarized below.

#### 3.3.2.1 Sediment PCDD/F congeners

The $TEF_{mammal}$ values for several of the PCDD/F congeners in the NCDENR table template (Appendix B, Table B-1) were updated to reflect the recent publication by Van den Berg et al (2006). The fish and avian TEFs were not changed as a result of this update and are from Van den Berg et al (1998). Consistent with the conservative screening nature of the NCDENR (2003) guidance, the maximum PCDD/F congener concentration across all of the samples was

used to calculate the TEQ values. In addition, if the maximum SQL was greater than the maximum positive result for a specific PCDD/F congener, then half the SQL was used as the input for the TEQ calculation. For the sediment samples, the SQL was used to calculate the TEQ values for four PCDD/F congeners (2,3,7,8-TCDD, 2,3,7,8-TCDF, 1,2,3,7,8-PeCDF, and 1,2,3,4,7,8-HxCDF). Therefore, the Dioxin-TEQ values shown in Appendix B, Table B-1 do not represent the maximum TEQ values that could be calculated on a sample-specific basis, or the values that would be used for calculating exposure point concentrations, but instead represent the TEQs derived from the maximum observed positive result, or maximum SQL, across all of the sediment samples.

The calculated maximum Dioxin-TEQs, based on the mammalian, avian and fish TEFs, are summarized in Appendix B, Table B-1. Dioxin-TEQs (calculated using the mammalian and avian TEFs) were present at a frequency of at least 5%. The sediment Dioxin-TEQ values were screened against the conservative PCDD/F sediment criteria from EPA Region IV (2.5 ng/Kg dw), which was derived from benthic toxicity tests. This value was used despite the naturally depauperate nature of the benthic community in the Drainage Ditch or Cedar Creek, as reported by NCDENR (1999b) and confirmed by the ecological survey performed in July 2006. Since the Dioxin-TEQ values were greater than the conservative sediment screening criteria, Dioxin-TEQs were retained as a COPECs for the SLERA.

#### 3.3.2.2 Sediment VOCs and SVOCs

All five VOCs reported in the sediment samples were present at a frequency of at least 5%, although less than 20 samples were available for this comparison. USEPA Region IV has not established sediment screening criteria for VOCs (Appendix B, Table B-2). Although the maximum concentrations in either the Drainage Ditch or Cedar Creek were greater than the background maximum values, none of the VOCs were retained as COPECs since they are transient in the environment.

Of the 22 SVOCs detected in the sediment samples, 20 were detected at a frequency greater than 5%, 11 of which had conservative sediment screening criteria (Appendix Table B-3). All 11 of these SVOCs exceeded the sediment screening criteria, and all but one [benzo(a)pyrene] were also greater than the site-specific background. Therefore, all 11 SVOCs were retained as COPECs. For the nine SVOCs that were detected at a frequency greater than 5% but which lacked sediment screening criteria, all but two [benzo(b)fluoranthene and indeno(1,2,3-cd)pyrene] were also greater than their corresponding site-specific background. These two

[3] This screening approach differs from the presented in the WPM (AMEC, 2006) where the screening was performed separately for the upgradient and downgradient portions of Cedar Creek.

PAHs were conservatively retained as COPECs, along with the other PAHs and phenolic compounds that lacked screening criteria and were detected at a frequency greater than 5%.

3.3.2.3 Sediment Inorganics

All 17 of the inorganics reported in the sediment samples were detected at a frequency greater than 5%. Six of these had conservative screening criteria available, and the maximum values for three inorganics (arsenic, cobalt, and nickel) exceeded the screening values (Appendix Table B-4). The maximum concentrations for all three inorganics were within regional background concentrations. For the 11 inorganics that lacked screening criteria, all but one (potassium) had maximum concentrations above site specific concentrations, but all of these were also within regional background concentrations. Since there was no known or suspected use of inorganics at the former SWP facility, none of the inorganics were retained as COPECs.

### 3.3.3 Surface Water Chemical Results

Unfiltered surface water samples were collected from Cedar Creek in 1990 and 1995. Many of these were co-located with sediment samples. Samples collected in 1990 were analyzed only for VOCs and SVOCs. Samples collected in 1995 were analyzed for VOCs, SVOCs, and inorganics. There was no standing water in the Drainage Ditch during either of these two prior field investigations, so there is no surface water data available from this area.

Review of the source reports and supporting information showed that surface water sample 8869 (collected in August 1990) contained intentionally disturbed sediment. As a result, this was not a representative surface water sample and was excluded from this summary.

Appendix A, Table A1-2 summarizes the detection frequencies, averages, and ranges of results for each chemical analyzed in the surface water samples. Samples were segregated into either the Cedar Creek upstream (background) locations or the samples from the remainder of the creek.

*Upstream (Background) Cedar Creek Surface Water Samples*

There were no detectable VOCs or SVOCs in any of the background surface water samples. Ten metals (aluminum, barium, calcium, iron, magnesium, manganese, nickel, potassium, sodium, and zinc) were detected in the background surface water samples.

*Downstream Cedar Creek Surface Water Samples*

There were no detectable VOCs in any of the downstream surface water samples. Of the 30 SVOCs that were targeted for chemical analysis, only pentachlorophenol was detected in three of the 14 surface water samples. Nine metals (aluminum, barium, calcium, iron, magnesium, manganese, mercury, potassium, and sodium) were detected in the downstream surface water samples.

### 3.3.4 Surface Water Screening Results

The preceding section summarized the chemical results for the surface water samples by area (i.e., background and Cedar Creek). The $HQ_{screen}$ values were calculated using both the maximum positive result for each detected chemical concentration in the surface water, and also the maximum SQL for those chemicals that were not detected in any of the surface water samples, consistent with SLERA guidance (NCDENR, 2003). The results are presented in Appendix B, Tables B-5 and B-6, for the SVOCs and inorganics, respectively. This was initially performed using the acute and chronic USEPA Region IV surface water ESVs (USEPA, 2002a). However, review of this table shows that these screening values were available for only four of the chemicals detected in the surface water (pentachlorophenol, mercury, nickel and zinc). Consequently, the following additional benchmarks were also evaluated as potential screening values:

- NC Class C Surface Water criteria (NCAC, 2003). This is the use classification for Cedar Creek as of September 2005.
- National Water Quality Criteria (USEPA, 2004)
- Regional surface water background concentrations (USGS, 2003).

In those cases where no suitable benchmarks sources were available, a comparison between the site-specific upstream (background) and downstream samples was performed.

#### 3.3.4.1 Surface Water Organics

Pentachlorophenol was the only organic chemical detected in the surface water samples. The maximum detected result (0.15 mg/L) yielded $HQ_{screen}$ values above one for both the USEPA Region IV acute and chronic ESVs ($HQ_{screen}$ values of 7.5 and 11.5, respectively; Appendix Table B-5). The maximum detected pentachlorophenol concentration was also above the National Water Quality Criteria ($HQ_{screen}$ value of 10.0).

Table 8 compares the individual sample surface water pentachlorophenol results to the pH-dependent acute and chronic screening values. Pentachlorophenol was detected in two (plus a duplicate sample) of the 20 samples[4], all of which were collected from the same location near the confluence of the Drainage Ditch and Cedar Creek (Figure 3B). None of the non-detect results were above the acute or chronic screening values, and only one positive result (sample 8747) had a positive result above either the acute or chronic screening values.

3.3.4.2 Surface Water Inorganics

The comparisons of the surface water inorganic results to the ESVs are presented in Appendix Table B-6. USEPA Region IV acute and chronic ESVs were available for only four (aluminum, mercury, nickel and zinc) of the 11 inorganics detected in either the Cedar Creek background or downstream samples. The $HQ_{screen}$ values based on the acute ESVs were all below one, except for aluminum ($HQ_{screen}$ of 1.7). All of the $HQ_{screen}$ values based on the chronic ESVs were all also below one, except for aluminum ($HQ_{screen}$ of 14.9) and mercury ($HQ_{screen}$ of 16.7).

Table 9 compares the observed surface water zinc results to the sample specific hardness-dependent acute and chronic screening values. None of the positive results or non-detect results exceeded either the acute or chronic screening values.

Three of these inorganics (mercury, nickel and zinc) also had NC Class C water quality criteria, as did iron. The $HQ_{screen}$ values were below one for this comparison, except for mercury ($HQ_{screen}$ of 16.7) and iron ($HQ_{screen}$ of 2.0).

National Water Quality Criteria (USEPA, 2004) were available for the same three inorganics that had acute and chronic ESVs. $HQ_{screen}$ values were below one for all three inorganics.

Regional background data were available for four inorganics (aluminum, manganese, mercury, and sodium; USGS, 2003). All of the $HQ_{screen}$ values were below one based on the comparison of the maximum observed results for these four inorganics to their maximum background concentrations.

Appendix B, Table B-6 also includes a comparison of the sample quantitation limits for the non-detect results to the ESVs and NC Water Quality Criteria. Thirteen inorganics were not detected in the Cedar Creek surface water samples and eleven of these had EPA Region IV ESVs. The $HQ_{screen}$ based on the maximum sample quantitation limit for six of these chemicals (antimony, arsenic, chromium, nickel, selenium and thallium) was below one, and was greater

[4] Pentachlorophenol was detected in samples 8747, SW-029-SW and SW-129-SW (field duplicate of SW-029-SW). Sample 8747 was collected in 1990 and sample SW-029-SW/SW-129-SW was collected in 1995.

than one for the remaining five inorganics (beryllium, cadmium, copper, lead and silver). ESV values were not available for two of the inorganics (cobalt and vanadium).

*Surface Water Inorganics Screen Conclusions*

Of the 11 inorganics detected in the surface water samples, two (aluminum and mercury) had maximum positive results that yielded $HQ_{screen}$ values greater than one based on the comparison to the EPA Region IV ESVs; iron had an $HQ_{screen}$ value greater than one when compared to its NC Class C water quality criterion. However, none of the inorganics were retained as COPECs for further analysis in the ERA for the following reasons:

- *Aluminum*: Aluminum is commonly encountered in unfiltered water analyses where it is co-extracted from the suspended solids. Although the USEPA Region IV ESVs and the NC Class C water quality criteria were based on total recoverable aluminum, USEPA (2002b) recognizes that particle-associated aluminum may be less toxic than the dissolved form (typically aluminum hydroxide) of this chemical. Although the downstream average aluminum concentration was slightly greater than that observed in the background samples (0.83 versus 0.51 mg/L), the aluminum concentrations were within regionally background conditions (0.007 to 1.47 mg/L; USGS, 2003).

- *Mercury*: The single positive result (at the detection limit) for mercury was detected in a downstream sample (SW-029-SW) but was not detected in the corresponding field duplicate (SW-129-SW) for this sample. It was also not detected in any of the four background samples. These results indicate that this result was not likely site-related.

- *Iron*: The spatial distribution of iron (Figure 4) shows that only one sample exceeded the Class C water quality criterion near the site, while the remaining exceedances were located on tributaries that discharge to Cedar Creek well downstream of the former SWP facility. These results indicated that the iron may be more indicative of other natural or anthropogenic sources rather than any site related disposal activities.

Further assessment of the inorganics that were not detected in the surface water samples showed that some of the SQLs were greater than their corresponding screening criteria, but further assessment of these chemicals is not warranted.

### 3.4 Uncertainty and Data Gaps

A variety of factors will contribute to uncertainties associated with risk estimates in the SLERA. Uncertainty is inherent in all aspects of the risk assessment process, which can result in

overestimations or underestimations of the true ecological risk present at the site. For the SLERA, the three key areas of uncertainty include the following:

- Sampling methods
- Analytical results
- Screening criteria

These are discussed below.

### 3.4.1 Uncertainty in the Sampling Methods

The analytical datasets from multiple sources and from different sampling events were combined for this assessment. Only unfiltered surface water samples were available from these datasets. These likely overestimate the potential organic and inorganic chemical concentrations, and also do not represent only the dissolved phase concentrations, which is the fraction that elicits the toxic response. Suspended solids are usually present in unfiltered surface water samples, especially those exhibiting turbidity. Although the suspended solids data was limited from the historical datasets, the high turbidity of the surface water observed during the July 2006 sampling effort (e.g., Appendix D, Figure D-2). Therefore, use of the unfiltered surface water results for chemical screening is a conservative approach.

The field duplicate results were treated as independent samples since it was not known whether a thorough homogenization technique was used to prepare these quality control samples. A comparison of the split samples collected by SWP during the NCDENR field collections was not performed for the SLERA.

### 3.4.2 Uncertainty in the Analytical Results

As discussed above, the analytical datasets from multiple sources, sampling dates, and laboratories were combined for this assessment. Although for recalcitrant chemicals in sediments this is less significant, there is greater uncertainty when combining historical surface water results.

It was noted for some of the samples that the PAHs benzo(b)fluoranthene and benzo(k)fluoranthene were reported as co-eluting pairs. This is not uncommon, and the combined results is often reported as "benzo(b&k)fluoranthene", or a similar descriptor. For the SLERA these results were evaluated independently of the individual isomers.

### 3.4.3 Uncertainty in the Screening Criteria and Methodology

Consistent with NCDENR (2003) guidance, the maximum SQL values for the non-detect results were also evaluated as part of the chemical screen. Although reasonable from a screening perspective in order to eliminate (or reduce) the potential to make a false negative conclusion (i.e., screen out a chemical when it should be retained for further assessment), there is uncertainty in applying this approach since a chemical may be retained when it is in fact not present in the evaluated matrix. That said, for the screening performed as part of the SLERA, none of the chemicals that were not detected in the sampled media exceeded their screening benchmarks.

In most cases the sediment screening criteria were based on potential impacts to benthic invertebrates. As noted during the RBP assessment performed in July 2006, and by NCDENR (1999b), the substrate and hydrologic conditions of both the Drainage Ditch and Cedar Creek are unlikely to support a robust benthic community. Therefore, use of the benchmarks derived from benthic sensitivity to assess sediment quality may be conservative. Nonetheless, use of conservative benchmarks is not unreasonable during the SLERA process.

## 3.5 Strategic/Management Decision Point

Generally, SMDPs provide an opportunity to fine tune and focus any additional activities to address the specific goals of the different steps in the ERAGS process (USEPA, 1997). For example, SMDPs provide the opportunity to exit the process where the weight of evidence supports no further action.

Existing habitat conditions in the Drainage Ditch and Cedar Creek were determined to be poor or poor-to-fair, based on application of the RBP process during the ecological survey performed in July 2006. These results are consistent with the conclusions made during a prior survey of Cedar Creek reported by NCDENR (1999b). The naturally depauperate conditions of Cedar Creek preclude the development of a robust creek-wide benthic or fish community. Mosquitofish, a native fish species in North Carolina often used for mosquito control, was observed only in the Drainage Ditch near the confluence with Cedar Creek. Consequently, any assessment endpoints based upon direct contact of sediments to these receptors would have limited value for risk management decisions.

Cedar Creek may also receive chemical inputs from other sources. For example, woodland fires caused by accident (e.g., lightning strikes), for maintenance of fire breaks, or for removal of underbrush and unsuitable woody material occur in the vicinity of the former SWP facility. These fires can contribute to PCDD/F loadings (typically as octachlorodibenzo-p-dioxin [OCDD] and hepta-chlorinated dibenzo-p-dioxins [HpCDD]) in the area (USEPA, 1998b).

The abiotic chemical screen performed as part of the SLERA indicate that the maximum chemical concentrations for pentachlorophenol in surface water (observed only at the confluence of the Drainage Ditch and Cedar Creek near the facility), and PCDD/Fs, some metals, PAHs, and phenolics exceeded their sediment screening benchmarks (i.e., $HQ_{screen}$ values greater than one) indicating that there is the potential for adverse ecological effects and that the need for a more thorough assessment needs to be evaluated against additional weight-of-evidence criteria, such as the ecological condition of the creek and ditch. .

### 3.5.1 Step 3 – Refinement of Chemicals of Potential Concern and Problem Formulation

In the comment letter to the WPM, NCDENR (2006) outlined the elements of *Step 3: Refinement of COPECs and Problem Formulation*. The requirements differ slightly from those included in ERAGS Step 3 (USEPA, 1997, 1998c), and include the following:

1. COPECs from the SLERA Steps 1 and 2 can be refined eliminating all chemicals that were not detected, and not expected to be released from the site.

   The remaining COPCs are then summarized using a table format similar to that used in the SLERA (see Appendix B tables), but including additional refinements such as the number of detections above ESVs, mean concentrations, locations exceeding the ESVs, and alternate screening values.

2. Preparation of toxicological profiles for the remaining COPECs, including those studies that can be used to derive Toxicity Reference Values (TRVs).

3. A figure showing the spatial extent of the contaminated medium that may potentially result in adverse effects.

Some of the components of Step 3 have been addressed in this SLERA. As stated earlier the focus of this SLERA was on Steps 1 and 2 of the ERAGS process, consistent with NCDENR (2003) SLERA guidance. Following review of this document by NCDENR, an ERAGS Step 3 report will be prepared which can then be used by NCDENR to determine the need for the preparation of the BERA.

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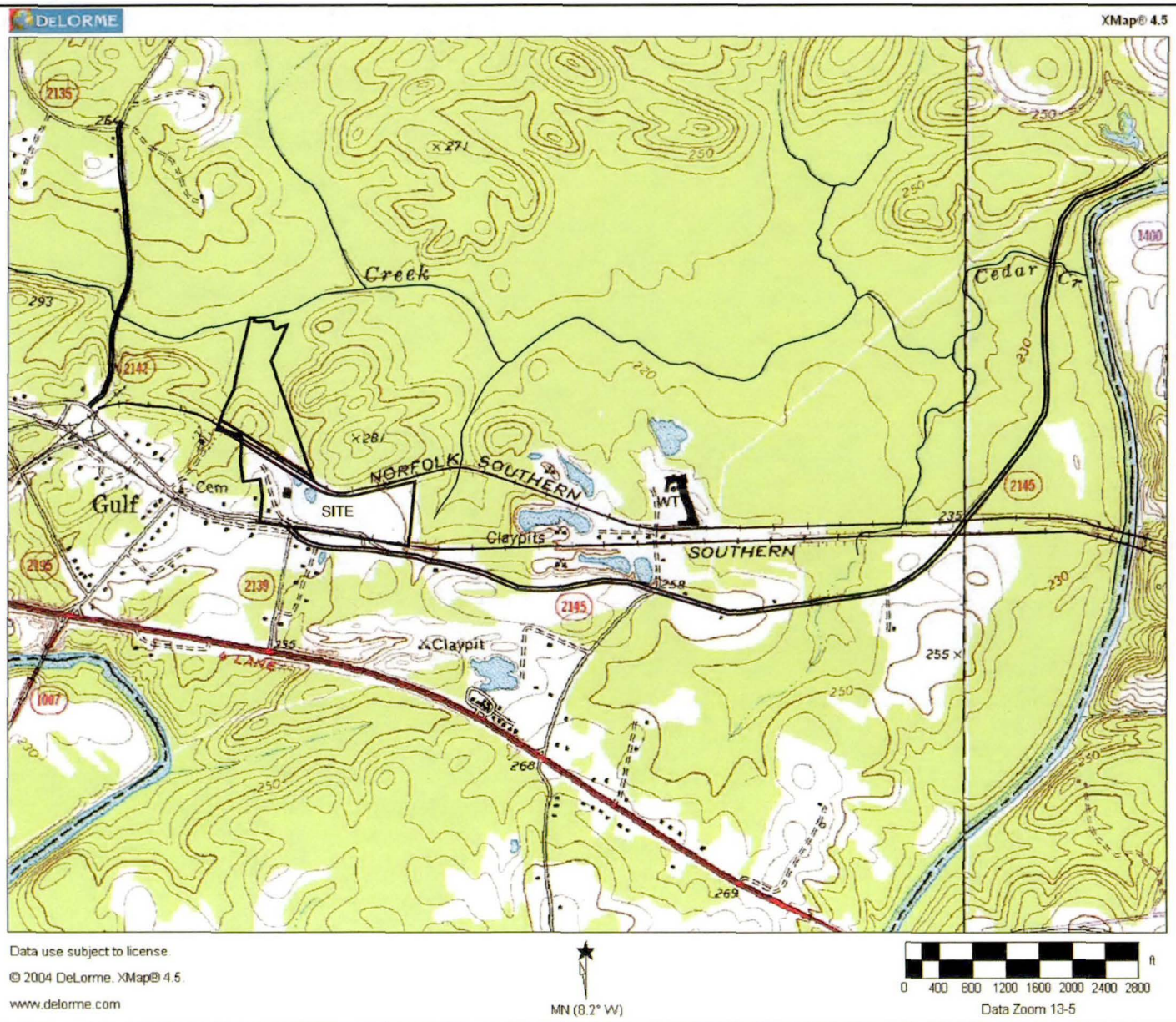


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SITE LOCATION AND TOPOGRAPHIC MAP

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY

PROJECT NO. 979010.A0
FIGURE 1

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3/3/05

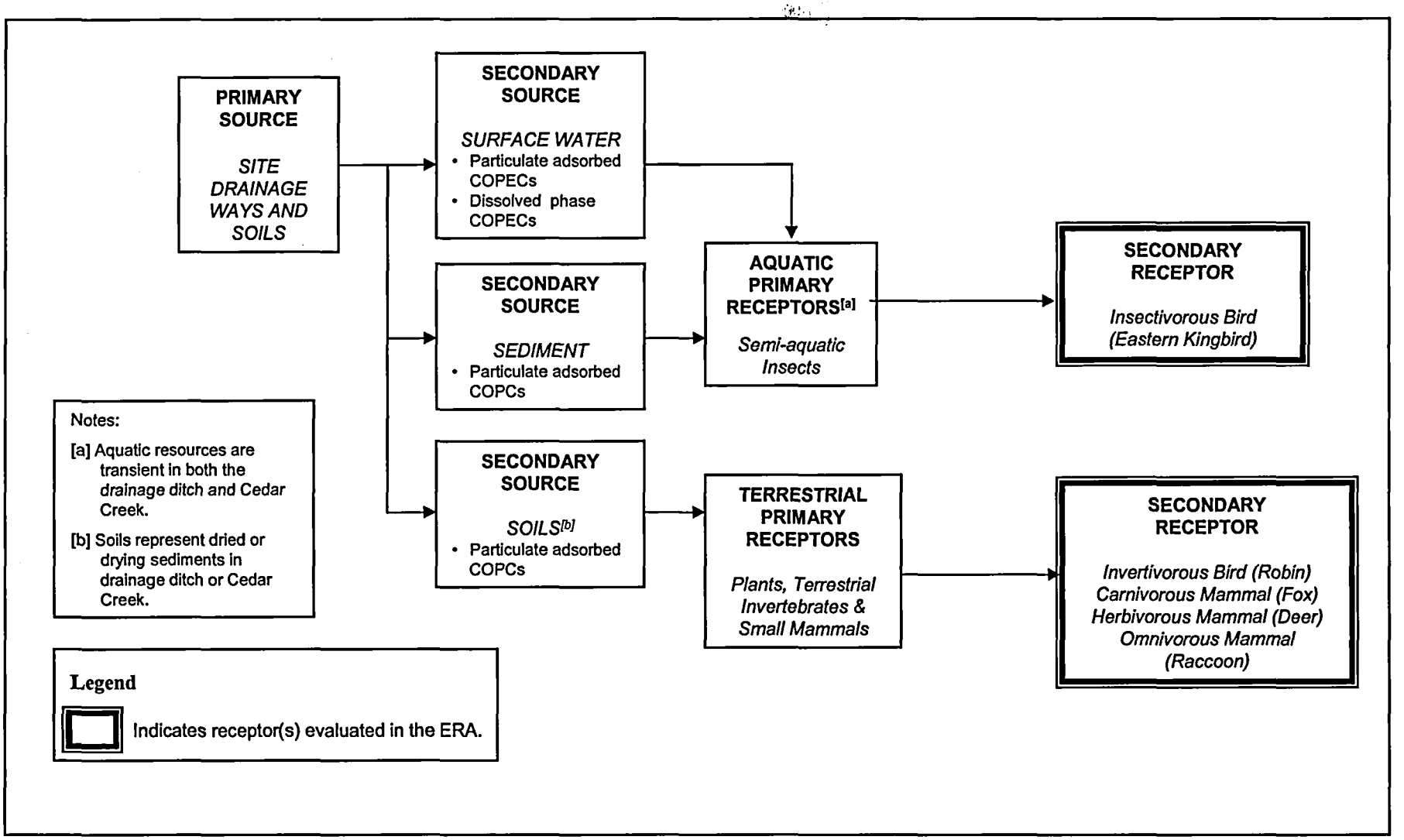
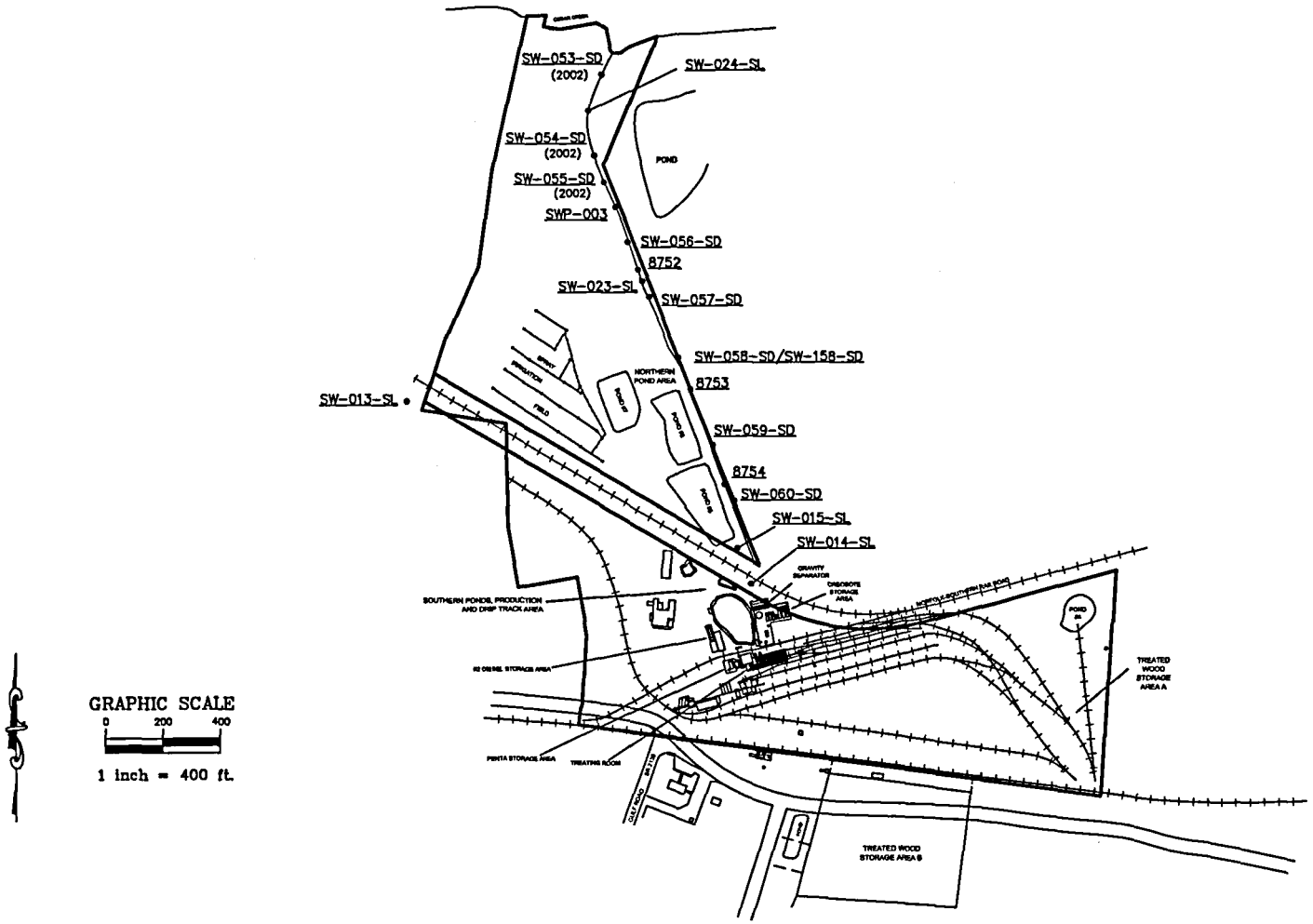



**Figure 2. Conceptual Site Model for the Ecological Risk Assessment of the Former Southern Wood Piedmont–Gulf Facility**




| | | |
|---|---|---|
| Schnabel<br>Schnabel Engineering | DRAINAGE DITCH<br>SEDIMENT SAMPLES | SOUTHERN WOOD PIEDMONT<br>GULF, N.C. FACILITY<br>FIGURE 3A |

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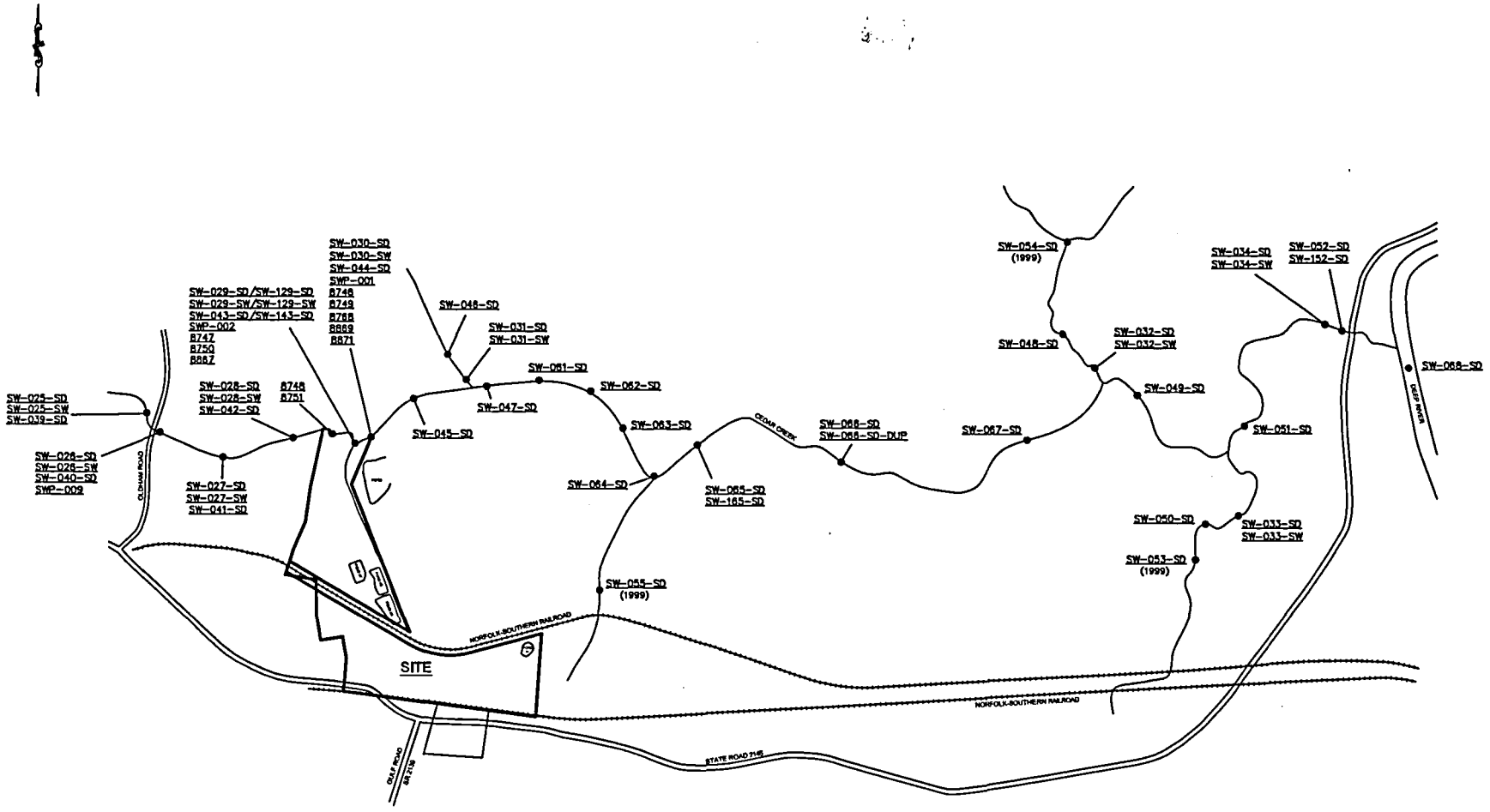


GRAPHIC SCALE

0 500 1000

1 inch = 1000 ft.

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CEDAR CREEK SEDIMENT AND SURFACE WATER SAMPLES

SOUTHERN WOOD PIEDMONT GULF, N.C. FACILITY

FIGURE 3B

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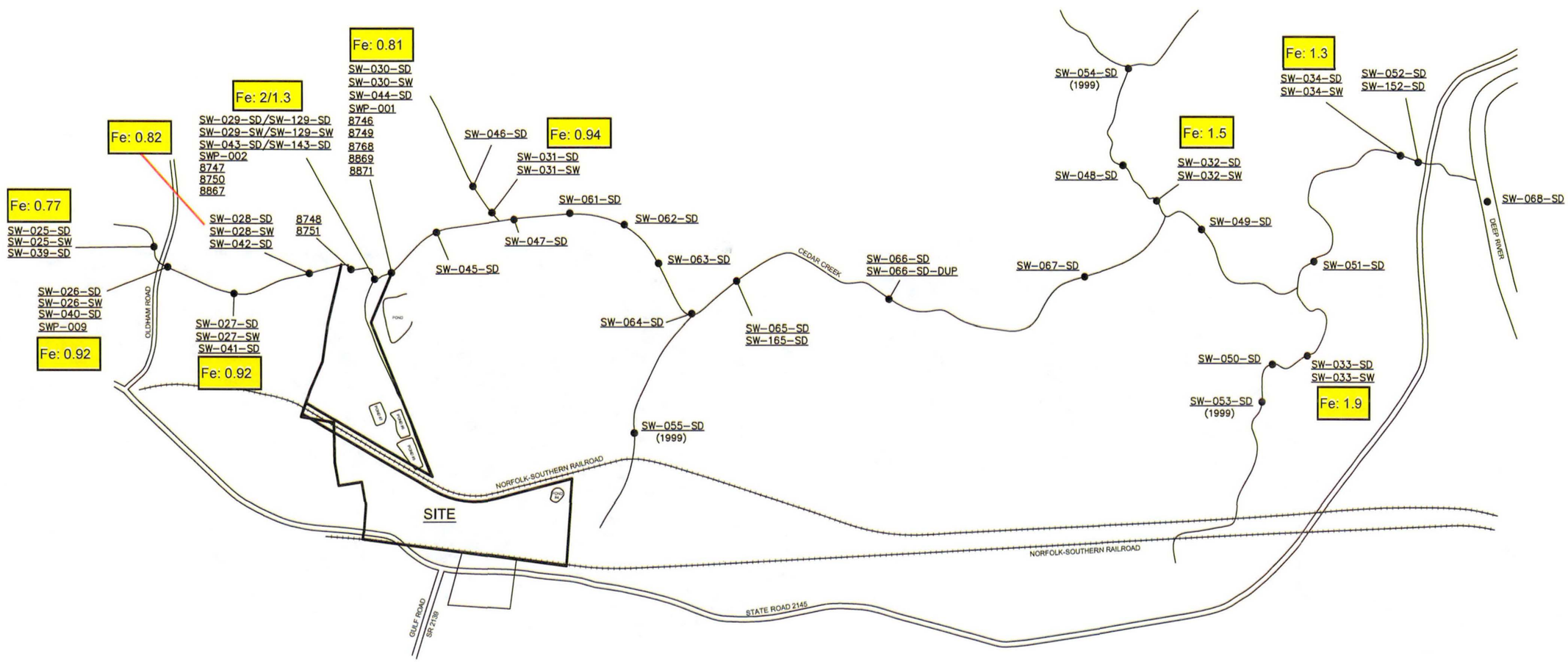


GRAPHIC SCALE

0 500 1000

1 inch = 1000 ft.

Notes:
All concentration units are in mg/L.
Unfiltered water samples were collected.

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IRON RESULTS IN HISTORICAL SURFACE WATER SAMPLES

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY

FIGURE 4

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**Table 1. Results from Application of Rapid Bioassessment Protocol to the Drainage Ditch and Cedar Creek**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| | | Max Values | | | | Areas and Station Ids | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Cedar Creek | | | | | | | Drainage Ditch |
| Metric | Desc | Poor | Fair | Good | Excellent | E1 | E2 | E3 | E4 | E5 | E6 | E7 | E8 |
| 1 | Bottom substrate/available cover | 5 | 10 | 15 | 20 | 2.5 | 2.5 | 5 | 2.5 | 2.5 | 5 | 2.5 | 2.5 |
| 2 | Embeddedness | 5 | 10 | 15 | 20 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| 3 | Flows | 5 | 10 | 15 | 20 | 2.5 | 2.5 | 2.5 | 2.5 | 5 | 6 | 2.5 | 2.5 |
| 4 | Channel alteration | 3 | 7 | 11 | 15 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 5 | Bottom scouring and deposition | 3 | 7 | 11 | 15 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 6 | Pool/riffle, run/bend ratio | 3 | 7 | 11 | 15 | 1.5 | 1.5 | 1.5 | 1.5 | 4 | 4 | 1.5 | 1.5 |
| 7 | Bank stability | 2 | 5 | 8 | 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 8 | Bank vegetation stability | 2 | 5 | 8 | 10 | 9.5 | 9.5 | 7 | 7 | 2 | 6 | 1 | 1 |
| 9 | Streamside cover | 2 | 5 | 8 | 10 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 |
| | | | | | *Totals* | 29.5 | 29.5 | 29.5 | 27 | 26 | 34.5 | 21 | 21 |
| | | | | | Habitat Category | Poor | Poor | Poor | Poor | Poor | Poor-Fair | Poor | Poor |
| Depth (feet) | | | | | | 1.5 | 1 | <1 | 1 | 1.5 | 1 | 3 | 1 |
| Northing (WGS 84) | | | | | | NA | NA | 35.56752 | NA | 35.56740 | 35.56715 | NA | 35.56508 |
| Westing (WGS 84) | | | | | | NA | NA | 79.24854 | NA | 79.27074 | 79.27376 | NA | 79.27814 |

Description of station locations (see Figure D-1):
E1 = At the confluence of Cedar Creek and the Deep River
E2 = At sample location SW-051/152-SD (upstream of the Rt. 2145 bridge)
E3 = Upstream of sample location SW-052/152-SD and downstream of sample location SW-051-SD
E4 = At sample location SW-051-SD
E5 = Cedar Creek, miscellaneous
E6 = Cedar Creek, miscellaneous
E7 = Farthest upstream station on Cedar Creek, by Henry Oldham bridge
E8 = Downstream end of the on-site ditch before it's confluence with Cedar Creek
WGS 84 = World Geodetic Survey, 1984 datum
NA: Data not available or collected.

**Table 2. Preliminary Assessment of Potential Ecological Risk Assessment Exposure Pathways**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Exposure Medium | Exposure Point | Exposure Type | Receptor Group | Rationale for Selection or Exclusion of Exposure Pathway |
|---|---|---|---|---|
| Sediment or SW | Sediment or SW | Direct | Benthic Organisms | Pathway incomplete due to naturally depauperate benthos in Cedar Creek. |
| Sediment or SW | Sediment or SW | Direct | Fish | Pathway incomplete for Cedar Creek due to absence of suitable fishery.<br>Pathway complete for Drainage Ditch due to presence of mosquitofish during July 2006 field survey. |
| Sediment or SW | Fish | Indirect (Food-chain) | Piscivorous Bird (e.g., heron) | Pathway incomplete due to absence of suitable fishery on Cedar Creek |
| Sediment or SW | Insects | Indirect (Food-chain) | Insectivorous Bird (e.g., kingbird) | Pathway complete. |
| Sediment or SW | Small mammals | Indirect (Food-chain) | Carnivorous Bird (e.g., hawk) | Pathway is likely minor due to heavily wooded environment preventing sufficient line-of-sight and flyway for foraging. |
| Sediment or SW | Plants, seeds | Indirect (Food-chain) | Herbivorous Mammal (e.g., deer) | Potential pathway for exposure. |
| Sediment or SW | Fish | Indirect (Food-chain) | Piscivorous Mammal (e.g., mink) | Pathway incomplete due to absence of suitable fishery on Cedar Creek |
| Sediment or SW | Small mammals | Indirect (Food-chain) | Carnivorous Mammal (e.g., fox) | Potential pathway for exposure. |
| Sediment or SW | Multiple | Indirect (Food-chain) | Omnivorous Mammal (e.g., raccoon) | Potential pathway for exposure. |

Note:
SW = Surface water

**Table 3. Summary of Analytical Program for Cedar Creek and Drainage Ditch**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Sample ID | Date Collected | Data Source | Target Analyte(s) | Depth Interval | Comment |
|---|---|---|---|---|---|
| | | | [redacted] | | |
| SWP-003 | 09/21/1983 | EPA | Inorganics, VOC, SVOC | Surface | |
| 8752 | 05/03/1990 | SWP | VOC, SVOC | Not stated | |
| 8753 | 05/03/1990 | SWP | VOC, SVOC | Not stated | |
| 8754 | 05/03/1990 | SWP | VOC, SVOC | Not stated | |
| SW-013-SL | 11/14/1995 | NCDENR | Inorganics, SVOC, Dioxins/Furans | 0 to 12 inches | Background |
| SW-014-SL | 11/14/1995 | NCDENR | Inorganics, VOC, SVOC | 0 to 12 inches | |
| SW-015-SL | 11/14/1995 | NCDENR | Inorganics, VOC, SVOC, Dioxins/Furans | 0 to 6 inches | |
| SW-015-SL | 11/14/1995 | SWP | VOC, SVOC | Split with NCDENR | |
| SW-023-SL | 11/14/1995 | NCDENR | Inorganics, VOC, SVOC | 0 to 6 inches | |
| SW-023-SL | 11/14/1995 | SWP | VOC, SVOC | Split with NCDENR | |
| SW-024-SL | 11/14/1995 | NCDENR | Inorganics, VOC, SVOC, Dioxins/Furans | 0 to 6 inches | |
| SW-024-SL | 11/14/1995 | SWP | VOC, SVOC | Split with NCDENR | |
| SW-053-SD | 07/16/2002 | SWP | SVOC, Dioxins/Furans | 0 to 3 inches | |
| SW-053-SD | 07/19/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-054-SD | 07/16/2002 | SWP | SVOC, Dioxins/Furans | 0 to 3 inches | |
| SW-055-SD | 07/16/2002 | SWP | SVOC | 0 to 3 inches | |
| SW-056-SD | 07/16/2002 | SWP | SVOC | 0 to 3 inches | |
| SW-057-SD | 07/16/2002 | SWP | SVOC, Dioxins/Furans | 0 to 3 inches | |
| SW-058-SD | 07/18/2002 | SWP | SVOC | 0 to 3 inches | |
| SW-158-SD | 07/18/2002 | SWP | SVOC | Duplicate | |
| SW-059-SD | 07/18/2002 | SWP | SVOC, Dioxins/Furans | 0 to 3 inches | |
| SW-059-SD | 07/19/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-059-SD-TCLP | 03/18/2004 | SWP | TCLP SVOC | 0 to 3 inches | |
| SW-060-SD | 07/18/2002 | SWP | SVOC | 0 to 3 inches | |
| | | | [redacted] | | |
| SWP-001 | 09/21/1983 | EPA | Inorganics, VOC, SVOC | Surface | |
| SWP-002 | 09/21/1983 | EPA | Inorganics, VOC, SVOC | Surface | |
| SWP-009 | 09/21/1983 | EPA | Inorganics, VOC, SVOC | Surface | |
| 8749 | 05/03/1990 | SWP | VOC, SVOC | Not stated | |
| 8750 | 05/03/1990 | SWP | VOC, SVOC | Not stated | |
| 8751 | 05/03/1990 | SWP | VOC, SVOC | Not stated | |
| 8871 | 08/13/1990 | SWP | VOC, SVOC | Not stated | |
| SW-025-SD | 11/13/1995 | NCDENR | Inorganics, SVOC, Dioxins/Furans | 0 to 12 inches | Background |
| SW-025-SD | 11/13/1995 | SWP | VOC, SVOC | Split with NCDENR | Background |
| SW-026-SD | 11/13/1995 | NCDENR | Inorganics, SVOC | 0 to 12 inches | Background |
| SW-026-SD | 11/13/1995 | SWP | VOC, SVOC | Split with NCDENR | Background |
| SW-027-SD | 11/13/1995 | NCDENR | Inorganics, SVOC | 0 to 12 inches | Background |
| SW-028-SD | 11/13/1995 | NCDENR | Inorganics, SVOC, Dioxins/Furans | 0 to 12 inches | Background |
| SW-029-SD | 11/13/1995 | NCDENR | Inorganics, SVOC, Dioxins/Furans | 0 to 12 inches | |
| SW-029-SD | 11/13/1995 | SWP | VOC, SVOC | Split with NCDENR | |
| SW-129-SD | 11/13/1995 | NCDENR | Inorganics, SVOC, Dioxins/Furans | Duplicate | |
| SW-029-SD-TCLP | 03/17/2004 | SWP | TCLP SVOC | 0 to 3 inches | |
| SW-030-SD | 11/13/1995 | NCDENR | Inorganic, SVOC | 0 to 12 inches | |
| SW-030-SD | 11/13/1995 | SWP | VOC, SVOC | Split with NCDENR | |
| SW-031-SD | 11/13/1995 | NCDENR | Inorganics, SVOC, Dioxins/Furans | 0 to 12 inches | |
| SW-032-SD | 11/14/1995 | NCDENR | Inorganics, SVOC, Dioxins/Furans | 0 to 12 inches | |
| SW-032-SD | 06/22/2003 | SWP | SVOC | 0 to 3 inches | |
| SW-032-SD | 07/18/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-033-SD | 11/13/1995 | NCDENR | Inorganics, SVOC, Dioxins/Furans | 0 to 12 inches | |
| SW-034-SD | 11/14/1995 | NCDENR | Inorganics, SVOC, Dioxins/Furans | 0 to 12 inches | |
| SW-034-SD | 07/18/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-039-SD | 11/09/1998 | NCDENR | Dioxins/Furans | 0 to 4 inches | |
| SW-039-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-040-SD | 11/09/1998 | NCDENR | Dioxins/Furans | 0 to 4 inches | |
| SW-040-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-041-SD | 11/09/1998 | NCDENR | Dioxins/Furans | 0 to 4 inches | |
| SW-041-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-042-SD | 11/09/1998 | NCDENR | Dioxins/Furans | 0 to 4 inches | |
| SW-042-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-043-SD | 11/09/1998 | NCDENR | Dioxins/Furans | 0 to 4 inches | |
| SW-043-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |

**Table 3. Summary of Analytical Program for Cedar Creek and Drainage Ditch**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Sample ID | Date Collected | Data Source | Target Analyte(s) | Depth Interval | Comment |
|---|---|---|---|---|---|
| SW-143-SD | 11/09/1998 | NCDENR | Dioxins/Furans | Duplicate | |
| SW-143-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Duplicate Split | |
| SW-044-SD | 11/09/1998 | NCDENR | SVOC, Dioxins/Furans | 0 to 4 inches | |
| SW-044-SD | 11/09/1988 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-045-SD | 11/09/1998 | NCDENR | SVOC, Dioxins/Furans | 0 to 4 inches | |
| SW-045-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-045-SD | 07/19/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-046-SD | 11/09/1998 | NCDENR | Dioxins/Furans | 0 to 2 inches | |
| SW-046-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-046-SD | 07/19/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-047-SD | 11/09/1998 | NCDENR | SVOC, Dioxins/Furans | 0 to 2 inches | |
| SW-047-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-047-SD | 07/19/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-048-SD | 11/09/1998 | NCDENR | Dioxins/Furans | 0 to 2 inches | |
| SW-048-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-048-SD | 07/18/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-049-SD | 11/09/1998 | NCDENR | Dioxins/Furans | 0 to 2 inches | |
| SW-049-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-049-SD | 07/18/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-050-SD | 11/09/1998 | NCDENR | Dioxins/Furans | 0 to 2 inches | |
| SW-050-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-050-SD | 07/18/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-051-SD | 11/09/1998 | NCDENR | Dioxins/Furans | 0 to 2 inches | |
| SW-051-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-051-SD | 07/18/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-052-SD | 11/09/1998 | NCDENR | Dioxins/Furans | 0 to 2 inches | |
| SW-052-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Split with NCDENR | |
| SW-052-SD | 07/18/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-152-SD | 11/09/1998 | NCDENR | Dioxins/Furans | Duplicate | |
| SW-152-SD | 11/09/1998 | SWP | SVOC, Dioxins/Furans | Duplicate Split | |
| SW-052-SD Dup | 07/18/2006 | SWP | TOC | Duplicate | |
| SW-053-SD | 04/07/1999 | SWP | Dioxins/Furans | 0 to 2 inches | |
| SW-054-SD | 04/07/1999 | SWP | Dioxins/Furans | 0 to 2 inches | |
| SW-055-SD | 04/07/1999 | SWP | Dioxins/Furans | 0 to 2 inches | |
| SW-061-SD | 07/17/2002 | SWP | SVOC | 0 to 3 inches | |
| SW-062-SD | 07/17/2002 | SWP | SVOC | 0 to 3 inches | |
| SW-063-SD | 07/17/2002 | SWP | SVOC | 0 to 3 inches | |
| SW-064-SD | 07/17/2002 | SWP | SVOC, Dioxins/Furans | 0 to 3 inches | |
| SW-064-SD | 07/19/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-064-SD-TCLP | 03/19/2004 | SWP | TCLP SVOC | 0 to 3 inches | |
| SW-065-SD | 07/17/2002 | SWP | SVOC | 0 to 3 inches | |
| SW-165-SD | 07/17/2002 | SWP | SVOC | Duplicate | |
| SW-066-SD | 07/17/2002 | SWP | Dioxins/Furans | 0 to 3 inches | |
| SW-066-SD | 06/22/2003 | SWP | SVOC | 0 to 3 inches | |
| SW-066-SD | 07/19/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-066-SD-Dup | 06/22/2003 | SWP | SVOC | Duplicate | |
| SW-066-SD-TCLP | 03/19/2004 | SWP | TCLP SVOC | 0 to 3 inches | |
| SW-067-SD | 07/17/2002 | SWP | Dioxins/Furans | 0 to 3 inches | |
| SW-067-SD | 07/19/2006 | SWP | TOC, grain size | 0 to 3 inches | |
| SW-067-SD Dup | 07/19/2006 | SWP | TOC | 0 to 3 inches | |
| SW-167-SD | 07/17/2002 | SWP | Dioxins/Furans | Duplicate | |
| SW-067-SD | 06/22/2003 | SWP | SVOC | 0 to 3 inches | |
| SW-068-SD | 07/17/2002 | SWP | Dioxins/Furans | 0 to 3 inches | |
| | | | [redacted] | | |
| 8746 | 05/03/1990 | SWP | VOC, SVOC | | |
| 8747 | 05/03/1990 | SWP | VOC, SVOC | | |
| 8748 | 05/03/1990 | SWP | VOC, SVOC | | |
| 8867 | 08/13/1990 | SWP | VOC, SVOC | | |
| 8868 | 08/13/1990 | SWP | VOC, SVOC | | |
| 8869 | 08/13/1990 | SWP | VOC, SVOC | Contained disturbed sediment | |
| SW-025-SW | 11/13/1995 | NCDENR | Inorganics, SVOC | | Background |

**Table 3. Summary of Analytical Program for Cedar Creek and Drainage Ditch**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Sample ID | Date Collected | Data Source | Target Analyte(s) | Depth Interval | Comment |
|---|---|---|---|---|---|
| SW-025-SW | 11/13/1995 | SWP | VOC, SVOC | Split with NCDENR | Background |
| SW-026-SW | 11/13/1995 | NCDENR | Inorganics, SVOC | | Background |
| SW-026-SW | 11/13/1995 | SWP | VOC, SVOC | Split with NCDENR | Background |
| SW-027-SW | 11/13/1995 | NCDENR | Inorganics, SVOC | | Background |
| SW-028-SW | 11/13/1995 | NCDENR | Inorganics, SVOC | | Background |
| SW-029-SW | 11/13/1995 | NCDENR | Inorganics, SVOC | | |
| SW-029-SW | 11/13/1995 | SWP | VOC, SVOC | Split with NCDENR | |
| SW-129-SW | 11/13/1995 | NCDENR | Inorganics, SVOC | Duplicate | |
| SW-030-SW | 11/13/1995 | NCDENR | Inorganics, SVOC | | |
| SW-030-SW | 11/13/1995 | SWP | VOC, SVOC | Split with NCDENR | |
| SW-031-SW | 11/13/1995 | NCDENR | Inorganics, SVOC | | |
| SW-032-SW | 11/13/1995 | NCDENR | Inorganics, SVOC | | |
| SW-033-SW | 11/13/1995 | NCDENR | Inorganics, SVOC | | |
| SW-034-SW | 11/13/1995 | NCDENR | Inorganics, SVOC | | |

**Table 4. Sample Locations for the Supplemental 2006 Field Collections**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Sample ID | Location | Descriptor |
|---|---|---|
| SW-050-SD | Tributary to Cedar Creek | Reference location |
| SW-046-SD | Tributary to Cedar Creek | Reference location |
| SW-048-SD | Tributary to Cedar Creek | Reference location |
| SW-032-SD | Tributary to Cedar Creek | Reference location |
| SW-059-SD | Drainage Ditch | Drainage Ditch |
| SW-053-SD | Drainage Ditch | Drainage Ditch, near confluence with Cedar Creek |
| SW-045-SD | Cedar Creek | Main stem location |
| SW-047-SD | Cedar Creek | Main stem location, near confluence with reference location |
| SW-064-SD | Cedar Creek | Main stem location |
| SW-066-SD | Cedar Creek | Main stem location |
| SW-067-SD | Cedar Creek | Main stem location |
| SW-049-SD | Cedar Creek | Main stem location |
| SW-051-SD | Cedar Creek | Main stem location |
| SW-034-SD | Cedar Creek | Main stem location |
| SW-052-SD | Cedar Creek | Main stem location, near confluence with Deep River |

Note:
*These samples were analyzed for total organic carbon and grain size*

**Table 5. Total Organic Carbon and Grain Size Analysis Results for Sediments Collected from the Drainage Ditch and Cedar Creek**
**SWP-Gulf Facility, Gulf, North Carolina**

| Sample ID | Soil Classification | Description | Percent Clay (%) | Percent Gravel (%) | Percent Sand (%) | Percent Silt (%) | Total Organic Carbon | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | mg/Kg | % |
| [illegible] | | | | | | | | |
| SW-053-SD | CL-ML | Fine to medium sandy silty clay | 16.4 | 1.7 | 34.4 | 47.5 | 5,090 | 0.509 |
| SW-059-SD | ML | Silt with sand | 15.4 | 0 | 15 | 69.6 | 9,040 | 0.904 |
| [illegible] | | | | | | | | |
| SW-032-SD | SM | Fine to medium sand with gravel | 12.7 | 22 | 43.8 | 21.5 | 24,900 | 2.49 |
| SW-034-SD | SP-SM | Fine to medium poorly graded sand with silt | 4.7 | 0 | 89.8 | 6.5 | 2,520 | 0.252 |
| SW-045-SD | SM | Fine to medium silty sand with gravel | 3.5 | 29.1 | 51.5 | 15.9 | 3,740 | 0.374 |
| SW-046-SD | SP-SM | Fine to medium poorly graded sand with silt | 0.9 | 0 | 89.9 | 9.2 | 4,530 | 0.453 |
| SW-047-SD | SP-SM | Fine to medium poorly graded sand with silt | 0.8 | 8.1 | 83.7 | 7.4 | 1,830 | 0.183 |
| SW-048-SD | SC-SM | Fine to medium silty clayey sand with gravel | 6.2 | 38 | 47.1 | 8.7 | 16,100 | 1.61 |
| SW-049-SD | SP | Fine to medium poorly graded sand with gravel | 0.8 | 16.1 | 81 | 2.1 | 523 | 0.0523 |
| SW-050-SD | ML | Fine to medium sandy silt | 18.8 | 0 | 47.6 | 38.1 | 44,200 | 4.42 |
| SW-051-SD | CL-ML | Silty clay | 38 | 0 | 3.9 | 58.1 | 7,450 | 0.745 |
| SW-052-SD | CL-ML | Silty clay, trace sand | 21.5 | 0 | 12 | 66.5 | 7,220 | 0.722 |
| SW-052-SD Dup | — | — | — | — | — | — | 8,860 | 0.886 |
| SW-064-SD | ML | Fine to medium sandy silt | 9.3 | 0 | 46.9 | 43.8 | 20,400 | 2.04 |
| SW-066-SD | SM | Fine to medium silty sand | 3.5 | 0 | 77.5 | 19 | 5,900 | 0.59 |
| SW-067-SD | SC | Fine to medim clayey sand | 11.5 | 2.8 | 83 | 2.7 | 917 | 0.0917 |
| SW-067-SD Dup | — | — | — | — | — | — | 737 | 0.0737 |

Notes:
All samples were collected from downstream locations.
A dash ("—") indicates that the sample was not collected. Field duplicates were not collected for grain size analysis

**Table 6. Summary of Maximum Non-Detect Values for Sediment Samples Collected from Background Areas, the Drainage Ditch, and Cedar Creek**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Chemical | Units | Background Samples | | | Drainage Ditch Samples | | | Cedar Creek Samples | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Freq | Max Value | Range | Freq | Max Value | Range | Freq | Max Value | Range |
| ***VOLATILES*** | | | | | | | | | | |
| 2-Butanone | mg/Kg (dw) | 0/2 | 0.025 | 0.012 - 0.025 | 0/6 | 0.05 | 0.013 - 0.05 | 0/6 | 0.05 | 0.013 - 0.05 |
| Acetone | mg/Kg (dw) | NA | 0.016 | 0.012 - 0.016 | 0/1 | 0.02 | 0.013 - 0.02 | --- | 0.016 | 0.013 - 0.016 |
| Benzene | mg/Kg (dw) | 0/3 | 0.016 | 0.005 - 0.016 | 1/11 | 0.015 | 0.005 - 0.015 | 0/8 | 0.016 | 0.005 - 0.016 |
| Ethylbenzene | mg/Kg (dw) | 0/3 | 0.005 | 0.005 - 0.005 | 2/11 | 0.005 | 0.005 - 0.005 | 1/8 | 0.005 | 0.005 - 0.005 |
| Methylene Chloride (dicloromethane) | mg/Kg (dw) | 0/2 | 0.02 | 0.005 - 0.02 | 0/6 | 5 | 0.005 - 5 | 0/6 | 5 | 0.005 - 5 |
| Styrene | mg/Kg (dw) | 0/3 | 0.016 | 0.012 - 0.016 | 1/4 | 0.015 | 0.013 - 0.015 | --- | 0.016 | 0.013 - 0.016 |
| Toluene | mg/Kg (dw) | 1/3 | 0.016 | 0.005 - 0.016 | 3/11 | 0.015 | 0.005 - 0.015 | 3/8 | 0.016 | 0.005 - 0.016 |
| Xylenes | mg/Kg (dw) | 0/3 | NA | 0.005 - 0.016 | 3/11 | 0.014 | 0.005 - 0.014 | 2/8 | 0.016 | 0.005 - 0.016 |
| ***SEMI-VOLATILES*** | | | | | | | | | | |
| 1-Methylnaphthalene | mg/Kg (dw) | 0/1 | NA | NA | 0/1 | NA | NA | 0/2 | NA | NA |
| 2,3,4,6-Tetrachlorophenol | mg/Kg (dw) | 0/2 | 1.7 | 1.7 - 1.7 | 0/15 | 0.33 | 0.05 - 0.33 | 0/16 | 1.7 | 0.33 - 1.7 |
| 2,4,6-Trichlorophenol | mg/Kg (dw) | 0/6 | 2 | 0.33 - 2 | 0/15 | 13 | 0.01 - 13 | 0/28 | 2 | 0.33 - 2 |
| 2,4-Dimethylphenol | mg/Kg (dw) | 0/11 | 2 | 0.33 - 2 | 1/19 | 5.1 | 0.01 - 5.1 | 1/35 | 2 | 0.33 - 2 |
| 2-Chlorophenol | mg/Kg (dw) | 0/6 | 2 | 0.33 - 2 | 0/15 | 13 | 0.01 - 13 | 0/27 | 2 | 0.33 - 2 |
| 2-Methylnaphthalene | mg/Kg (dw) | 0/12 | 2 | 0.33 - 2 | 4/20 | 2 | 0.01 - 2 | 6/39 | 2 | 0.33 - 2 |
| 2-Methylphenol | mg/Kg (dw) | 0/6 | 2 | 0.33 - 2 | 0/15 | 5.1 | 0.01 - 5.1 | 0/28 | 160 | 0.33 - 160 |
| 3/4-Methylphenol | mg/Kg (dw) | 0/10 | NA | NA | 0/9 | NA | NA | 4/35 | NA | NA |
| 4-Chloro-3-methylphenol | mg/Kg (dw) | 0/5 | 2 | 0.33 - 2 | 1/19 | 13 | 0.01 - 13 | 0/22 | 2 | 0.33 - 2 |
| Acenaphthene | mg/Kg (dw) | 0/12 | 2 | 0.33 - 2 | 4/20 | 2 | 0.01 - 2 | 13/38 | 2 | 0.33 - 2 |
| Acenaphthylene | mg/Kg (dw) | 1/10 | 0.51 | 0.33 - 0.51 | 3/14 | 0.44 | 0.33 - 0.44 | 2/32 | 150 | 0.33 - 150 |
| Aniline | mg/Kg (dw) | 0/2 | 0.33 | 0.33 - 0.33 | 0/15 | 2 | 0.05 - 2 | 2/16 | 2 | 0.33 - 2 |
| Anthracene | mg/Kg (dw) | 1/12 | 0.51 | 0.33 - 0.51 | 9/20 | 0.41 | 0.01 - 0.41 | 21/40 | 0.7 | 0.33 - 0.7 |
| Benzo(a)anthracene | mg/Kg (dw) | 1/12 | 0.51 | 0.33 - 0.51 | 10/20 | 0.44 | 0.01 - 0.44 | 21/40 | 2 | 0.33 - 2 |
| Benzo(a)pyrene | mg/Kg (dw) | 1/12 | 0.51 | 0.33 - 0.51 | 10/20 | 0.41 | 0.01 - 0.41 | 20/40 | 2 | 0.33 - 2 |
| Benzo(b)fluoranthene | mg/Kg (dw) | 1/7 | 0.33 | 0.33 - 0.33 | 8/13 | 0.33 | 0.01 - 0.33 | 9/30 | 130 | 0.33 - 130 |
| Benzo(b,k)fluoranthene | mg/Kg (dw) | 1/5 | NA | NA | 6/7 | NA | NA | 10/14 | NA | NA |
| Benzo(g,h,i)perylene | mg/Kg (dw) | 1/10 | 0.51 | 0.33 - 0.51 | 8/14 | 13 | 0.33 - 13 | 8/34 | 2 | 0.028 - 2 |
| Benzo(k)fluoranthene | mg/Kg (dw) | 0/6 | 0.33 | 0.33 - 0.33 | 7/12 | 0.33 | 0.01 - 0.33 | 5/28 | 140 | 0.33 - 140 |
| Biphenyl | mg/Kg (dw) | 0/1 | NA | NA | 0/1 | NA | NA | 0/2 | 2 | 2 - 2 |
| Carbazole | mg/Kg (dw) | 0/8 | 0.51 | 0.33 - 0.51 | 4/20 | 0.42 | 0.01 - 0.42 | 9/28 | 0.7 | 0.33 - 0.7 |
| Chrysene | mg/Kg (dw) | 2/12 | 0.51 | 0.33 - 0.51 | 12/20 | 0.41 | 0.01 - 0.41 | 22/40 | 0.7 | 0.33 - 0.7 |
| Dibenzo(a,h)anthracene | mg/Kg (dw) | 0/12 | 2 | 0.33 - 2 | 2/20 | 13 | 0.01 - 13 | 9/39 | 2 | 0.33 - 2 |
| Dibenzofuran | mg/Kg (dw) | 0/10 | 2 | 0.33 - 2 | 4/14 | 2 | 0.33 - 2 | 7/33 | 2 | 0.041 - 2 |
| Fluoranthene | mg/Kg (dw) | 2/12 | 0.51 | 0.33 - 0.51 | 11/20 | 0.41 | 0.01 - 0.41 | 24/40 | 0.7 | 0.33 - 0.7 |
| Fluorene | mg/Kg (dw) | 1/12 | 0.51 | 0.33 - 0.51 | 4/20 | 0.42 | 0.01 - 0.42 | 19/40 | 0.7 | 0.33 - 0.7 |
| Indeno(1,2,3-cd)pyrene | mg/Kg (dw) | 1/12 | 0.51 | 0.33 - 0.51 | 5/20 | 13 | 0.01 - 13 | 10/40 | 2 | 0.33 - 2 |
| Isophorone | mg/Kg (dw) | 0/5 | 0.51 | 0.33 - 0.51 | 1/13 | 13 | 0.33 - 13 | 0/17 | 2 | 0.031 - 2 |
| Naphthalene | mg/Kg (dw) | 0/12 | 2 | 0.35 - 2 | 4/20 | 2 | 0.01 - 2 | 6/39 | 2 | 0.35 - 2 |
| Pentachlorophenol | mg/Kg (dw) | 0/12 | 2 | 0.89 - 2 | 5/20 | 32 | 0.05 - 32 | 5/38 | 3.6 | 0.89 - 3.6 |
| Phenanthrene | mg/Kg (dw) | 1/12 | 0.51 | 0.33 - 0.51 | 9/20 | 0.41 | 0.01 - 0.41 | 21/40 | 0.7 | 0.33 - 0.7 |
| Phenol | mg/Kg (dw) | 0/6 | 2 | 0.33 - 2 | 3/15 | 13 | 0.01 - 13 | 0/28 | 2 | 0.33 - 2 |
| Pyrene | mg/Kg (dw) | 2/10 | 0.51 | 0.33 - 0.51 | 11/14 | 0.33 | 0.33 - 0.33 | 17/34 | 160 | 0.33 - 160 |

**Table 6. Summary of Maximum Non-Detect Values for Sediment Samples Collected from Background Areas, the Drainage Ditch, and Cedar Creek**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Chemical | Units | Background Samples | | | Drainage Ditch Samples | | | Cedar Creek Samples | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Freq | Max Value | Range | Freq | Max Value | Range | Freq | Max Value | Range |
| ***METALS*** | | | | | | | | | | |
| Aluminum | mg/Kg (dw) | 6/6 | NA | NA | 5/5 | NA | NA | 9/9 | NA | NA |
| Antimony | mg/Kg (dw) | --- | 1 | 1 - 1 | 0/2 | 4 | 1 - 4 | 0/3 | 5 | 1 - 5 |
| Arsenic | mg/Kg (dw) | 4/6 | 3 | 2 - 3 | 5/5 | NA | NA | 6/9 | 2 | 1 - 2 |
| Barium | mg/Kg (dw) | 6/6 | NA | NA | 5/5 | NA | NA | 9/9 | NA | NA |
| Beryllium | mg/Kg (dw) | 3/6 | 1 | 0.25 - 1 | 5/5 | NA | NA | 5/9 | 1 | 0.25 - 1 |
| Cadmium | mg/Kg (dw) | 0/6 | 0.3 | 0.05 - 0.3 | 0/5 | 0.34 | 0.05 - 0.34 | 0/9 | 0.36 | 0.05 - 0.36 |
| Calcium | mg/Kg (dw) | 5/6 | NA | NA | 4/4 | NA | NA | 7/7 | NA | NA |
| Chromium | mg/Kg (dw) | 6/6 | NA | NA | 5/5 | NA | NA | 9/9 | NA | NA |
| Cobalt | mg/Kg (dw) | 1/6 | 8 | 4 - 8 | 2/5 | 20 | 9 - 20 | 4/9 | 20 | 4 - 20 |
| Copper | mg/Kg (dw) | 2/6 | 8 | 3 - 8 | 4/5 | 20 | 20 - 20 | 4/9 | 20 | 20 - 20 |
| Iron | mg/Kg (dw) | 6/6 | NA | NA | 5/5 | NA | NA | 9/9 | NA | NA |
| Lead | mg/Kg (dw) | 6/6 | NA | NA | 5/5 | NA | NA | 9/9 | NA | NA |
| Magnesium | mg/Kg (dw) | 5/5 | NA | NA | 4/4 | NA | NA | 7/7 | NA | NA |
| Manganese | mg/Kg (dw) | 6/6 | NA | NA | 5/5 | NA | NA | 9/9 | NA | NA |
| Mercury | mg/Kg (dw) | 0/5 | 0.06 | 0.06 - 0.06 | 0/4 | 0.07 | 0.06 - 0.07 | 0/7 | 0.2 | 0.06 - 0.2 |
| Nickel | mg/Kg (dw) | 2/6 | 8 | 3 - 8 | 5/5 | NA | NA | 5/9 | 15 | 3 - 15 |
| Potassium | mg/Kg (dw) | 5/5 | NA | NA | 4/4 | NA | NA | 7/7 | NA | NA |
| Selenium | mg/Kg (dw) | 0/5 | 1 | 0.46 - 1 | 0/4 | 1 | 0.51 - 1 | 0/7 | 1 | 0.57 - 1 |
| Silver | mg/Kg (dw) | 1/6 | 0.83 | 0.73 - 0.83 | 1/5 | 0.93 | 0.79 - 0.93 | 2/9 | 1 | 0.87 - 1 |
| Sodium | mg/Kg (dw) | 0/5 | 90 | 20 - 80 | 0/4 | 220 | 80 - 220 | 0/7 | 190 | 40 - 190 |
| Thallium | mg/Kg (dw) | 0/5 | 0.55 | 0.48 - 0.55 | 0/4 | 0.62 | 0.5 - 0.62 | 0/7 | 0.66 | 0.05 - 0.66 |
| Tin | mg/Kg (dw) | 1/1 | NA | NA | 1/1 | NA | NA | 2/2 | NA | NA |
| Vanadium | mg/Kg (dw) | 6/6 | NA | NA | 5/5 | NA | NA | 9/9 | NA | NA |
| Zinc | mg/Kg (dw) | 1/6 | 40 | 20 - 30 | 1/5 | 50 | 30 - 50 | 2/9 | 40 | 30 - 40 |
| ***DIOXINS/FURANS*** | | | | | | | | | | |
| 2,3,7,8-TCDD | ng/Kg (dw) | 2/11 | NA | NA | 1/6 | NA | NA | 9/38 | NA | NA |
| 1,2,3,7,8-PeCDD | ng/Kg (dw) | 1/11 | 12 | 3.2 - 12 | 3/6 | 5 | 5 - 5 | 21/38 | 16 | 4.2 - 16 |
| 1,2,3,4,7,8-HxCDD | ng/Kg (dw) | 1/11 | 12 | 0.05 - 12 | 6/6 | NA | NA | 27/38 | 16 | 4.3 - 16 |
| 1,2,3,6,7,8-HxCDD | ng/Kg (dw) | 1/11 | 12 | 0.05 - 12 | 6/6 | NA | NA | 37/38 | 5 | 5 - 5 |
| 1,2,3,7,8,9-HxCDD | ng/Kg (dw) | 1/11 | 12 | 0.05 - 12 | 6/6 | NA | NA | 36/38 | 5 | 5 - 5 |
| 1,2,3,4,6,7,8-HpCDD | ng/Kg (dw) | 4/11 | 30 | 3.2 - 30 | 6/6 | NA | NA | 38/38 | NA | NA |
| OCDD | ng/Kg (dw) | 9/11 | 140 | 140 - 140 | 6/6 | NA | NA | 38/38 | NA | NA |
| 2,3,7,8-TCDF | ng/Kg (dw) | 3/11 | NA | NA | 1/6 | NA | NA | 20/38 | NA | NA |
| 1,2,3,7,8-PeCDF | ng/Kg (dw) | 0/7 | 15 | 0.05 - 12 | 1/6 | 18 | 5 - 18 | 11/31 | 20.4 | 0.05 - 20.4 |
| 2,3,4,7,8-PeCDF | ng/Kg (dw) | 1/11 | 12 | 0.06 - 12 | 2/6 | 18 | 5 - 18 | 17/38 | 15.7 | 0.05 - 15.7 |
| 1,2,3,4,7,8-HxCDF | ng/Kg (dw) | 1/11 | 15 | 0.04 - 12 | 4/6 | 210 | 200 - 210 | 22/38 | 1200 | 4.3 - 1200 |
| 1,2,3,6,7,8-HxCDF | ng/Kg (dw) | 1/11 | 12 | 0.04 - 12 | 3/6 | 18 | 5 - 18 | 23/38 | 17 | 0.3 - 17 |
| 1,2,3,7,8,9-HxCDF | ng/Kg (dw) | 1/11 | 15 | 0.05 - 12 | 4/6 | 18 | 0.3 - 18 | 17/38 | 17 | 0 - 17 |
| 2,3,4,6,7,8-HxCDF | ng/Kg (dw) | 1/11 | 12 | 0.04 - 12 | 2/6 | 18 | 18 - 18 | 12/38 | 38 | 4.2 - 38 |
| 1,2,3,4,6,7,8-HpCDF | ng/Kg (dw) | 4/11 | 12 | 0.1 - 12 | 6/6 | NA | NA | 38/38 | NA | NA |
| 1,2,3,4,7,8,9-HpCDF | ng/Kg (dw) | 1/11 | 12 | 0.1 - 12 | 6/6 | NA | NA | 32/38 | 16 | 4.3 - 16 |
| OCDF | ng/Kg (dw) | 1/10 | 25 | 0.1 - 25 | 6/6 | NA | NA | 37/38 | 32 | 32 - 32 |

**Table 6. Summary of Maximum Non-Detect Values for Sediment Samples Collected from Background Areas, the Drainage Ditch, and Cedar Creek**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Chemical | Units | Background Samples | | | Drainage Ditch Samples | | | Cedar Creek Samples | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Freq | Max Value | Range | Freq | Max Value | Range | Freq | Max Value | Range |
| Dioxin-TEQ (mammalian) | ng/Kg (dw) | 10/11 | [1] | [1] | 6/6 | NA | NA | 38/38 | NA | NA |
| Dioxin-TEQ (avian) | ng/Kg (dw) | 10/11 | [1] | [1] | 6/6 | NA | NA | 38/38 | NA | NA |

Notes:
Background areas combine the samples from the creek and drainage ditch background samples
NA: Not available or not applicable.
[1] Calculated mammalian-TEQ and avian-TEQ values were 15.1 and 21.1 ng/Kg (dw), respectfully, if all non-detect congeners were set to one-half the SQL.

**Table 7. Summary of Maximum Non-Detect Values for Surface Water Samples Collected from Background Areas and Cedar Creek**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| *Area* | Background Samples | | | Cedar Creek Samples | | |
|---|---|---|---|---|---|---|
| *Summary Stats* | Freq | Max Value | Range | Freq | Max Value | Range |
| *Volatiles* | | | | | | |
| 2-Butanone | 0/2 | 0.025 | 0.01 - 0.025 | 0/7 | 0.025 | 0.01 - 0.025 |
| Benzene | 0/2 | 0.01 | 0.005 - 0.01 | 0/7 | 0.01 | 0.001 - 0.01 |
| Ethylbenzene | 0/2 | 0.005 | 0.005 - 0.005 | 0/7 | 0.005 | 0.001 - 0.005 |
| Methylene Chloride | 0/2 | 0.01 | 0.005 - 0.01 | 0/7 | 0.01 | 0.001 - 0.01 |
| Toluene | 0/2 | 0.01 | 0.005 - 0.01 | 0/7 | 0.01 | 0.001 - 0.01 |
| Xylenes | 0/2 | 0.01 | 0.005 - 0.01 | 0/7 | 0.01 | 0.001 - 0.01 |
| *Semi-Volatiles* | | | | | | |
| p-Chloro-m-cresol | 0/6 | NA | NA | 0/14 | NA | NA |
| 2-Methylnaphthalene | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| 2-Methylphenol | 0/2 | 0.01 | 0.01 - 0.01 | 0/7 | 0.01 | 0.01 - 0.01 |
| 2,3,4,6-Tetrachlorophenol | 0/2 | 0.05 | 0.05 - 0.05 | 0/7 | 0.05 | 0.01 - 0.05 |
| 2,4-Dimethylphenol | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| 2,4,6-Trichlorophenol | 0/2 | 0.01 | 0.01 - 0.01 | 0/7 | 0.01 | 0.01 - 0.01 |
| 2-Chlorophenol | 0/2 | 0.01 | 0.01 - 0.01 | 0/7 | 0.01 | 0.01 - 0.01 |
| Acenaphthene | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| Acenaphthylene | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| Aniline | 0/4 | 0.05 | 0.05 - 0.05 | 0/7 | 0.05 | 0.01 - 0.05 |
| Anthracene | 0/2 | 0.01 | 0.01 - 0.01 | 0/7 | 0.01 | 0.01 - 0.01 |
| Benzo(a)anthracene | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| Benzo(a)pyrene | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| Benzo(b)fluoranthene | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| Benzo(k)fluoranthene | 0/2 | 0.01 | 0.01 - 0.01 | 0/7 | 0.01 | 0.01 - 0.01 |
| Benzo(b,k)fluoranthene | 0/2 | 0.01 | 0.01 - 0.01 | 0/7 | 0.01 | 0.01 - 0.01 |
| Benzo(g,h,i)perylene | 0/4 | 0.01 | 0.01 - 0.01 | 0/7 | 0.01 | 0.01 - 0.01 |
| Carbazole | 0/4 | 0.05 | 0.01 - 0.05 | 0/9 | 0.05 | 0.01 - 0.05 |
| Chrysene | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| Dibenzo(a,h)anthracene | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| Dibenzofuran | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| Fluoranthene | 0/4 | 0.01 | 0.01 - 0.01 | 0/9 | 0.01 | 0.01 - 0.01 |
| Fluorene | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| Indeno(1,2,3-cd)pyrene | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| Isophorone | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| Naphthalene | 0/4 | 0.01 | 0.01 - 0.01 | 0/9 | 0.05 | 0.01 - 0.05 |
| Pentachlorophenol | 0/6 | 0.05 | 0.025 - 0.05 | 3/14 | 0.05 | 0.01 - 0.05 |
| Phenanthrene | 0/6 | 0.01 | 0.01 - 0.01 | 0/14 | 0.01 | 0.01 - 0.01 |
| Phenol | 0/2 | 0.01 | 0.01 - 0.01 | 0/7 | 0.01 | 0.01 - 0.01 |
| Pyrene | 0/4 | 0.01 | 0.01 - 0.01 | 0/7 | 0.01 | 0.01 - 0.01 |
| *Inorganics* | | | | | | |
| Aluminum | 4/4 | NA | NA | 7/7 | NA | NA |
| Antimony | 0/4 | 0.02 | 0.02 - 0.02 | 0/7 | 0.02 | 0.02 - 0.02 |
| Arsenic | 0/4 | 0.003 | 0.003 - 0.003 | 0/7 | 0.003 | 0.003 - 0.003 |
| Barium | 4/4 | NA | NA | 7/7 | NA | NA |
| Beryllium | 0/4 | 0.001 | 0.001 - 0.001 | 0/7 | 0.001 | 0.001 - 0.001 |
| Cadmium | 0/4 | 0.002 | 0.002 - 0.002 | 0/7 | 0.002 | 0.002 - 0.002 |
| Calcium | 4/4 | NA | NA | 7/7 | NA | NA |
| Chromium | 0/4 | 0.003 | 0.002 - 0.003 | 0/7 | 0.003 | 0.002 - 0.003 |
| Cobalt | 0/4 | 0.004 | 0.003 - 0.004 | 0/7 | 0.003 | 0.003 - 0.003 |

**Table 7. Summary of Maximum Non-Detect Values for Surface Water Samples Collected from Background Areas and Cedar Creek**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| *Area* | Background Samples | | | Cedar Creek Samples | | |
|---|---|---|---|---|---|---|
| *Summary Stats* | Freq | Max Value | Range | Freq | Max Value | Range |
| Copper | 0/4 | 0.007 | 0.004 - 0.007 | 0/7 | 0.007 | 0.004 - 0.007 |
| Iron | 4/4 | NA | NA | 7/7 | NA | NA |
| Lead | 0/4 | 0.001 | 0.001 - 0.001 | 0/7 | 0.002 | 0.001 - 0.002 |
| Magnesium | 4/4 | NA | NA | 7/7 | NA | NA |
| Manganese | 4/4 | NA | NA | 7/7 | NA | NA |
| Mercury | 0/4 | 0.0002 | 0.0002 - 0.0002 | 1/7 | 0.0002 | 0.0001 - 0.0002 |
| Nickel | 1/4 | 0.007 | 0.007 - 0.007 | 0/7 | 0.007 | 0.007 - 0.007 |
| Potassium | 4/4 | NA | NA | 7/7 | NA | NA |
| Selenium | 0/4 | 0.003 | 0.003 - 0.003 | 0/7 | 0.003 | 0.003 - 0.003 |
| Silver | 0/4 | 0.004 | 0.003 - 0.004 | 0/7 | 0.005 | 0.003 - 0.005 |
| Sodium | 4/4 | NA | NA | 7/7 | NA | NA |
| Thallium | 0/4 | 0.003 | 0.003 - 0.003 | 0/7 | 0.003 | 0.003 - 0.003 |
| Vanadium | 0/4 | 0.004 | 0.003 - 0.004 | 0/7 | 0.005 | 0.003 - 0.005 |
| Zinc | 2/4 | 0.008 | 0.007 - 0.008 | 0/7 | 0.02 | 0.007 - 0.02 |

Notes:
All concentration units are in mg/L.
There were no surface water samples available from the Drainage Ditch.
NA = Not applicable

**Table 8. Comparison of Observed Surface Water Pentachlorophenol Results in Cedar Creek to Sample Specific pH-Dependent Screening Criteria Southern Wood Piedmont - Gulf, North Carolina Facility**

| Sample ID | Sample-Specific Screening Values (µg/L) | | Observed Results (µg/L) | | Exceeds Screening Value? | |
|---|---|---|---|---|---|---|
| | Acute | Chronic | Conc | Lab Flag | Acute | Chronic |
| 8746 | 13.7 | 8.6 | 10 | U | NA | NA |
| 8747 | 13.7 | 8.6 | 150 | | **Yes** | **Yes** |
| 8748 | 13.7 | 8.6 | 10 | U | NA | NA |
| 8867 | 13.7 | 8.6 | 50 | U | NA | NA |
| 8868 | 13.7 | 8.6 | 50 | U | NA | NA |
| 8869 | 13.7 | 8.6 | 50 | U | NA | NA |
| SW-025-SW | 13.7 | 8.6 | 50 | U | NA | NA |
| SW-026-SW | 13.7 | 8.6 | 50 | U | NA | NA |
| SW-029-SW | 13.7 | 8.6 | 50 | U | NA | NA |
| SW-030-SW | 13.7 | 8.6 | 50 | U | NA | NA |
| SW-030-SW (NCDENR) | 13.7 | 8.6 | 25 | U | NA | NA |
| SW-031-SW (NCDENR) | 13.7 | 8.6 | 25 | U | NA | NA |
| SW-032-SW (NCDENR) | 13.7 | 8.6 | 25 | U | NA | NA |
| SW-033-SW (NCDENR) | 13.7 | 8.6 | 25 | U | NA | NA |
| SW-034-SW (NCDENR) | 13.7 | 8.6 | 25 | U | NA | NA |
| SW-027-SW (NCDENR) | 13.7 | 8.6 | 25 | U | NA | NA |
| SW-028-SW (NCDENR) | 13.7 | 8.6 | 25 | U | NA | NA |
| SW-029-SW (NCDENR) | 13.7 | 8.6 | 11 | J | No | **Yes** |
| SW-129-SW (NCDENR) | 13.7 | 8.6 | 16 | J | **Yes** | **Yes** |
| SW-025-SW (NCDENR) | 13.7 | 8.6 | 25 | U | NA | NA |
| SW-026-SW (NCDENR) | 13.7 | 8.6 | 25 | U | NA | NA |

Note:
pH-dependent acute and chronic screening values calculated using equation from NCDENR (2003). Used average measured pH (2006 event) of 7.41 for Cedar Creek.
Lab Flags: U = not detected; J = detected at estimated concentration.
Sample SW-129-SW is a field duplicate of sample SW-029-SW.
All samples were unfiltered.

**Table 9. Comparison of Observed Surface Water Zinc Results to Sample Specific Hardness-Dependent Screening Criteria**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Sample ID | Hardness (mg/L) | Sample-Specific Screening Values (µg/L) | | Observed Results (µg/L) | | Exceeds Screening Value? | |
|---|---|---|---|---|---|---|---|
| | | Acute | Chronic | Conc | Lab Flag | Acute | Chronic |
| SW-025-SW (NCDENR) | 29.1 | 41.1 | 37.2 | 7 | UJ | NA | NA |
| SW-026-SW (NCDENR) | 30.0 | 42.2 | 38.2 | 11 | J | No | No |
| SW-027-SW (NCDENR) | 29.3 | 41.4 | 37.5 | 8 | U | NA | NA |
| SW-028-SW (NCDENR) | 29.1 | 41.1 | 37.2 | 28 | J | No | No |
| SW-029-SW (NCDENR) | 30.7 | 43.0 | 39.0 | 8 | UJ | NA | NA |
| SW-129-SW (NCDENR) | 29.9 | 42.1 | 38.1 | 7 | U | NA | NA |
| SW-030-SW (NCDENR) | 27.5 | 39.2 | 35.5 | 20 | U | NA | NA |
| SW-031-SW (NCDENR) | 12.0 | 19.4 | 17.6 | 7 | U | NA | NA |
| SW-033-SW (NCDENR) | 9.6 | 16.1 | 14.6 | 13 | J | No | No |
| SW-034-SW (NCDENR) | 21.9 | 32.3 | 29.2 | 9 | UJ | NA | NA |
| SW-032-SW (NCDENR) | 14.8 | 23.1 | 20.9 | 7 | U | NA | NA |

*Note:*
Hardness calculated using sample calcium and magnesium results using equation from NCDENR (2003)
Acute and chronic screening values calculaed using equation from NCDENR (2003).
Lab Flags: U = not detected; UJ = not detected at estimated concentration; J = detected at estimated concentration.
Sample SW-129-SW is a field duplicate of sample SW-029-SW.
All samples were unfiltered.
NA = not applicable.

*Appendix A*

*NCDENR Checklist for Ecological Assessments/Sampling*

# APPENDIX A
# CHECKLIST FOR ECOLOGICAL ASSESSMENTS/SAMPLING

1. Site Name: **Southern Wood Piedmont – Gulf Site**
   USEPA ID Number: **NCD053488557**
   Location **SR 2139**
   County: **Chatham** City: **Gulf** State: **NC**

2. Latitude: **35.60639** Longitude: **-79.34**

*Note:*
*Latitude and Longitude information is for the Township of Gulf, as reported at the following URL:*
*http://www.lat-long.com/North-Carolina/Gulf-Township-of_1026536.html*
*Survey location Lat/Long information is shown in Table A1-4.*

3. Attach site maps, including a topographical map, a diagram which illustrates the layout of the facility (e.g., site boundaries, structures, etc.), and maps showing all habitat areas identified in Section III of the checklist. Also, include maps which illustrate known and suspected release areas, sampling locations and any other important features, if available.

**The areas under evaluation include the on-site drainage ditch and Cedar Creek. See attached figures reproduced from the *Work Plan Memorandum for the Preparation of Human Health and Ecological Risk Assessments at the Former Southern Wood Piedmont Facility in Gulf, North Carolina* (Attachment A1; Figures A1-1, A1-2A and A1-2B). Also see attached hand-drawn sketches of existing habitat types on the site observed during site investigations in July 2006 (Figure A1-3), and aerial photographs taken in 1962, 1979 and 2004 (Figures A3-1 and A3-2).**

## II. SITE CHARACTERIZATION

1. Indicate the approximate area of the site (i.e., acres or sq. ft.):

**The approximate areas of the evaluated portions of the site are summarized below:**

- **Drainage ditch: 1,890 linear feet x 3.6 feet width = 0.16 acre**
- **Cedar Creek: : 12,981 linear feet x 25 feet width = 7.40 acre**

***Note: The average stream widths of the drainage ditch and Cedar Creek were based on field measurements collected in July 2006. The linear footages were based upon measurements using AutoCAD files of both features.***

2. Is this the first site visit? ☐ Yes ☒ No
   If no, attach trip report of previous site visit(s), if available.

   Dates(s) of previous site visit(s) **Multiple dates based on prior site investigation activities.**

3. Are aerial or other site photographs available? ☒ Yes ☐ No
If yes, please attach any available photo(s) to the site map to the report.

**See figures provided in Attachment A3**

4. Provide an approximate breakdown of the land uses on the site:

| | | | | | |
|---|---|---|---|---|---|
| ____ | % Heavy Industrial | ____ | % Light Industrial | ____ | % Urban |
| ____ | % Residential | 20 | % Rural | ____ | % Agricultural[b] |
| ____ | % Recreational[a] | 10 | % Undisturbed | 70 | % Other[c] |

[b] For recreational areas, please describe the use of the area (e.g., park, playing field, etc).

[b] For agricultural areas, please list the crops and/or livestock which are present.

[c] For areas designated as "other," please describe the use of the area.

**The site is a former wood treating facility. Most of the site area is characterized by naturalized vegetation. This vegetation ranges from early successional field to mature pine stands. Some small portions of undisturbed vegetation occur along the northern site boundary, coincident with the riparian corridor of Cedar Creek. Site access dirt roads are present and appear to be periodically used.**

5. Provide an approximate breakdown of the land uses in the area surrounding the site. Indicate the radius (in miles) of the area described: **~1 mile**

| | | | | | |
|---|---|---|---|---|---|
| ____ | % Heavy Industrial | 5 | % Light Industrial | ____ | % Urban |
| 20 | % Residential | 20 | % Rural | 15 | % Agricultural[b] |
| 10 | % Recreational[a] | 30 | % Undisturbed | ____ | % Other[c] |

[b] For recreational areas, please describe the use of the area (e.g., park, playing field, etc).

**A portion of the forested properties on the north side of Cedar Creek have property signs that state ownership by a biking club. Portions of the forested areas on the south side of Cedar Creek exhibit signs of use by deer hunters. This evidence includes a deer feeding station, a deer stand, and piles of corn cobs placed along deer trails.**

[b] For agricultural areas, please list the crops and/or livestock which are present.

**Stands of similarly-aged pine trees, growing in loose rows are present both on the site proper as well as on the nearby brick plant property to the east. The pine stands on the site proper are significantly smaller in area than those occurring on the former brick plant property. The adjacent property to the east, west and south of the site is also planted with pine trees for silviculture and harvesting.**

[c] For areas designated as "other," please describe the use of the area.

6. Has any movement of soil taken place at the site? ☒ Yes ☐ No
If yes, indicate the likely source of the disturbance, (e.g., erosion, agricultural, mining, industrial activities, removals, etc.) degree of disturbance, and estimate when these events occurred.

**The site is a former wood treating facility with very few existing above-ground structures in place (see aerial photographs from 1979 and 2004; Figures A3-1 and A3-2). It is likely that a significant amount of earth movement has taken place as part of re-claiming the site (i.e., razing of buildings, maintenance/removal of roads, rough and final grading activities, etc.).**

7. Do any sensitive environmental areas exist adjacent to or in proximity to the site, (e.g. Federal and State parks, National and State monuments, wetlands)? **Yes**
*Remember, flood plains and wetlands are not always obvious; do not answer "no" without confirming information. See Table 1 for a list of contacts.*

Please provide the source(s) of information used to identify these sensitive areas, and indicate their general location on the site map.

**Although wetland areas are present both on the site and adjacent to the site, they have not been mapped by the USFWS National Wetlands Inventory, presumably because of their relatively small size. The NCDENR concluded that wetland areas of any significant size are restricted to the Cedar Creek channel itself (Attachment A1-1). The wetland areas near the creek are fragmented and may be characterized as "moist woods" which are not readily apparent in aerial photography to as wetlands. The presence of these wetlands was verified by a wetlands scientist during site visits in July 2006.**

8. What type of facility is located at the site?

☐ Chemical ☐ Manufacturing ☐ Mixing
☐ Waste Disposal ☒ Other (specify)

**A former wood treatment facility.**

9. Identify the contaminants of potential concern (COPCs) at the site. If known, include the maximum contaminant levels. Please indicate the source of data cited (e.g., RFI, confirmatory sampling, etc).

**PAHs, Dioxins/Furans, Pentachlorophenol**
**See Tables A1-1 and A1-2 for summaries of analytical results for sediment and surface water, respectively.**

10. Check any potential routes of off-site migration of contaminants observed at the site:

☐ Swales ☐ Depressions ☒ Drainage Ditches
☒ Runoff ☐ Windblown Particulates ☐ Vehicular Traffic
☐ Other (specify): _____

11. Indicate the approximate depth to groundwater (in feet below ground surface [(bgs)].

**According to the ESI Report (NCDENR, 1999), the potentiometric head of bedrock wells reported to average 26.7 feet within a 1.5 mile radius of the site, and 24.2 feet for Chatham County. The depth to groundwater for monitoring wells installed as part of the site RI/FS ranged from 4 to 25 ft bgs.**

12. Indicate the direction of groundwater flow (e.g., north, southeast, etc.)

**According to the ESI Report (NCDENR, 1999), the general trend of the groundwater flow was north towards Cedar Creek, although south of the railroad tracks there were eastern and southeastern components to the groundwater flow.**

13. Is the direction of surface runoff apparent from site observations? ☒ Yes ☐ No
If yes, to which of the following does the surface runoff discharge? Indicate all that apply.

☒ Surface water ☐ Groundwater ☐ Sewer

☐ Collection Impoundment

14. Is there a navigable water body or tributary to a navigable water body?

☒ Yes ☐ No **Cedar Creek, which discharges to the Deep River. Cedar Creek meets the Section 404 definition of a "navigable water"; however, it is not navigable in the traditional sense. The surface water in Cedar Creek is shallow in depth, intermittent, with many areas exhibiting zero flow.**

15. Is there a water body anywhere on or in the vicinity of the site? If yes, also complete Section III.B.1: Aquatic Habitat Checklist -- Non-Flowing Systems and/or Section III.B.2: Aquatic Habitat Checklist -- Flowing Systems.

☒ Yes **(approx distance: 1.75 miles from former SWP facility)** ☐ No

*Note:* There is a man-made pond immediately east of the property.

16. Is there evidence of flooding? ☒ Yes ☐ No
*Wetlands and flood plains are not always obvious. Do not answer "no" without confirming information.* If yes, complete Section III.C: Wetland Habitat Checklist.

17. If a field guide was used to aid any of the identifications, please provide a reference. Also, estimate the time spent identifying fauna. (Use a blank sheet if additional space is needed for text.)

Field Guide References: **(1) Peterson's Field Guide to Trees and Shrubs of the Eastern U.S.; (2) Peterson's Field Guide to Wildflowers of the Eastern U.S.; (3) Newcomb's Wildflower Guide; (4) Stokes Animal Tracking and**

| | |
|---|---|
| | **Behavior; (5) Audubon Society Field Guide to Eastern Trees; (6) Peterson's Field Guide to Ferns; (7) Brown's Grasses, an Identification Guide.** |
| Time spent identifying fauna: | **~ 32 hours** |

18. Are any threatened and/or endangered species (plant or animal) known to inhabit the area of the site? ☒ Yes ☐ No
If yes, you are required to verify this information with the U.S. Fish and Wildlife Service or other appropriate agencies (see Table 1 for a list of contacts). If species' identities are known, please list them next.

**See information provided in Attachment A2. Information was from the NC Heritage Program for the Chatham County Area (August 2006 update).**

19. Record weather conditions at the site at the time of the site visit when information for completion of this checklist was prepared:

| | |
|---|---|
| Date: | **7/17/06-7/21/06** |
| Temperature (°C/°F): | **Daytime: 85-100°F**<br>**Nighttime: 65-80°F** |
| Wind (direction/speed): | **No wind except for 7/20/06. On that date, strong winds from the east occurred for approximately ½-hour prior to a short rain shower around 4:30 PM.** |
| Cloud Cover: | **No cloud cover, except for around 4:00 PM on 7/20/06.** |
| Normal daily high temperature (°C/°F): | **86.3 °F** |
| Precipitation (rain, snow): | **A brief rain shower occurred on 7/20/06 from around 4:30 PM to 5:00 PM.** |

***Note:***
***Normal daily high temp was mean of high temps for July reported by the State Climate Office of NC.***
***(URL: http://www.nc-climate.ncsu.edu/cronos/summaries.php?station=KTTA)***

20. Describe reasonable and likely future land and/or water use(s) at the site.

**Present/Future Land Use: Recreational contact of sediments by hunters and hikers. Game hunting occurs in this area.**
**Present/Future Surface Water Use: Recreational contact by hunters and hikers. Both the ditch and the creek are too intermittent to support a sport fishery or waterfowl.**

21. Describe the historical uses of the site. Include information on chemical releases that may have occurred as a result of previous land uses. For each chemical release, provide information on the form of the chemical released (i.e., solid, liquid, vapor) and the known or suspected causes or mechanism of the release (i.e., spills, leaks, material disposal, dumping, explosion, etc.).

**SWP facility was a former wood treatment (creosote and pentachlorophenol) plant. Discharges from the on-property holding ponds were intermittently released to a drainage ditch, which also received stormwater runoff, and which then discharged to Cedar Creek.**

22. Identify the media (e.g., soil [surface or subsurface], surface water, air, groundwater) which are known or suspected to contain COCs.

**Ditch and stream sediments contain COPECs. Trace levels detected infrequently in surface water samples. For some chemicals (e.g., PAHs) the latter may have been an artifact of disturbed sediments in the (unfiltered) surface water samples.**

## SUMMARY OF OBSERVATIONS AND SITE SETTING

**II.A.** Include information on significant source areas and migration pathways that are likely to constitute complete exposure pathways.

**With the exception of the on-site drainage ditch, the site is essentially "reclaimed" and does not present a source area to terrestrial or aquatic ecological receptors. However, the on-site drainage ditch provides a migration pathway directly from the site to Cedar Creek. The on-site drainage ditch itself is a source area for terrestrial and aquatic receptors inhabiting the site and surrounding area. During low flow conditions, the pockets of standing water in the on-site drainage ditch host a number of aquatic invertebrates, small fish, and amphibians that may provide a food source to terrestrial receptors. During high flow conditions, surface water (and possibly some sediments) move through the on-site drainage ditch and into Cedar Creek.**

Checklist Completed by: John Samuelian, Phil Perhamus
Affiliation: AMEC Earth & Environmental
Author Assisted by:
Date: Initial Draft: 15 August 2006; Revisions: 28 November 2006, 8 January 2007

# III. HABITAT EVALUATION

## III.A Terrestrial Habitat Checklist

### III.A.1 Wooded

Are any wooded areas on or adjacent to the site? ☒Yes ☐No

If yes, indicate the wooded area on the attached site map and answer the following questions. If more than one wooded area is present on or adjacent to the site, make additional copies of the following questions and fill out for each individual wooded area. Distinguish between wooded areas by using names or other designations, and clearly identify each area on the site map.

**Note: The following two (2) "wooded areas" are presented for this site: on-site deciduous woods and on-site evergreen woods.**

If no, proceed to Section III.A.2: Shrub/Scrub

## Wooded Area Questions (1 of 2)

☒ On-site ☐ Off-site

Name or Designation: Deciduous woods

1. Estimate the approximate size of the wooded area (**~10% of site area**)
Please identify what information was used to determine the wooded area of the site (e.g., direct observation, photos, etc).

**Assessment was a combination of field observations, review of aerial photographs (see Figures A3-1 and A3-2), and review of ESI and RI reports.**

2. Indicate the dominant type of vegetation in the wooded area. Provide photographs, if available.

☐ Evergreen
☒ Deciduous
☐ Mixed

Dominant plant species, if known:

**Box elder (*Acer negundo*), American sycamore (*Platanus occidentalis*), tulip poplar (*Liriodendron tulipifera*), sweetgum (*Liquidambar styraciflua*), and various species of hickory (*Carya* spp.). See Table A1-3 ("*Plant Species List from Off-Property Areas*") in Attachment A1 for the vegetation survey results.**

3. Estimate the vegetation density of the wooded area.

☐ Dense (i.e., greater than 75% vegetation)
☒ Moderate (i.e., 25% to 75% vegetation)
☐ Sparse (i.e., less than 25% vegetation)

4. Indicate the predominant size of the trees at the site. Use diameter at breast height.

☐ 0-6 inches
☒ 6-12 inches
☐ >12 inches
☐ No single size range is predominant

5. Specify type of understory present, if known. Provide a photograph, if available.

**Japanese honeysuckle (*Lonicera japonica*), stinging nettle (*Urtica dioica*), lady thumb (*Polygonum persicaria*), poison ivy (*Toxicodendron radicans*), multiflora rose (*Rosa multiflora*), Allegheny blackberry (*Rubus allegheniensis*), common greenbrier (*Smilax rotundifolia*), and saplings of the tree species listed above in Question No. 2. See Table A1-3 ("*Plant Species List from Off-Property Areas*") in Attachment A1 for the vegetation survey results.**

## Wooded Area Questions (2 of 2)

☒ On-site ☐ Off-site

Name or Designation: **Pine woods (planted)**

1. Estimate the approximate size of the wooded area (**~5% of the site**)
Please identify what information was used to determine the wooded area of the site (e.g., direct observation, photos, etc).

**Assessment was a combination of field observations, review of aerial photographs, and review of ESI and RI reports.**

2. Indicate the dominant type of vegetation in the wooded area. Provide photographs, if available.

☒ Evergreen
☐ Deciduous
☐ Mixed

Dominant plant species, if known: **Loblolly pine (*Pinus taeda*)**

3. Estimate the vegetation density of the wooded area.

☐ Dense (i.e., greater than 75% vegetation)
☒ Moderate (i.e., 25% to 75% vegetation)
☐ Sparse (i.e., less than 25% vegetation)

4. Indicate the predominant size of the trees at the site. Use diameter at breast height.

☐ 0-6 inches
☒ 6-12 inches
☐ >12 inches
☐ No single size range is predominant

5. Specify type of understory present, if known. Provide a photograph, if available.

**Sparse understory of mixed herbaceous forbs and common roadside weeds. The shade of the evergreens precludes the establishment of a significant understory. See Table A1-3 (*"Plant Species List from Off-Property Areas"*) in Attachment A1 for the vegetation survey results.**

### III.A.2 Shrub/Scrub

Are any shrub/scrub areas on or adjacent to the site? ☒ Yes ☐ No

If yes, indicate the shrub/scrub area on the attached site map and answer the following questions. If more than one shrub/scrub area is present on or adjacent to the site, make additional copies of the following questions and fill out for each individual shrub/scrub area. Distinguish between shrub/scrub areas, using names or other designations, and clearly identify each area on the site map.

**See Figure A1-3 (*"Habitat Map for Drainage Ditch, Cedar Creek and a Portion of Deep River"*) in Attachment A1.**

If no, proceed to Section III.A.3: Open Field

## Shrub/Scrub Area Questions

☒ On-site ☐ Off-site

Name or Designation: **Moist, disturbed scrub-shrub**

1. Estimate the approximate size of the shrub/scrub area: **~2% of site**
   Please identify what information was used to determine the shrub/scrub area of the site (e.g., direct observation, photos, etc).

   **Direct observation during site visits in July 2006.**

2. Indicate the dominant type of shrub/scrub vegetation present, if known.

   **Groundsel tree (*Baccharis halimifolia*), Allegheny blackberry (*Rubus allegheniensis*), wisteria (*Wisteria* sp.), and multiflora rose (*Rosa multiflora*). See Table A1-3 ("*Plant Species List from Off-Property Areas*") in Attachment A1 for the vegetation survey results.**

2. Estimate the vegetation density of the shrub/scrub area.

   ☒Dense (i.e., greater than 75% vegetation)
   ☐Moderate (i.e., 25% to 75% vegetation)
   ☐Sparse (i.e., less than 25% vegetation)

4. Indicate the approximate average height of the scrub/shrub vegetation.

   ☐0-2 feet
   ☐2-5 feet
   ☒>5 feet

   *Note*: Scrub/shrub vegetation height ranges from 5 to 10 feet in the northern pond area at the former facility. This was natural growth that occurred after the northern ponds were backfilled and graded.

5. Specify type of understory present, if known. Provide a photograph, if available.

   **Understory consists of various herbaceous forbs and seedlings. No clear dominant species characterize the understory. See Table A1-3 ("*Plant Species List from Off-Property Areas*") in Attachment A1 for the vegetation survey results.**

### III.A.3 Open Field

Are any open field areas on or adjacent to the site? ☒ Yes ☐ No

If yes, indicate the open field area on the attached site map and answer the following questions. If more than one open field area is present on or adjacent to the site, make additional copies of the following questions and fill out for each individual open field area. Distinguish between open field areas, using names or other designations, and clearly identify each area on the site map.

**See Figure A1-3 ("Habitat Map for Drainage Ditch, Cedar Creek and a Portion of Deep River") in Attachment A1.**

If no, proceed to Section III.A.4: Miscellaneous

## Open Field Area Questions

☒ On-site ☐ Off-site

Name or Designation: **Open field, which includes the former operation and wood storage areas, former and existing railroad beds, and access roads.**

1. Estimate the approximate size of the open field area (**~40% of site**). Please identify what information was used to determine the open field area of the site.

**Direct observations during July 2006 site visit.**

2. Indicate the dominant type of vegetation present, if known.

**The open field community did not exhibit clear dominants; however, abundant plant species included the following: Japanese honeysuckle (*Lonicera japonica*), poison ivy (*Toxicodendron radicans*), red clover (*Trifolium pretense*), common plantain (*Plantago major*), English plantain (*Plantago lanceolata*), hawkweed (*Hieracium* sp.), bush clover (*Lespedeza* sp.), lesser daisy fleabane (*Erigeron strigosus*), various species of foxtail (*Setaria* spp.), various Panicum grasses (*Panicum* spp.), wild carrot (*Daucus carota*), leafy spurge (*Euphorbia esula*), pigweed (*Amaranthus* sp.), common ragweed (*Ambrosia artemisiifolia*), various species of goldenrod (*Solidago* spp.), and tall fescue (*Festuca arundinacea*).**

3. Estimate the vegetation density of the open/field area.

☒ Dense (i.e., greater than 75% vegetation)
☐ Moderate (i.e., 25% to 75% vegetation)
☐ Sparse (i.e., less than 25% vegetation)

4. Indicate the approximate average height of the dominant plant:

| Dominant Plant | Avg Height (units) |
|---|---|
| **General height of overall community** | **2.5 feet** |

### III.A.4 Miscellaneous

Are other types of terrestrial habitats present at the site, other than woods, scrub/shrub and open field? ☐ Yes ☒ No

If yes, indicate the area on the attached site map and answer the following questions. If more than one of these areas are present on or adjacent to the site, make additional copies of the following questions and fill out for each individual area. Distinguish between areas by using names or other designations. Clearly identify each area on the site map.

| |
|---|
| **NA** |

If no, proceed to Section III.B: Aquatic Habitats.

## Miscellaneous Area Questions

☐ On-site ☐ Off-site

Name or Designation: **NA**

1. Provide a description of the terrestrial miscellaneous habitat and identify the area on the site map.

   **None.**

2. Estimate the approximate size of the area (_____% _____acres)

3. What observations, if any, were made at the site regarding the presence and/or absence of insects, birds, mammals, etc.?

4. Review the questions in Section I to determine if any additional habitat checklists should be completed for this site.

## III.B Aquatic Habitats

*Note: Aquatic systems are often associated with wetland habitats. Please refer to Section III.C, Wetland Habitat Checklist.*

### III.B.1 Non-Flowing Systems

Are any non-flowing aquatic features (such as ponds or lakes) located at or adjacent to the site?

☒ Yes ☐ No

If yes, indicate the aquatic feature on the attached site map and answer the following questions regarding the non-flowing aquatic features. If more than one non-flowing aquatic feature is present on or adjacent to the site, make additional copies of the following questions and fill out for each individual aquatic feature. Distinguish between aquatic features by using names or other designations. Clearly identify each area on the site map.

**Note: The following three (3) non-flowing systems are presented for this site: on-site drainage ditch, off-site Cedar Creek, and off-site man-made pond.**

If no, proceed to Section III.B.2: Flowing Systems

amec

## Non-Flowing Aquatic Feature Questions

☒ On-site ☐ Off-site

Name or Designation: **On-site Drainage ditch**

1. Indicate the type of aquatic feature present:

   ☐ Natural (e.g., pond or lake)
   ☒ Man-made (e.g., impoundment, lagoon, canal, etc.)

2. Estimate the approximate size of the water body (in acres or sq. ft.)

   **1,890 linear feet x 3.6 feet width = 0.16 acre**

3. If known, indicate the depth of the water body (in ft. or in.). **~1.5 ft**

4. If a water body is present, what are its known uses (e.g.: recreation, navigation, etc.)?

   **The drainage ditch is for the conveyance of stormwater.**

5. Is aquatic vegetation present? ☐ Yes ☒ No
   If yes, please identify the type of vegetation present if known.

   ☐ Emergent ☐ Submergent ☐ Floating

6. Indicate the general composition of the bottom substrate. Mark all sources that apply from the following list.

   ☐ Bedrock
   ☐ Boulder (>10 in.)
   ☐ Cobble (2.5 - 10 in.)
   ☐ Gravel (0.1 - 2.5 in.)
   ☐ Other (please specify): _____
   ☒ Sand
   ☒ Silt
   ☒ Clay
   ☐ Muck (fine/black)
   ☐ Concrete
   ☐ Debris
   ☒ Detritus

7. Indicate the source(s) of the water in the aquatic feature. Mark all sources that apply from the following list.

   ☐ River/Stream/Creek
   ☐ Groundwater
   ☐ Industrial Discharge
   ☒ Surface Runoff
   ☐ Other (please specify): _____

## Non-Flowing Aquatic Feature Questions (Continued)

8. Is there a discharge from the facility to the aquatic feature? ☒ Yes ☐ No
If yes, describe the origin of each discharge and its migration path.

**The drainage ditch conveys stormwater runoff northward to Cedar Creek.**

9. Does the aquatic feature discharge to the surrounding environment? ☒ Yes ☐ No
If yes, indicate the features from the following list into which the aquatic feature discharges, and indicate whether the discharge occurs onsite or offsite:

| | | |
|---|---|---|
| ☒ River/Stream/Creek | ☐ on-site | ☒ off-site |
| ☐ Groundwater | ☐ on-site | ☐ off-site |
| ☐ Wetland | ☐ on-site | ☐ off-site |
| ☐ Impoundment | ☐ on-site | ☐ off-site |
| ☐ Other (please describe): | _____ | |

10. Identify any field measurements and observations of water quality that were made. Provide the measurement and the units of measure in the appropriate space below:

✓ Area
✓ Depth (average)
✓ Temperature (depth of water where the reading was taken)_____
✓ pH
✓ Dissolved Oxygen
✓ Salinity
✓ Turbidity (clear, slightly turbid, turbid, opaque): *measured as NTUs*
Secchi disk depth: NA
✓ Other (specify): Conductivity

**See Table A1-4 in Attachment A1 for the results of surface water quality field measurements.**

11. Describe observed color and area of coloration.

**The surface water was moderately turbid.**

## Non-Flowing Aquatic Feature Questions (Continued)

12. Mark the open-water, non-flowing system on the site map attached to this checklist.

**See Figure A1-3 ("*Habitat Map for Drainage Ditch, Cedar Creek and a Portion of Deep River*") in Attachment A1.**

13. What observations, if any, were made at the water body regarding the presence and/or absence of benthic macroinvertebrates, fish, birds, mammals, etc?

**Wildlife observations were made and a preliminary benthic macroinvertebrate assessment was conducted. See Table A1-5 for a complete list of wildlife species observed on and around the evaluated areas, and Table A1-6 for a list of benthic macroinvertebrates found at specific survey locations.**

amec

## Non-Flowing Aquatic Feature Questions

☐ On-site ☒ Off-site

Name or Designation: **Cedar Creek, during non-flow conditions**

1. Indicate the type of aquatic feature present:

   ☒ Natural (e.g., pond or lake)
   ☐ Man-made (e.g., impoundment, lagoon, canal, etc.)

2. Estimate the approximate size of the water body (in acres or sq. ft.)

   **12,981 linear feet x 25 feet average width = 7.40 acre**

3. If known, indicate the depth of the water body (in ft. or in.).

   **<1 to 6 feet deep, but mostly 0.5 to 1 foot deep. Dry streambeds were also noted during the July 2006 survey.**

4. If a water body is present, what are its known uses (e.g.: recreation, navigation, etc.)?

   **Minimal recreational. Non-flowing portions of the creek are stagnant areas that are non-navigable.**

5. Is aquatic vegetation present? ☐ Yes ☒ No
   If yes, please identify the type of vegetation present if known.

   ☐ Emergent ☐ Submergent ☐ Floating

6. Indicate the general composition of the bottom substrate. Mark all sources that apply from the following list.

   ☐ Bedrock
   ☐ Boulder (>10 in.)
   ☐ Cobble (2.5 - 10 in.)
   ☐ Gravel (0.1 - 2.5 in.)
   ☐ Other (please specify): _____
   ☒ Sand
   ☒ Silt
   ☒ Clay
   ☐ Muck (fine/black)
   ☐ Concrete
   ☐ Debris
   ☒ Detritus

7. Indicate the source(s) of the water in the aquatic feature. Mark all sources that apply from the following list.

   ☒ River/Stream/Creek
   ☐ Groundwater
   ☐ Industrial Discharge
   ☒ Surface Runoff
   ☐ Other (please specify): _____

## Non-Flowing Aquatic Feature Questions (Continued)

8. Is there a discharge from the facility to the aquatic feature? ☒ Yes ☐ No
If yes, describe the origin of each discharge and its migration path.

**Cedar Creek receives stormwater runoff from the on-site ditch, several tributaries that are not hydrologically connected to the site, and from sheet flow through the wooded riparian corridor.**

9. Does the aquatic feature discharge to the surrounding environment? ☒ Yes ☐ No
If yes, indicate the features from the following list into which the aquatic feature discharges, and indicate whether the discharge occurs onsite or offsite:

| | | |
|---|---|---|
| ☒ River/Stream/Creek | ☐ on-site | ☒ off-site |
| ☐ Groundwater | ☐ on-site | ☐ off-site |
| ☐ Wetland | ☐ on-site | ☐ off-site |
| ☐ Impoundment | ☐ on-site | ☐ off-site |
| ☐ Other (please describe): _____ | | |

10. Identify any field measurements and observations of water quality that were made. Provide the measurement and the units of measure in the appropriate space below:

✓ Area
✓ Depth (average)
✓ Temperature (depth of water where the reading was taken)_____
✓ pH
✓ Dissolved Oxygen
✓ Salinity
✓ Turbidity (clear, slightly turbid, turbid, opaque): *measured as NTUs*
Secchi disk depth: NA
✓ Other (specify): Conductivity

**See Table A1-4 for the results of surface water quality field measurements. Chemical data from prior investigations are summarized in Table A1-2.**

11. Describe observed color and area of coloration.

**The surface water in Cedar Creek ranges from slightly turbid to very turbid.**

## Non-Flowing Aquatic Feature Questions (Continued)

12. Mark the open-water, non-flowing system on the site map attached to this checklist.

**See Figure A1-3 ("*Habitat Map for Drainage Ditch, Cedar Creek and a Portion of Deep River*") in Attachment A1.**

13. What observations, if any, were made at the water body regarding the presence and/or absence of benthic macroinvertebrates, fish, birds, mammals, etc?

**Wildlife observations were made and a preliminary benthic macroinvertebrate assessment was conducted. See Table A1-5 for a complete list of wildlife species observed on and around the site, and Table A1-6 for a list of benthic macroinvertebrates found.**

## Non-Flowing Aquatic Feature Questions

☐ On-site ☒ Off-site

Name or Designation: **Man-made pond**

1. Indicate the type of aquatic feature present:

   ☐ Natural (e.g., pond or lake)
   ☒ Man-made (e.g., impoundment, lagoon, canal, etc.)

2. Estimate the approximate size of the water body (in acres or sq. ft.):

   **~1,200 ft$^2$ or ~0.028 acre**

3. If known, indicate the depth of the water body (in ft. or in.).

   **Unknown, but speculated to be ~6 feet deep in the center of the pond.**

4. If a water body is present, what are its known uses (e.g.: recreation, navigation, etc.)?

   **Recreational fishing is anticipated to occur here.**

5. Is aquatic vegetation present? ☒ Yes ☐ No
   If yes, please identify the type of vegetation present if known.

   ☒ Emergent ☒ Submergent ☒ Floating

6. Indicate the general composition of the bottom substrate. Mark all sources that apply from the following list.

   ☐ Bedrock
   ☐ Boulder (>10 in.)
   ☐ Cobble (2.5 - 10 in.)
   ☒ Gravel (0.1 - 2.5 in.)
   ☐ Other (please specify): _____
   ☒ Sand
   ☒ Silt
   ☒ Clay
   ☐ Muck (fine/black)
   ☐ Concrete
   ☐ Debris
   ☒ Detritus

7. Indicate the source(s) of the water in the aquatic feature. Mark all sources that apply from the following list.

   ☐ River/Stream/Creek
   ☐ Groundwater
   ☐ Industrial Discharge
   ☒ Surface Runoff
   ☐ Other (please specify): _____

## Non-Flowing Aquatic Feature Questions (Continued)

8. Is there a discharge from the facility to the aquatic feature? ☐ Yes ☒ No
If yes, describe the origin of each discharge and its migration path.

9. Does the aquatic feature discharge to the surrounding environment? ☐ Yes ☒ No
If yes, indicate the features from the following list into which the aquatic feature discharges, and indicate whether the discharge occurs onsite or offsite:

| | | |
|---|---|---|
| ☐ River/Stream/Creek | ☐ on-site | ☐ off-site |
| ☐ Groundwater | ☐ on-site | ☐ off-site |
| ☐ Wetland | ☐ on-site | ☐ off-site |
| ☐ Impoundment | ☐ on-site | ☐ off-site |
| ☐ Other (please describe): | _____ | |

*Note*: There is small depression that likely receives overflow from the man-made pond under extreme high water conditions which can discharge to the drainage ditch.

10. Identify any field measurements and observations of water quality that were made. Provide the measurement and the units of measure in the appropriate space below:

✓ Area (estimated)
✓ Depth (estimated average)
✓ Temperature (depth of water where the reading was taken)_____
✓ pH
✓ Dissolved Oxygen
✓ Salinity
✓ Turbidity (clear, slightly turbid, turbid, opaque): *measured as NTUs*
Secchi disk depth: NA
✓ Other (specify): Conductivity

**See Table A1-4 for the results of surface water quality field measurements. There is no chemistry data available for this pond since it is not hydrologically connected to the drainage from the former SWP facility.**

11. Describe observed color and area of coloration.

**The surface water in the off-site pond is slightly turbid.**

## Non-Flowing Aquatic Feature Questions (Continued)

12. Mark the open-water, non-flowing system on the site map attached to this checklist.

**See Figure A1-3 ("*Habitat Map for Drainage Ditch, Cedar Creek and a Portion of Deep River*") in Attachment A1 and the 2004 aerial photograph in Attachment A3, Figure A3-2.**

13. What observations, if any, were made at the water body regarding the presence and/or absence of benthic macroinvertebrates, fish, birds, mammals, etc?

**Wildlife observations were made and a preliminary benthic macroinvertebrate assessment was conducted. See Table A1-5 for a complete list of wildlife species observed on and around the site, and Table A1-6 for a list of benthic macroinvertebrates found.**

### III.B.2 Flowing Systems

*Note: Aquatic systems are often associated with wetland habitats. Please refer to Section III.C, Wetland Habitat Checklist.*

Are any flowing aquatic features (such as streams or rivers) located at or adjacent to the site?

☒ Yes ☐ No

**Note: The flowing system (i.e., the Deep River) described in this section is not adjacent to the site (as stated in the above question). However, it is described here because of its ecological relevance to the Cedar Creek system.**

If yes, indicate the system on the attached site map and answer the following questions regarding the flowing system. If more than one flowing system is present on or adjacent to the site, make additional copies of the following questions and complete one set for each individual aquatic feature. Distinguish between flowing systems by using names or other designation. Clearly identify each area on the site map

If no, proceed to Section III.C: Wetlands Habitats.

## Flowing Aquatic Systems Questions

☐ On-site ☒ Off-site

Name or Designation: **Deep River**

1. Indicate the type of flowing aquatic feature present.

   ☒ River
   ☐ Stream/Creek/Brook
   ☐ Intermittent stream
   ☐ Artificially created (ditch, etc.)
   ☐ Channeling
   ☐ Other (specify)

2. For natural systems, are there any indicators of physical alteration (e.g., channeling, debris, etc.)? ☐ Yes ☒ No
   If yes, please describe the indicators observed.

   **No apparent alterations in the immediate vicinity of the junction of Cedar Creek and the Deep River**

3. Indicate the general composition of the bottom substrate.

   | | | |
   |---|---|---|
   | ☐ Bedrock | ☒ Sand (course) | ☐ Concrete |
   | ☐ Boulder (>10 in.) | ☒ Silt (fine) | ☐ Debris |
   | ☐ Cobble (2.5 - 10 in.) | ☒ Clay (slick) | ☐ Detritus |
   | ☐ Gravel (0.1 - 2.5 in.) | ☐ Muck (fine/black) | ☐ Marl (Shells) |
   | ☐ Other (please specify): | | |

4. Describe the condition of the bank (e.g., height, slope, extent of vegetative cover).

   **Bank height is very high (~15-20 feet) and very steep; however, the banks are well vegetated and exhibit ~80-90% ground cover.**

5. Is the system influenced by tides? ☐ Yes ☒ No
   What information was used to make this determination?

   **Review of information provided in the ESI and RI Reports.**

6. Is the flow intermittent? ☐ Yes ☒ No
   If yes, please note the information used to make this determination.

## Flowing System Questions (Continued)

7. Is there a discharge from the site to the water body? ☐ Yes ☒ No

If yes, describe the origin of each discharge and its migration path.

**Discharge to the Deep River is indirect. Storm water flow from the facility discharges to a drainage ditch on the property. This ditch drains to Cedar Creek, which is 1.75 miles from the Deep River. Cedar Creek has additional tributaries that are unconnected to the site.**

8. Indicate the discharge point of the water body. Specify name of the discharge, if known.

**This portion of the Deep River is upstream of its confluence with the Haw River. This area is within Cape Fear Basin, sub basin 03-06-11.**

9. Identify any field measurements and observations of water quality that were made. Provide the measurement and the units of measure in the appropriate space below:

_____ Area
_____ Depth (average)
_____ Temperature (depth of water where the reading was taken)_____
_____ pH
_____ Dissolved Oxygen
_____ Salinity
Turbidity (clear, slightly turbid, turbid, opaque):
_____ Secchi disk depth:
_____ Other (specify):

**There were no field measurements collected within the Deep River.**

10. Describe observed color and area of coloration.

**The surface water in the Deep River is moderately turbid.**

11. Is any aquatic vegetation present? ☐ Yes ☒ No
If yes, please identify the type of vegetation present, if known.

☐ Emergent ☐ Submergent ☐ Floating

## Flowing System Questions (Continued)

12. Mark the flowing water system on the attached site map.

13. What observations were made at the water body regarding the presence and/or absence of benthic macroinvertebrates, fish, birds, mammals, etc?

**Wildlife observations were made and a preliminary benthic macroinvertebrate assessment was conducted. See Table A1-5 for a complete list of wildlife species observed on and around the site, and Table A1-6 for a list of benthic macroinvertebrates found.**

## III.C Wetland Habitats

Are any wetland areas such as marshes or swamps on or adjacent to the site?

☒ Yes ☐ No

If yes, indicate the wetland area on the attached site map and answer the following questions regarding the wetland area. If more than one wetland area is present on or adjacent to the site, make additional copies of the following questions and fill out one for each individual wetland area. Distinguish between wetland areas by using names or other designations (such as location). Clearly identify each area on the site map. Also, obtain and attach a National Wetlands Inventory Map (or maps) to illustrate each wetland area.

**See Figure A1-3 ("*Habitat Map for Drainage Ditch, Cedar Creek and a Portion of Deep River*") in Attachment A1.**

Identify the sources of the observations and information (e.g., National Wetland Inventory, Federal or State Agency, USGS topographic maps) used to make the determination whether or not wetland areas are present.

**These wetlands are not mapped by the USFWS National Wetlands Inventory, presumably because of their relatively small size. The NCDENR concluded that wetland areas of any significant size are restricted to the Cedar Creek channel itself (Attachment A1-1). The wetland areas near the creek are also fragmented and may be characterized as "moist woods" which are not readily apparent in aerial photography to be wetlands. The presence of these wetlands was verified by a wetlands scientist during site visits in July 2006.**

If no wetland areas are present, proceed to Section III.D: Sensitive Environments and Receptors.

amec

## Wetland Area Questions (1 of 2)

☒ On-site ☐ Off-site

Name or Designation: **Disturbed scrub-shrub wetland and wet meadow complex**

1. Indicate the approximate area of the wetland (acres or $ft^2$): **~8% of site area**

2. Identify the type(s) of vegetation present in the wetland.

   ☐ Submergent (i.e., underwater) vegetation
   ☐ Emergent (i.e., rooted in the water, but rising above it) vegetation
   ☐ Floating vegetation
   ☒ Scrub/shrub
   ☐ Wooded
   ☒ Other (Please describe): **Herbaceous**

3. Provide a general description of the vegetation present in and around the wetland (height, color, etc). Provide a photograph of the known or suspected wetlands, if available.

   **This wetland complex is located in the northern portion of the site and consists of a mosaic of scrub-shrub and wet meadow communities. Portions of the wet meadow community are mowed, and non-mowed areas have developed into the scrub-shrub component. The northern portion of the site adjacent to Cedar Creek is basically undisturbed. This area has not been mowed and consists mostly of hardwood trees. The scrub-shrub component is characterized by vegetation such as young box elder (*Acer negundo*), spicebush (*Lindera benzoin*), groundsel tree (*Baccharis halimifolia*), and young black willow (*Salix nigra*). The wet meadow component is characterized by vegetation such as spike rush (*Eleocharis* sp.), soft rush (*Juncus effusus*), woolgrass (*Scirpus cyperinus*), twig rush (*Cladium mariscoides*), jewelweed (*Impatiens capensis*), deer-tongue grass (*Panicum clandestinum*), various species of smartweeds (*Polygonum* spp.), Japanese stiltgrass (*Microstegium vimineum*), and curly dock (*Rumex crispus*). See Table A1-3 for a complete list of plant species observed on and around the site.**

4. Estimate the vegetation density of the wetland area.

   ☒ Dense (i.e., greater than 75% vegetation)
   ☐ Moderate (i.e., 25% to 75% vegetation)
   ☐ Sparse (i.e., less than 25% vegetation)

5. Is standing water present? ☐ Yes ☒ No
   If yes, is the water primarily: ☐ Fresh ☐ Brackish
   Indicate the approximate area of the standing water ($ft.^2$) **NA**
   Indicate the approximate depth of the standing water, if known (ft. or in.) **NA**

## Wetland Area Questions (Continued)

6. Identify any field measurements and observations of water quality that were made. Provide the measurement and the units of measure in the appropriate space below:

_____ Area
_____ Depth (average)
_____ Temperature (depth of water where the reading was taken: )
_____ pH
_____ Dissolved oxygen
_____ Salinity
_____ Turbidity (clear, slightly turbid, turbid, opaque)
(Secchi disk depth_____)
_____ Other (specify)

| |
|---|
| **Not applicable** |

7. Describe observed color and area of coloration.

| |
|---|
| **Not applicable** |

8. If known, indicate the source of the water in the wetland.

☐ Stream/River/Creek/Lake/Pond
☒ Flooding
☐ Groundwater
☒ Surface runoff

9. Is there a discharge from the site to the wetland? ☒ Yes ☐ No
If yes, please describe:

| |
|---|
| **This wetland receives stormwater drainage from the site.** |

## Wetland Area Questions (Continued)

10. Is there a discharge from the wetland? ☐ Yes ☒ No
If yes, to what water body is discharge released?

☐ Marine (Name:_____)
☐ Surface stream/River (Name:_____)
☐ Lake/Pond (Name:_____)
☐ Groundwater
☐ Not sure

11. Does the area show evidence of flooding? ☒ Yes ☐ No
If yes, indicate which of the following are present (mark all that apply).

☐ Standing water
☒ Water-saturated soils
☐ Water marks
☐ Buttressing
☒ Debris lines
☐ Mud cracks
☐ Other (Please describe):_____

*Note: Extent of flooding varies by the topography and is not extensive in most areas.*

12. If a soil sample was collected, describe the appearance of the soil in the wetland area. Circle or write in the best response. NA

Color (blue/gray, brown, black, mottled): _____
Water content (dry, wet, saturated/unsaturated): _____

13. Mark the observed wetland area(s) on the attached site map.

**See Figure A1-3 ("*Habitat Map for Drainage Ditch, Cedar Creek and a Portion of Deep River*") in Attachment A1.**

## Wetland Area Questions (2 of 2)

☐ On-site ☒ Off-site

Name or Designation: **Forested deciduous wetland**

1. Indicate the approximate area of the wetland (acres or $ft^2$): **Unknown**

2. Identify the type(s) of vegetation present in the wetland.

   ☐ Submergent (i.e., underwater) vegetation
   ☐ Emergent (i.e., rooted in the water, but rising above it) vegetation
   ☐ Floating vegetation
   ☐ Scrub/shrub
   ☒ Wooded
   ☐ Other (Please describe):

3. Provide a general description of the vegetation present in and around the wetland (height, color, etc). Provide a photograph of the known or suspected wetlands, if available.

   **The majority of the forested riparian corridor for Cedar Creek is either upland woods or moist woods. Relatively small portions of these communities are forested deciduous wetland. Their occurrence appears to be coincident with either a low topographic elevation or possibly a constricting soil horizon, such as a clay subsoil. These forested communities are similar in composition to the species assemblage noted for the moist woods, but differ in the shrub and ground layers. The shrub and ground layers of the forested wetland areas are dominated by spicebush (*Lindera benzoin*), sensitive fern (*Onoclea sensibilis*), lady thumb (*Polygonum persicaria*), false nettle (*Boehmeria cylindrica*), and bur-reed (*Sparganium* sp.). See Table A1-3 for a complete list of plant species observed on and around the site.**

4. Estimate the vegetation density of the wetland area.

   ☒ Dense (i.e., greater than 75% vegetation)
   ☐ Moderate (i.e., 25% to 75% vegetation)
   ☐ Sparse (i.e., less than 25% vegetation)

5. Is standing water present? ☐ Yes ☒ No
   If yes, is the water primarily: ☐ Fresh ☐ Brackish
   Indicate the approximate area of the standing water ($ft.^2$) **NA**
   Indicate the approximate depth of the standing water, if known (ft. or in.) **NA**

## Wetland Area Questions (Continued)

7. Identify any field measurements and observations of water quality that were made. Provide the measurement and the units of measure in the appropriate space below:

_____ Area
_____ Depth (average)
_____ Temperature (depth of water where the reading was taken: )
_____ pH
_____ Dissolved oxygen
_____ Salinity
_____ Turbidity (clear, slightly turbid, turbid, opaque)
(Secchi disk depth_____)
_____ Other (specify)

**Not applicable.**

7. Describe observed color and area of coloration.

**NA**

8. If known, indicate the source of the water in the wetland.

☐ Stream/River/Creek/Lake/Pond
☐ Flooding
☐ Groundwater
☒ Surface runoff

9. Is there a discharge from the site to the wetland? ☒ Yes ☐ No
If yes, please describe:

**The wetland areas that are situated downgradient of the site receive stormwater drainage from the site; however, the wetland areas that are located to the west and east of the site receive stormwater drainage from residential properties and the former brick plant, respectively.**

## Wetland Area Questions (Continued)

10. Is there a discharge from the wetland? ☐ Yes ☒ No
If yes, to what water body is discharge released?

☐ Marine (Name:_____)
☐ Surface stream/River (Name:_____)
☐ Lake/Pond (Name:_____)
☐ Groundwater
☐ Not sure

11. Does the area show evidence of flooding? ☐ Yes ☒ No
If yes, indicate which of the following are present (mark all that apply).

☐ Standing water
☐ Water-saturated soils
☐ Water marks
☐ Buttressing
☐ Debris lines
☐ Mud cracks
☐ Other (Please describe):

12. If a soil sample was collected, describe the appearance of the soil in the wetland area. Circle or write in the best response. NA

Color (blue/gray, brown, black, mottled): _____
Water content (dry, wet, saturated/unsaturated): _____

13. Mark the observed wetland area(s) on the attached site map.

**See Figure A1-3 ("*Habitat Map for Drainage Ditch, Cedar Creek and a Portion of Deep River*") in Attachment A1.**

## III.D Sensitive Environments and Receptors

1. Do any other potentially sensitive environmental areas[3] exist adjacent to or within one-half mile of the site? If yes, list these areas and provide the source(s) of information used to identify sensitive areas. *Do not answer "no" without confirmation from the U.S. Fish and Wildlife Service and other appropriate agencies. See Table 1 for a list of contacts.*

**The following two [2] potentially sensitive environmental areas are located off-site, and to the east of the site: (1) a hardwood swamp, and (2) a pond.**

**The hardwood swamp is located on the former brick plant property. A dirt access road bisects the swamp. At the time of the site visit, the downgradient portion of the swamp resembled a shallow pond. This area would likely appear to be a moderately deep pond during periods of high precipitation; whereas during dry periods, likely resembles moist swampland. Numerous wildlife specimens were observed to congregate in this swamp system.**

**Another off-site pond (differing from the pond described under "Non-flowing Aquatic Systems Questions" is located to the east of the site, south of the railroad tracks. This pond is visible from Jeffries Drive (a side street of Route 2145) and is slightly larger than the off-site pond described earlier.**

2. Are any areas on or near (i.e., within one-half mile) the site owned or used by local tribes? If yes, describe.

**No.**

3. Does the site serve or potentially serve as a habitat, foraging area or refuge by rare, threatened, endangered, candidate and/or proposed species (plants or animals), or any otherwise protected species? If yes, identify species. *This information should be obtained from the U.S. Fish and Wildlife Service and other appropriate agencies. See Table 1 for a list of contacts.*

**With the exception of plant species, the site does not serve as habitat for the rare, threatened, endangered, candidate and/or proposed wildlife species identified in Chatham County (see Attachment A2).**

4. Is the site potentially used as a breeding, roosting or feeding area by migratory bird species? If yes, identify which species.

**Unlikely due to the absence of perennial standing water and extent of forest cover.**

[3] Areas that provide unique and often protected habitat for wildlife species. These areas are typically used during critical life stages such as breeding, hatching, rearing of young and overwintering. Refer to Table 2 at the end of this document for examples of sensitive environments.

## Sensitive Environments and Receptors Questions (continued)

5. Is the site used by any ecologically[4], recreationally or commercially important species? If yes, explain.

| |
|---|
| **No.** |

[4] Ecologically important species include populations of species which provide a critical (i.e., not replaceable) food resource for higher organisms. These species' functions would not be replaced by more tolerant species or perform a critical ecological function (such as organic matter decomposition) and will not be replaced by other species. Ecologically important species include pest and opportunistic species that populate an area if they serve as a food source for other species, but do not include domesticated animals (e.g., pets and livestock) or plants/animals whose existence is maintained by continuous human interventions (e.g., fish hatcheries, agricultural crops, etc).

## IV. EXPOSURE PATHWAY EVALUATION

1. Do existing data provide sufficient information on the nature, rate and extent of contamination at the site?

   ☒Yes
   ☐No
   ☐Uncertain

   *Please provide an explanation for your answer:*

   **An ESI, RI, and supplemental field investigations have been performed as part of this project. On-property areas are not the focus of the current evaluation.**

2. Do existing data provide sufficient information on the nature, rate and extent of contamination in offsite affected areas?

   ☒Yes
   ☐No
   ☐Uncertain
   ☐No offsite contamination

   *Please provide an explanation for your answer:*

   **An ESI, RI, and supplemental field investigations have been performed as part of this project. Chemical residues in sediments and surface water have been well characterized.**

3. Do existing data address potential migration pathways of contaminants at the site?

   ☒Yes
   ☐No
   ☐Uncertain

   *Please provide an explanation for your answer:*

   **Historical overflows from settling basins at the SWP-facility were the source of COPECs to on-site Drainage Ditch and portions of Cedar Creek.**

4. Do existing data address potential migration pathways of contaminants in offsite affected areas?

☒ Yes
☐ No
☐ Uncertain
☐ No offsite contamination

*Please provide an explanation for your answer:*

**Historical overflows from settling basins were source of COPECs to the off-site areas. Migration pathway is surface water based, which includes suspended solids transport.**

5. Are there visible indications of stressed habitats or receptors on or near (i.e., within one-half mile) the site that may be the result of a chemical release? If yes, explain. Attach photographs if available.

**No apparent stressed vegetation or other disturbed areas in the ditch or creek.**

6. Is the location of the contamination such that receptors might be reasonably expected to come into contact with it? For soil, this means contamination in the soil 0 to 1 foot below ground surface (bgs). If yes, explain.

**Yes. COPECs have been detected above screening levels in some of the surface sediments.**

7. Are receptors located in or using habitats where chemicals exist in air, soil, sediment or surface water? If yes, explain.

**Yes. Humans can trespass the ditch and creek areas during recreation or hunting. Ecological receptors can use the ditch and creek areas for foraging.**

8. Could chemicals reach receptors via groundwater? Can chemicals leach or dissolve to groundwater? Are chemicals mobile in groundwater? Does groundwater discharge into receptor habitats? If yes, explain.

**Not considered to be significant due to poor reported groundwater recharge capacity of surface soils in the upper Cape Fear basin.**

9. Could chemicals reach receptors through runoff or erosion? Answer the following questions.
What is the approximate distance from the contaminated area to the nearest watercourse? ***Note: This is based on distance from property to Deep River***

- ☐ 0 feet (i.e., contamination has reached a watercourse)
- ☐ 1-10 feet
- ☐ 11-20 feet
- ☐ 21-50 feet
- ☐ 51-100 feet
- ☐ 101-200 feet
- ☐ >200 feet
- ☐ >500 feet
- ☒ >1000 feet

What is the slope of the ground in the contaminated area?

- ☒ 0-10%
- ☐ 10-30%
- ☐ > 30%

What is the approximate amount of ground and canopy vegetative cover in the contaminated area?

- ☐ < 25%
- ☐ 25-75%
- ☒ > 75%

Is there visible evidence of erosion (e.g., a rill or gully) in or near the contaminated area?

- ☐ Yes
- ☒ No
- ☐ Do not know

Do any structures, pavement or natural drainage features direct run-on flow (i.e., surface flows originating upstream or uphill from the area of concern) into the contaminated area?

- ☐ Yes
- ☒ No
- ☐ Do not know

10. Could chemicals reach receptors through the dispersion of contaminants in air (e.g., volatilization, vapors, fugitive dust)? If yes, explain.

**Not likely to be significant. COPECs have low volatility and are unlikely to be released as vapor phase. Fugitive dusts may represent an exposure route when ditch or creek bed dries but this would require a significant drought period and excessive winds.**

11. Could chemicals reach receptors through migration of non-aqueous phase liquids (NAPLs)? Is a NAPL present at the site that might be migrating towards receptors or habitats? Could NAPL discharge contact receptors or their habitat?

**Likely source to the drainage ditch and portions of Cedar Creek was COPECs associated with suspended solids and dissolved in the water column. There were no reports of any NAPL originating from the facility operations.**

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# Attachment A1
# Tables, Figures and Supplemental Information

## Preface

This attachment contains the tables, figures and additional information referenced by the *Checklist for Ecological Assessments/Sampling*. Several of these tables and figures were also provided as part of the *Work Plan Memorandum for the Preparation of Human Health and Ecological Risk Assessments at the Former Southern Wood Piedmont Facility in Gulf, North Carolina* (dated 7 February 2006). Additional tables were prepared following a field reconnaissance and sampling event during July 2006.

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**Table A1-1. Summary of Analytical Results from Sediment Samples Collected from Background Areas, the Drainage Ditch, and Cedar Creek**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Chemical | Units | Regional Bkgd | Background Samples | | | Drainage Ditch Samples | | | Cedar Creek Samples | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Freq | Mean | Range | Freq | Mean | Range | Freq | Mean | Range |
| ***VOLATILES*** | | | | | | | | | | | |
| 2-Butanone | mg/Kg (dw) | NA | 0/2 | ND | ND | 0/6 | ND | ND | 0/6 | ND | ND |
| Acetone | mg/Kg (dw) | NA | NA | NA | NA | 0/1 | ND | ND | — | 0 | 0 |
| Benzene | mg/Kg (dw) | NA | 0/3 | ND | ND | 1/11 | 0.009 | ND - 0.039 | 0/8 | ND | ND |
| Ethylbenzene | mg/Kg (dw) | NA | 0/3 | ND | ND | 2/11 | 0.021 | ND - 0.1 | 1/8 | 0.017 | ND - 0.1 |
| Methylene Chloride (dicloromethane) | mg/Kg (dw) | NA | 0/2 | ND | ND | 0/6 | ND | ND | 0/6 | ND | ND |
| Styrene | mg/Kg (dw) | NA | NA | NA | NA | 1/4 | 0.026 | ND - 0.082 | — | — | — |
| Toluene | mg/Kg (dw) | NA | 1/3 | 0.031 | ND - 0.084 | 3/11 | 0.026 | ND - 0.14 | 3/8 | 0.015 | ND - 0.066 |
| Xylenes | mg/Kg (dw) | NA | 0/3 | ND | ND | 3/11 | 0.070 | ND - 0.42 | 2/8 | 0.047 | ND - 0.34 |
| ***SEMI-VOLATILES*** | | | | | | | | | | | |
| 1-Methylnaphthalene | mg/Kg (dw) | NA | 0/1 | ND | ND | 0/1 | ND | ND | 0/2 | ND | ND |
| 2,3,4,6-Tetrachlorophenol | mg/Kg (dw) | NA | 0/2 | ND | ND | 0/15 | ND | ND | 0/16 | ND | ND |
| 2,4,6-Trichlorophenol | mg/Kg (dw) | NA | 0/6 | ND | ND | 0/15 | ND | ND | 0/28 | ND | ND |
| 2,4-Dimethylphenol | mg/Kg (dw) | NA | 0/11 | ND | ND | 1/19 | 0.50 | ND - 3.9 | 1/35 | 0.21 | ND - 0.54 |
| 2-Chlorophenol | mg/Kg (dw) | NA | 0/6 | ND | ND | 0/15 | ND | ND | 0/27 | ND | ND |
| 2-Methylnaphthalene | mg/Kg (dw) | NA | 0/12 | ND | ND | 4/20 | 16.44 | ND - 260 | 6/39 | 8.32 | ND - 250 |
| 2-Methylphenol | mg/Kg (dw) | NA | 0/6 | ND | ND | 0/15 | ND | ND | 0/28 | ND | ND |
| 3/4-Methylphenol | mg/Kg (dw) | NA | 0/10 | ND | ND | 0/9 | ND | ND | 4/35 | 0.22 | ND - 0.52 |
| 4-Chloro-3-methylphenol | mg/Kg (dw) | NA | 0/5 | ND | ND | 1/19 | 0.36 | ND - 1.2 | 0/22 | ND | ND |
| Acenaphthene | mg/Kg (dw) | NA | 0/12 | ND | ND | 4/20 | 14.09 | ND - 200 | 13/38 | 7.20 | ND - 180 |
| Acenaphthylene | mg/Kg (dw) | NA | 1/10 | 0.29 | ND - 1.2 | 3/14 | 0.54 | ND - 4.3 | 2/32 | MNC | ND - 0.083 |
| Aniline | mg/Kg (dw) | NA | 0/2 | ND | ND | 0/15 | ND | ND | 2/16 | MNC | ND - 0.034 |
| Anthracene | mg/Kg (dw) | NA | 1/12 | 0.49 | ND - 3.8 | 9/20 | 44.68 | ND - 860 | 21/40 | 1.89 | ND - 18 |
| Benzo(a)anthracene | mg/Kg (dw) | NA | 1/12 | 0.65 | ND - 5.7 | 10/20 | 2.65 | ND - 32 | 21/40 | 0.96 | ND - 6.6 |
| Benzo(a)pyrene | mg/Kg (dw) | NA | 1/12 | 0.93 | ND - 9.1 | 10/20 | 1.11 | ND - 8.1 | 20/40 | 0.43 | ND - 1.8 |
| Benzo(b)fluoranthene | mg/Kg (dw) | NA | 1/7 | 2.00 | ND - 13 | 8/13 | 0.85 | ND - 7.9 | 9/30 | 0.78 | ND - 4.6 |
| Benzo(b,k)fluoranthene | mg/Kg (dw) | NA | 1/5 | 0.19 | ND - 0.255 | 6/7 | 6.62 | ND - 22 | 10/14 | 1.67 | ND - 5.3 |
| Benzo(g,h,i)perylene | mg/Kg (dw) | NA | 1/10 | 0.47 | ND - 3 | 8/14 | 0.77 | ND - 6.5 | 8/34 | 0.20 | ND - 0.5 |
| Benzo(k)fluoranthene | mg/Kg (dw) | NA | 0/6 | ND | ND | 7/12 | 0.18 | ND - 0.65 | 5/28 | 0.32 | ND - 2.2 |
| Biphenyl | mg/Kg (dw) | NA | 0/1 | ND | ND | 0/1 | ND | ND | 0/2 | ND | ND |
| Carbazole | mg/Kg (dw) | NA | 0/8 | ND | ND | 4/20 | 15.29 | ND - 300 | 9/28 | 1.10 | ND - 12 |
| Chrysene | mg/Kg (dw) | NA | 2/12 | 1.74 | ND - 19 | 12/20 | 3.05 | ND - 29 | 22/40 | 1.25 | ND - 6.8 |
| Dibenzo(a,h)anthracene | mg/Kg (dw) | NA | 0/12 | ND | ND | 2/20 | MNC | ND - 0.15 | 9/39 | 0.20 | ND - 0.9 |
| Dibenzofuran | mg/Kg (dw) | NA | 0/10 | ND | ND | 4/14 | 17.77 | ND - 220 | 7/33 | 5.79 | ND - 150 |
| Fluoranthene | mg/Kg (dw) | NA | 2/12 | 1.33 | ND - 14 | 11/20 | 16.80 | ND - 200 | 24/40 | 5.06 | ND - 59 |
| Fluorene | mg/Kg (dw) | NA | 1/12 | 0.2 | ND - 0.34 | 4/20 | 20.22 | ND - 370 | 19/40 | 5.07 | ND - 110 |
| Indeno(1,2,3-cd)pyrene | mg/Kg (dw) | NA | 1/12 | 0.54 | ND - 4.4 | 5/20 | 0.62 | ND - 0.39 | 10/40 | 0.23 | ND - 0.99 |
| Isophorone | mg/Kg (dw) | NA | 0/5 | ND | ND | 1/13 | 1.35 | ND - 13 | 0/17 | ND | ND |
| Naphthalene | mg/Kg (dw) | NA | 0/12 | ND | ND | 4/20 | 28.91 | ND - 480 | 6/39 | 2.15 | ND - 53 |
| Pentachlorophenol | mg/Kg (dw) | NA | 0/12 | ND | ND | 5/20 | 2.48 | ND - 16 | 5/38 | 3.34 | ND - 110 |
| Phenanthrene | mg/Kg (dw) | NA | 1/12 | 0.38 | ND - 2.5 | 9/20 | 46.73 | ND - 700 | 21/40 | 9.44 | ND - 200 |
| Phenol | mg/Kg (dw) | NA | 0/6 | ND | ND | 3/15 | 0.16 | ND - 0.205 | 0/28 | ND | ND |
| Pyrene | mg/Kg (dw) | NA | 2/10 | 1.46 | ND - 13 | 11/14 | 11.33 | ND - 120 | 17/34 | 1.91 | ND - 15 |

**Table A1-1. Summary of Analytical Results from Sediment Samples Collected from Background Areas, the Drainage Ditch, and Cedar Creek**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Chemical | Units | Regional Bkgd | Background Samples | | | Drainage Ditch Samples | | | Cedar Creek Samples | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Freq | Mean | Range | Freq | Mean | Range | Freq | Mean | Range |
| ***METALS*** | | | | | | | | | | | |
| Aluminum | mg/Kg (dw) | 1,100 - 202,000 | 6/6 | 5,733 | 1,900 - 11,000 | 5/5 | 9,860 | 7,400 - 13,000 | 9/9 | 9,956 | 3,900 - 13,000 |
| Antimony | mg/Kg (dw) | NA | — | — | — | 0/2 | ND | ND | 0/3 | ND | ND |
| Arsenic | mg/Kg (dw) | ND - 40 | 4/6 | 3.1 | ND - 7.9 | 5/5 | 4.74 | 3.1 - 6.9 | 6/9 | 4.2 | ND - 9.9 |
| Barium | mg/Kg (dw) | ND - 602 | 6/6 | 41 | 14 - 70 | 5/5 | 93.6 | 62 - 150 | 9/9 | 102 | 34 - 160 |
| Beryllium | mg/Kg (dw) | ND - 3.9 | 3/6 | 0.44 | ND - 0.75 | 5/5 | 0.622 | 0.32 - 0.9 | 5/9 | 0.6 | ND - 1.1 |
| Cadmium | mg/Kg (dw) | NA | 0/6 | ND | ND | 0/5 | ND | ND | 0/9 | ND | ND |
| Calcium | mg/Kg (dw) | ND - 5,700 | 5/6 | 370 | ND - 550 | 4/4 | 1,320 | 980 - 1,500 | 7/7 | 961 | 360 - 2,100 |
| Chromium | mg/Kg (dw) | ND - 466 | 6/6 | 12 | 4.6 - 21 | 5/5 | 21 | 14 - 26 | 9/9 | 21 | 8.5 - 32 |
| Cobalt | mg/Kg (dw) | ND - 65 | 1/6 | 3.6 | ND - 5.4 | 2/5 | 9.3 | 4.5 - 15 | 4/9 | 13 | ND - 27 |
| Copper | mg/Kg (dw) | ND - 79 | 2/6 | 8.0 | ND - 32 | 4/5 | 18.8 | 10 - 28 | 4/9 | 17 | ND - 29 |
| Iron | mg/Kg (dw) | ND - 294,600 | 6/6 | 13,583 | 9,000 - 26,000 | 5/5 | 21,200 | 15,000 - 29,000 | 9/9 | 18,533 | 4,000 - 37,000 |
| Lead | mg/Kg (dw) | ND - 197 | 6/6 | 7.3 | 4.9 - 10 | 5/5 | 13.68 | 9.7 - 20 | 9/9 | 12 | 6.2 - 23 |
| Magnesium | mg/Kg (dw) | ND - 8.600 | 5/5 | 806 | 250 - 1,500 | 4/4 | 2,425 | 1,800 - 3,200 | 7/7 | 1,839 | 390 - 4,000 |
| Manganese | mg/Kg (dw) | 40 - 11,350 | 6/6 | 192 | 100 - 260 | 5/5 | 282.5 | 220 - 350 | 9/9 | 447 | 92 - 900 |
| Mercury | mg/Kg (dw) | NA | 0/5 | ND | ND | 0/4 | ND | ND | 0/7 | ND | ND |
| Nickel | mg/Kg (dw) | ND - 115 | 2/6 | 4.8 | ND - 17 | 5/5 | 17.4 | 14 - 23 | 5/9 | 19 | ND - 43 |
| Potassium | mg/Kg (dw) | ND - 41,000 | 5/5 | 217 | 46 - 570 | 4/4 | 390 | 170 - 530 | 7/7 | 279 | 70 - 380 |
| Selenium | mg/Kg (dw) | NA | 0/5 | ND | ND | 0/4 | ND | ND | 0/7 | 0 | ND |
| Silver | mg/Kg (dw) | NA | 1/6 | 0.6 | ND - 1.4 | 1/5 | 0.917 | 2.9 - 2.9 | 2/9 | 1.0 | ND - 3.2 |
| Sodium | mg/Kg (dw) | NA | 0/5 | ND | ND | 0/4 | ND | ND | 0/7 | ND | ND |
| Thallium | mg/Kg (dw) | NA | 0/5 | ND | ND | 0/4 | ND | ND | 0/7 | ND | ND |
| Tin | mg/Kg (dw) | NA | 1/1 | 3.3 | 3.3 - 3.3 | 1/1 | 13 | 13 - 13 | 2/2 | 20.0 | 19 - 21 |
| Vanadium | mg/Kg (dw) | 10 - 1,010 | 6/6 | 23 | 12 - 30 | 5/5 | 31.4 | 24 - 41 | 9/9 | 32.1 | 14 - 51 |
| Zinc | mg/Kg (dw) | ND - 242 | 1/6 | 13 | ND - 13 | 1/5 | 20 | 25 - 25 | 2/9 | 19.6 | ND - 24 |
| ***DIOXINS/FURANS*** | | | | | | | | | | | |
| 2,3,7,8-TCDD | ng/Kg (dw) | NA | 2/11 | MNC | ND - 0.6 | 1/6 | 1.86 | ND - 3.5 | 9/38 | 2.03 | ND - 20.9 |
| 1,2,3,7,8-PeCDD | ng/Kg (dw) | NA | 1/11 | MNC | ND - 2.3 | 3/6 | 8.53 | ND - 32.7 | 21/38 | 3.99 | ND - 20.4 |
| 1,2,3,4,7,8-HxCDD | ng/Kg (dw) | NA | 1/11 | 3.14 | ND - 3.7 | 6/6 | 35.4 | ND - 117 | 27/38 | 11.61 | ND - 78.9 |
| 1,2,3,6,7,8-HxCDD | ng/Kg (dw) | NA | 1/11 | 3.52 | ND - 7.9 | 6/6 | 223.3 | ND - 634 | 37/38 | 135.5 | ND - 820 |
| 1,2,3,7,8,9-HxCDD | ng/Kg (dw) | NA | 1/11 | MNC | ND - 9.1 | 6/6 | 76.18 | 13.3 - 207 | 36/38 | 35.46 | ND - 238 |
| 1,2,3,4,6,7,8-HpCDD | ng/Kg (dw) | NA | 4/11 | 4.84 | ND - 320 | 6/6 | 11,185 | 2,690 - 33,000 | 38/38 | 6,084 | 53 - 36,000 |
| OCDD | ng/Kg (dw) | NA | 9/11 | 355.7 | ND - 2,000 | 6/6 | 77,267 | 33,400 - 138,000 | 38/38 | 57,577 | 1,400 - 360,000 |
| 2,3,7,8-TCDF | ng/Kg (dw) | NA | 3/11 | 1.05 | ND - 0.29 | 1/6 | 1.38 | ND - 3.5 | 20/38 | 1.73 | ND - 16.1 |
| 1,2,3,7,8-PeCDF | ng/Kg (dw) | NA | 0/7 | ND | ND | 1/6 | 4.33 | ND - 9 | 11/31 | 3.73 | ND - 14.9 |
| 2,3,4,7,8-PeCDF | ng/Kg (dw) | NA | 1/11 | ND | ND - 1.4 | 2/6 | 10.91 | ND - 35.9 | 17/38 | 4.15 | ND - 17.5 |
| 1,2,3,4,7,8-HxCDF | ng/Kg (dw) | NA | 1/11 | MNC | ND - 0.12 | 4/6 | 68.50 | ND - 123 | 22/38 | 56.0 | ND - 600 |
| 1,2,3,6,7,8-HxCDF | ng/Kg (dw) | NA | 1/11 | MNC | ND - 2.5 | 3/6 | 13.93 | ND - 47.2 | 23/38 | 7.22 | ND - 51.4 |
| 1,2,3,7,8,9-HxCDF | ng/Kg (dw) | NA | 1/11 | MNC | ND - 15 | 4/6 | 27.97 | ND - 100 | 17/38 | 10.54 | ND - 136 |
| 2,3,4,6,7,8-HxCDF | ng/Kg (dw) | NA | 1/11 | 3.43 | ND - 6.9 | 2/6 | 7.62 | ND - 19.2 | 12/38 | 5.31 | ND - 38 |
| 1,2,3,4,6,7,8-HpCDF | ng/Kg (dw) | NA | 4/11 | 5.84 | ND - 31 | 6/6 | 1,255 | 328 - 3,600 | 38/38 | 997.5 | 6.8 - 6,800 |
| 1,2,3,4,7,8,9-HpCDF | ng/Kg (dw) | NA | 1/11 | 2.98 | ND - 1.9 | 6/6 | 99.82 | 26.8 - 276 | 32/38 | 72.36 | ND - 573 |
| OCDF | ng/Kg (dw) | NA | 1/10 | 16.66 | ND - 120 | 6/6 | 5,262 | 1,620 - 13,400 | 37/38 | 5,051 | ND - 37,000 |

**Table A1-1. Summary of Analytical Results from Sediment Samples Collected from Background Areas, the Drainage Ditch, and Cedar Creek**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Chemical | Units | Regional Bkgd | Background Samples | | | Drainage Ditch Samples | | | Cedar Creek Samples | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Freq | Mean | Range | Freq | Mean | Range | Freq | Mean | Range |
| Dioxin-TEQ (mammalian) | ng/Kg (dw) | NA | 10/11 | 1.16 | ND - 11.85 | 6/6 | 186 | 44 - 563 | 38/38 | 104 | 1.1 - 631 |
| Dioxin-TEQ (avian) | ng/Kg (dw) | NA | 10/11 | 0.950 | ND - 8.78 | 6/6 | 67 | 14 - 221 | 38/38 | 38.9 | 0.4 - 275 |

Notes:
Background areas combine the samples from the creek and drainage ditch background samples
ND: Not Detected
NA: Not available or not applicable.
MNC: Mean not calculated due to detection limits greater than the positive results.
Regional background data from USGS (2003).

**Table A1-2. Summary of Analytical Results from Surface Water Samples Collected from Cedar Creek**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| *Area* | | *Regional* | Background Samples | | | Cedar Creek Samples | | |
|---|---|---|---|---|---|---|---|---|
| *Summary Stats* | WQS | *Bkgd* | Freq | Mean | Range | Freq | Mean | Range |
| | | | *Volatiles* | | | | | |
| 2-Butanone | | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| Benzene | 0.00119 | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| Ethylbenzene | | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| Methylene Chloride | | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| Toluene | 0.00036 | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| Xylenes | | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| | | | *Semi-Volatiles* | | | | | |
| p-Chloro-m-cresol | 0.001 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| 2-Methylnaphthalene | 0.000028 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| 2-Methylphenol | 0.001 | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| 2,3,4,6-Tetrachlorophenol | 0.001 | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| 2,4-Dimethylphenol | 0.001 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| 2,4,6-Trichlorophenol | 0.001 | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| 2-Chlorophenol | 0.001 | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| Acenaphthene | 0.000028 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| Acenaphthylene | 0.000028 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| Aniline | | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Anthracene | 0.000028 | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| Benzo(a)anthracene | 0.000028 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| Benzo(a)pyrene | 0.000028 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| Benzo(b)fluoranthene | 0.000028 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| Benzo(k)fluoranthene | 0.000028 | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| Benzo(b,k)fluoranthene | 0.000028 | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| Benzo(g,h,i)perylene | 0.000028 | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Carbazole | | NA | 0/4 | ND | ND | 0/9 | ND | ND |
| Chrysene | 0.000028 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| Dibenzo(a,h)anthracene | 0.000028 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| Dibenzofuran | | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| Fluoranthene | 0.000028 | NA | 0/4 | ND | ND | 0/9 | ND | ND |
| Fluorene | 0.000028 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| Indeno(1,2,3-cd)pyrene | 0.000028 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| Isophorone | | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| Naphthalene | 0.000028 | NA | 0/4 | ND | ND | 0/9 | ND | ND |
| Pentachlorophenol | 0.001 | NA | 0/6 | ND | ND | 3/14 | 0.016 | ND - 0.15 |
| Phenanthrene | 0.000028 | NA | 0/6 | ND | ND | 0/14 | ND | ND |
| Phenol | 0.001 | NA | 0/2 | ND | ND | 0/7 | ND | ND |
| Pyrene | 0.000028 | NA | 0/4 | ND | ND | 0/7 | ND | ND |

**Table A1-2. Summary of Analytical Results from Surface Water Samples Collected from Cedar Creek Southern Wood Piedmont - Gulf, North Carolina Facility**

| *Area* | | *Regional* | Background Samples | | | Cedar Creek Samples | | |
|---|---|---|---|---|---|---|---|---|
| *Summary Stats* | WQS | *Bkgd* | Freq | Mean | Range | Freq | Mean | Range |
| | | | *Inorganics* | | | | | |
| Aluminum | | 0.007 - 1.47 | 4/4 | 0.51 | 0.40 - 0.59 | 7/7 | 0.83 | 0.45 - 1.3 |
| Antimony | | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Arsenic | 0.05 | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Barium | 1 | NA | 4/4 | 0.02 | 0.02 - 0.02 | 7/7 | 0.03 | 0.024 - 0.038 |
| Beryllium | 0.0065 | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Cadmium | 0.002 | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Calcium | | NA | 4/4 | 6.30 | 6.2 - 6.3 | 7/7 | 4.41 | 2 - 6.2 |
| Chromium | 0.05 | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Cobalt | | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Copper | 0.007 | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Iron | 1 | NA | 4/4 | 0.87 | 0.77 - 0.95 | 7/7 | 1.39 | 0.81 - 2.0 |
| Lead | 0.025 | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Magnesium | | 1.1 - 6.0 | 4/4 | 3.33 | 3.3 - 3.4 | 7/7 | 2.40 | 1 - 3.7 |
| Manganese | 0.2 | 0.002 to 0.59 | 4/4 | 0.04 | 0.037 - 0.043 | 7/7 | 0.07 | 0.037 - 0.11 |
| Mercury | 0.000012 | NA | 0/4 | ND | ND | 1/7 | MNC | ND - 0.0002 |
| Nickel | 0.025 | NA | 1/4 | 0.00 | ND - 0.007 | 0/7 | ND | ND |
| Potassium | | NA | 4/4 | 1.93 | 1.9 - 2 | 7/7 | 1.38 | 0.88 - 1.9 |
| Selenium | 0.005 | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Silver | 0.00006 | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Sodium | | 2.0 - 19.0 | 4/4 | 5.10 | 5.0 - 5.2 | 7/7 | 4.36 | 3.2 - 5.9 |
| Thallium | | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Vanadium | | NA | 0/4 | ND | ND | 0/7 | ND | ND |
| Zinc | 0.05 | NA | 2/4 | 0.01 | ND - 0.028 | 0/7 | ND | ND |

Notes:
All concentration units are in mg/L.
There were no surface water samples available from the drainage ditch.
Average concentrations were calculated by setting non-detects to one-half their reported detection limits.
WQS = Water Quality Standard for Class C and WS-IV Waters.
Regional background data from USGS (2003).
ND = Not Detected
MNC: Mean not calculated due to detection limits greater than the single positive result.

**Table A1-3. Plant Species List from Off-Property Areas**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

The following is a list of plant species identified during field surveys of the Southern Wood Piedmont Site, located in the Town of Gulf, Chatham County, North Carolina. Wetland indicator classification nomenclature follows USFWS (1988 & 1996). In addition, NA = not applicable, NI = no indicator, and NL = not listed. The field surveys occurred from July 17 to July 21, 2006.

| Scientific Name | Common Name | Synonyms | USFWS Indicator |
|---|---|---|---|
| Aceraceae (Maple Family) | | | |
| *Acer negundo* | Box elder | | FAC+ |
| *Acer rubrum* | Red maple | | FAC |
| *Acer saccharinum* | Silver maple | | FACW |
| Amaranthaceae (Amaranth Family) | | | |
| *Amaranthus* sp. | Pigweed | | NA |
| Anacardiaceae (Cashew Family) | | | |
| *Toxicodendron radicans* | Poison ivy | | FAC |
| Aquifoliaceae (Holly Family) | | | |
| *Ilex opaca* | American holly | | FACU+ |
| Asteraceae (Aster Family) | | | |
| *Ambrosia artemisiifolia* | Common ragweed | | FACU |
| *Baccharis halimifolia* | Groundsel tree | | FACW |
| *Centaurea maculosa* | Spotted knapweed | | NL |
| *Erigeron strigosus* | Lesser daisty fleabane | Whitetop | FACU+ |
| *Hieracium* sp. | Hawkweed | | NA |
| *Solidago* sp. | Goldenrod | | NA |
| Balsaminaceae (Touch-me-not Family) | | | |
| *Impatiens capensis* | Jewelweed | | FACW |
| Betulaceae (Birch Family) | | | |
| *Betula nigra* | River birch | | FACW |
| *Carpinus caroliniana* | Ironwood | | FAC |
| *Ostrya virginiana* | Hop hornbeam | | FACU- |
| Bignoniaceae (Trumpet Creeper Family) | | | |
| *Campsis radicans* | Trumpet-vine | | FAC |
| Cannabaceae (Hemp Family) | | | |
| *Humulus japonicus* | Japanese hops | | FACU |
| Caprifoliaceae (Honeysuckle Family) | | | |
| *Lonicera japonica* | Japanese honeysuckle | | FAC- |
| Cornaceae (Dogwood Family) | | | |
| *Nyssa sylvatica* | Black gum | | FAC |

**Table A1-3. Plant Species List from Off-Property Areas**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

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| Scientific Name | Common Name | Synonyms | USFWS Indicator |
|---|---|---|---|
| Cupressaceae (Cypress Family) | | | |
| *Juniperus virginiana* | Eastern red cedar | | FACU |
| Cyperaceae (Sedge Family) | | | |
| *Carex pensylvanica* | Sedge | | NL |
| *Cladium mariscoides* | Twig rush | Smooth sawgrass | OBL |
| *Eleocharis* sp. | Spike rush | | NA |
| *Scirpus cyperinus* | Woolgrass | | FACW+ |
| Euphorbiaceae (Spurge Family) | | | |
| *Euphorbia esula* | Leafy spurge | | NL |
| Fabaceae (Bean/ Pea Family) | | | |
| *Lespedeza* sp. | Bush clover | | NA |
| *Melilotus alba* | White sweet clover | | FACU- |
| *Trifolium pratense* | Red clover | | FACU- |
| *Wisteria* sp. | Wisteria | | NA |
| Fagaceae (Beech Family) | | | |
| *Quercus alba* | White oak | | FACU |
| *Quercus dentata* | Chestnut oak | | NL |
| Hamamelidaceae (Witch Hazel Family) | | | |
| *Liquidambar styraciflua* | Sweetgum | | FAC |
| Hypericaceae (St. Johnswort Family) | | | |
| *Hypericum perforatum* | Common St. John's -wort | | NL |
| Juglandaceae (Walnut Family) | | | |
| *Carya ovata* | Shagbark hickory | | FACU- |
| Juncaceae (Rush Family) | | | |
| *Juncus effusus* | Soft rush | | FACW+ |
| Lauraceae (Laurel Family) | | | |
| *Lindera benzoin* | Spicebush | | FACW- |
| *Sassafras albidum* | Sassafras | | FACU- |
| Liliaceae (Lily Family) | | | |
| *Smilacina racemosa* | False Solomon's seal | | FACU- |
| *Smilax bona-nox* | Bullbrier greenbrier | | FACU |

**Table A1-3. Plant Species List from Off-Property Areas**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

The following is a list of plant species identified during field surveys of the Southern Wood Piedmont Site, located in the Town of Gulf, Chatham County, North Carolina. Wetland indicator classification nomenclature follows USFWS (1988 & 1996). In addition, NA = not applicable, NI = no indicator, and NL = not listed. The field surveys occurred from July 17 to July 21, 2006.

| Scientific Name | Common Name | Synonyms | USFWS Indicator |
|---|---|---|---|
| *Smilax rotundifolia* | Common greenbrier | | FAC |
| Magnoliaceae (Magnolia Family) | | | |
| *Liriodendron tulipifera* | Tulip poplar | | FACU |
| Oleaceae (Olive Family) | | | |
| *Fraxinus pennsylvanicum* | Green ash | | FACW |
| Pinaceae (Pine Family) | | | |
| *Pinus taeda* | Loblolly pine | | FAC- |
| Platanaceae (Plane-tree Family) | | | |
| *Platanus occidentalis* | American sycamore | | FACW- |
| Plantaginaceae (Plantain Family) | | | |
| *Plantago lanceolata* | English plantain | | NL |
| *Plantago major* | Common plantain | | FACU |
| Poaceae (Grass Family) | | | |
| *Echinochloa crusgalli* | Barnyard grass | | FACU |
| *Festuca arundinacea* | Tall fescue | Kentucky fescue | FACU |
| *Hystrix patula* | Bottlebrush grass | | NL |
| *Microstegium vimineum* | Japanese stiltgrass | | FAC |
| *Panicum clandestinum* | Deer-tongue grass | | FAC+ |
| *Panicum* sp. | Grass | | NA |
| *Setaria* sp. | Bristly foxtail | | NL |
| Polygonaceae (Smartweed Family) | | | |
| *Polygonum persicaria* | Lady thumb | | FACW |
| *Polygonum* sp. | Smartweed | | NA |
| *Rumex crispus* | Curly dock | | FACU |
| Polypodiaceae (Polypody Family) | | | |
| *Onoclea sensibilis* | Sensitive fern | | FACW |
| *Polystichum acrostichoides* | Christmas fern | | FACU- |
| Rosaceae (Rose Family) | | | |
| *Rubus allegheniensis* | Allegheny blackberry | | FACU- |
| Salicaceae (Willow Family) | | | |
| *Salix nigra* | Black willow | | FACW+ |

**Table A1-3. Plant Species List from Off-Property Areas**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

The following is a list of plant species identified during field surveys of the Southern Wood Piedmont Site, located in the Town of Gulf, Chatham County, North Carolina. Wetland indicator classification nomenclature follows USFWS (1988 & 1996). In addition, NA = not applicable, NI = no indicator, and NL = not listed. The field surveys occurred from July 17 to July 21, 2006.

| Scientific Name | Common Name | Synonyms | USFWS Indicator |
|---|---|---|---|
| Sparganiaceae (Bur-reed Family) | | | |
| *Sparganium* sp. | Bur-reed | | — |
| Sphagnaceae (Sphagnum Family) | | | |
| *Sphagnum sp.* | Sphagnum moss | | NL |
| Umbelliferae (Parsley Family) | | | |
| *Daucus carota* | Wild carrot | | NL |
| Urticaceae (Nettle Family) | | | |
| *Boehmeria cylindrica* | False nettle | | FACW+ |
| *Urtica dioica* | Stinging nettle | | FACU |
| Verbenaceae (Vervain Family | | | |
| *Viola* sp. | Violet | | NA |
| Vitaceae (Grape Family) | | | |
| *Parthenocissus quinquefolia* | Virginia creeper | | FACU |
| *Vitis* sp. | Grape | | NA |

**Table A1-4. Field Collected Surface Water Quality Measurements from the Drainage Ditch, Cedar Creek, and the Off-Site Pond**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| | Areas | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Cedar Creek | | | | | | | Drainage Ditch | Off-Site Pond |
| Station ID | E1 | E2 | E3 | E4 | E5 | E6 | E7 | E8 | E9 |
| Parameters | | | | | | | | | |
| pH | 7.74 | 7.41 | 7.45 | 7.6 | 7.38 | 6.94 | 7.34 | 6.91 | 8.33 |
| Conductivity (mS/cm) | 0.143 | 0.002 | 0.168 | 0.151 | 0.149 | 0.183 | 0.177 | 0.205 | 0.063 |
| Turbidity (NTU) | 3 | 7 | 4 | 3 | 1 | 1 | 4 | 2 | 2 |
| DO (mg/L) | 5.86 | NA | 5.76 | 5.22 | 4.56 | 5.08 | 6.79 | 5.4 | 5.45 |
| Temperature (°C) | 29.4 | 23.5 | 23.6 | 25.1 | 23.9 | 22.8 | 22.4 | 26.1 | 33.5 |
| Salinity (ppth) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Date | 7/18/06 | 7/18/06 | 7/18/06 | 7/18/06 | 7/19/06 | 7/19/06 | 7/20/06 | 7/19/06 | 7/19/06 |
| Time (hours) | 1220 | 1310 | 1340 | 1500 | 1100 | 915 | 930 | 1630 | 1630 |
| Depth (feet) | 1.5 | 1 | <1 | 1 | 1.5 | 1 | 3 | 1 | 2.5 |
| Northing (WGS 84) | NA | NA | 35.56752 | NA | 35.56740 | 35.56715 | NA | 35.56508 | NA |
| Westing (WGS 84) | NA | NA | 79.24854 | NA | 79.27074 | 79.27376 | NA | 79.27814 | NA |

Description of station locations:
1 = At the confluence of Cedar Creek and the Deep River
2 = At sample location SW-051/152-SD (upstream of the Rt. 2145 bridge)
3 = Upstream of sample location SW-052/152-SD and downstream of sample location SW-051-SD
4 = At sample location SW-051-SD
5 = Cedar Creek, miscellaneous
6 = Cedar Creek, miscellaneous
7 = Farthest upstream station on Cedar Creek, by Henry Oldham bridge
8 = Downstream end of the on-site ditch before it's confluence with Cedar Creek
9 = Off-site pond located near the northeast corner of the site

mS/cm = milliSiemens per centimeter, equivalent to millimhos per centimeter (mmhos/cm)
NTU = National Turbidity Units
mg/L = milligrams per liter
°C = degrees Celsius
ppth = parts per thousand
WGS 84 = World Geodetic Survey, 1984 datum
NA = Not available

**Table A1-5. Wildlife Species List from Off-Property Areas**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

The following is a list of wildlife species identified during field surveys of the Southern Wood Piedmont Site, located in the Town of Gulf, Chatham County, North Carolina. The field surveys were conducted from July 17 to July 21, 2006.

| Scientific Name | Common Name | Observation Type | Area Observed |
|---|---|---|---|
| **BIRDS** | | | |
| Phasianidae - Partridges, Grouse, and Turkeys | | | |
| *Meleagris gallopavo* | Wild Turkey | Visual, call | Off-site |
| Ardeidae - Bitterns, Herons & Allies | | | |
| *Ardea herodias* | Great Blue Heron | Visual | Off-site |
| Cathartidae - American Vultures | | | |
| *Cathartes aura* | Turkey Vulture | Visual | Off-site |
| Columbidae - Pigeons & Doves | | | |
| *Zenaida macroura* | Mourning Dove | Visual | Off-site |
| Alcedinidae - Kingfishers | | | |
| *Ceryle alcyon* | Belted Kingfisher | Visual, call | Off-site |
| Picidae - Woodpeckers & Allies | | | |
| *Melanerpes carolinus* | Red-Bellied Woodpecker | Call | Off-site |
| *Picoides pubescens* | Downy Woodpecker | Call | Off-site |
| *Colaptes auratus* | Northern Flicker | Call | Off-site |
| Tyrannidae - Tyrant Flycatchers | | | |
| *Empidonax virescens* | Acadian Flycatcher | Call | Off-site |
| Corvidae - Jays, Magpies & Crows | | | |
| *Cyanocitta cristata* | Blue Jay | Call | On-site; Off-site |
| *Corvus brachyrhynchos* | American Crow | Visual | Off-site |
| Paridae - Chickadees & Titmice | | | |
| *Poecile carolinensis* | Carolina Chickadee | Call | On-site; Off-site |
| Troglodytidae - Wrens | | | |
| *Thryothorus ludovicianus* | Carolina Wren | Call | On-site; Off-site |
| Turdidae - Thrushes | | | |
| *Hylocichla mustelina* | Wood Thrush | Call | Off-site |
| Cardinalidae - Grosbeaks & Buntings | | | |
| *Cardinalis cardinalis* | Northern cardinal | Call | Off-site |
| Fringillidae - Fringilline and Cardueline Finches | | | |
| *Carduelis tristis* | American Goldfinch | Visual, call | On-site; Off-site |

**Table A1-5. Wildlife Species List from Off-Property Areas**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

The following is a list of wildlife species identified during field surveys of the Southern Wood Piedmont Site, located in the Town of Gulf, Chatham County, North Carolina. The field surveys were conducted from July 17 to July 21, 2006.

| Scientific Name | Common Name | Observation Type | Area Observed |
|---|---|---|---|
| **MAMMALS** | | | |
| Procyonidae - Raccoons and Caotis | | | |
| *Procyon lotor* | Raccoon | Tracks | Off-site |
| Cricetidae - Mice, Rats, Lemmings, and Voles | | | |
| *Ondatra zibethica* | Muskrat | Visual | Off-site |
| Sciuridae - Squirrels | | | |
| *Sciurus carolinensis* | Eastern gray squirrel | Visual | Off-site |
| Cervidae - Deer | | | |
| *Odocoileus virgninianus* | White-tailed deer | Tracks, beds | Off-site |
| **HERPTILES** | | | |
| Bufonidae - Toads | | | |
| *Bufo americana* | American toad | Visual | Off-site |
| Hylidae - Hylid Frogs | | | |
| *Hyla crucifer* | Spring peeper | Call | Off-site |
| *Acris crepitans* | Northern cricket frog | Call | On-site |
| Ranidae - True Frogs | | | |
| *Bufo americanus* | Bullfrog | Call | Off-site |
| *Rana clamitans* | Green frog | Visual, call | On-site; Off-site |
| Emydidae - Emydid Turtles | | | |
| Unidentified species | NA | Visual | Off-site |

**Table A1-6. Benthic Macroinvertebrates from the Drainage Ditch, Cedar Creek, and the Off-Site Pond**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Area | Cedar Creek | | | | | | | Drainage Ditch | Off-Site Pond |
|---|---|---|---|---|---|---|---|---|---|
| Location | E1 | E2 | E3 | E4 | E5 | E6 | E7 | E8 | E9 |
| Sampling Date | 7/18/06 | 7/18/06 | 7/18/06 | 7/18/06 | 7/19/06 | 7/19/06 | 7/19/06 | 7/19/06 | 7/19/06 |
| Order Ephemeroptera (Mayflies) | | 6 | 2 | | 12 | 2 | NC | | NC |
| Order Coleoptera (Beetles) | | 5 | 5 | | | 1 | NC | 2 | NC |
| Order Diptera (Flies) | | | | | | | | | |
| Family Chironomidae (True midges) | 1 | 2 | 3 | 6 | 1 | 1 | NC | 5 | NC |
| Order Hemiptera (True bugs) | 1 | 6 | | | | 1 | NC | 7 | NC |
| Order Megaloptera (Fishflies, dobsonflies, & alderflies) | | | | | | | | | |
| Family Corydalidae | | 2 | | | | | NC | | NC |
| Order Odonata (Dragonflies & damselflies) | | | | | | | | | |
| Class Crustacea (Crustaceans) | | | | | | | | | |
| Order Amphipoda (Amphipods) | | | 1 | | | | NC | | NC |
| Order Decapoda (Shrimp, crayfish & lobsters) | | | 3 | 3 | 1 | | NC | 1 | NC |
| Total Number of Organisms (i.e. Taxonomic Richness) = | 4 | 21 | 14 | 9 | 14 | 6 | 0 | 16 | 0 |

Notes:
NC = Not collected. Organisms were not collected from Locations 7 due to deep water conditions and unstable banks. Organisms were not collected from Location 9 as this was lentic system that is not hydrologically connected to Cedar Creek.
See Table A1-4 for descriptions of Cedar Creek sampling locations.
Literature used for taxonomic identification: Burch (1975), Crumb (1977), Cummins and Wilzbach (1985), Edmunds et al. 1976), Heard and Burch (1966), Hobbs (1972), Meinkoth (1981), Needham and Needham (1938), Peckarsky et al., (1990), Pennack (1989), Robbins and Yentsch (1973), Thorp and Covich (1991).

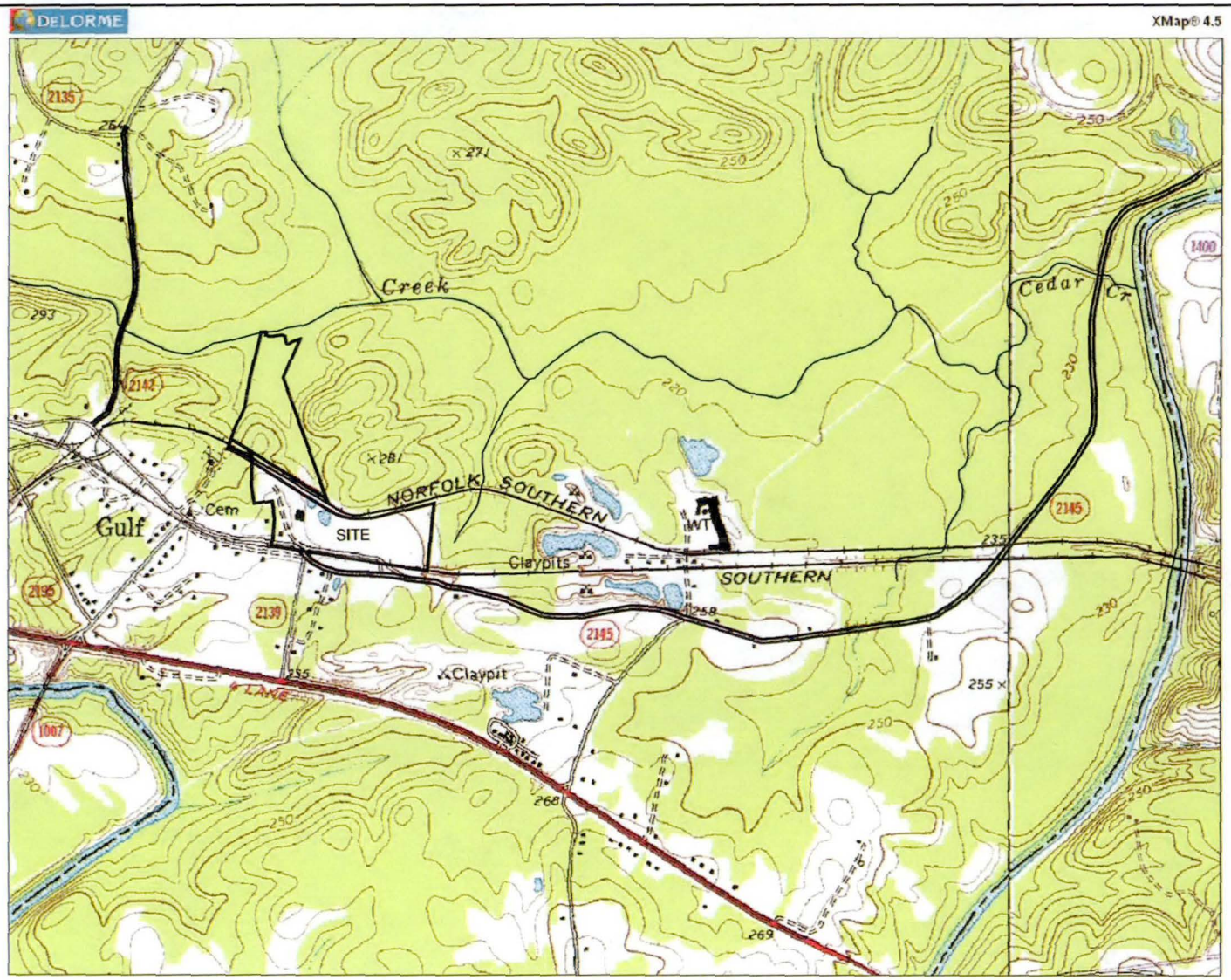


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FIGURE A1-1
Site Location and
Topographic Map

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY

PROJECT NO. 979010.A0

3/3/05 G: ActiveProjects\SWP\Gulf\Drawings\2005\CedarCreekTopo.dwg

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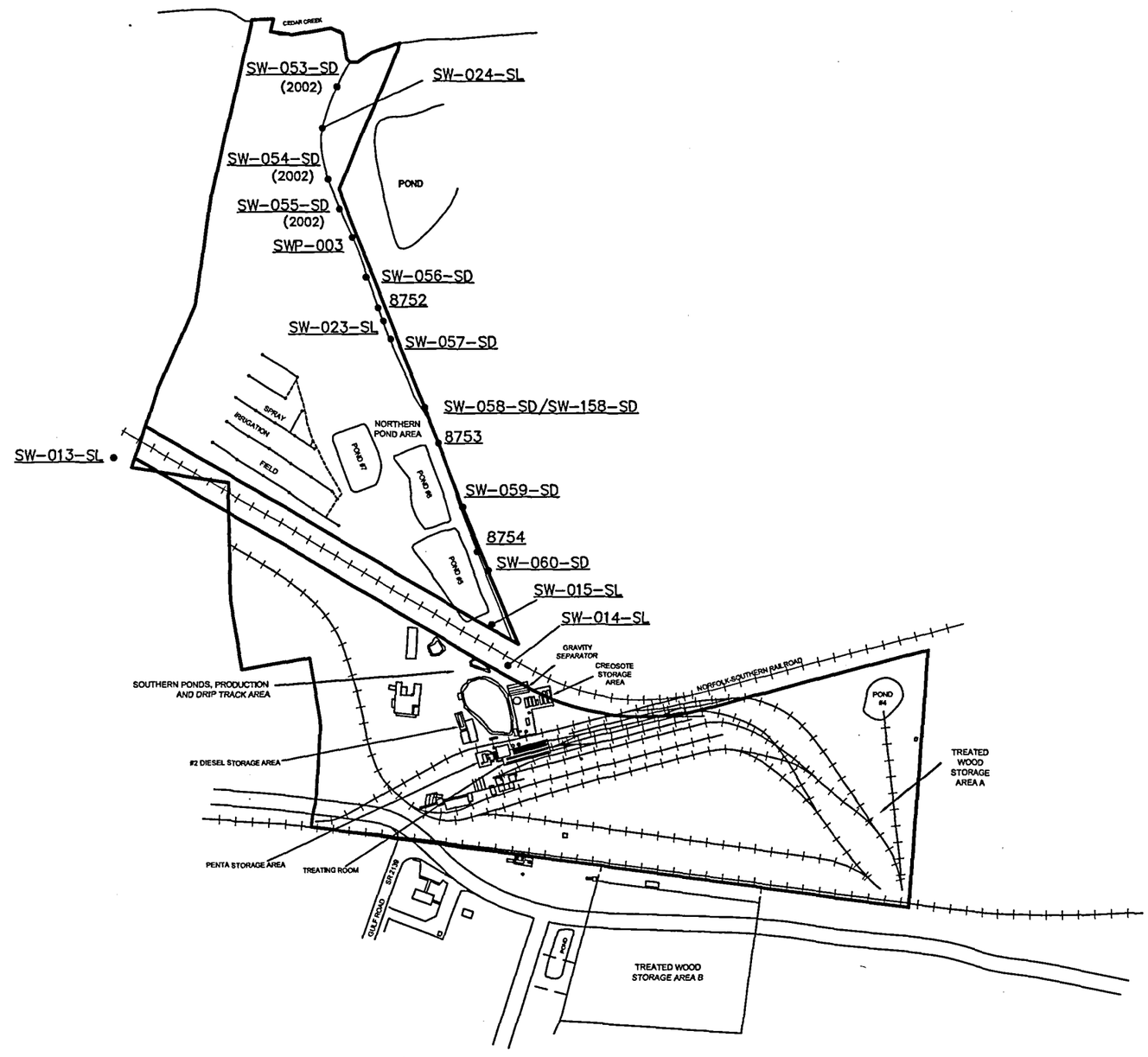


GRAPHIC SCALE

0 200 400

1 inch = 400 ft.

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FIGURE A1-2A
On-Site Drainage Ditch
Sediment Samples

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY

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9/12/05 G:\ActiveProjects\SWP\Gulf\2004\Report\G:\ActiveProjects\SWP\Gulf\Drawings\2004\Protectionof GWReport\Drainege Ditch Sediment Samples.dwg

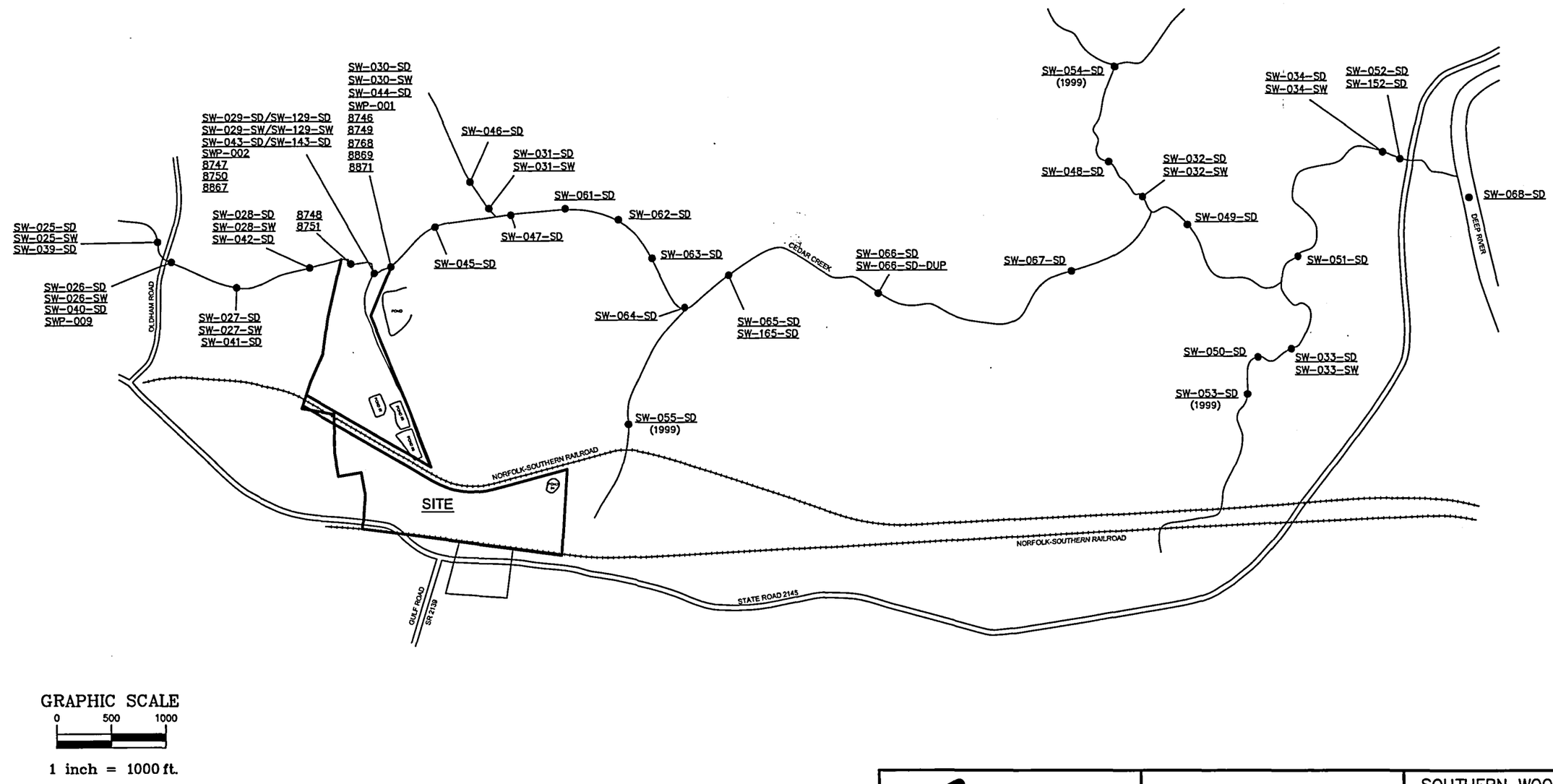


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FIGURE A1-2B
Cedar Creek Sediment
and Surface Water Samples

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY

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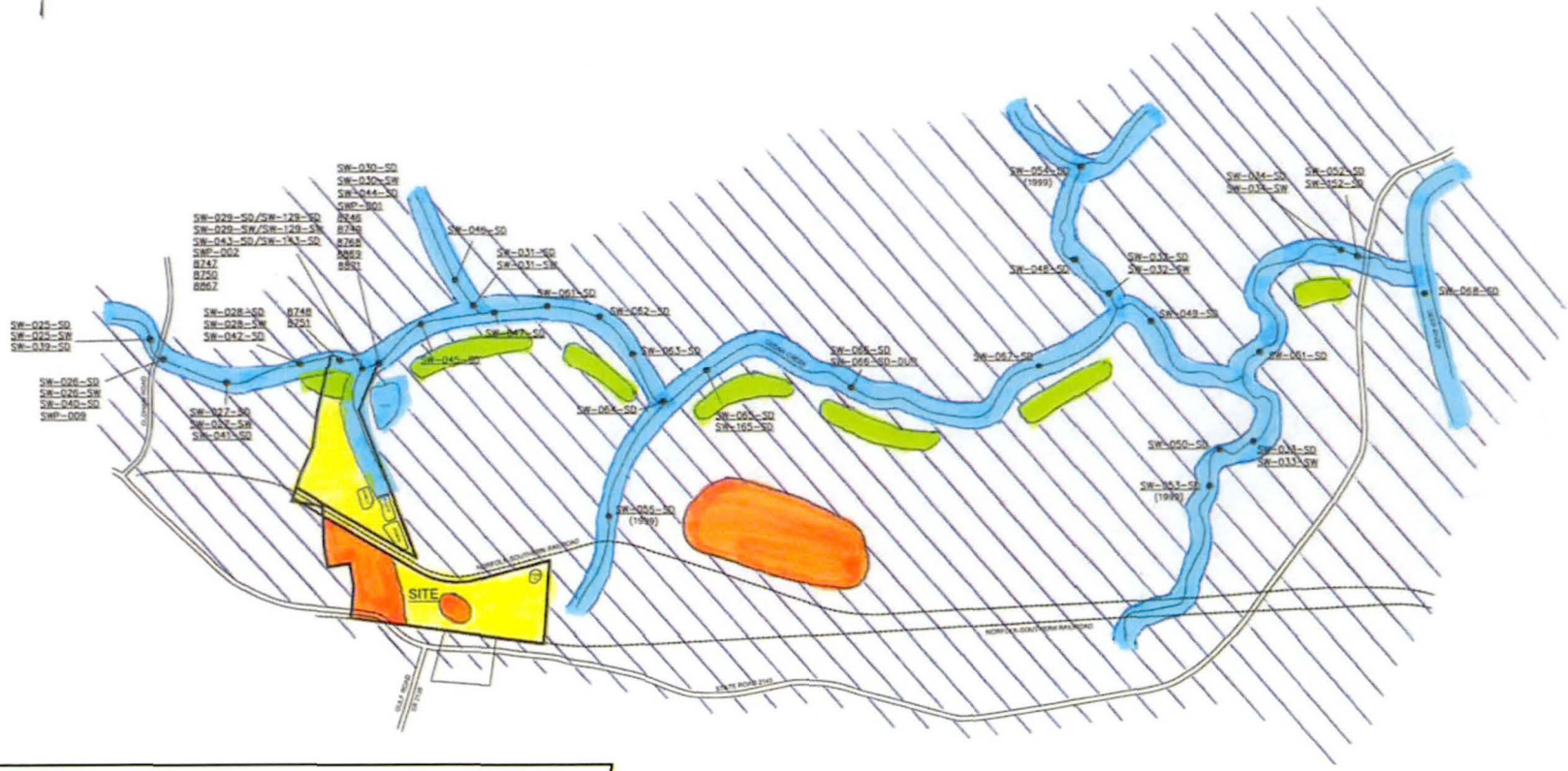
9/12/05 G:\ActiveProjects\SWP\Gulf\2004\Report\G:\ActiveProjects\SWP\Gulf\Drawings\2005\Cedar Creek Sediment Samples.dwg




| Habitat Map for the On-Site Drainage Ditch, Cedar Creek and a Portion of Deep River – July 2006 | SOUTHERN WOOD PIEDMONT GULF, N.C. FACILITY<br>FIGURE A1-3 |
|---|---|

# Attachment A2
# Threatened and/or Endangered Species

## Preface

A total of 57 species or groups of organisms were identified in the August 2006 update (accessed on 13 November 2006) of the North Carolina National Heritage Program for the Chatham County area, but not explicitly at the site. These include one animal assemblage (colonial wading bird colony), 14 invertebrate species, 18 natural communities, 14 vascular plants, and 10 vertebrate animals. These have been summarized in Table A2-1.

## List of Tables

Table A2-1 National Heritage Program Database Output for Chatham County, Southern Wood Piedmont - Gulf, North Carolina Facility

**Table A2-1. National Heritage Program Database Output for Chatham County**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Major Group | Scientific Name | Common Name | State Status | Federal Status | State Rank | Global Rank | County - Status |
|---|---|---|---|---|---|---|---|
| Animal Assemblage | *Colonial Wading Bird Colony* | None | None | None | S3 | GNR | Chatham - Current |
| Invertebrate Animal | *Alasmidonta undulata* | Triangle Floater | T | None | S2 | G4 | Chatham - Current |
| Invertebrate Animal | *Alasmidonta varicosa* | Brook Floater | E | FSC | S1 | G3 | Chatham - Historical |
| Invertebrate Animal | *Cambarus davidi* | Carolina Ladle Crayfish | SR | None | S2S3 | G2G3 | Chatham - Current |
| Invertebrate Animal | *Choroterpes basalis* | A Mayfly | SR | None | S2 | G5 | Chatham - Current |
| Invertebrate Animal | *Fusconaia masoni* | Atlantic Pigtoe | E | FSC | S1 | G2 | Chatham - Historical |
| Invertebrate Animal | *Gomphus abbreviatus* | Spine-crowned Clubtail | SR | None | S3? | G3G4 | Chatham - Obscure |
| Invertebrate Animal | *Gomphus quadricolor* | Rapids Clubtail | SR | None | S1S2 | G3G4 | Chatham - Obscure |
| Invertebrate Animal | *Gomphus septima* | Septima's Clubtail | SR | FSC | S1S3 | G2 | Chatham - Current |
| Invertebrate Animal | *Lampsilis cariosa* | Yellow Lampmussel | E | FSC | S1 | G3G4 | Chatham - Current |
| Invertebrate Animal | *Neurocordulia virginiensis* | Cinnamon Shadowdragon | SR | None | S2S3 | G4 | Chatham - Obscure |
| Invertebrate Animal | *Strophitus undulatus* | Creeper | T | None | S2 | G5 | Chatham - Current |
| Invertebrate Animal | *Villosa constricta* | Notched Rainbow | SC | None | S3 | G3 | Chatham - Current |
| Invertebrate Animal | *Villosa delumbis* | Eastern Creekshell | SR | None | S3 | G4 | Chatham - Current |
| Invertebrate Animal | *Villosa vaughaniana* | Carolina Creekshell | E | FSC | S2 | G2 | Chatham - Current |
| Natural Community | *Basic mesic forest (piedmont subtype)* | None | None | None | S2 | G5T3 | Chatham - Current |
| Natural Community | *Basic oak--hickory forest* | None | None | None | S3 | G4 | Chatham - Current |
| Natural Community | *Dry oak--hickory forest* | None | None | None | S4 | G5 | Chatham - Current |
| Natural Community | *Dry-mesic oak--hickory forest* | None | None | None | S5 | G5 | Chatham - Current |
| Natural Community | *Floodplain pool* | None | None | None | S2S3 | G3? | Chatham - Current |
| Natural Community | *Hillside seepage bog* | None | None | None | S2 | G2 | Chatham - Current |
| Natural Community | *Mesic mixed hardwood forest (piedmont subtype)* | None | None | None | S4 | G5T5 | Chatham - Current |
| Natural Community | *Piedmont longleaf pine forest* | None | None | None | S1 | G1? | Chatham - Current |
| Natural Community | *Piedmont/coastal plain heath bluff* | None | None | None | S3 | G4? | Chatham - Current |
| Natural Community | *Piedmont/low mountain alluvial forest* | None | None | None | S5 | G5 | Chatham - Current |

**Table A2-1. National Heritage Program Database Output for Chatham County**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Major Group | Scientific Name | Common Name | State Status | Federal Status | State Rank | Global Rank | County - Status |
|---|---|---|---|---|---|---|---|
| Natural Community | *Piedmont/mountain bottomland forest* | None | None | None | S3? | G5 | Chatham - Current |
| Natural Community | *Piedmont/mountain levee forest* | None | None | None | S3? | G5 | Chatham - Current |
| Natural Community | *Piedmont/mountain semipermanent impoundment* | None | None | None | S4 | G5 | Chatham - Current |
| Natural Community | *Piedmont/mountain swamp forest* | None | None | None | S1S2 | G2 | Chatham - Current |
| Natural Community | *Rocky bar and shore* | None | None | None | S5 | G5 | Chatham - Current |
| Natural Community | *Upland depression swamp forest* | None | None | None | S3 | G3 | Chatham - Current |
| Natural Community | *Upland pool* | None | None | None | S1 | G1 | Chatham - Current |
| Natural Community | *Xeric hardpan forest* | None | None | None | S3 | G3G4 | Chatham - Current |
| Vascular Plant | *Allium cuthbertii* | Striped Garlic | SR-T | None | S2 | G4 | Chatham - Historical |
| Vascular Plant | *Baptisia albescens* | Thin-pod White Wild Indigo | SR-P | None | S2 | G4 | Chatham - Historical |
| Vascular Plant | *Carex physorhyncha* | Bellow's-beak Sedge | SR-P | None | S2 | G5T5 | Chatham - Current |
| Vascular Plant | *Collinsonia tuberosa* | Piedmont Horsebalm | SR-P | None | S1 | G3G4 | Chatham - Current |
| Vascular Plant | *Dichanthelium annulum* | A Witch Grass | SR-P | None | SH | GNR | Chatham - Historical |
| Vascular Plant | *Fothergilla major* | Large Witch-alder | SR-T | None | S3 | G3 | Chatham - Current |
| Vascular Plant | *Gillenia stipulata* | Indian Physic | SR-P | None | S2 | G5 | Chatham - Historical |
| Vascular Plant | *Isoetes virginica* | Virginia Quillwort | SR-L | FSC | S1 | G1 | Chatham - Historical |
| Vascular Plant | *Monotropsis odorata* | Sweet Pinesap | SR-T | FSC | S3 | G3 | Chatham - Current |
| Vascular Plant | *Paspalum fluitans* | Horsetail Crown Grass | SR-D | None | S1 | G5 | Chatham - Historical |
| Vascular Plant | *Phacelia covillei* | Buttercup Phacelia | SR-T | FSC | S3 | G2 | Chatham - Current |
| Vascular Plant | *Ptilimnium nodosum* | Harperella | E | E | S1 | G2 | Chatham - Historical |
| Vascular Plant | *Scutellaria nervosa* | Veined Skullcap | SR-P | None | S1 | G5 | Chatham - Historical |
| Vascular Plant | *Thermopsis mollis* | Appalachian Golden-banner | SR-P | None | S2 | G3G4 | Chatham - Historical |

**Table A2-1. National Heritage Program Database Output for Chatham County**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| Major Group | Scientific Name | Common Name | State Status | Federal Status | State Rank | Global Rank | County - Status |
|---|---|---|---|---|---|---|---|
| Vertebrate Animal | *Aimophila aestivalis* | Bachman's Sparrow | SC | FSC | S3B,S2N | G3 | Chatham - Current |
| Vertebrate Animal | *Anhinga anhinga* | Anhinga | SR | None | S2B | G5 | Chatham - Current |
| Vertebrate Animal | *Etheostoma collis pop. 2* | Carolina Darter - Eastern Piedmont Population | SC | FSC | S2 | G3T3Q | Chatham - Current |
| Vertebrate Animal | *Haliaeetus leucocephalus* | Bald Eagle | T | T | S3B,S3N | G5 | Chatham - Current |
| Vertebrate Animal | *Hemidactylium scutatum* | Four-toed Salamander | SC | None | S3 | G5 | Chatham - Current |
| Vertebrate Animal | *Lanius ludovicianus* | Loggerhead Shrike | SC | None | S3B,S3N | G4 | Chatham - Current |
| Vertebrate Animal | *Moxostoma sp. 3* | Carolina Redhorse | SR (PE) | FSC | S1 | G1G2Q | Chatham - Current |
| Vertebrate Animal | *Notropis mekistocholas* | Cape Fear Shiner | E | E | S1 | G1 | Chatham - Current |
| Vertebrate Animal | *Phalacrocorax auritus* | Double-crested Cormorant | SR | None | S1B,S5N | G5 | Chatham - Current |
| Vertebrate Animal | *Picoides borealis* | Red-cockaded Woodpecker | E | E | S2 | G3 | Chatham - Historical |

Notes:
Data from North Carolina National Heritage Program (http://207.4.179.38/nhp/county.html). Accessed 13 November 2006. Latest update in 11 August 2006.
State Status Definitions: E - Endangered; SC - Special Concern; SR - Significantly Rare; SR (PE) - Significantly Rare and Proposed Endangered; SR-L - Significantly Rare and Limited; SR-P - Significantly Rare and Peripheral; SR-T- Significantly Rare and Throughout; and T - Threatened.
Federal Status Definitions: E - Endangered; FSC - Federal Species of Concern; and T, PD - Threatened but Proposed De-listed.
State Rank Definitions: S1 - Critically imperiled; S1B,S5N - ???; S1S2 - Imperiled to critically imperiled; S1S3 - Critically imperiled to rare or uncommon; S2 - Imperiled; S2S3 - Imperiled to rare or uncommon; S3 - Rare or uncommon; S3B,S2N - Imperiled to rare or uncommon rank for migratory species; S3B,S3N - Rare or uncommon rank for migratory species; and SH - Historic only.
Global Rank Definitions: G1 - Critically imperiled; G2 - Imperiled; G2G3 - Imperiled to very rare;
G2G3Q - Imperiled to very rare but questionable taxonomic status; G3 - Very rare; G3G4 - Very rare to rare in parts but secure globally; G3T3Q - Main and subspe
G4T4 - Main and subspecies rare in parts but secure globally; G5 - Demonstrably secure globally; GNR - Not ranked.

# Attachment A3
# Aerial Photographs

## Preface

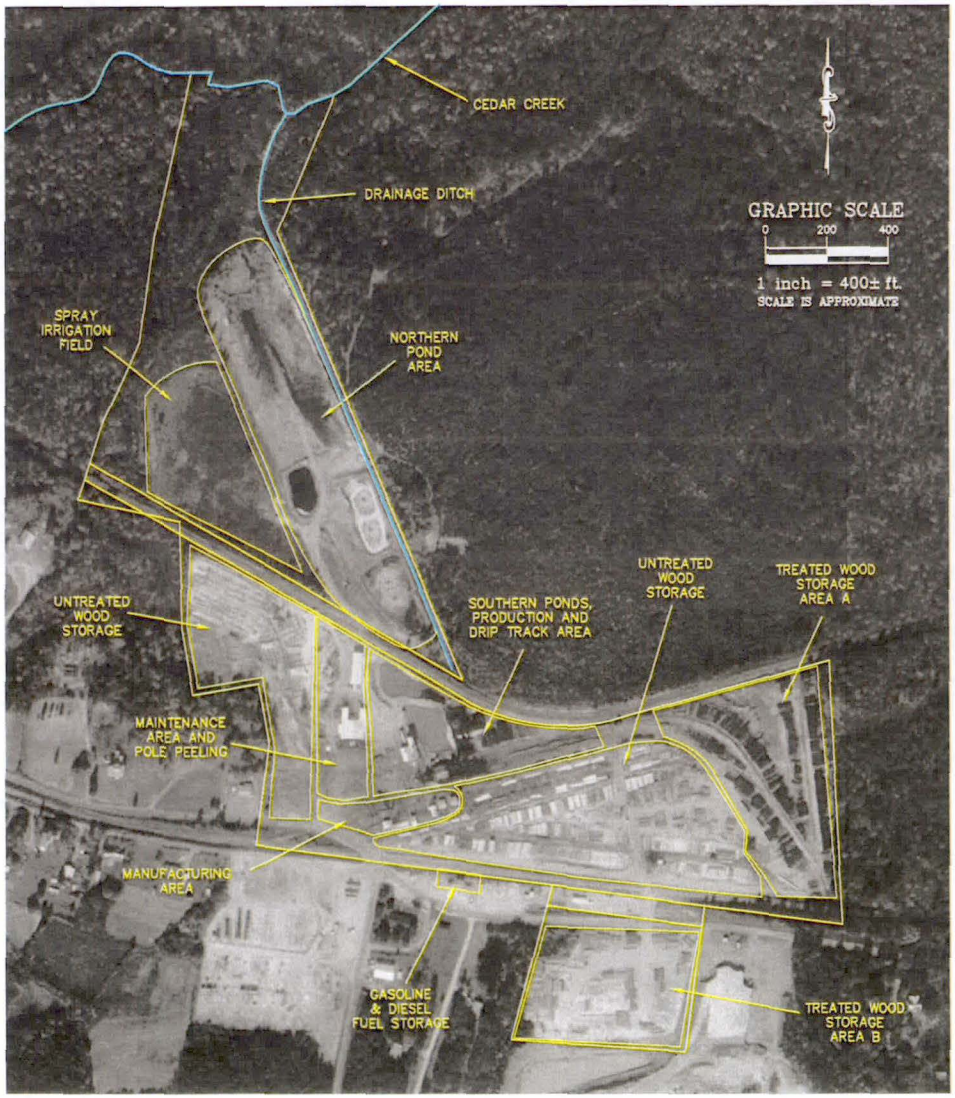
Aerial photographs from 1962, 1979 and 2004 were available and are provided in Figures A3-1 and A3-2. An annotated overlay of the historical site operations is shown on the 1979 aerial photograph, with the boundaries of these operations shown on the remaining aerial photographs.

## List of Figures

Figure A3-1 Aerial photographs from 1962 and 1979

Figure A3-2 Aerial photograph from 2004

1979




1962

SITE BOUNDARIES NOT TO SCALE BECAUSE AERIAL PHOTOGRAPH IS NOT ORTHO RECTIFIED.

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FIGURE A3-1
1979 and 1962 Aerial Photographs

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY
PROJECT NO. 979010.A0-34

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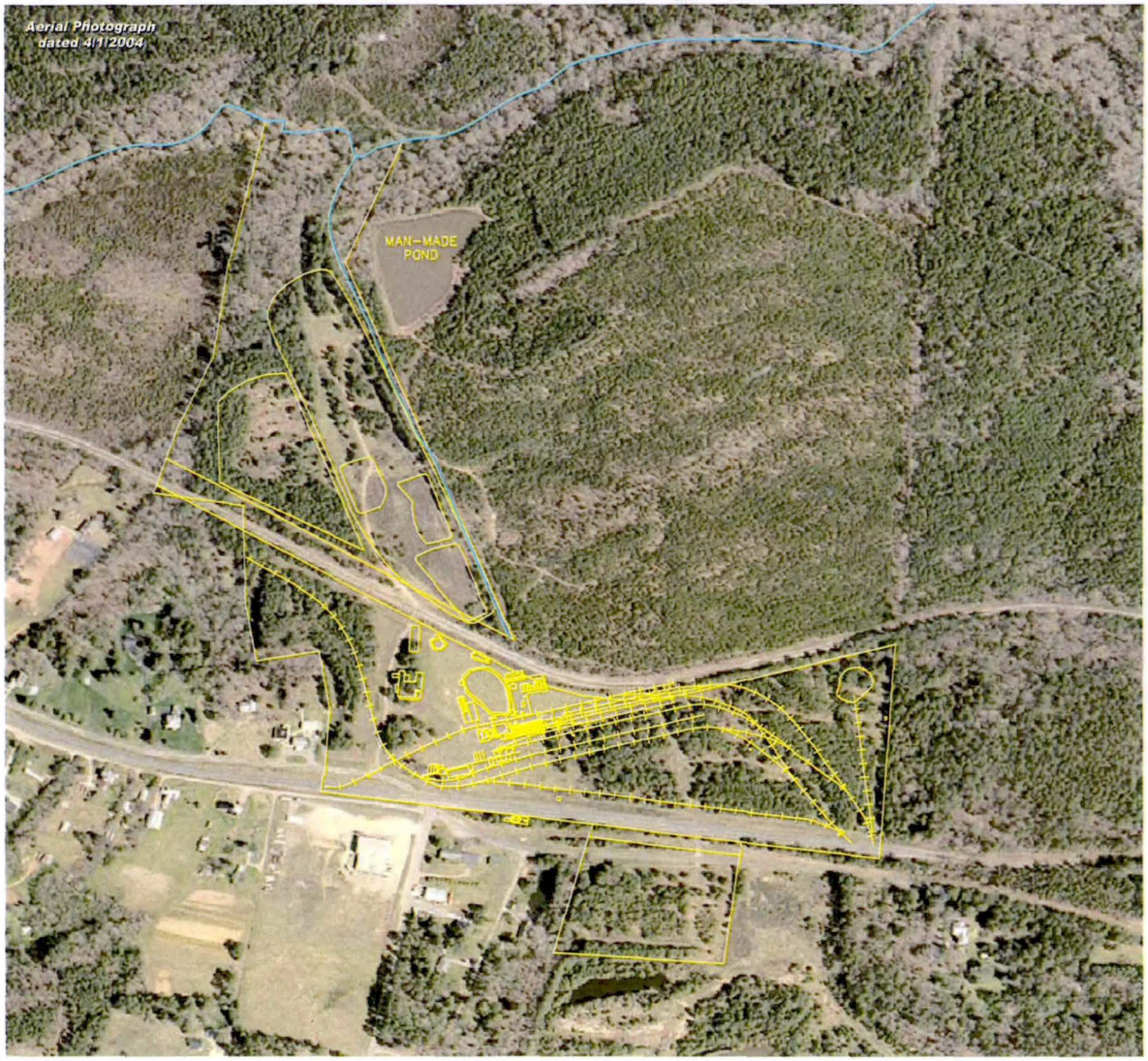
G:\SWP\Gulf\Drawings\1979 AND 1962 Gulf Aerial Photographs.dwg
1/8/07

2004




GRAPHIC SCALE

0 200 400

1 inch = 400± ft.

SCALE IS APPROXIMATE

SITE BOUNDARIES NOT TO SCALE BECAUSE AERIAL PHOTOGRAPH IS NOT ORTHO RECTIFIED.

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FIGURE A3-2
2004 Aerial Photograph

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY

PROJECT NO. 979010.A0-34

G:\SWP\Gulf\Drawings\2004 Gulf Aerial Photographs.dwg

1/8/07

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# Attachment A4
# Historical Wetlands Assessment

## Preface

This attachment contains the correspondence from the Raleigh (NC) office of the US Army Corps of Engineers concerning the wetlands assessment of the Cedar Creek area.

# Memorandum

To: MEMORANDUM FOR THE RECORD

CC:

From: Jean B. Manuele

Date: March 11, 1996

Subject: Action ID. 199602037, Jurisdictional Determination for Mr. Charles Oldham, in Chatham County, North Carolina.

On May 11, 1995, I met with Mr. Charles Oldham on his 600+ acre tract of land located on the north side of S.R. 2139, on the north and south sides of Cedar Creek, approximately 1/2-1 mile west of S.R. 2142, in Gulf, in Chatham County, North Carolina. The property is located adjacent to, and above the headwaters of, Cedar Creek. Also, present at the site inspection were: Mr. Doug Rumford Environmental Chemist with the N.C. Superfund Section and Mr. W.P. "Bill" Arrants, Environmental Compliance and Safety Manager with Southern Wood Piedmont Company. The purpose of the site inspection was to determine the presence of wetlands subject to our regulatory authority pursuant to Section 404 of the Clean Water Act for purposes of evaluating areas downstream of a site identified as a potential Superfund site owned by Southern Wood Piedmont Company.

The presence or absence of wetlands needed to be determined for a distance of less than 1 mile downstream of the site. The presence/absence of wetlands is utilized by the state under the US EPA Hazard Ranking System to determine the eligibility of a site for inclusion on the Superfund Site List.

The site is located on the Goldston Quad. The site consists primarily of wooded uplands divided by Cedar Creek. During the site inspection, the property was examined on the south side of the creek for approximately 1,500-2,000 linear feet. No wetlands were noted as being present within the area examined during the site inspection.

I was later contacted by Mr. Rumford who stated that we needed to revisit the site to examine areas downstream of where we had previously stopped our investigation, as well, we needed to examine the opposite side of the creek. Subsequently, on June 27, 1995, Mr. Rumford, Mr. Arrants and I conducted another site inspection. During this site inspection, it was determined that no

wetlands were found within the areas examined (immediately adjacent to the creek). Therefore, the only jurisdictional areas noted within the examined areas was the stream channel only. See attached wetland data form.

A Jurisdictional Tearsheet was sent to Mr. Oldham in the mail in March 1996.

Jean B. Manuele

Jean B. Manuele

Regulatory Specialist
Raleigh Field Office

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

ID. 199602037 Date: May 11, 1995
ant/Owner: Charles Oldham Project/Site: Possible Superfund
s: 2205 Southern Road, Sanford, N.C. 27330
on: 600+ acres on the N side of S.R. 2139, in Gulf, N.C.
way: Cedar Creek County: Chatham
tigator: Jean B. Manuele State: North Carolina

rmal Circumstances exist on the site? Yes X No ___
he site significantly disturbed (Atypical Situation)? Yes X No ___
e area a potential Problem Area? (Explain on reverse) Yes ___ No X
unity ID: Uplands Along Stream Bank Plot ID: ___
TATION

| inant Plant Species | Stratum | Indicator | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|
| riodendron lipifera | Tre/Sap | 40%-FAC | 2.Ulmus rubra | Tre/Sap | 25%-FAC |
| ilis serrulata | Shrub | 25%-FACW | 4.Arundinaria gigantea | Herb | 35%-FACW |
| carpinus caroliniana | Tre/Sap | 15%-FAC | 6.Lonicera japonica | Herb | 15%-FAC |
| | | | 8. | | |
| | | | 10. | | |
| | | | 12. | | |
| | | | 14. | | |

rcent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100%
marks: Wetland Vegetation Present Based Upon Greater than 50% of the Plant pecies are Classified as FAC-OBL in the National List of Plant Species that ccur in Wetlands-North Carolina.

OILS
ap Unit Name Drainage Class: ___
eries and Phase): ___ Field Observations Confirm
xonomy (Subgroup): ___ Map Type? ___

rofile Description:

| Depth (Inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Conc. Structure |
|---|---|---|---|---|---|
| 11 | | 10 YR 5/3 | 10 YR 5/6 | | |
| | | | | | |
| | | | | | |

ydric Soil Indicators:

| | | | |
|---|---|---|---|
| | Histosol | | Concretions |
| | Histic Epipedon | | High Organic Content in Surface Layer in Sandy Soils |
| | Sulfidic Odor | | Organic Streaking in Sandy Soils |
| | Aquic Moisture Regime | | Listed on Local Hydric Soils List |
| | Reducing Conditions | | Listed on National Hydric Soils List |
| | Gleyed or Low-Chroma Colors | | Other (Explain in Remarks) |

Remarks: Hydric Soils Absent Based Upon the Lack of Low Chroma Soils.

YDROLOGY

Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Field Observations:
Depth of Surface Water: N/A (in.)
Depth to Water in Pit: 20+ (in.)
Depth to Saturated Soil: 20+ (in.)

etland Hydrology Indicators:

| | Primary Indicators: | | Secondary Indicators (2 or more required): |
|---|---|---|---|
| | Inundated | | Oxidized Root Channels in Upper 12 Inches |
| | Saturated in Upper 12 Inches | | Water-Stained Leaves |
| | Water Marks | | Local Soil Survey Data |
| | Drift Lines | | FAC-Neutral Test |
| | Sediment Deposits | | Other (Explain in Remarks) |
| | Drainage Patterns in Wetlands | | |

Remarks: Wetland Hydrology Absent Due to the Lack of Primary and/or Secondary ydrology Indicators.

ETLAND DETERMINATION

ydrophytic Vegetation Present? Yes X No ___
ydric Soils Present? Yes ___ No X
etland Hydrology Present? Yes ___ No X

this Sampling Point Within a Wetland? Yes ___ No X

Remarks: Floodplain area bordering Cedar Creek is not classified as risdictional wetlands as set forth by the criteria in the 1987 Army Corps of ngineers Wetlands Delineation Manual.

amec

# *Appendix B*
# *NCDENR SLERA Tables*

amec

# APPENDIX B
# NCDENR SLERA Tables

## Preface

This appendix includes some of the relevant NCDENR SLERA Tables in the format presented in NCDENR (2003). The list of NCDENR table templates and their corresponding appendix tables are shown below. Completion of many of the NCDENR SLERA tables was not required since the media was not relevant to this assessment (e.g., soils), was not present at the site (e.g., saltwater) or the chemical parameters were not collected as part of the prior field investigations (e.g., pesticides).

| NCDENR Table | Description | Comment | Appendix Table |
|---|---|---|---|
| 1 | Calculation of Dioxin Toxicity Equivalents, Soil | Excluded, no soil data | |
| 2 | Calculation of Dioxin Toxicity Equivalents, Sediment | | B-1 |
| 3 | Calculation of Dioxin Toxicity Equivalents, Salt Water | Excluded, not relevant | |
| 4 | Calculation of Dioxin Toxicity Equivalents, Freshwater | Excluded, not collected | |
| 5 | Selection of COPCs, VOCs in Soil | Excluded, no soil data | |
| 6 | Selection of COPCs, SVOCs in Soil | Excluded, no soil data | |
| 7 | Selection of COPCs, Pesticides in Soil | Excluded, no soil data | |
| 8 | Selection of COPCs, Inorganics in Soil | Excluded, no soil data | |
| 9 | Selection of COPCs, VOCs in Sediment | | B-2 |
| 10 | Selection of COPCs, SVOCs in Sediment | | B-3 |
| 11 | Selection of COPCs, Pesticides in Sediment | Excluded, not collected | |
| 12 | Selection of COPCs, Inorganics in Sediment | | B-4 |
| 13 | Selection of COPCs, VOCs in Saltwater | Excluded, not relevant | |
| 14 | Selection of COPCs, SVOCs in Saltwater | Excluded, not relevant | |
| 15 | Selection of COPCs, Pesticides in Saltwater | Excluded, not relevant | |
| 16 | Selection of COPCs, Inorganics in Saltwater | Excluded, not relevant | |
| 17 | Selection of COPCs, VOCs in Freshwater | Excluded, no detections | |
| 18 | Selection of COPCs, SVOCs in Freshwater | | B-5 |
| 19 | Selection of COPCs, Pesticides in Freshwater | Excluded, not collected | |
| 20 | Selection of COPCs, Inorganics in Freshwater | | B-6 |

The sediment sample results from the Drainage Ditch and Cedar Creek were combined for these summary tables. When the BERA is developed, these two areas, and whether the samples originated from upgradient (background) or downgradient areas, will be evaluated separately.

The database includes samples collected by NCDENR, EPA, and SWP. Some of the samples collected by NCDENR were split for chemical analysis by SWP. To distinguish these samples in the database, the extension "(NCDENR)" was added to the sample results reported by NCDENR where split sample results were also available from SWP.

The $TEF_{mammal}$ values for several of the PCDD/F congeners in the NCDENR table template were updated to reflect the recent publication by Van den Berg et al (2006). The fish and avian TEFs were not changed as a result of this update and are from Van den Berg et al (1998). The current $TEF_{mammal}$ values are compared to the prior $TEF_{mammal}$ values in the table below.

| PCDD/F congener | Prior $TEF_{mammal}$ value (Van den Berg et al., 1998) | Current $TEF_{mammal}$ value (Van den Berg et al., 2006) |
|---|---|---|
| OCDD | 0.0001 | 0.0003 |
| 1,2,3,7,8-PeCDF | 0.05 | 0.03 |
| 2,3,4,7,8-PeCDF | 0.5 | 0.3 |
| OCDF | 0.0001 | 0.0003 |

Consistent with the conservative screening nature of the NCDENR (2003) guidance, the maximum PCDD/F congener concentration across all of the samples was used to calculate the TEQ values. In addition, if the maximum sample quantitation limit (SQL) was greater than the maximum positive result for a specific PCDD/F congener, then half the SQL was used as the input for the TEQ calculation. For the sediment samples, the SQL was used to calculate the TEQ values for four PCDD/F congeners (2,3,7,8-TCDD, 2,3,7,8-TCDF, 1,2,3,7,8-PeCDF, and 1,2,3,4,7,8-HxCDF).

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**Table B-1. Selection of COPCs for PCDD/F congeners and Dioxin-TEQs in Sediments**
**Former SWP-Gulf Facility, Gulf, North Carolina**

| Analyte | Maximum Detected Concentration | Maximum SQL | Comparison Concentration[1] | Mammal TEF[2] | Mammal Value[3] | Fish TEF[2] | Fish Value[3] | Avian TEF[2] | Avian Value[3] |
|---|---|---|---|---|---|---|---|---|---|
| Dioxin/Furan Congener (ng/Kg) | | | | | | | | | |
| 2,3,7,8-TCDD | 3.35E+00 | 2.09E+01 | 1.05E+01 | 1 | 1.05E+01 | 1 | 1.05E+01 | 1 | 1.05E+01 |
| | | | | | | | | | |
| 1,2,3,7,8-PentaCDD | 3.27E+01 | 1.60E+01 | 3.27E+01 | 1 | 3.27E+01 | 1 | 3.27E+01 | 1 | 3.27E+01 |
| | | | | | | | | | |
| 1,2,3,4,7,8-HexaCDD | 1.17E+02 | 1.60E+01 | 1.17E+02 | 0.1 | 1.17E+01 | 0.5 | 5.85E+01 | 0.05 | 5.85E+00 |
| 1,2,3,6,7,8-HexaCDD | 8.20E+02 | 1.20E+01 | 8.20E+02 | 0.1 | 8.20E+01 | 0.01 | 8.20E+00 | 0.01 | 8.20E+00 |
| 1,2,3,7,8,9-HexaCDD | 2.38E+02 | 1.20E+01 | 2.38E+02 | 0.1 | 2.38E+01 | 0.01 | 2.38E+00 | 0.1 | 2.38E+01 |
| | | | | | | | | | |
| 1,2,3,4,6,7,8-HeptaCDD | 3.60E+04 | 3.00E+01 | 3.60E+04 | 0.01 | 3.60E+02 | 0.001 | 3.60E+01 | 0.001 | 3.60E+01 |
| | | | | | | | | | |
| OctaCDD | 3.60E+05 | 1.40E+02 | 3.60E+05 | 0.0003 | 1.08E+02 | 0.0001 | 3.60E+01 | 0.0001 | 3.60E+01 |
| | | | | | | | | | |
| 2,3,7,8-TetraCDF | 1.20E+00 | 1.61E+01 | 8.05E+00 | 0.1 | 8.05E-01 | 0.05 | 4.03E-01 | 1 | 8.05E+00 |
| | | | | | | | | | |
| 1,2,3,7,8-PentaCDF | 4.40E+00 | 2.04E+01 | 1.02E+01 | 0.03 | 3.06E-01 | 0.05 | 5.10E-01 | 0.1 | 1.02E+00 |
| 2,3,4,7,8-PentaCDF | 3.59E+01 | 1.80E+01 | 3.59E+01 | 0.3 | 1.08E+01 | 0.5 | 1.80E+01 | 1 | 3.59E+01 |
| | | | | | | | | | |
| 1,2,3,4,7,8-HexaCDF | 1.47E+02 | 1.20E+03 | 6.00E+02 | 0.1 | 6.00E+01 | 0.1 | 6.00E+01 | 0.1 | 6.00E+01 |
| 1,2,3,6,7,8-HexaCDF | 5.14E+01 | 1.80E+01 | 5.14E+01 | 0.1 | 5.14E+00 | 0.1 | 5.14E+00 | 0.1 | 5.14E+00 |
| 1,2,3,7,8,9-HexaCDF | 2.76E+01 | 1.80E+01 | 2.76E+01 | 0.1 | 2.76E+00 | 0.1 | 2.76E+00 | 0.1 | 2.76E+00 |
| 2,3,4,6,7,8-HexaCDF | 1.36E+02 | 3.80E+01 | 1.36E+02 | 0.1 | 1.36E+01 | 0.1 | 1.36E+01 | 0.1 | 1.36E+01 |
| | | | | | | | | | |
| 1,2,3,4,6,7,8-HeptaCDF | 6.80E+03 | 1.20E+01 | 6.80E+03 | 0.01 | 6.80E+01 | 0.01 | 6.80E+01 | 0.01 | 6.80E+01 |
| 1,2,3,4,7,8,9-HeptaCDF | 5.73E+02 | 1.60E+01 | 5.73E+02 | 0.01 | 5.73E+00 | 0.01 | 5.73E+00 | 0.01 | 5.73E+00 |
| | | | | | | | | | |
| OctaCDF | 3.70E+04 | 3.20E+01 | 3.70E+04 | 0.0003 | 1.11E+01 | 0.0001 | 3.70E+00 | 0.0001 | 3.70E+00 |
| | | | | | | | | | |
| **Toxicity Equivalents (TEQ)** | | | | | **8.07E+02** | | **3.62E+02** | | **3.57E+02** |

Notes:
1. Larger of the maximum positive result or one-half the maximum SQL if the congener is not detected.
2. Reflects updated mammalian TEFs from van den Berg et al (2006).
3. Fish and avian TEF values from van den Berg et al. (1998).
4. Mammal, Fish, and Avian Values = Comparison Concentration x Respective TEF

SQL = Sample Quantitation Limit
TEF = Toxic Equivalency Factor
TEQ = Toxic Equivalents relative to 2,3,7,8-tetrachlorodibenzo(p)dioxin (2,3,7,8-TCDD)

Table B-2. Selection of COPCs for Volatile Organics in Sediments
Former SWP-Gulf Facility, Gulf, North Carolina

| Analyte | Frequency of Detection | Range of Detection Min. | Q | Range of Detection Max. | Q | Location of Maximum Concentration | Range of Detection Limits | Concentration Used For Screening[1] | EPA Region IV Effects Value | CLP PQL | EPA Screening Value | Site Screening Value[2] | Maximum Hazard Quotient | Sediment COPC? | Contaminant Category[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Organics - VOCs (µg/Kg) | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 0/10 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| 1,1,2,2-Tetrachloroethane | 0/10 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| 1,1,2-Trichloroethane | 0/5 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| 1,1-Dichloroethane | 0/5 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| 1,1-Dichloroethene | 0/5 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| 1,2,3-Trichlorobenzene | NA | | | | | | NA | | NA | NA | NA | | | No | |
| 1,2,4-Trichlorobenzene | 0/43 | | | | | | 330 - 13,000 | [13,000] | NA | 10 | NA | | | No | |
| 1,2-Dibromo-3-chloropropane | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| 1,2-Dibromoethane | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| 1,2-Dichlorobenzene | 0/43 | | | | | | 330 - 13,000 | [13,000] | NA | 10 | NA | | | No | |
| 1,2-Dichloroethane | 0/5 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| 1,2-Dichloropropane | 0/5 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| 1,3-Dichlorobenzene | 0/43 | | | | | | 330 - 13,000 | [13,000] | NA | 10 | NA | | | No | |
| 1,4-Dichlorobenzene | 0/16 | | | | | | 330 - 13,000 | [13,000] | NA | 10 | NA | | | No | |
| 2-Butanone | 0/11 | | | | | | 12 - 50 | [50] | NA | 10 | NA | | | No | |
| 2-Hexanone | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| 4-Methyl-2-pentanone | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| Acetone | 0/5 | | | | | | 12 - 20 | [20] | NA | 10 | NA | | | No | |
| Benzene | 1/11 | 39 | | 39 | | SW-014-SL (NCDENR) | 5 - 15 | 39 | NA | 10 | NA | | | No | 3 |
| Bromochloromethane | NA | | | | | | NA | | NA | NA | NA | | | No | |
| Bromodichloromethane | 0/5 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Bromoform | 0/5 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Bromomethane | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| Carbon Disulfide | 0/10 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Carbon Tetrachloride | 0/10 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Chlorobenzene | 0/5 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Chloroethane | 0/10 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Chloroform | 0/10 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Chloromethane | 0/5 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| cis-1,2-Dichloroethene | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| cis-1,3-Dichloropropene | NA | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Cyclohexane | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| Dibromochloromethane | 0/5 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Dichlorodifluoromethane | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| Ethylbenzene | 2/14 | 100 | | 100 | | 8750 SW-015-SL | 5 - 5 | 100 | NA | 10 | NA | | | No | 3 |
| Isopropylbenzene | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| Methyl Acetate | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| Methyl tert-Butyl Ether | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| Methylcyclohexane | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| Methylene Chloride | 0/18 | | | | | | 5 - 5 | [5] | NA | 10 | NA | | | No | |
| Styrene | 1/5 | 82 | | 82 | | SW-014-SL (NCDENR) | 12 - 16 | 82 | NA | 10 | NA | | | No | 3 |
| Tetrachloroethene | 0/5 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Toluene | 4/18 | 8.6 | | 140 | | SW-014-SL (NCDENR) | 5 - 16 | 140 | NA | 10 | NA | | | No | 3 |
| trans-1,2-Dichloroethene | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| trans-1,3-Dichloropropene | 0/5 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Trichloroethene | 0/10 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Trichlorofluoromethane | NA | | | | | | NA | | NA | 10 | NA | | | No | |
| Vinyl Chloride | 0/10 | | | | | | 12 - 16 | [16] | NA | 10 | NA | | | No | |
| Xylenes (Total) | 3/18 | 2 | J | 420 | | SW-015-SL | 5 - 16 | 420 | NA | 10 | NA | | | No | 3 |

NOTES:

[1] = Enter maximum concentration. If contaminant was not detected, enter the maximum SQL.

[2] = When the PQL > Effects Value, Site Screening Value defaults to PQL. For contaminants whose screening value is based on the PQL, data reported below the required quantification limit (e.g., J-flagged data) should be compared to the EPA Region IV Effects Value.

[3] = Blank space means analyte eliminated as a COPC.

CLP PQL = Contract Laboratory Program Practical Quantitation Limit
COPC = Contaminant Of Potential Concern
Maximum Hazard Quotient = Concentration Used For Screening/ESV
NA = Not Available
Q = Data Qualifier
SQL = Sample Quantitation Limit

Contaminant Categories

| | |
|---|---|
| 1 | Contaminant is found in concentrations exceeding its screening value. |
| 2 | Contaminant was not found in concentrations exceeding the SQL; however, the SQLs exceed its screening value. |
| 3 | Contaminant was found in concentrations exceeding its SQL; however, there is no current screening value for the contaminant. |
| 4 | Contaminant was not found in concentrations exceeding the SQL and there is no current screening value for the contaminant. |

Table B-3. Selection of COPCs for Semivolatile Organics in Sediments
Former SWP-Gulf Facility, Gulf, North Carolina

| Analyte | Frequency of Detection | Range of Detection Min. | Q | Max. | Q | Location of Maximum Concentration | Range of Detection Limits | Concentration Used For Screening[2] | EPA Region IV Effects Value[3] | CLP PQL | EPA Screening Value | Site Screening Value[4] | Maximum Hazard Quotient | Sediment COPC? | Contaminant Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Organics - SVOCs (µg/Kg) | | | | | | | | | | | | | | | |
| 1,1-Biphenyl | NA | | | | | | NA | | NA | 330 | NA | | | No | 4 |
| 1,2,4,5-Tetrachlorobenzene | NA | | | | | | NA | | NA | NA | NA | | | No | 4 |
| 2,2'-oxybis(1-chloropropane) | NA | | | | | | NA | | NA | 330 | NA | | | No | 4 |
| 2,4,5-Trichlorophenol | 0/48 | | | | | | 330 - 32,000 | [32,000] | NA | 830 | NA | | | No | 4 |
| 2,4,6-Trichlorophenol | 0/85 | | | | | | 10 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| 2,4-Dichlorophenol | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| 2,4-Dimethylphenol | 1/85 | 3,900 | | 3,900 | | SW-014-SL (NCDENR) | 10 - 5,100 | 3,900 | NA | 330 | NA | | | No | 3 |
| 2,4-Dinitrophenol | 0/48 | | | | | | 890 - 32,000 | [32,000] | NA | 830 | NA | | | No | 4 |
| 2,4-Dinitrotoluene | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| 2,6-Dinitrotoluene | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| 2-Chloronaphthalene | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| 2-Chlorophenol | 0/85 | | | | | | 10 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| 2-Methylphenol | 1/85 | 1,200 | J | 1,200 | J | SW-014-SL (NCDENR) | 10 - 160,000 | 1,200 | NA | 330 | NA | | | No | 3 |
| 2-Nitroaniline | 0/48 | | | | | | 890 - 32,000 | [32,000] | NA | 830 | NA | | | No | 4 |
| 2-Nitrophenol | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| 3,3'-Dichlorobenzidine | 0/92 | | | | | | 350 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| 3-Nitroaniline | 0/48 | | | | | | 890 - 32,000 | | NA | 830 | NA | | | No | 4 |
| 4,6-Dinitro-2-methylphenol | 0/16 | | | | | | 1,700 - 1,700 | [1,700] | NA | 830 | NA | | | No | 4 |
| 4-Bromophenyl phenyl ether | NA | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| 4-Chloro-3-methylphenol | 0/85 | | | | | | 10 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| 4-Chloroaniline | 0/32 | | | | | | 350 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| 4-Chlorophenyl phenyl ether | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| 4-Methylphenol | 0/15 | | | | | | 330 - 330 | [330] | NA | 330 | NA | | | No | 4 |
| 4-Nitroaniline | 0/48 | | | | | | 890 - 32,000 | [13,000] | NA | 830 | NA | | | No | 4 |
| 4-Nitrophenol | 0/48 | | | | | | 890 - 32,000 | [13,000] | NA | 830 | NA | | | No | 4 |
| Acetaphenone | NA | | | | | | NA | | NA | 330 | NA | | | No | 4 |
| Atrazine | NA | | | | | | NA | | NA | 330 | NA | | | No | 4 |
| Benzaldehyde | NA | | | | | | NA | | NA | 330 | NA | | | No | 4 |
| bis(2-Chloroethoxy)methane | NA | | | | | | NA | | NA | 330 | NA | | | No | 4 |
| bis(2-Chloroethyl)ether | NA | | | | | | NA | | NA | 330 | NA | | | No | 4 |
| Caprolactam | NA | | | | | | NA | | NA | 330 | NA | | | No | 4 |
| Dibenzofuran | 12/71 | 26 | | 220,000 | | SW-014-SL (NCDENR) | 41 - 2,000 | 220,000 | NA | 330 | NA | | | No | 3 |
| Hexachlorobenzene | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| Hexachlorobutadiene | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| Hexachlorocyclopentadiene | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| Hexachloroethane | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| Isophorone | 0/70 | | | | | | 31 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| n-Nitroso-di-n-propylamine | NA | | | | | | NA | | NA | 330 | NA | | | No | 4 |
| n-Nitrosodiphenylamine | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| Nitrobenzene | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| Pentachlorophenol | 10/85 | 300 | J | 110,000 | J | SW-029-SD (NCDENR) | 50 - 32,000 | 110,000 | NA | 830 | NA | | | No | 3 |
| Phenol | 3/84 | 65 | J | 120 | J | SW-056-SD | 10 - 13,000 | 120 | NA | 330 | NA | | | No | 3 |
| Butyl benzyl phthalate | 0/16 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| Di-n-butylphthalate | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| Di-n-octylphthalate | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| Diethylphthalate | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| Dimethylphthalate | 0/48 | | | | | | 330 - 13,000 | [13,000] | NA | 330 | NA | | | No | 4 |
| bis(2-Ethylhexyl)phthalate | NA | | | | | | NA | | 182 | 3.6 | 182 | 182 | 0.0E+00 | No | |
| Total Phthalates[1] | NA | | | | | | NA | | 182 | 330 | 182 | 182 | 0.0E+00 | No | |

Table B-3. Selection of COPCs for Semivolatile Organics in Sediments
Former SWP-Gulf Facility, Gulf, North Carolina

| Analyte | Frequency of Detection | Range of Detection Min. | Q | Max. | Q | Location of Maximum Concentration | Range of Detection Limits | Concentration Used For Screening[2] | EPA Region IV Effects Value[3] | CLP PQL | EPA Screening Value | Site Screening Value[4] | Maximum Hazard Quotient | Sediment COPC? | Contaminant Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-Methylnaphthalene | 10/85 | 51 | J | 250,000 | | SW-029-SD (NCDENR) | 10 - 2,000 | 250,000 | 20.2 | 330 | 330 | 20.2 | 1.2E+04 | Yes | 1 |
| Acenaphthene | 17/85 | 50 | J | 200,000 | | SW-014-SL (NCDENR) | 10 - 2,000 | 200,000 | 6.71 | 330 | 330 | 6.71 | 3.0E+04 | Yes | 1 |
| Acenaphthylene | 6/71 | 74 | J | 4,300 | J | SW-014-SL (NCDENR) | 330 - 150,000 | 4,300 | 5.87 | 330 | 330 | 5.87 | 7.3E+02 | Yes | 1 |
| Anthracene | 31/85 | 3.8 | | 860,000 | | SW-014-SL (NCDENR) | 10 - 700 | 860,000 | 46.9 | 330 | 330 | 46.9 | 1.8E+04 | Yes | 1 |
| Benzo(a)anthracene | 32/85 | 5.7 | | 32,000 | | SW-014-SL (NCDENR) | 10 - 2,000 | 32,000 | 74.8 | 330 | 330 | 74.8 | 4.3E+02 | Yes | 1 |
| Benzo(a)pyrene | 31/85 | 9.1 | | 8,100 | J | SW-014-SL (NCDENR) | 10 - 2,000 | 8,100 | 88.8 | 330 | 330 | 88.8 | 9.1E+01 | Yes | 1 |
| Benzo(b)fluoranthene | 18/46 | 13 | | 7,900 | | SWP-003 | 10 - 130,000 | 7,900 | NA | 330 | NA | | | Yes | 3 |
| Benzo(g,h,i)perylene | 16/71 | 3 | | 500 | J | SW-030-SD (NCDENR) | 28 - 13,000 | 500 | NA | 330 | NA | | | Yes | 3 |
| Benzo(k)fluoranthene | 12/42 | 27 | J | 2,200 | | SW-045-SD | 10 - 140,000 | 2,200 | NA | 330 | NA | | | Yes | 3 |
| Carbazole | 13/65 | 44 | J | 300,000 | | SW-014-SL (NCDENR) | 10 - 700 | 300,000 | NA | 330 | NA | | | Yes | 3 |
| Chrysene | 37/85 | 19 | | 29,000 | | SW-014-SL (NCDENR) | 10 - 700 | 29,000 | 108 | 330 | 330 | 108 | 2.7E+02 | Yes | 1 |
| Dibenz(a,h)anthracene | 10/81 | 57 | J | 900 | J | SWP-001 | 57 - 900 | 900 | 6.22 | 330 | 330 | 6.22 | 1.4E+02 | Yes | 1 |
| Fluoranthene | 37/85 | 14 | | 200,000 | | SW-014-SL (NCDENR) | 10 - 700 | 200,000 | 113 | 330 | 330 | 113 | 1.8E+03 | Yes | 1 |
| Fluorene | 25/85 | 54 | J | 370,000 | | SW-014-SL (NCDENR) | 10 - 700 | 370,000 | 21.2 | 330 | 330 | 21.2 | 1.7E+04 | Yes | 1 |
| Indeno(1,2,3-cd)pyrene | 16/85 | 4.4 | | 990 | J | SW-030-SD (NCDENR) | 10 - 13,000 | 990 | NA | 330 | NA | | | Yes | 3 |
| Naphthalene | 9/51 | 79 | J | 480,000 | | SW-014-SL (NCDENR) | 10 - 2,000 | 480,000 | 34.6 | 330 | 330 | 34.6 | 1.4E+04 | Yes | 1 |
| Phenanthrene | 32/85 | 2.5 | | 700,000 | | SW-014-SL (NCDENR) | 10 - 700 | 700,000 | 86.7 | 330 | 330 | 86.7 | 8.1E+03 | Yes | 1 |
| Pyrene | 30/71 | 13 | | 120,000 | J | SW-014-SL (NCDENR) | 330 - 160,000 | 120,000 | 153 | 330 | 330 | 153 | 7.8E+02 | Yes | 1 |
| Total PAHs | 44/84 | 410 | | 3,820,000 | | SW-014-SL (NCDENR) | 10 - 150,000 | 3,820,000 | 1,684 | 330 | 1,684 | 1684 | 2.3E+03 | Yes | 1 |

NOTES:
[1] = Since no effects value is available, the value for bis(2-Ethylhexyl)phthalate is used as a surrogate value for total phthalates.
[2] = Enter maximum concentration. If contaminant was not detected, enter the maximum SQL.
[3] = Values obtained from MacDonald, D.D. "Approach to the Assessment of Sediment Quality in Florida Coastal Waters." Florida Department of Environmental Protection. 1994.
[4] = When the PQL > Effects Value, Site Screening Value defaults to PQL. For contaminants whose screening value is based on the PQL, data reported below the required quantification limit (e.g., J-flagged data) should be compared to the EPA Region IV Effects Value.
[5] = Blank space means analyte eliminated as a COPC.

CLP PQL = Contract Laboratory Program Practical Quantitation Limit
COPC = Contaminant Of Potential Concern
Maximum Hazard Quotient = Concentration Used For Screening/ESV
NA = Not Available
Q = Data Qualifier
SQL = Sample Quantitation Limit

**Contaminant Categories**

| | |
|---|---|
| 1 | Contaminant is found in concentrations exceeding its screening value. |
| 2 | Contaminant was not found in concentrations exceeding the SQL; however, the SQLs exceed its screening value. |
| 3 | Contaminant was found in concentrations exceeding its SQL; however, there is no current screening value for the contaminant. |
| 4 | Contaminant was not found in concentrations exceeding the SQL and there is no current screening value for the contaminant. |

Table B-4. Selection of COPCs for Inorganics in Sediments
Former SWP-Gulf Facility, Gulf, North Carolina

| Analyte | Frequency of Detection | Range of Detection Min. | Q | Max. | Q | Location of Maximum Concentration | Range of Detection Limits | Concentration Used For Screening[1] | EPA Region IV Effects Value | CLP PQL | EPA Screening Value | Site Screening Value[2] | Maximum Hazard Quotient | Sediment COPC? | Contaminant Category[6] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inorganics (mg/Kg) | | | | | | | | | | | | | | | |
| Aluminum | 19/19 | 1,900 | | 13,000 | | SW-024-SL (NCDENR) SW-034-SD (NCDENR) | - | 13,000 | NA | 40 | NA | NA | | No | 3 |
| Antimony[3] | 0/9 | - | | - | | | 1 - 5 | [5] | 2 | 12 | 12 | 12 | 0.4 | No | |
| Arsenic[4] | 14/19 | 2.1 | | 9.9 | | SW-030-SD (NCDENR) | 1 - 3 | 9.9 | 7.24 | 2 | 7.24 | 7.24 | 1.4 | No | 1 |
| Barium | 19/19 | 14 | | 160 | | SW-129-SD (NCDENR) | - | 160 | NA | 40 | NA | NA | | No | 3 |
| Beryllium | 12/19 | 0.24 | J | 1.1 | J | SW-030-SD (NCDENR) | 0.25 - 1 | 1.1 | NA | 1 | NA | NA | | No | 3 |
| Cadmium[4] | 0/19 | - | | - | | | 0.05 - 0.36 | [0.36] | 0.676 | 1 | 1 | 1 | 0.4 | No | |
| Calcium | 15/15 | 250 | | 2,100 | | SW-129-SD (NCDENR) | - | 2,100 | NA | 1,000 | NA | NA | | No | 3 |
| Chromium[4] | 19/19 | 4.6 | | 32 | | SW-030-SD (NCDENR) | - | 32 | 52.3 | 2 | 52.3 | 52.3 | 0.6 | No | |
| Cobalt | 7/19 | 5.4 | | 27 | | SW-129-SD (NCDENR) | 4 - 20 | 27 | NA | 10 | NA | NA | | No | |
| Copper[4] | 10/19 | 3.9 | | 29 | | SWP-002 | 3 - 20 | 29 | 18.7 | 5 | 18.7 | 18.7 | 1.6 | No | 1 |
| Iron | 19/19 | 4,000 | | 37,000 | | SW-030-SD (NCDENR) | - | 37,000 | NA | 20 | NA | NA | | No | 3 |
| Lead[4] | 19/19 | 4.9 | | 23 | | SWP-002 | - | 23 | 30.2 | 0.6 | 30.2 | 30.2 | 0.8 | No | |
| Magnesium | 15/15 | 250 | | 4,000 | | SW-129-SD (NCDENR) | - | 4,000 | NA | 1,000 | NA | NA | | No | 3 |
| Manganese | 20/20 | 92 | J | 900 | J | SW-129-SD (NCDENR) | - | 900 | NA | 3 | NA | NA | | No | 3 |
| Mercury[4] | 0/19 | - | | - | | | 0.06 - 0.2 | [0.2] | 0.13 | 0.02 | 0.13 | 0.13 | 1.5 | No | 1 |
| Nickel[5] | 11/20 | 2.3 | | 43 | | SWP-002 | 3 - 15 | 43 | 15.9 | 8 | 15.9 | 15.9 | 2.7 | No | 1 |
| Potassium | 16/16 | 46 | J | 570 | | SW-013-SL (NCDENR) | - | 570 | NA | 1,000 | NA | NA | | No | 3 |
| Selenium | 0/20 | - | | - | | | 0.46 - 1 | [1] | NA | 1 | NA | NA | | No | |
| Silver[4] | 4/20 | 1.4 | | 3.2 | | SWP-002 | 0.73 - 1 | 3.2 | 0.733 | 2 | 2 | 2 | 1.6 | No | 1 |
| Sodium | 0/16 | - | | - | | | 20 - 220 | [220] | NA | 1,000 | NA | NA | | No | |
| Thallium | 0/19 | - | | - | | | 0.05 - 0.66 | [0.66] | NA | 2 | NA | NA | | No | |
| Vanadium | 20/20 | 12 | | 51 | | SW-030-SD (NCDENR) | - | 51 | NA | 10 | NA | NA | | No | |
| Zinc[4] | 4/20 | 13 | | 25 | | SWP-003 | 20 - 50 | 25 | 124 | 4 | 124 | 124 | 0.2 | No | |

**NOTES:**

[1] = Enter maximum concentration. If contaminant was not detected, enter the maximum SQL.

[2] = When the PQL > Effects Value, Site Screening Value defaults to PQL. For contaminants whose screening value is based on the PQL, data reported below the required quantification limit (e.g., J-flagged data) should be compared to the EPA Region IV Effects Value.

[3] = Value obtained from Long, Edward R., and Lee G. Morgan. "The Potential for Biological Effects of Sediment-Sorbed Contaminants Tested in the National Status and Trends Program." 1991. NOAA Technical Memorandum NOS OMA 52

[4] = Values obtained from MacDonald, D.D. "Approach to the Assessment of Sediment Quality in Florida Coastal Waters." Florida Department of Environmental Protection. 1994.

[5] = Values obtained from Long, Edward R., Donald D. MacDonald, Sherri L. Smith, and Fred D. Calder. "Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments." Environmental Management, 19 (1):81-97.

[6] = Blank space means analyte eliminated as a COPC.

CLP PQL = Contract Laboratory Program Practical Quantitation Limit
COPC = Contaminant Of Potential Concern
Maximum Hazard Quotient = Concentration Used For Screening/ESV
NA = Not Available
Q = Data Qualifier
SQL = Sample Quantitation Limit

**Contaminant Categories**

1 Contaminant is found in concentrations exceeding its screening value.
2 Contaminant was not found in concentrations exceeding the SQL; however, the SQLs exceed its screening value.
3 Contaminant was found in concentrations exceeding its SQL; however, there is no current screening value for the contaminant.
4 Contaminant was not found in concentrations exceeding the SQL and there is no current screening value for the contaminant.

**Table B-5. Selection of COPCs for Semivolatile Organics in Freshwater**
**Former SWP-Gulf Facility, Gulf, North Carolina**

| Analyte | Frequency of Detection | Range of Detection Min. | Q | Max. | Q | Location of Maximum Concentration | Range of Detection Limits | Concentration Used For Screening[1] | EPA Region IV CSV[2] | Maximum Hazard Quotient | NC Water Quality Standard[3] | Exceed NCWQS? | Freshwater COPC? | Contaminant Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Organics - SVOCs (µg/L)* | | | | | | | | | | | | | | |
| 1,1-Biphenyl | NQ | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| 1,2,4,5-Tetrachlorobenzene | NQ | --- | | --- | | NA | 10 - 10 | 10 | 50 | 0.20 | NA | NA | No | |
| 2,2'-oxybis(1-chloropropane) | NQ | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| 2,4,5-Trichlorophenol | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| 2,4,6-Trichlorophenol | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | 3.2 | **3.13** | NA | NA | No | 2 |
| 2,4-Dichlorophenol | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 36.5 | 0.27 | NA | NA | No | |
| 2,4-Dimethylphenol | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | 21.2 | 0.47 | NA | NA | No | |
| 2,4-Dinitrophenol | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 6.2 | **1.61** | NA | NA | No | 2 |
| 2,4-Dinitrotoluene | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 310 | 0.03 | NA | NA | No | |
| 2,6-Dinitrotoluene | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| 2-Chloronaphthalene | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| 2-Chlorophenol | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | 43.8 | 0.23 | NA | NA | No | |
| 2-Methylphenol | 1/20 | 1 | | 1 | | SW-034-SW | 10 - 10 | 1 | NA | NA | NA | NA | No | |
| 2-Nitroaniline | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| 2-Nitrophenol | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 3,500 | 0.00 | NA | NA | No | |
| 3,3'-Dichlorobenzidine | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| 3-Nitroaniline | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| 4,6-Dinitro-2-methylphenol | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 2.3 | **4.35** | NA | NA | No | 2 |
| 4-Bromophenyl phenyl ether | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 12.2 | 0.82 | NA | NA | No | |
| 4-Chloro-3-methylphenol | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | 0.3 | **33.3** | NA | NA | No | 2 |
| 4-Chloroaniline | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| 4-Chlorophenyl phenyl ether | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| 4-Methylphenol | NQ | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| 4-Nitroaniline | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| 4-Nitrophenol | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 82.8 | 0.12 | NA | NA | No | |
| Acetophenone | NQ | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Atrazine | NQ | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Benzaldehyde | NQ | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| bis(2-Chloroethoxy)methane | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| bis(2-Chloroethyl)ether | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 2,380 | 0.00 | NA | NA | No | |
| Caprolactam | NQ | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Dibenzofuran | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Hexachlorobenzene | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |

**Table B-5. Selection of COPCs for Semivolatile Organics in Freshwater**
**Former SWP-Gulf Facility, Gulf, North Carolina**

| Analyte | Frequency of Detection | Range of Detection Min. | Q | Max. | Q | Location of Maximum Concentration | Range of Detection Limits | Concentration Used For Screening[1] | EPA Region IV CSV[2] | Maximum Hazard Quotient | NC Water Quality Standard[3] | Exceed NCWQS? | Freshwater COPC? | Contaminant Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 0.93 | **10.8** | NA | NA | No | 2 |
| Hexachlorocyclopentadiene | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 0.07 | **142.9** | NA | NA | No | 2 |
| Hexachloroethane | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 9.8 | **1.02** | NA | NA | No | 2 |
| Isophorone | 1/11 | 1 | | 1 | | SW-034-SW | 10 - 10 | 1 | 1,170 | 0.001 | NA | NA | No | |
| n-Nitroso-di-n-propylamine | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| n-Nitrosodiphenylamine | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 58.5 | 0.17 | NA | NA | No | |
| Nitrobenzene | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 270 | 0.04 | NA | NA | No | |
| Pentachlorophenol[4] | 3/20 | --- | | --- | | NA | 11 - 150 | 10 | 13 | 0.77 | NA | NA | No | |
| Phenol | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | 256 | 0.04 | NA | NA | No | |
| Butyl benzyl phthalate | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 22 | 0.45 | NA | NA | No | |
| Di-n-butylphthalate | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 9.4 | **1.06** | NA | NA | No | 2 |
| Di-n-octylphthalate[5] | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 0.3 | **33.3** | NA | NA | No | 2 |
| Diethylphthalate | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 521 | 0.02 | NA | NA | No | |
| Dimethylphthalate | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 330 | 0.03 | NA | NA | No | |
| bis(2-Ethylhexyl) phthalate | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | 0.3 | **33.3** | NA | NA | No | 2 |
| 2-Methylnaphthalene | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Acenaphthene | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | 17 | 0.59 | NA | NA | No | |
| Acenaphthylene | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Anthracene | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Benzo(a)anthracene | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Benzo(a)pyrene | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Benzo(b)fluoranthene | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Benzo(g,h,i)perylene | 0/11 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Benzo(k)fluoranthene | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Carbazole | 0/20 | --- | | --- | | NA | 10 - 50 | 10 | NA | NA | NA | NA | No | 4 |
| Chrysene | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Dibenz(a,h)anthracene | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Fluoranthene | 0/21 | --- | | --- | | NA | 10 - 10 | 10 | 39.8 | 0.25 | NA | NA | No | |
| Fluorene | 0/22 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Indeno(1,2,3-cd)pyrene | 0/20 | --- | | --- | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |

**Table B-5. Selection of COPCs for Semivolatile Organics in Freshwater**
**Former SWP-Gulf Facility, Gulf, North Carolina**

| Analyte | Frequency of Detection | Range of Detection | | | | Location of Maximum Concentration | Range of Detection Limits | Concentration Used For Screening[1] | EPA Region IV CSV[2] | Maximum Hazard Quotient | NC Water Quality Standard[3] | Exceed NCWQS? | Freshwater COPC? | Contaminant Category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min. | Q | Max. | Q | | | | | | | | | |
| Naphthalene | 1/20 | 1 | J | 1 | J | SW-034-SW | 10 - 50 | 1 | 62 | 0.02 | NA | NA | No | |
| Phenanthrene | 0/20 | — | | — | | NA | 10 - 10 | 10 | NA | NA | NA | NA | No | 4 |
| Pyrene | 1/11 | 3 | J | 3 | J | SW-034-SW | 10 - 10 | 3 | NA | NA | NA | NA | No | |
| Total PAHs[6] | 1/20 | 4 | J | 4 | J | SW-034-SW | 10 - 10 | 10 | 17 | 0.59 | NA | NA | No | |

**NOTES:**

[1] = Enter maximum concentration. If contaminant was not detected, enter the maximum SQL.

[2] = Based on US EPA's Region 4 Water Management Division, Water Quality Standards Unit's Screening List.

[3] = NC DENR, "North Carolina Surface Water Quality Standard for Aquatic Life." NC Administrative Code 15A NCAC 02B .0100 & .0200. April 2003.
Available on the Internet at http://h2o.enr.state.nc.us/admin/rules/rb040103.pdf
**PLEASE NOTE: COPCs can only be retained, not eliminated, based on comparison to this value. COPCs can only be eliminated if the maximum concentration or detection limit is less than the EPA Screening Value. Contaminants may belong to more than one contaminant category if one of those categories is 5.**

[4] = pH Dependent. See text, Section 3.1.3.

[5] = Since no CSV was available for di-n-octyphthalate, the CSV for bis(2-ethylhexyl)phthalate was used as a surrogate.

[6] = Since no CSV exists for many PAHs, the value for acenaphthene was used as a surrogate for total PAHs

[7] = Blank space means analyte eliminated as a COPC.

Both the background and downstream results from Cedar Creek were combined for this tabulation

COPC = Contaminant Of Potential Concern

CSV = Chronic Screening Value

Maximum Hazard Quotient = Concentration Used For Screening / CSV

NA = Not Available

NC DENR = North Carolina Department of Environment and Natural Resources

NCSWQS = North Carolina Surface Water Quality Standard

NQ = Not quantified

Q = Data Qualifier

SQL = Sample Quantitation Limit

**Contaminant Categories**

| | |
|---|---|
| 1 | Contaminant is found in concentrations exceeding its screening value. |
| 2 | Contaminant was not found in concentrations exceeding the SQL; however, the SQLs exceed its screening value. |
| 3 | Contaminant was found in concentrations exceeding its SQL; however, there is no current screening value for the contaminant. |
| 4 | Contaminant was not found in concentrations exceeding the SQL and there is no current screening value for the contaminant. |
| 5 | Contaminant's SQL or maximum concentration exceeds the NC Surface Water Quality Standard. |

**Table B-6. Selection of COPCs for Inorganics in Freshwater**
***Former SWP-Gulf Facility, Gulf, North Carolina***

| Analyte | Frequency of Detection | Range of Detection Min. | Q | Max. | Q | Location of Maximum Concentration | Range of Detection Limits | Concentration Used For Screening[1] | EPA Region IV CSV[2] | Maximum Hazard Quotient | NC Water Quality Standard[3] | Exceed NCWQS? | Freshwater COPC? | Contaminant Category[5] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inorganics (µg/L) | | | | | | | | | | | | | | |
| Aluminum (pH 6.5 - 9) | 11/11 | 400 | J | 1,300 | | SW-033-SW | | 1,300 | 87 | 14.9 | NA | NA | No | 1 |
| Antimony | 0/11 | -- | | -- | | NA | 20 - 20 | 20 | 160 | 0.1 | NA | NA | No | |
| Arsenic III | 0/11 | -- | | -- | | NA | 3 - 3 | 3 | 190 | 0.0 | 50 | No | No | |
| Barium | 8/11 | 20 | J | 38 | | SW-032-SW | 20 - 20 | 38 | NA | NA | NA | NA | No | 3 |
| Beryllium | 0/11 | -- | | -- | | NA | 1 - 1 | 1 | 0.53 | 1.9 | 6.5 | No | No | 2 |
| Cadmium[4] | 0/11 | -- | | -- | | NA | 2 - 2 | 2 | 0.66 | 3.0 | 0.4 | Yes | No | 2, 5 |
| Calcium | 11/11 | 2,000 | | 6,400 | | SW-026-SW | | 6,400 | NA | NA | NA | NA | No | 3 |
| Chromium (III)[4] | NA | | | | | NA | 2 - 3 | 3 | 117.32 | 0.0 | NA | NA | No | |
| Chromium (VI) | NA | | | | | NA | NA | NA | 11 | NA | NA | NA | No | |
| Total Chromium | 0/11 | | | | | NA | NA | NA | NA | NA | 50 | NA | No | 4 |
| Cobalt | 0/11 | -- | | -- | | NA | 3 - 4 | 4 | NA | NA | NA | NA | No | 4 |
| Copper[4] | 0/11 | -- | | -- | | NA | 4 - 7 | 7 | 6.54 | 1.1 | 7 | No | No | 2 |
| Iron | 11/11 | 770 | J | 2,000 | J | SW-029-SW | | 2,000 | 1,000 | 2.0 | 1,000 | Yes | No | 1, 5 |
| Lead[4] | 0/11 | -- | | -- | | NA | 1 - 2 | 2 | 1.32 | 1.5 | 25 | No | No | 2 |
| Magnesium | 11/11 | 1,000 | | 3,700 | J | SW-029-SW | | 3,700 | NA | NA | NA | NA | No | 3 |
| Manganese | 11/11 | 37 | | 110 | | SW-032-SW | | 110 | NA | NA | NA | NA | No | 3 |
| Mercury | 1/11 | 0.2 | J | 0.2 | J | SW-029-SW | 0.1 - 0.2 | 0.2 | 0.012 | 16.7 | 0.012 | Yes | No | 1, 5 |
| Nickel[4] | 0/11 | -- | | -- | | NA | 7 - 7 | 7 | 87.71 | 0.1 | 88 | No | No | |
| Potassium | 11/11 | 860 | | 2,000 | | SW-027-SW | | 2,000 | NA | NA | NA | NA | No | 3 |
| Selenium | 0/11 | -- | | -- | | NA | 3 - 3 | 3 | 5 | 0.6 | 5 | No | No | |
| Silver[4] | 0/11 | -- | | -- | | NA | 3 - 5 | 5 | 0.012 | 416.7 | 0.06 | Yes | No | 2, 5 |
| Sodium | 11/11 | 3,100 | | 5,900 | J | SW-029-SW | | 5,900 | NA | NA | NA | NA | No | 3 |
| Thallium | 0/11 | -- | | -- | | NA | 3 - 3 | 3 | 4 | 0.8 | NA | NA | No | |
| Vanadium | 0/11 | -- | | -- | | NA | 3 - 5 | 5 | NA | NA | NA | NA | No | 4 |
| Zinc[4] | 3/11 | 11 | J | 28 | J | SW-028-SW | 7 - 20 | 28.0 | 58.91 | 0.5 | 34.9 | No | No | |

**NOTES:**

[1] = Enter maximum concentration. If contaminant was not detected, enter the maximum SQL.

[2] = Based on US EPA's Region 4 Water Management Division, Water Quality Standards Unit's Screening List.

[3] = NC DENR, "North Carolina Surface Water Quality Standard for Aquatic Life." NC Administrative Code 15A NCAC 02B .0100 & .0200. April 2003.

*Available on the Internet at http://h2o.enr.state.nc.us/admin/rules/rb040103.pdf*

**PLEASE NOTE: COPCs can only be retained, not eliminated, based on comparison to this value. COPCs can only be eliminated if the maximum concentration or detection limit is less than the EPA Screening Value. Contaminants may belong to more than one contaminant category if one of those categories is 5.**

[4] = Hardness dependent. Calculated using equations shown in Section 3.1.2 of NCDENR (2003) and an average hardness of 24 mg/L.

[5] = Blank space means analyte eliminated as a COPC.

Both the background and downstream results from Cedar Creek were combined for this tabulation

*COPC = Contaminant Of Potential Concern*

CSV = Chronic Screening Value

Maximum Hazard Quotient = Concentration Used For Screening / CSV

NA = Not Available

NC DENR = North Carolina Department of Environment and Natural Resources

NCSWQS = North Carolina Surface Water Quality Standard

Q = Data Qualifier

*SQL = Sample Quantitation Limit*

**Contaminant Categories**

| | |
|---|---|
| 1 | Contaminant is found in concentrations exceeding its screening value. |
| 2 | Contaminant was not found in concentrations exceeding the SQL; however, the SQLs exceed its screening value. |
| 3 | Contaminant was found in concentrations exceeding its SQL; however, there is no current screening value for the contaminant. |
| 4 | Contaminant was not found in concentrations exceeding the SQL and there is no current screening value for the contaminant. |
| 5 | *Contaminant's SQL or maximum concentration exceeds the NC Surface Water Quality Standard.* |

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*Appendix C*

*Compilation of Analytical Results*

# APPENDIX C
# COMPILATION OF ANALYTICAL RESULTS

## Preface

This appendix contains the most current compilation of analytical results from samples collected as part of prior field investigations of the Former SWP-Gulf facility. These tables were created from the MS-Access database developed to facilitate data evaluation. The analytical data summaries presented in the WPM (AMEC, 2006) were based on summary tables included in prior reports, which were often missing detection limits for non-detect results. Since the submission of the WPM these data gaps were identified, the missing data located to the extent possible, and the database was updated to reflect the missing results. The original laboratory reports were also reviewed to the extent available to adjust for any transcription errors. The sediment total organic carbon and particle size results from the supplemental field investigation performed in July 2006 were also included in these tabulations.

## List of Tables


Table C-1 Compilation of Surface Water Results, Southern Wood Piedmont - Former Gulf, NC Facility

Table C-2 Compilation of Sediment Results from the On-Site Drainage Ditch, Southern Wood Piedmont - Former Gulf, NC Facility

Table C-3 Compilation of Sediment Results from Cedar Creek, Southern Wood Piedmont - Former Gulf, NC Facility

**Table C-1. Compilation of Surface Water Results**
**Southern Wood Piedmont - Former Gulf, NC Facility**

| | | Sample ID | SW-025-SW | SW-025-SW (NCDENR) | SW-026-SW | SW-026-SW (NCDENR) | SW-027-SW (NCDENR) | SW-028-SW (NCDENR) | 5746 | 5747 | 5748 | 5867 | 5868 | 5869 [1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-025-SW | SW-025-SW | SW-026-SW | SW-026-SW | SW-027-SW | SW-028-SW | SW-01 | SW-02 | SW-03 | SS-DRAINDT | SS-DWNSDIS | SS-DWNSSUF |
| | | Date Collected | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 | 5/3/1990 | 5/3/1990 | 5/3/1990 | 6/13/1990 | 6/13/1990 | 6/13/1990 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Background | Background | Background | Background | Background | Background | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | | |
| VOCs | 1,1,1-Trichloroethane | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | 1,1,2,2-Tetrachloroethane | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | 1,1,2-Trichloroethane | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | 1,1-Dichloroethane | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | 1,1-Dichloroethene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | 1,2,4-Trichlorobenzene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | 1,2-Dichlorobenzene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | 1,2-Dichloroethane | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | 1,2-Dichloroethene (total) | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | 1,2-Dichloropropane | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | 1,3-Dichlorobenzene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | 1,4-Dichlorobenzene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | 2-Butanone | mg/L | 0.025 U | 0.01 U | 0.025 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 4-Bromophenyl phenyl ether | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Acetone | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Benzene | mg/L | 0.005 U | 0.01 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| VOCs | Bis(2-chloroethoxy) methane | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Bis(2-Chloroethyl) ether | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Bis(2-Chloroisopropyl) ether | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Bromodichloromethane | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Bromoform | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Bromomethane | mg/L | | 0.01 UR | | 0.01 UR | 0.01 UR | 0.01 UR | | | | | | |
| VOCs | Carbon disulfide | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Carbon tetrachloride | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Chlorobenzene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Chloroethane | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Chloroform | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Chloromethane | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.001 U | 0.001 U | 0.001 U | | | |
| VOCs | cis-1,3-Dichloropropene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Dibromochloromethane | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Ethylbenzene | mg/L | 0.005 U | 0.01 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| VOCs | Methyl butyl ketone | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Methyl isobutyl ketone | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Methylene chloride | mg/L | 0.005 U | 0.01 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | | | | 0.001 U | 0.001 U | 0.001 U |
| VOCs | m-Xylene | mg/L | | | | | | | | 0.001 U | 0.001 U | | | |
| VOCs | o-Xylene | mg/L | | | | | | | | 0.001 U | 0.001 U | | | |
| VOCs | p-Xylene | mg/L | | | | | | | | 0.001 U | 0.001 U | | | |
| VOCs | Styrene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Tetrachloroethene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Toluene | mg/L | 0.005 U | 0.01 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| VOCs | trans-1,3-Dichloropropene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Trichloroethene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Vinyl chloride | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| VOCs | Xylenes (total) | mg/L | 0.005 U | 0.01 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| SVOCs | 2,4-Dinitrotoluene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | 2,6-Dinitrotoluene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | 2-Chloronaphthalene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | 2-Methylphenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | 2-Nitroaniline | mg/L | | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | | | | | | |
| SVOCs | 3,3'-Dichlorobenzidine | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | 3-Nitroaniline | mg/L | | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | | | | | | |
| SVOCs | 4-Chloroaniline | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | 4-Chlorophenyl Phenyl Ether | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | 4-Nitroaniline | mg/L | | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | | | | | | |
| SVOCs | Aniline | mg/L | 0.05 U | | 0.05 U | | | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | Bis(2-ethylhexyl) phthalate | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | Butyl benzyl phthalate | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | Diethylphthalate | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | Dimethylphthalate | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | Di-n-butylphthalate | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | Di-n-octylphthalate | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | Hexachlorobenzene | mg/L | | 0.01 UJ | | 0.01 UJ | 0.01 UJ | 0.01 UJ | | | | | | |
| SVOCs | Hexachlorobutadiene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | Hexachlorocyclopentadiene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | Hexachloroethane | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | Isophorone | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | Nitrobenzene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| SVOCs | N-nitrosodi-n-propylamine | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |

Table C-1. Compilation of Surface Water Results
Southern Wood Piedmont - Former Gulf, NC Facility

| | | Sample ID | SW-025-SW | SW-025-SW (NCDENR) | SW-026-SW | SW-026-SW (NCDENR) | SW-027-SW (NCDENR) | SW-036-SW (NCDENR) | 5746 | 5747 | 5748 | 5967 | 5968 | 5969 [1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-025-SW | SW-025-SW | SW-026-SW | SW-026-SW | SW-027-SW | SW-036-SW | SW-01 | SW-02 | SW-03 | SS-DRANDT | SS-DWNSDIS | SS-DWNSSUF |
| | | Date Collected | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 | 8/3/1995 | 8/3/1995 | 8/3/1995 | 8/13/1995 | 8/13/1995 | 8/13/1995 |
| | | WaterBody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Background | Background | Background | Background | Background | Background | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | | |
| SVOCs | N-nitrosodiphenylamine | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| Phenolics | 2,3,4,6-Tetrachlorophenol | mg/L | 0.05 U | | 0.05 U | | | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 2,4,5-Trichlorophenol | mg/L | | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | | | | | | |
| Phenolics | 2,4,6-Trichlorophenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 2,4-Dichlorophenol | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| Phenolics | 2,4-Dimethylphenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 2,4-Dinitrophenol | mg/L | | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | | | | | | |
| Phenolics | 2-Chlorophenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 2-Methyl-4,6-dinitrophenol | mg/L | | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | | | | | | |
| Phenolics | 2-Nitrophenol | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| Phenolics | 3&4-Methylphenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 4-Chloro-3-methylphenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 4-Nitrophenol | mg/L | | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | | | | | | |
| Phenolics | Pentachlorophenol | mg/L | 0.05 U | 0.025 U | 0.05 U | 0.025 U | 0.025 U | 0.025 U | 0.01 U | 0.15 | 0.01 U | 0.05 U | 0.05 U | 0.05 U |
| Phenolics | Phenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | 2-Methylnaphthalene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Acenaphthene | mg/L | 0.01 U | 0.01 UJ | 0.01 U | 0.01 UJ | 0.01 UJ | 0.01 UJ | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Acenaphthylene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| PAHs | Anthracene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Benzo(a)anthracene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Benzo(a)pyrene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Benzo(b&k)fluoranthene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Benzo(b)fluoranthene | mg/L | 0.01 U | | 0.01 U | | | | | | | | | |
| PAHs | Benzo(g,h,i)perylene | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| PAHs | Benzo(k)fluoranthene | mg/L | 0.01 U | | 0.01 U | | | | | | | | | |
| PAHs | Carbazole | mg/L | 0.05 U | 0.01 U | 0.05 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Chrysene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Dibenzo(a,h)anthracene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Dibenzofuran | mg/L | | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | | | | | |
| PAHs | Fluoranthene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.58 | 0.01 U |
| PAHs | Fluorene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.013 | 0.01 U |
| PAHs | Indeno(1,2,3-cd)pyrene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Naphthalene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.05 U | 0.05 U | 0.05 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Phenanthrene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.057 | 0.01 U |
| PAHs | Pyrene | mg/L | | 0.01 UJ | | 0.01 UJ | 0.01 UJ | 0.01 UJ | | | | | | |
| Metals | Aluminum | mg/L | | 0.4 J | | 0.57 | 0.59 | 0.47 J | | | | | | |
| Metals | Antimony | mg/L | | 0.02 UJ | | 0.02 U | 0.02 U | 0.02 UJ | | | | | | |
| Metals | Arsenic | mg/L | | 0.003 UJ | | 0.003 U | 0.003 U | 0.003 UJ | | | | | | |
| Metals | Barium | mg/L | | 0.02 UJ | | 0.02 U | 0.02 U | 0.02 J | | | | | | |
| Metals | Beryllium | mg/L | | 0.001 UJ | | 0.001 U | 0.001 U | 0.001 UJ | | | | | | |
| Metals | Cadmium | mg/L | | 0.002 UJ | | 0.002 U | 0.002 U | 0.002 UJ | | | | | | |
| Metals | Calcium | mg/L | | 6.2 J | | 6.4 | 6.3 | 6.2 J | | | | | | |
| Metals | Chromium | mg/L | | 0.002 UJ | | 0.002 U | 0.003 U | 0.002 UJ | | | | | | |
| Metals | Cobalt | mg/L | | 0.004 UJ | | 0.004 U | 0.003 U | 0.003 UJ | | | | | | |
| Metals | Copper | mg/L | | 0.007 UJ | | 0.007 U | 0.004 U | 0.007 UJ | | | | | | |
| Metals | Iron | mg/L | | 0.77 J | | 0.92 | 0.95 | 0.82 J | | | | | | |
| Metals | Lead | mg/L | | 0.001 UJ | | 0.001 U | 0.001 U | 0.001 UJ | | | | | | |
| Metals | Magnesium | mg/L | | 3.3 J | | 3.4 | 3.3 | 3.3 J | | | | | | |
| Metals | Manganese | mg/L | | 0.037 J | | 0.043 | 0.04 | 0.04 J | | | | | | |
| Metals | Mercury | mg/L | | 0.0002 UJ | | 0.0002 U | 0.0002 UJ | 0.0002 UJ | | | | | | |
| Metals | Nickel | mg/L | | 0.007 UJ | | 0.007 U | 0.007 U | 0.007 UJ | | | | | | |
| Metals | Potassium | mg/L | | 1.9 J | | 1.9 | 2 | 1.9 J | | | | | | |
| Metals | Selenium | mg/L | | 0.003 UJ | | 0.003 U | 0.003 U | 0.003 UJ | | | | | | |
| Metals | Silver | mg/L | | 0.003 UJ | | 0.003 U | 0.004 U | 0.003 UJ | | | | | | |
| Metals | Sodium | mg/L | | 5.1 J | | 5.2 | 5.1 | 5.3 | | | | | | |
| Metals | Thallium | mg/L | | 0.003 UJ | | 0.003 U | 0.003 U | 0.003 UJ | | | | | | |
| Metals | Tin | mg/L | | | | | | | | | | | | |
| Metals | Vanadium | mg/L | | 0.003 UJ | | 0.003 U | 0.004 U | 0.003 UJ | | | | | | |
| Metals | Zinc | mg/L | | 0.007 UJ | | 0.011 J | 0.008 U | 0.028 J | | | | | | |
| General Parameters | Total Suspended Solids | mg/L | | | | | | | | | | 110 | 21 | 5 U |

Table C-1. (continued)

| | | Sample ID | SW-029-SW | SW-029-SW (NCDENR) | SW-129-SW (NCDENR) [SW-029-SW (NCDENR) Dup] | SW-030-SW | SW-030-SW (NCDENR) | SW-031-SW (NCDENR) | SW-032-SW (NCDENR) | SW-033-SW (NCDENR) | SW-034-SW (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-029-SW | SW-029-SW | SW-129-SW | SW-030-SW | SW-030-SW | SW-031-SW | SW-032-SW | SW-033-SW | SW-034-SW |
| | | Date Collected | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | |
| VOCs | 1,1,1-Trichloroethane | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 1,1,2,2-Tetrachloroethane | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 1,1,2-Trichloroethane | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 1,1-Dichloroethane | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 1,1-Dichloroethene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 1,2,4-Trichlorobenzene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 1,2-Dichlorobenzene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 1,2-Dichloroethane | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 1,2-Dichloroethene (total) | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 1,2-Dichloropropane | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 1,3-Dichlorobenzene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 1,4-Dichlorobenzene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 2-Butanone | mg/L | 0.025 U | 0.01 U | 0.01 U | 0.025 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | 4-Bromophenyl phenyl ether | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Acetone | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Benzene | mg/L | 0.005 U | 0.01 U | 0.01 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Bis(2-chloroethoxy) methane | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Bis(2-Chloroethyl) ether | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Bis(2-Chloroisopropyl) ether | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Bromodichloromethane | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Bromoform | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Bromomethane | mg/L | | 0.01 UR | 0.01 UR | | 0.01 UR | 0.01 UR | 0.01 UR | 0.01 UR | 0.01 UR |
| VOCs | Carbon disulfide | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Carbon tetrachloride | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Chlorobenzene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Chloroethene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Chloroform | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Chloromethane | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | | |
| VOCs | cis-1,3-Dichloropropene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Dibromochloromethane | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Ethylbenzene | mg/L | 0.005 U | 0.01 U | 0.01 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Methyl butyl ketone | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Methyl isobutyl ketone | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Methylene chloride | mg/L | 0.005 U | 0.01 U | 0.01 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | m-Xylene | mg/L | | | | | | | | | |
| VOCs | o-Xylene | mg/L | | | | | | | | | |
| VOCs | p-Xylene | mg/L | | | | | | | | | |
| VOCs | Styrene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Tetrachloroethene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Toluene | mg/L | 0.005 U | 0.01 U | 0.01 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | trans-1,3-Dichloropropene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Trichloroethene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Vinyl chloride | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| VOCs | Xylenes (total) | mg/L | 0.005 U | 0.01 U | 0.01 U | 0.005 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | 2,4-Dinitrotoluene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | 2,6-Dinitrotoluene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | 2-Chloronaphthalene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | 2-Methylphenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.001 J |
| SVOCs | 2-Nitroaniline | mg/L | | 0.025 U | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U |
| SVOCs | 3,3'-Dichlorobenzidine | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | 3-Nitroaniline | mg/L | | 0.025 U | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U |
| SVOCs | 4-Chloroaniline | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | 4-Chlorophenyl Phenyl Ether | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | 4-Nitroaniline | mg/L | | 0.025 U | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U |
| SVOCs | Aniline | mg/L | 0.05 U | | | 0.05 U | | | | | |
| SVOCs | Bis(2-ethylhexyl) phthalate | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | Butyl benzyl phthalate | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | Diethylphthalate | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | Dimethylphthalate | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | Di-n-butylphthalate | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | Di-n-octylphthalate | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | Hexachlorobenzene | mg/L | | 0.01 UJ | 0.01 UJ | | 0.01 UJ | 0.01 UJ | 0.01 UJ | 0.01 UJ | 0.01 UJ |
| SVOCs | Hexachlorobutadiene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | Hexachlorocyclopentadiene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | Hexachloroethane | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | Isophorone | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.001 J |
| SVOCs | Nitrobenzene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| SVOCs | N-nitrosodi-n-propylamine | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |

Table C-1. (continued)

| | | Sample ID | SW-029-SW | SW-029-SW (NCDENR) | SW-129-SW (NCDENR) [SW-029-SW (NCDENR) Dup] | SW-030-SW | SW-030-SW (NCDENR) | SW-031-SW (NCDENR) | SW-032-SW (NCDENR) | SW-033-SW (NCDENR) | SW-034-SW (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-029-SW | SW-029-SW | SW-129-SW | SW-030-SW | SW-030-SW | SW-031-SW | SW-032-SW | SW-033-SW | SW-034-SW |
| | | Date Collected | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | |
| SVOCs | N-nitrosodiphenylamine | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 2,3,4,6-Tetrachlorophenol | mg/L | 0.05 U | | | 0.05 U | | | | | |
| Phenolics | 2,4,5-Trichlorophenol | mg/L | | 0.025 U | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U |
| Phenolics | 2,4,6-Trichlorophenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 2,4-Dichlorophenol | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 2,4-Dimethylphenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 2,4-Dinitrophenol | mg/L | | 0.025 U | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U |
| Phenolics | 2-Chlorophenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 2-Methyl-4,6-dinitrophenol | mg/L | | 0.025 U | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U |
| Phenolics | 2-Nitrophenol | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 3&4-Methylphenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 4-Chloro-3-methylphenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Phenolics | 4-Nitrophenol | mg/L | | 0.025 U | 0.025 U | | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U |
| Phenolics | Pentachlorophenol | mg/L | 0.05 U | 0.011 J | 0.016 J | 0.05 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U |
| Phenolics | Phenol | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | 2-Methylnaphthalene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Acenaphthene | mg/L | 0.01 U | 0.01 UJ | 0.01 UJ | 0.01 U | 0.01 UJ | 0.01 UJ | 0.01 UJ | 0.01 UJ | 0.01 UJ |
| PAHs | Acenaphthylene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Anthracene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Benzo(a)anthracene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Benzo(a)pyrene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Benzo(b&k)fluoranthene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Benzo(b)fluoranthene | mg/L | 0.01 U | | | 0.01 U | | | | | |
| PAHs | Benzo(g,h,i)perylene | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Benzo(k)fluoranthene | mg/L | 0.01 U | | | 0.01 U | | | | | |
| PAHs | Carbazole | mg/L | 0.05 U | 0.01 U | 0.01 U | 0.05 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Chrysene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Dibenzo(a,h)anthracene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Dibenzofuran | mg/L | | 0.01 U | 0.01 U | | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Fluoranthene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Fluorene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Indeno(1,2,3-cd)pyrene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Naphthalene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.001 J |
| PAHs | Phenanthrene | mg/L | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| PAHs | Pyrene | mg/L | | 0.01 UJ | 0.01 UJ | | 0.01 UJ | 0.01 UJ | 0.01 UJ | 0.01 UJ | 0.003 J |
| Metals | Aluminum | mg/L | | 1.2 J | 0.73 | | 0.45 | 0.68 | 0.64 | 1.3 | 0.83 J |
| Metals | Antimony | mg/L | | 0.02 UJ | 0.02 U | | 0.02 U | 0.02 U | 0.02 U | 0.02 U | 0.02 UJ |
| Metals | Arsenic | mg/L | | 0.003 UJ | 0.003 U | | 0.003 U | 0.003 U | 0.003 U | 0.003 U | 0.003 UJ |
| Metals | Barium | mg/L | | 0.027 J | 0.025 | | 0.024 | 0.026 | 0.038 | 0.028 | 0.031 J |
| Metals | Beryllium | mg/L | | 0.001 UJ | 0.001 U | | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 UJ |
| Metals | Cadmium | mg/L | | 0.002 UJ | 0.002 U | | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 UJ |
| Metals | Calcium | mg/L | | 6.2 J | 6.2 | | 5.9 | 2 | 3.5 | 2.2 | 4.8 J |
| Metals | Chromium | mg/L | | 0.002 UJ | 0.002 U | | 0.002 U | 0.002 U | 0.002 U | 0.003 U | 0.002 UJ |
| Metals | Cobalt | mg/L | | 0.003 UJ | 0.003 U | | 0.003 U | 0.003 U | 0.003 U | 0.003 U | 0.003 UJ |
| Metals | Copper | mg/L | | 0.006 UJ | 0.005 U | | 0.004 U | 0.006 U | 0.005 U | 0.007 U | 0.005 UJ |
| Metals | Iron | mg/L | | 2 J | 1.3 | | 0.81 | 0.94 | 1.5 | 1.9 | 1.3 J |
| Metals | Lead | mg/L | | 0.001 UJ | 0.002 UJ | | 0.002 UJ | 0.002 UJ | 0.001 U | 0.002 UJ | 0.001 UJ |
| Metals | Magnesium | mg/L | | 3.7 J | 3.5 | | 3.1 | 1.7 | 1.4 | 1 | 2.4 J |
| Metals | Manganese | mg/L | | 0.069 J | 0.052 | | 0.037 | 0.057 | 0.11 | 0.072 | 0.078 J |
| Metals | Mercury | mg/L | | 0.0002 J | 0.0002 UJ | | 0.0002 UJ | 0.0002 UJ | 0.0002 UJ | 0.0002 UJ | 0.0001 UJ |
| Metals | Nickel | mg/L | | 0.007 UJ | 0.007 U | | 0.007 U | 0.007 U | 0.007 U | 0.007 U | 0.007 UJ |
| Metals | Potassium | mg/L | | 1.8 J | 1.9 | | 1.8 | 0.86 | 0.89 | 1 | 1.4 J |
| Metals | Selenium | mg/L | | 0.003 UJ | 0.003 U | | 0.003 U | 0.003 U | 0.003 U | 0.003 U | 0.003 UJ |
| Metals | Silver | mg/L | | 0.003 UJ | 0.003 U | | 0.003 U | 0.003 U | 0.003 U | 0.003 U | 0.005 UJ |
| Metals | Sodium | mg/L | | 5.9 J | 5.5 | | 4.8 | 3.2 | 3.2 | 3.1 | 4.8 J |
| Metals | Thallium | mg/L | | 0.003 UJ | 0.003 U | | 0.003 U | 0.003 U | 0.003 U | 0.003 U | 0.003 UJ |
| Metals | Tin | mg/L | | | | | | | | | |
| Metals | Vanadium | mg/L | | 0.005 UJ | 0.005 U | | 0.005 U | 0.004 U | 0.003 U | 0.004 U | 0.004 UJ |
| Metals | Zinc | mg/L | | 0.008 UJ | 0.007 U | | 0.02 U | 0.007 U | 0.007 U | 0.013 J | 0.009 UJ |
| General Parameters | Total Suspended Solids | mg/L | | | | | | | | | |

**Table C-1 Notes**

Notes:
Data compiled from databases from multiple sources. Missing values indicate chemical not analyzed or not reported by original data source.
Qualifiers: U = Not detected; UJ = Not detected at estimated concentration shown; J = estimated concentration; UR = Not detected and rejected (unusable result).
[1] Sample 8859 was reported to contain contained intentionally disturbed sediment. As a result, this was not a representative surface water sample and was excluded for further assessment in this SLERA.

Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch
Southern Wood Piedmont - Former Gulf, NC Facility

| | | Sample ID | SW-013-SL (NCDENR) | 8752 | 8753 | 8754 | SW-014-SL (NCDENR) | SW-015-SL | SW-015-SL (NCDENR) | SW-023-SL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-013-SL | 8752 | 8753 | 8754 | SW-014-SL | SW-015-SL | SW-015-SL | SW-023-SL |
| | | Date Collected | 11/14/1995 | 5/3/1990 | 5/3/1990 | 5/3/1990 | 11/14/1995 | 11/14/1995 | 11/14/1995 | 11/14/1995 |
| | | Waterbody | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch |
| | | Location | Background | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 12" | NA | NA | NA | 0 - 12" | 0 - 6" | 0 - 6" | 0 - 6" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | |
| VOCs | 1,1,1-Trichloroethane | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | 1,1,2,2-Tetrachloroethane | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | 1,1,2-Trichloroethane | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | 1,1-Dichloroethane | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | 1,1-Dichloroethene | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | 1,2,4-Trichlorobenzene | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| VOCs | 1,2-Dichlorobenzene | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| VOCs | 1,2-Dichloroethane | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | 1,2-Dichloroethene (total) | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | 1,2-Dichloropropane | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | 1,3-Dichlorobenzene | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| VOCs | 1,4-Dichlorobenzene | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| VOCs | 2-Butanone | mg/Kg dw | 0.012 U | 0.05 U | 0.05 U | 0.05 U | 0.013 U | 0.025 U | 0.015 U | 0.025 U |
| VOCs | 4-Bromophenyl phenyl ether | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| VOCs | Acetone | mg/Kg dw | 0.012 U | | | | 0.02 U | | 0.015 U | |
| VOCs | Benzene | mg/Kg dw | 0.012 U | 0.005 U | 0.005 U | 0.005 U | 0.039 | 0.005 U | 0.015 U | 0.005 U |
| VOCs | Bis(2-chloroethoxy) methane | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| VOCs | Bis(2-Chloroethyl) ether | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| VOCs | Bis(2-Chloroisopropyl) ether | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| VOCs | Bromodichloromethane | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Bromoform | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Bromomethane | mg/Kg dw | 0.012 UR | | | | 0.013 UR | | 0.015 UR | |
| VOCs | Carbon disulfide | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Carbon tetrachloride | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Chlorobenzene | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Chloroethane | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Chloroform | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Chloromethane | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | cis-1,3-Dichloropropene | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Dibromochloromethane | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Ethylbenzene | mg/Kg dw | 0.012 U | 0.005 U | 0.005 U | 0.005 U | 0.08 | 0.1 | 0.004 J | 0.005 U |
| VOCs | Methyl butyl ketone | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Methyl isobutyl ketone | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Methylene chloride | mg/Kg dw | 0.02 U | 5 U | 5 U | 5 U | 0.03 U | 0.005 U | 0.02 U | 0.005 U |
| VOCs | m-Xylene | mg/Kg dw | | 0.05 U | 0.05 U | 0.05 U | | | | |
| VOCs | o-Xylene | mg/Kg dw | | 0.05 U | 0.05 U | 0.05 U | | | | |
| VOCs | p-Xylene | mg/Kg dw | | 0.005 U | 0.005 U | 0.005 U | | | | |
| VOCs | Styrene | mg/Kg dw | 0.012 U | | | | 0.082 | | 0.015 U | |
| VOCs | Tetrachloroethene | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Toluene | mg/Kg dw | 0.012 U | 0.005 U | 0.005 U | 0.005 U | 0.14 | 0.043 | 0.015 U | 0.005 U |
| VOCs | trans-1,3-Dichloropropene | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Trichloroethene | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Vinyl chloride | mg/Kg dw | 0.012 U | | | | 0.013 U | | 0.015 U | |
| VOCs | Xylenes (total) | mg/Kg dw | 0.012 U | 0.005 U | 0.005 U | 0.005 U | 0.29 | 0.42 | 0.016 | 0.005 U |
| SVOCs | 2,4-Dinitrotoluene | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | 2,6-Dinitrotoluene | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | 2-Chloronaphthalene | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | 2-Methylphenol | mg/Kg dw | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 1.2 J | 0.01 U | 5.1 U | 0.01 U |
| SVOCs | 2-Nitroaniline | mg/Kg dw | 1 U | | | | 32 U | | 13 U | |
| SVOCs | 3,3'-Dichlorobenzidine | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | 3-Nitroaniline | mg/Kg dw | 1 U | | | | 32 U | | 13 U | |
| SVOCs | 4-Chloroaniline | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | 4-Chlorophenyl Phenyl Ether | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | 4-Nitroaniline | mg/Kg dw | 1 U | | | | 32 U | | 13 U | |
| SVOCs | Aniline | mg/Kg dw | | 0.41 U | 0.41 U | 0.41 U | | 0.05 U | | 0.05 U |
| SVOCs | Biphenyl | mg/Kg dw | | | | | | | | |
| SVOCs | Bis(2-ethylhexyl) phthalate | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | Butyl benzyl phthalate | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | Diethylphthalate | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | Dimethylphthalate | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |

Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch
Southern Wood Piedmont - Former Gulf, NC Facility

| | | Sample ID | SW-013-SL (NCDENR) | 8752 | 8753 | 8754 | SW-014-SL (NCDENR) | SW-015-SL | SW-015-SL (NCDENR) | SW-023-SL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-013-SL | 8752 | 8753 | 8754 | SW-014-SL | SW-015-SL | SW-015-SL | SW-023-SL |
| | | Date Collected | 11/14/1995 | 5/3/1990 | 5/3/1990 | 5/3/1990 | 11/14/1995 | 11/14/1995 | 11/14/1995 | 11/14/1995 |
| | | Waterbody | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch |
| | | Location | Background | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 12" | NA | NA | NA | 0 - 12" | 0 - 6" | 0 - 6" | 0 - 6" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | |
| SVOCs | Di-n-butylphthalate | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | Di-n-octylphthalate | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | Hexachlorobenzene | mg/Kg dw | 0.41 UJ | | | | 13 UJ | | 5.1 UJ | |
| SVOCs | Hexachlorobutadiene | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | Hexachlorocyclopentadiene | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | Hexachloroethane | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | Isophorone | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | Nitrobenzene | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | N-nitrosodi-n-propylamine | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| SVOCs | N-nitrosodiphenylamine | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| Phenolics | 2,3,4,6-Tetrachlorophenol | mg/Kg dw | | 0.33 U | 0.33 U | 0.33 U | | 0.05 U | | 0.05 U |
| Phenolics | 2,4,5-Trichlorophenol | mg/Kg dw | 1 U | | | | 32 U | | 13 U | |
| Phenolics | 2,4,6-Trichlorophenol | mg/Kg dw | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 13 U | 0.01 U | 5.1 U | 0.01 U |
| Phenolics | 2,4-Dichlorophenol | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| Phenolics | 2,4-Dimethylphenol | mg/Kg dw | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 3.9 J | 0.01 U | 5.1 U | 0.01 U |
| Phenolics | 2,4-Dinitrophenol | mg/Kg dw | 1 U | | | | 32 U | | 13 U | |
| Phenolics | 2-Chlorophenol | mg/Kg dw | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 13 U | 0.01 U | 5.1 U | 0.01 U |
| Phenolics | 2-Methyl-4,6-dinitrophenol | mg/Kg dw | 1 U | | | | 32 U | | 13 U | |
| Phenolics | 2-Nitrophenol | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| Phenolics | 3&4-Methylphenol | mg/Kg dw | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 2.5 J | 0.01 U | 5.1 U | 0.01 U |
| Phenolics | 4-Chloro-3-methylphenol | mg/Kg dw | 0.41 U | 0.83 U | 0.83 U | 0.83 U | 13 U | 0.01 U | 5.1 U | 0.01 U |
| Phenolics | 4-Methylphenol | mg/Kg dw | | | | | | | | |
| Phenolics | 4-Nitrophenol | mg/Kg dw | 1 U | | | | 32 U | | 13 U | |
| Phenolics | Pentachlorophenol | mg/Kg dw | 1 U | 2.1 U | 2.1 U | 2.1 U | 32 U | 0.05 U | 32 U | 2 |
| Phenolics | Phenol | mg/Kg dw | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 13 U | 0.01 U | 5.1 U | 0.01 U |
| PAHs | 1-Methylnaphthalene | mg/Kg dw | | | | | | | | |
| PAHs | 2-Methylnaphthalene | mg/Kg dw | 0.41 U | 0.33 U | 0.33 U | 0.33 U | 260 | 35 | 31 | 0.01 U |
| PAHs | Acenaphthene | mg/Kg dw | 0.41 UJ | 0.41 U | 0.41 U | 0.41 U | 200 J | 47 | 32 J | 0.01 U |
| PAHs | Acenaphthylene | mg/Kg dw | 0.41 U | | | | 4.3 J | | 0.66 J | |
| PAHs | Anthracene | mg/Kg dw | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 860 | 15 | 7.3 | 0.01 U |
| PAHs | Benzo(a)anthracene | mg/Kg dw | 0.41 U | 0.41 U | 7.8 | 0.41 U | 32 | 0.01 U | 6.7 | 0.01 U |
| PAHs | Benzo(a)pyrene | mg/Kg dw | 0.41 U | 0.41 U | 6.3 | 0.41 U | 8.1 J | 0.01 U | 1.6 J | 0.01 U |
| PAHs | Benzo(b&k)fluoranthene | mg/Kg dw | 0.079 J | 0.82 U | 22 | 1.1 | 17 | | 4.5 | |
| PAHs | Benzo(b)fluoranthene | mg/Kg dw | | | | | | 0.01 U | | 0.34 |
| PAHs | Benzo(g,h,i)perylene | mg/Kg dw | 0.41 U | | | | 13 U | | 5.1 U | |
| PAHs | Benzo(k)fluoranthene | mg/Kg dw | | | | | | 0.01 U | | 0.01 U |
| PAHs | Carbazole | mg/Kg dw | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 300 | 0.01 U | 2.6 J | 0.01 U |
| PAHs | Chrysene | mg/Kg dw | 0.067 J | 0.41 U | 12 | 0.45 | 29 | 0.01 U | 6.1 | 0.01 U |
| PAHs | Dibenzo(a,h)anthracene | mg/Kg dw | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 13 U | 0.01 U | 5.1 U | 0.01 U |
| PAHs | Dibenzofuran | mg/Kg dw | 0.41 U | | | | 220 | | 26 | |
| PAHs | Fluoranthene | mg/Kg dw | 0.072 J | 0.41 U | 19 | 0.88 | 200 | 67 | 30 | 0.01 U |
| PAHs | Fluorene | mg/Kg dw | 0.41 U | 0.33 U | 0.33 U | 0.33 U | 370 | 52 | 30 | 0.01 U |
| PAHs | Indeno(1,2,3-cd)pyrene | mg/Kg dw | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 13 U | 0.01 U | 5.1 U | 0.01 U |
| PAHs | Naphthalene | mg/Kg dw | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 480 | 56 | 39 | 0.01 U |
| PAHs | Phenanthrene | mg/Kg dw | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 700 | 110 | 120 | 0.01 U |
| PAHs | Pyrene | mg/Kg dw | 0.061 J | | | | 120 J | | 24 J | |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDD | ng/Kg dw | 320 | | | | | | 8200 | |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDF | ng/Kg dw | 31 | | | | | | 950 | |
| PCDD/Fs | 1,2,3,4,7,8,9-HpCDF | ng/Kg dw | 1.9 J | | | | | | 92 | |
| PCDD/Fs | 1,2,3,4,7,8-HxCDD | ng/Kg dw | 3.7 J | | | | | | 29 | |
| PCDD/Fs | 1,2,3,4,7,8-HxCDF | ng/Kg dw | 15 U | | | | | | 210 U | |
| PCDD/Fs | 1,2,3,6,7,8-HxCDD | ng/Kg dw | 7.9 J | | | | | | 160 | |
| PCDD/Fs | 1,2,3,6,7,8-HxCDF | ng/Kg dw | 2.5 J | | | | | | 18 U | |
| PCDD/Fs | 1,2,3,7,8,9-HxCDD | ng/Kg dw | 9.1 J | | | | | | 97 | |
| PCDD/Fs | 1,2,3,7,8,9-HxCDF | ng/Kg dw | 15 U | | | | | | 18 U | |
| PCDD/Fs | 1,2,3,7,8-PeCDD | ng/Kg dw | 2.3 J | | | | | | 7 J | |
| PCDD/Fs | 1,2,3,7,8-PeCDF | ng/Kg dw | 15 U | | | | | | 18 U | |
| PCDD/Fs | 2,3,4,6,7,8-HxCDF | ng/Kg dw | 6.9 J | | | | | | 18 U | |
| PCDD/Fs | 2,3,4,7,8-PeCDF | ng/Kg dw | 1.4 J | | | | | | 18 U | |
| PCDD/Fs | 2,3,7,8-TeCDD | ng/Kg dw | 0.6 J | | | | | | 7 U | |

Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch
Southern Wood Piedmont - Former Gulf, NC Facility

| | | Sample ID | SW-013-SL (NCDENR) | 8752 | 8753 | 8754 | SW-014-SL (NCDENR) | SW-015-SL | SW-015-SL (NCDENR) | SW-023-SL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-013-SL | 8752 | 8753 | 8754 | SW-014-SL | SW-015-SL | SW-015-SL | SW-023-SL |
| | | Date Collected | 11/14/1995 | 5/3/1990 | 5/3/1990 | 5/3/1990 | 11/14/1995 | 11/14/1995 | 11/14/1995 | 11/14/1995 |
| | | Waterbody | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch |
| | | Location | Background | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 12" | NA | NA | NA | 0 - 12" | 0 - 6" | 0 - 6" | 0 - 6" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | |
| PCDD/Fs | 2,3,7,8-TeCDF | ng/Kg dw | 6 U | | | | | | 7 U | |
| PCDD/Fs | OCDD | ng/Kg dw | 12000 J | | | | | | 92000 J | |
| PCDD/Fs | OCDF | ng/Kg dw | 120 | | | | | | 5000 | |
| PCDD/F TEQ | TEQ (I-TEF) | ng/Kg dw | 21 J | | | | | | 220 J | |
| PCDD/F homologs | TeCDDs (total) | ng/Kg dw | 7.4 J | | | | | | 32 J | |
| PCDD/F homologs | TeCDFs (total) | ng/Kg dw | 23 J | | | | | | 27 J | |
| PCDD/F homologs | PeCDDs (total) | ng/Kg dw | 18 J | | | | | | 67 J | |
| PCDD/F homologs | PeCDFs (total) | ng/Kg dw | 120 J | | | | | | 140 J | |
| PCDD/F homologs | HxCDD (total) | ng/Kg dw | 87 J | | | | | | 2000 J | |
| PCDD/F homologs | HxCDF (total) | ng/Kg dw | 100 J | | | | | | 860 J | |
| PCDD/F homologs | HpCDD (total) | ng/Kg dw | 1100 J | | | | | | 32000 J | |
| PCDD/F homologs | HpCDF (total) | ng/Kg dw | 130 J | | | | | | 1200 J | |
| Metals | Aluminum | mg/Kg dw | | | | | 12000 | | 8100 | |
| Metals | Antimony | mg/Kg dw | | | | | 3 UR | | 3.4 UR | |
| Metals | Arsenic | mg/Kg dw | | | | | 6.9 | | 3.2 | |
| Metals | Barium | mg/Kg dw | | | | | 94 | | 62 | |
| Metals | Beryllium | mg/Kg dw | | | | | 0.71 J | | 0.68 J | |
| Metals | Cadmium | mg/Kg dw | | | | | 0.3 U | | 0.34 U | |
| Metals | Calcium | mg/Kg dw | | | | | 1400 | | 980 | |
| Metals | Chromium | mg/Kg dw | | | | | 23 | | 14 | |
| Metals | Cobalt | mg/Kg dw | | | | | 20 U | | 9 U | |
| Metals | Copper | mg/Kg dw | | | | | 25 | | 20 U | |
| Metals | Iron | mg/Kg dw | | | | | 29000 | | 17000 | |
| Metals | Lead | mg/Kg dw | | | | | 14 | | 9.7 | |
| Metals | Magnesium | mg/Kg dw | | | | | 2200 | | 1800 | |
| Metals | Manganese | mg/Kg dw | 100 | | | | 350 | | 220 | |
| Metals | Mercury | mg/Kg dw | 0.06 U | | | | 0.06 U | | 0.07 U | |
| Metals | Nickel | mg/Kg dw | 17 | | | | 16 | | 14 | |
| Metals | Potassium | mg/Kg dw | 570 | | | | 530 | | 500 | |
| Metals | Selenium | mg/Kg dw | 0.53 U | | | | 1 U | | 0.52 U | |
| Metals | Silver | mg/Kg dw | 0.8 U | | | | 0.82 U | | 0.93 U | |
| Metals | Sodium | mg/Kg dw | 90 U | | | | 220 U | | 80 U | |
| Metals | Thallium | mg/Kg dw | 0.54 U | | | | 0.54 U | | 0.62 U | |
| Metals | Tin | mg/Kg dw | | | | | | | | |
| Metals | Vanadium | mg/Kg dw | 30 | | | | 35 | | 24 | |
| Metals | Zinc | mg/Kg dw | 40 U | | | | 40 U | | 50 U | |
| General Parameters | Percent Clay | % | | | | | | | | |
| General Parameters | Percent Gravel | % | | | | | | | | |
| General Parameters | Percent Sand | % | | | | | | | | |
| General Parameters | Percent Silt | % | | | | | | | | |
| General Parameters | Total Organic Carbon | mg/Kg dw | | | | | | | | |
| General Parameters | Total Solids | mg/Kg dw | | 79 | 81 | 81 | | | | |
| General Parameters | Percent Moisture (metals) | % | 20 | | | | | | 31 | |
| General Parameters | Percent Moisture (PCDD/F) | % | 18 | | | | | | 30 | |
| General Parameters | Percent Moisture (SVOC) | % | 20 | | | | 22 | | 35 | |
| General Parameters | Percent Moisture (SVOCs) | % | | | | | | | | |
| General Parameters | Percent Moisture (VOCs) | % | 20 | | | | 22 | | 35 | |
| TCLP-PAHs | Acenaphthene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Acenaphthylene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Anthracene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Benzo(a)anthracene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Benzo(a)pyrene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Benzo(b)fluoranthene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Benzo(g,h,i)perylene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Benzo(k)fluoranthene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Carbazole in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Chrysene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Dibenzo(a,h)anthracene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Dibenzofuran in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Dimethyl Naphthalene in TCLP Extract | mg/L | | | | | | | | |

Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch
Southern Wood Piedmont - Former Gulf, NC Facility

| | | Sample ID | SW-013-SL (NCDENR) | 8752 | 8753 | 8754 | SW-014-SL (NCDENR) | SW-015-SL | SW-015-SL (NCDENR) | SW-023-SL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-013-SL | 8752 | 8753 | 8754 | SW-014-SL | SW-015-SL | SW-015-SL | SW-023-SL |
| | | Date Collected | 11/14/1995 | 5/3/1990 | 5/3/1990 | 5/3/1990 | 11/14/1995 | 11/14/1995 | 11/14/1995 | 11/14/1995 |
| | | Waterbody | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch |
| | | Location | Background | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 12" | NA | NA | NA | 0 - 12" | 0 - 6" | 0 - 6" | 0 - 6" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | |
| TCLP-PAHs | Fluoranthene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Fluorene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Indeno(1,2,3-cd)pyrene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Isophorone in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Naphthalene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Phenanthrene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-PAHs | Pyrene in TCLP Extract | mg/L | | | | | | | | |
| TCLP-Phenolics | 2,3,4,6-Tetrachlorophenol in TCLP Extract | mg/L | | | | | | | | |
| TCLP-Phenolics | 2,4,5-Trichlorophenol in TCLP Extract | mg/L | | | | | | | | |
| TCLP-Phenolics | 2,4-Dimethylphenol in TCLP Extract | mg/L | | | | | | | | |
| TCLP-Phenolics | 2-Chlorophenol in TCLP Extract | mg/L | | | | | | | | |
| TCLP-Phenolics | o-Cresol in TCLP Extract | mg/L | | | | | | | | |
| TCLP-Phenolics | p-chloro-m-cresol in TCLP Extract | mg/L | | | | | | | | |
| TCLP-Phenolics | Pentachlorophenol in TCLP Extract | mg/L | | | | | | | | |
| TCLP-Phenolics | Phenol in TCLP Extract | mg/L | | | | | | | | |
| TCLP-SVOCs | Aniline in TCLP Extract | mg/L | | | | | | | | |

Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch
Southern Wood Piedmont - Former Gulf, NC Facility

| | | Sample ID | SW-023-SL (NCDENR) | SW-024-SL | SW-024-SL (NCDENR) | SW-053-SD | SW-054-SD | SW-055-SD | SW-056-SD | SW-057-SD | SW-058-SD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-023-SL | SW-024-SL | SW-024-SL | SW-053-SD | SW-054-SD | SW-055-SD | SW-056-SD | SW-057-SD | SW-058-SD |
| | | Date Collected | 11/14/1995 | 11/14/1995 | 11/14/1995 | 4/7/1999<br>7/19/2006 [1] | 4/7/1999 | 7/16/2002 | 7/16/2002 | 7/16/2002 | 7/18/2002 |
| | | Waterbody | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 6" | 0 - 6" | 0 - 6" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 3" | 0 - 3" | 0 - 3" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | |
| VOCs | 1,1,1-Trichloroethane | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | 1,1,2,2-Tetrachloroethane | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | 1,1,2-Trichloroethane | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | 1,1-Dichloroethane | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | 1,1-Dichloroethene | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | 1,2,4-Trichlorobenzene | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| VOCs | 1,2-Dichlorobenzene | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| VOCs | 1,2-Dichloroethane | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | 1,2-Dichloroethene (total) | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | 1,2-Dichloropropane | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | 1,3-Dichlorobenzene | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| VOCs | 1,4-Dichlorobenzene | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| VOCs | 2-Butanone | mg/Kg dw | 0.014 U | 0.025 U | 0.013 U | | | | | | |
| VOCs | 4-Bromophenyl phenyl ether | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| VOCs | Acetone | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Benzene | mg/Kg dw | 0.014 U | 0.005 U | 0.013 U | | | | | | |
| VOCs | Bis(2-chloroethoxy) methane | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| VOCs | Bis(2-Chloroethyl) ether | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| VOCs | Bis(2-Chloroisopropyl) ether | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| VOCs | Bromodichloromethane | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Bromoform | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Bromomethane | mg/Kg dw | 0.014 UR | | 0.013 UR | | | | | | |
| VOCs | Carbon disulfide | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Carbon tetrachloride | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Chlorobenzene | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Chloroethane | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Chloroform | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Chloromethane | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | cis-1,3-Dichloropropene | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Dibromochloromethane | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Ethylbenzene | mg/Kg dw | 0.014 U | 0.005 U | 0.013 U | | | | | | |
| VOCs | Methyl butyl ketone | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Methyl isobutyl ketone | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Methylene chloride | mg/Kg dw | 0.014 U | 0.005 U | 0.013 U | | | | | | |
| VOCs | m-Xylene | mg/Kg dw | | | | | | | | | |
| VOCs | o-Xylene | mg/Kg dw | | | | | | | | | |
| VOCs | p-Xylene | mg/Kg dw | | | | | | | | | |
| VOCs | Styrene | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Tetrachloroethene | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Toluene | mg/Kg dw | 0.014 U | 0.057 | 0.013 U | | | | | | |
| VOCs | trans-1,3-Dichloropropene | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Trichloroethene | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Vinyl chloride | mg/Kg dw | 0.014 U | | 0.013 U | | | | | | |
| VOCs | Xylenes (total) | mg/Kg dw | 0.014 U | 0.005 U | 0.013 U | | | | | | |
| SVOCs | 2,4-Dinitrotoluene | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | 2,6-Dinitrotoluene | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | 2-Chloronaphthalene | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | 2-Methylphenol | mg/Kg dw | 0.44 U | 0.01 U | 0.42 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| SVOCs | 2-Nitroaniline | mg/Kg dw | 1.1 U | | 1 U | | | | | | |
| SVOCs | 3,3'-Dichlorobenzidine | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | 3-Nitroaniline | mg/Kg dw | 1.1 U | | 1 U | | | | | | |
| SVOCs | 4-Chloroaniline | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | 4-Chlorophenyl Phenyl Ether | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | 4-Nitroaniline | mg/Kg dw | 1.1 U | | 1 U | | | | | | |
| SVOCs | Aniline | mg/Kg dw | | 0.05 U | | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| SVOCs | Biphenyl | mg/Kg dw | | | | | | | | | |
| SVOCs | Bis(2-ethylhexyl) phthalate | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | Butyl benzyl phthalate | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | Diethylphthalate | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | Dimethylphthalate | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |

Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch
Southern Wood Piedmont - Former Gulf, NC Facility

| | | Sample ID | SW-023-SL (NCDENR) | SW-024-SL | SW-024-SL (NCDENR) | SW-053-SD | SW-054-SD | SW-055-SD | SW-056-SD | SW-057-SD | SW-058-SD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-023-SL | SW-024-SL | SW-024-SL | SW-053-SD | SW-054-SD | SW-055-SD | SW-056-SD | SW-057-SD | SW-058-SD |
| | | Date Collected | 11/14/1995 | 11/14/1995 | 11/14/1995 | 4/7/1999<br>7/19/2006 [1] | 4/7/1999 | 7/16/2002 | 7/16/2002 | 7/16/2002 | 7/18/2002 |
| | | Waterbody | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 6" | 0 - 6" | 0 - 6" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 3" | 0 - 3" | 0 - 3" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | |
| SVOCs | Di-n-butylphthalate | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | Di-n-octylphthalate | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | Hexachlorobenzene | mg/Kg dw | 0.44 UJ | | 0.42 UJ | | | | | | |
| SVOCs | Hexachlorobutadiene | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | Hexachlorocyclopentadiene | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | Hexachloroethane | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | Isophorone | mg/Kg dw | 0.44 U | | 0.42 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| SVOCs | Nitrobenzene | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | N-nitrosodi-n-propylamine | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| SVOCs | N-nitrosodiphenylamine | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| Phenolics | 2,3,4,6-Tetrachlorophenol | mg/Kg dw | | 0.05 U | | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| Phenolics | 2,4,5-Trichlorophenol | mg/Kg dw | 1.1 U | | 1 U | | | | | | |
| Phenolics | 2,4,6-Trichlorophenol | mg/Kg dw | 0.44 U | 0.01 U | 0.42 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| Phenolics | 2,4-Dichlorophenol | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| Phenolics | 2,4-Dimethylphenol | mg/Kg dw | 0.44 U | 0.01 U | 0.42 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| Phenolics | 2,4-Dinitrophenol | mg/Kg dw | 1.1 U | | 1 U | | | | | | |
| Phenolics | 2-Chlorophenol | mg/Kg dw | 0.44 U | 0.01 U | 0.42 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| Phenolics | 2-Methyl-4,6-dinitrophenol | mg/Kg dw | 1.1 U | | 1 U | | | | | | |
| Phenolics | 2-Nitrophenol | mg/Kg dw | 0.44 U | | 0.42 U | | | | | | |
| Phenolics | 3&4-Methylphenol | mg/Kg dw | 0.44 U | 0.01 U | 0.42 U | | | | | | |
| Phenolics | 4-Chloro-3-methylphenol | mg/Kg dw | 0.44 U | 0.01 U | 0.42 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| Phenolics | 4-Methylphenol | mg/Kg dw | | | | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| Phenolics | 4-Nitrophenol | mg/Kg dw | 1.1 U | | 1 U | | | | | | |
| Phenolics | Pentachlorophenol | mg/Kg dw | 7.6 J | 0.05 U | 0.25 J | 1.7 U | 1.7 U | 1.7 U | 1.7 U | 1.7 U | 1.7 U |
| Phenolics | Phenol | mg/Kg dw | 0.44 U | 0.01 U | 0.42 U | 0.065 J | 0.071 J | 0.33 U | 0.12 J | 0.33 U | 0.33 U |
| PAHs | 1-Methylnaphthalene | mg/Kg dw | | | | | | | | | |
| PAHs | 2-Methylnaphthalene | mg/Kg dw | 0.051 J | 0.01 U | 0.42 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| PAHs | Acenaphthene | mg/Kg dw | 0.069 J | 0.01 U | 0.42 UJ | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| PAHs | Acenaphthylene | mg/Kg dw | 0.44 U | | 0.42 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| PAHs | Anthracene | mg/Kg dw | 0.1 J | 0.01 U | 0.14 J | 0.086 J | 0.64 | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| PAHs | Benzo(a)anthracene | mg/Kg dw | 0.44 U | 0.01 U | 0.17 J | 0.17 J | 0.045 J | 0.33 U | 0.014 J | 0.33 U | 0.33 U |
| PAHs | Benzo(a)pyrene | mg/Kg dw | 0.14 J | 0.01 U | 0.35 J | 0.14 J | 0.067 J | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| PAHs | Benzo(b&k)fluoranthene | mg/Kg dw | 0.64 | | 0.93 | 0.43 | 0.19 J | 0.3 J | 0.056 J | 0.073 J | 0.33 U |
| PAHs | Benzo(b)fluoranthene | mg/Kg dw | | 0.01 U | | 0.23 J | 0.33 U | 0.19 J | 0.03 J | 0.042 J | 0.33 U |
| PAHs | Benzo(g,h,i)perylene | mg/Kg dw | 0.08 J | | 0.17 J | 0.098 J | 0.076 J | 0.092 J | 0.032 J | 0.034 J | 0.33 U |
| PAHs | Benzo(k)fluoranthene | mg/Kg dw | | 0.01 U | | 0.19 J | 0.16 J | 0.12 J | 0.027 J | 0.042 J | 0.33 U |
| PAHs | Carbazole | mg/Kg dw | 0.44 J | 0.01 U | 0.42 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| PAHs | Chrysene | mg/Kg dw | 0.31 J | 0.01 U | 0.32 J | 0.24 J | 0.092 J | 0.33 U | 0.027 J | 0.33 U | 0.33 U |
| PAHs | Dibenzo(a,h)anthracene | mg/Kg dw | 0.44 U | 0.01 U | 0.076 J | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| PAHs | Dibenzofuran | mg/Kg dw | 0.99 | | 0.42 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.026 J | 0.33 U |
| PAHs | Fluoranthene | mg/Kg dw | 0.36 J | 0.01 U | 0.21 J | 0.38 J | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| PAHs | Fluorene | mg/Kg dw | 0.48 | 0.01 U | 0.42 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| PAHs | Indeno(1,2,3-cd)pyrene | mg/Kg dw | 0.14 J | 0.01 U | 0.29 J | 0.093 J | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| PAHs | Naphthalene | mg/Kg dw | 0.35 J | 0.01 U | 0.42 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| PAHs | Phenanthrene | mg/Kg dw | 0.48 | 0.01 U | 0.054 | 0.034 J | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U |
| PAHs | Pyrene | mg/Kg dw | 0.39 J | | 0.2 J | 0.34 J | 0.08 J | 0.097 J | 0.33 U | 0.068 J | 0.33 U |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDD | ng/Kg dw | | | 5800 | 11200 | 6220 | 3420 | | 2690 | |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDF | ng/Kg dw | | | 680 | 293 | 750 | 395 | | 328 | |
| PCDD/Fs | 1,2,3,4,7,8,9-HpCDF | ng/Kg dw | | | 55 | 91 | 58.1 | 40.3 | | 26.8 | |
| PCDD/Fs | 1,2,3,4,7,8-HxCDD | ng/Kg dw | | | 17 | 24.1 | 18.5 | 21.3 | | 7.03 | |
| PCDD/Fs | 1,2,3,4,7,8-HxCDF | ng/Kg dw | | | 200 U | 44.8 | 26.1 | 16.6 | | 12.1 | |
| PCDD/Fs | 1,2,3,6,7,8-HxCDD | ng/Kg dw | | | 120 | 4.1 | 3 | 75 | | 60 | |
| PCDD/Fs | 1,2,3,6,7,8-HxCDF | ng/Kg dw | | | 14 U | 2.3 | 7.07 | 8 | | 5 U | |
| PCDD/Fs | 1,2,3,7,8,9-HxCDD | ng/Kg dw | | | 60 | 45.9 | 4.4 | 56.2 | | 13.3 | |
| PCDD/Fs | 1,2,3,7,8,9-HxCDF | ng/Kg dw | | | 14 U | 5 U | 5 U | 0.3 U | | 5 U | |
| PCDD/Fs | 1,2,3,7,8-PeCDD | ng/Kg dw | | | 4 J | 5 U | 5 U | | | 5 U | |
| PCDD/Fs | 1,2,3,7,8-PeCDF | ng/Kg dw | | | 14 U | 5 U | 5 U | 4.4 | | 5 U | |
| PCDD/Fs | 2,3,4,6,7,8-HxCDF | ng/Kg dw | | | 10 | 4.3 | 17.6 | 20.2 | | 7.32 | |
| PCDD/Fs | 2,3,4,7,8-PeCDF | ng/Kg dw | | | 14 U | 8.58 | 5 U | 2.6 | | 5 U | |
| PCDD/Fs | 2,3,7,8-TeCDD | ng/Kg dw | | | 5.6 U | 1 U | 1 U | 0.82 | | 1 U | |

Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch
Southern Wood Piedmont - Former Gulf, NC Facility

| | | Sample ID | SW-023-SL (NCDENR) | SW-024-SL | SW-024-SL (NCDENR) | SW-053-SD | SW-054-SD | SW-055-SD | SW-056-SD | SW-057-SD | SW-058-SD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-023-SL | SW-024-SL | SW-024-SL | SW-053-SD | SW-054-SD | SW-055-SD | SW-056-SD | SW-057-SD | SW-058-SD |
| | | Date Collected | 11/14/1995 | 11/14/1995 | 11/14/1995 | 4/7/1999<br>7/19/2006 [1] | 4/7/1999 | 7/16/2002 | 7/16/2002 | 7/16/2002 | 7/18/2002 |
| | | Waterbody | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 6" | 0 - 6" | 0 - 6" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 3" | 0 - 3" | 0 - 3" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | |
| PCDD/Fs | 2,3,7,8-TeCDF | ng/Kg dw | | | 5.6 U | 1 U | 1 U | 1 | | 1 U | |
| PCDD/Fs | OCDD | ng/Kg dw | | | 63000 J | 82500 | 6210 | 27500 | | 33400 | |
| PCDD/Fs | OCDF | ng/Kg dw | | | 3400 | 4830 | 42.4 | 1450 | | 1620 | |
| PCDD/F TEQ | TEQ (I-TEF) | ng/Kg dw | | | 150 J | | | | | | |
| PCDD/F homologs | TeCDDs (total) | ng/Kg dw | | | 2 J | 3.64 | 5.97 | 3.6 | | 1 U | |
| PCDD/F homologs | TeCDFs (total) | ng/Kg dw | | | 3 J | 8.8 | 7.15 | 12.6 | | 2.56 | |
| PCDD/F homologs | PeCDDs (total) | ng/Kg dw | | | 22 J | 4.9 | 45.1 | 30.1 | | 5 U | |
| PCDD/F homologs | PeCDFs (total) | ng/Kg dw | | | 43 J | 84.5 | 47.1 | 75.2 | | 18.8 | |
| PCDD/F homologs | HxCDD (total) | ng/Kg dw | | | 900 J | 51.6 | 38.2 | 691 | | 382 | |
| PCDD/F homologs | HxCDF (total) | ng/Kg dw | | | 580 J | 128 | 751 | 403 | | 310 | |
| PCDD/F homologs | HpCDD (total) | ng/Kg dw | | | 16000 J | 426 | 417 | 10800 | | 7360 | |
| PCDD/F homologs | HpCDF (total) | ng/Kg dw | | | 860 J | 6210 | 3760 | 1800 | | 1650 | |
| Metals | Aluminum | mg/Kg dw | 7400 | | 13000 | | | | | | |
| Metals | Antimony | mg/Kg dw | 4 UJ | | 4 UJ | | | | | | |
| Metals | Arsenic | mg/Kg dw | 3.1 | | 3.9 | | | | | | |
| Metals | Barium | mg/Kg dw | 69 | | 150 | | | | | | |
| Metals | Beryllium | mg/Kg dw | 0.5 J | | 0.9 J | | | | | | |
| Metals | Cadmium | mg/Kg dw | 0.3 U | | 0.29 U | | | | | | |
| Metals | Calcium | mg/Kg dw | 1500 | | 1400 | | | | | | |
| Metals | Chromium | mg/Kg dw | 23 | | 19 | | | | | | |
| Metals | Cobalt | mg/Kg dw | 15 | | 10 U | | | | | | |
| Metals | Copper | mg/Kg dw | 13 | | 28 | | | | | | |
| Metals | Iron | mg/Kg dw | 15000 | | 25000 | | | | | | |
| Metals | Lead | mg/Kg dw | 6.2 J | | 11 | | | | | | |
| Metals | Magnesium | mg/Kg dw | 2500 | | 3200 | | | | | | |
| Metals | Manganese | mg/Kg dw | 260 J | | 290 | | | | | | |
| Metals | Mercury | mg/Kg dw | 0.06 U | | 0.06 U | | | | | | |
| Metals | Nickel | mg/Kg dw | 23 | | 14 | | | | | | |
| Metals | Potassium | mg/Kg dw | 170 | | 360 | | | | | | |
| Metals | Selenium | mg/Kg dw | 0.53 U | | 0.51 U | | | | | | |
| Metals | Silver | mg/Kg dw | 0.83 U | | 0.79 U | | | | | | |
| Metals | Sodium | mg/Kg dw | 140 U | | 160 U | | | | | | |
| Metals | Thallium | mg/Kg dw | 0.55 U | | 0.53 U | | | | | | |
| Metals | Tin | mg/Kg dw | | | | | | | | | |
| Metals | Vanadium | mg/Kg dw | 32 | | 41 | | | | | | |
| Metals | Zinc | mg/Kg dw | 30 UJ | | 30 UJ | | | | | | |
| General Parameters | Percent Clay | % | | | | 16.4 | | | | | |
| General Parameters | Percent Gravel | % | | | | 1.7 | | | | | |
| General Parameters | Percent Sand | % | | | | 34.4 | | | | | |
| General Parameters | Percent Silt | % | | | | 47.5 | | | | | |
| General Parameters | Total Organic Carbon | mg/Kg dw | | | | 5090 | | | | | |
| General Parameters | Total Solids | mg/Kg dw | | | | | | | | | |
| General Parameters | Percent Moisture (metals) | % | 24 | | 23 | | | | | | |
| General Parameters | Percent Moisture (PCDD/F) | % | | | 21 | | | | | | |
| General Parameters | Percent Moisture (SVOC) | % | 26 | | 21 | | | | | | |
| General Parameters | Percent Moisture (SVOCs) | % | | | | | | | | | |
| General Parameters | Percent Moisture (VOCs) | % | 26 | | 21 | | | | | | |
| TCLP-PAHs | Acenaphthene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Acenaphthylene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Anthracene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Benzo(a)anthracene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Benzo(a)pyrene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Benzo(b)fluoranthene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Benzo(g,h,i)perylene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Benzo(k)fluoranthene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Carbazole in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Chrysene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Dibenzo(a,h)anthracene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Dibenzofuran in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Dimethyl Naphthalene in TCLP Extract | mg/L | | | | | | | | | |

Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch
Southern Wood Piedmont - Former Gulf, NC Facility

| | | Sample ID | SW-023-SL (NCDENR) | SW-024-SL | SW-024-SL (NCDENR) | SW-053-SD | SW-054-SD | SW-055-SD | SW-056-SD | SW-057-SD | SW-058-SD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-023-SL | SW-024-SL | SW-024-SL | SW-053-SD | SW-054-SD | SW-055-SD | SW-056-SD | SW-057-SD | SW-058-SD |
| | | Date Collected | 11/14/1995 | 11/14/1995 | 11/14/1995 | 4/7/1999<br>7/19/2006 [1] | 4/7/1999 | 7/16/2002 | 7/16/2002 | 7/16/2002 | 7/18/2002 |
| | | Waterbody | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 6" | 0 - 6" | 0 - 6" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 3" | 0 - 3" | 0 - 3" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | |
| TCLP-PAHs | Fluoranthene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Fluorene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Indeno(1,2,3-cd)pyrene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Isophorone in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Naphthalene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Phenanthrene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-PAHs | Pyrene in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-Phenolics | 2,3,4,6-Tetrachlorophenol in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-Phenolics | 2,4,5-Trichlorophenol in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-Phenolics | 2,4-Dimethylphenol in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-Phenolics | 2-Chlorophenol in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-Phenolics | o-Cresol in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-Phenolics | p-chloro-m-cresol in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-Phenolics | Pentachlorophenol in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-Phenolics | Phenol in TCLP Extract | mg/L | | | | | | | | | |
| TCLP-SVOCs | Aniline in TCLP Extract | mg/L | | | | | | | | | |

Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch
Southern Wood Piedmont - Former Gulf, NC Facility

| | | Sample ID | SW-059-SD | SW-060-SD | SW-158-SD | SWP-003 |
|---|---|---|---|---|---|---|
| | | Station ID | SW-059-SD | SW-060-SD | SW-158-SD | SWP-003 |
| | | Date Collected | 7/19/2006 | 7/18/2002 | 7/18/2002 | 9/21/1983 |
| | | Waterbody | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch |
| | | Location | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 3" | 0 - 3" | 0 - 3" | Surface |
| ChemClass | Analyte Name | Conc Unit | | | | |
| VOCs | 1,1,1-Trichloroethane | mg/Kg dw | | | | |
| VOCs | 1,1,2,2-Tetrachloroethane | mg/Kg dw | | | | |
| VOCs | 1,1,2-Trichloroethane | mg/Kg dw | | | | |
| VOCs | 1,1-Dichloroethane | mg/Kg dw | | | | |
| VOCs | 1,1-Dichloroethene | mg/Kg dw | | | | |
| VOCs | 1,2,4-Trichlorobenzene | mg/Kg dw | | | | |
| VOCs | 1,2-Dichlorobenzene | mg/Kg dw | | | | |
| VOCs | 1,2-Dichloroethane | mg/Kg dw | | | | |
| VOCs | 1,2-Dichloroethene (total) | mg/Kg dw | | | | |
| VOCs | 1,2-Dichloropropane | mg/Kg dw | | | | |
| VOCs | 1,3-Dichlorobenzene | mg/Kg dw | | | | |
| VOCs | 1,4-Dichlorobenzene | mg/Kg dw | | | | |
| VOCs | 2-Butanone | mg/Kg dw | | | | |
| VOCs | 4-Bromophenyl phenyl ether | mg/Kg dw | | | | |
| VOCs | Acetone | mg/Kg dw | | | | |
| VOCs | Benzene | mg/Kg dw | | | | |
| VOCs | Bis(2-chloroethoxy) methane | mg/Kg dw | | | | |
| VOCs | Bis(2-Chloroethyl) ether | mg/Kg dw | | | | |
| VOCs | Bis(2-Chloroisopropyl) ether | mg/Kg dw | | | | |
| VOCs | Bromodichloromethane | mg/Kg dw | | | | |
| VOCs | Bromoform | mg/Kg dw | | | | |
| VOCs | Bromomethane | mg/Kg dw | | | | |
| VOCs | Carbon disulfide | mg/Kg dw | | | | |
| VOCs | Carbon tetrachloride | mg/Kg dw | | | | |
| VOCs | Chlorobenzene | mg/Kg dw | | | | |
| VOCs | Chloroethane | mg/Kg dw | | | | |
| VOCs | Chloroform | mg/Kg dw | | | | |
| VOCs | Chloromethane | mg/Kg dw | | | | |
| VOCs | cis-1,3-Dichloropropene | mg/Kg dw | | | | |
| VOCs | Dibromochloromethane | mg/Kg dw | | | | |
| VOCs | Ethylbenzene | mg/Kg dw | | | | |
| VOCs | Methyl butyl ketone | mg/Kg dw | | | | |
| VOCs | Methyl isobutyl ketone | mg/Kg dw | | | | |
| VOCs | Methylene chloride | mg/Kg dw | | | | |
| VOCs | m-Xylene | mg/Kg dw | | | | |
| VOCs | o-Xylene | mg/Kg dw | | | | |
| VOCs | p-Xylene | mg/Kg dw | | | | |
| VOCs | Styrene | mg/Kg dw | | | | |
| VOCs | Tetrachloroethene | mg/Kg dw | | | | |
| VOCs | Toluene | mg/Kg dw | | | | |
| VOCs | trans-1,3-Dichloropropene | mg/Kg dw | | | | |
| VOCs | Trichloroethene | mg/Kg dw | | | | |
| VOCs | Vinyl chloride | mg/Kg dw | | | | |
| VOCs | Xylenes (total) | mg/Kg dw | | | | |
| SVOCs | 2,4-Dinitrotoluene | mg/Kg dw | | | | |
| SVOCs | 2,6-Dinitrotoluene | mg/Kg dw | | | | |
| SVOCs | 2-Chloronaphthalene | mg/Kg dw | | | | |
| SVOCs | 2-Methylphenol | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 2 U |
| SVOCs | 2-Nitroaniline | mg/Kg dw | | | | |
| SVOCs | 3,3'-Dichlorobenzidine | mg/Kg dw | | | | |
| SVOCs | 3-Nitroaniline | mg/Kg dw | | | | |
| SVOCs | 4-Chloroaniline | mg/Kg dw | | | | |
| SVOCs | 4-Chlorophenyl Phenyl Ether | mg/Kg dw | | | | |
| SVOCs | 4-Nitroaniline | mg/Kg dw | | | | |
| SVOCs | Aniline | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 2 U |
| SVOCs | Biphenyl | mg/Kg dw | | | | |
| SVOCs | Bis(2-ethylhexyl) phthalate | mg/Kg dw | | | | |
| SVOCs | Butyl benzyl phthalate | mg/Kg dw | | | | |
| SVOCs | Diethylphthalate | mg/Kg dw | | | | |
| SVOCs | Dimethylphthalate | mg/Kg dw | | | | |

Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch
Southern Wood Piedmont - Former Gulf, NC Facility

| | | Sample ID | SW-059-SD | SW-060-SD | SW-158-SD | SWP-003 |
|---|---|---|---|---|---|---|
| | | Station ID | SW-059-SD | SW-060-SD | SW-158-SD | SWP-003 |
| | | Date Collected | 7/19/2006 | 7/18/2002 | 7/18/2002 | 9/21/1983 |
| | | Waterbody | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch |
| | | Location | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 3" | 0 - 3" | 0 - 3" | Surface |
| ChemClass | Analyte Name | Conc Unit | | | | |
| SVOCs | Di-n-butylphthalate | mg/Kg dw | | | | |
| SVOCs | Di-n-octylphthalate | mg/Kg dw | | | | |
| SVOCs | Hexachlorobenzene | mg/Kg dw | | | | |
| SVOCs | Hexachlorobutadiene | mg/Kg dw | | | | |
| SVOCs | Hexachlorocyclopentadiene | mg/Kg dw | | | | |
| SVOCs | Hexachloroethane | mg/Kg dw | | | | |
| SVOCs | Isophorone | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 2 U |
| SVOCs | Nitrobenzene | mg/Kg dw | | | | |
| SVOCs | N-nitrosodi-n-propylamine | mg/Kg dw | | | | |
| SVOCs | N-nitrosodiphenylamine | mg/Kg dw | | | | |
| Phenolics | 2,3,4,6-Tetrachlorophenol | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | |
| Phenolics | 2,4,5-Trichlorophenol | mg/Kg dw | | | | |
| Phenolics | 2,4,6-Trichlorophenol | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 2 U |
| Phenolics | 2,4-Dichlorophenol | mg/Kg dw | | | | |
| Phenolics | 2,4-Dimethylphenol | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 2 U |
| Phenolics | 2,4-Dinitrophenol | mg/Kg dw | | | | |
| Phenolics | 2-Chlorophenol | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 2 U |
| Phenolics | 2-Methyl-4,6-dinitrophenol | mg/Kg dw | | | | |
| Phenolics | 2-Nitrophenol | mg/Kg dw | | | | |
| Phenolics | 3&4-Methylphenol | mg/Kg dw | | | | 2 U |
| Phenolics | 4-Chloro-3-methylphenol | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 2 U |
| Phenolics | 4-Methylphenol | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | |
| Phenolics | 4-Nitrophenol | mg/Kg dw | | | | |
| Phenolics | Pentachlorophenol | mg/Kg dw | 0.76 J | 1.7 U | 1.7 U | 11 |
| Phenolics | Phenol | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 2 U |
| PAHs | 1-Methylnaphthalene | mg/Kg dw | | | | |
| PAHs | 2-Methylnaphthalene | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 2 U |
| PAHs | Acenaphthene | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 2 U |
| PAHs | Acenaphthylene | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 0.5 J |
| PAHs | Anthracene | mg/Kg dw | 0.12 J | 0.33 U | 0.33 U | 8.3 |
| PAHs | Benzo(a)anthracene | mg/Kg dw | 0.26 J | 0.14 J | 0.33 U | 3.9 |
| PAHs | Benzo(a)pyrene | mg/Kg dw | 0.41 | 0.17 J | 0.33 U | 3.2 |
| PAHs | Benzo(b&k)fluoranthene | mg/Kg dw | 1.7 | 0.66 | 0.33 U | |
| PAHs | Benzo(b)fluoranthene | mg/Kg dw | 1 | 0.37 | 0.33 U | 7.9 |
| PAHs | Benzo(g,h,i)perylene | mg/Kg dw | 0.36 J | 0.33 U | 0.33 U | 2 U |
| PAHs | Benzo(k)fluoranthene | mg/Kg dw | 0.65 | 0.3 J | 0.33 U | |
| PAHs | Carbazole | mg/Kg dw | 0.044 J | 0.33 U | 0.33 U | |
| PAHs | Chrysene | mg/Kg dw | 0.79 | 0.23 J | 0.33 U | 10 |
| PAHs | Dibenzo(a,h)anthracene | mg/Kg dw | 0.15 J | 0.33 U | 0.33 U | 2 U |
| PAHs | Dibenzofuran | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 2 U |
| PAHs | Fluoranthene | mg/Kg dw | 0.36 J | 0.14 J | 0.33 U | 16 |
| PAHs | Fluorene | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 1.1 J |
| PAHs | Indeno(1,2,3-cd)pyrene | mg/Kg dw | 0.39 | 0.11 J | 0.33 U | 2 U |
| PAHs | Naphthalene | mg/Kg dw | 0.33 U | 0.33 U | 0.33 U | 2 U |
| PAHs | Phenanthrene | mg/Kg dw | 0.1 J | 0.021 J | 0.33 U | 2 J |
| PAHs | Pyrene | mg/Kg dw | 0.69 | 0.2 J | 0.33 U | 12 |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDD | ng/Kg dw | 33000 | | | |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDF | ng/Kg dw | 3600 | | | |
| PCDD/Fs | 1,2,3,4,7,8,9-HpCDF | ng/Kg dw | 276 | | | |
| PCDD/Fs | 1,2,3,4,7,8-HxCDD | ng/Kg dw | 117 | | | |
| PCDD/Fs | 1,2,3,4,7,8-HxCDF | ng/Kg dw | 123 | | | |
| PCDD/Fs | 1,2,3,6,7,8-HxCDD | ng/Kg dw | 634 | | | |
| PCDD/Fs | 1,2,3,6,7,8-HxCDF | ng/Kg dw | 47.2 | | | |
| PCDD/Fs | 1,2,3,7,8,9-HxCDD | ng/Kg dw | 207 | | | |
| PCDD/Fs | 1,2,3,7,8,9-HxCDF | ng/Kg dw | 19.2 | | | |
| PCDD/Fs | 1,2,3,7,8-PeCDD | ng/Kg dw | 32.7 | | | |
| PCDD/Fs | 1,2,3,7,8-PeCDF | ng/Kg dw | 5 U | | | |
| PCDD/Fs | 2,3,4,6,7,8-HxCDF | ng/Kg dw | 100 | | | |
| PCDD/Fs | 2,3,4,7,8-PeCDF | ng/Kg dw | 35.9 | | | |
| PCDD/Fs | 2,3,7,8-TeCDD | ng/Kg dw | 3.35 | | | |

*Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch*
Southern Wood Piedmont - Former Gulf, NC Facility

| | | Sample ID | SW-059-SD | SW-060-SD | SW-158-SD | SWP-003 |
|---|---|---|---|---|---|---|
| | | Station ID | SW-059-SD | SW-060-SD | SW-158-SD | SWP-003 |
| | | Date Collected | 7/19/2006 | 7/18/2002 | 7/18/2002 | 9/21/1983 |
| | | Waterbody | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch |
| | | Location | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 3" | 0 - 3" | 0 - 3" | Surface |
| ChemClass | Analyte Name | Conc Unit | | | | |
| PCDD/Fs | 2,3,7,8-TeCDF | ng/Kg dw | 1 U | | | |
| PCDD/Fs | OCDD | ng/Kg dw | 138000 | | | |
| PCDD/Fs | OCDF | ng/Kg dw | 13400 | | | |
| PCDD/F TEQ | TEQ (I-TEF) | ng/Kg dw | | | | |
| PCDD/F homologs | TeCDDs (total) | ng/Kg dw | 92 | | | |
| PCDD/F homologs | TeCDFs (total) | ng/Kg dw | 78.8 | | | |
| PCDD/F homologs | PeCDDs (total) | ng/Kg dw | 391 | | | |
| PCDD/F homologs | PeCDFs (total) | ng/Kg dw | 428 | | | |
| PCDD/F homologs | HxCDD (total) | ng/Kg dw | 4590 | | | |
| PCDD/F homologs | HxCDF (total) | ng/Kg dw | 3350 | | | |
| PCDD/F homologs | HpCDD (total) | ng/Kg dw | 79700 | | | |
| PCDD/F homologs | HpCDF (total) | ng/Kg dw | 19200 | | | |
| Metals | Aluminum | mg/Kg dw | | | | 8800 |
| Metals | Antimony | mg/Kg dw | | | | 1 U |
| Metals | Arsenic | mg/Kg dw | | | | 6.6 |
| Metals | Barium | mg/Kg dw | | | | 93 |
| Metals | Beryllium | mg/Kg dw | | | | 0.32 |
| Metals | Cadmium | mg/Kg dw | | | | 0.05 U |
| Metals | Calcium | mg/Kg dw | | | | |
| Metals | Chromium | mg/Kg dw | | | | 26 |
| Metals | Cobalt | mg/Kg dw | | | | 12 |
| Metals | Copper | mg/Kg dw | | | | 18 |
| Metals | Iron | mg/Kg dw | | | | 20000 |
| Metals | Lead | mg/Kg dw | | | | 20 |
| Metals | Magnesium | mg/Kg dw | | | | |
| Metals | Manganese | mg/Kg dw | | | | 270 |
| Metals | Mercury | mg/Kg dw | | | | |
| Metals | Nickel | mg/Kg dw | | | | 20 |
| Metals | Potassium | mg/Kg dw | | | | |
| Metals | Selenium | mg/Kg dw | | | | 1 U |
| Metals | Silver | mg/Kg dw | | | | 2.9 |
| Metals | Sodium | mg/Kg dw | | | | |
| Metals | Thallium | mg/Kg dw | | | | 0.5 U |
| Metals | Tin | mg/Kg dw | | | | 13 X |
| Metals | Vanadium | mg/Kg dw | | | | 25 |
| Metals | Zinc | mg/Kg dw | | | | 25 |
| General Parameters | Percent Clay | % | 15.4 | | | |
| General Parameters | Percent Gravel | % | 0 U | | | |
| General Parameters | Percent Sand | % | 15 | | | |
| General Parameters | Percent Silt | % | 69.6 | | | |
| General Parameters | Total Organic Carbon | mg/Kg dw | 9040 | | | |
| General Parameters | Total Solids | mg/Kg dw | | | | |
| General Parameters | Percent Moisture (metals) | % | | | | |
| General Parameters | Percent Moisture (PCDD/F) | % | | | | |
| General Parameters | Percent Moisture (SVOC) | % | | | | |
| General Parameters | Percent Moisture (SVOCs) | % | | | | 28 |
| General Parameters | Percent Moisture (VOCs) | % | | | | |
| TCLP-PAHs | Acenaphthene in TCLP Extract | mg/L | 0.009 U | | | |
| TCLP-PAHs | Acenaphthylene in TCLP Extract | mg/L | 0.009 U | | | |
| TCLP-PAHs | Anthracene in TCLP Extract | mg/L | 0.008 U | | | |
| TCLP-PAHs | Benzo(a)anthracene in TCLP Extract | mg/L | 0.0065 U | | | |
| TCLP-PAHs | Benzo(a)pyrene in TCLP Extract | mg/L | 0.0075 U | | | |
| TCLP-PAHs | Benzo(b)fluoranthene in TCLP Extract | mg/L | 0.008 U | | | |
| TCLP-PAHs | Benzo(g,h,i)perylene in TCLP Extract | mg/L | 0.012 U | | | |
| TCLP-PAHs | Benzo(k)fluoranthene in TCLP Extract | mg/L | 0.006 U | | | |
| TCLP-PAHs | Carbazole in TCLP Extract | mg/L | 0.0085 U | | | |
| TCLP-PAHs | Chrysene in TCLP Extract | mg/L | 0.0044 U | | | |
| TCLP-PAHs | Dibenzo(a,h)anthracene in TCLP Extract | mg/L | 0.014 U | | | |
| TCLP-PAHs | Dibenzofuran in TCLP Extract | mg/L | 0.0075 U | | | |
| TCLP-PAHs | Dimethyl Naphthalene in TCLP Extract | mg/L | 0.025 U | | | |

Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch
*Southern Wood Piedmont - Former Gulf, NC Facility*

| | | *Sample ID* | SW-059-SD | SW-060-SD | SW-158-SD | SWP-003 |
|---|---|---|---|---|---|---|
| | | *Station ID* | SW-059-SD | SW-060-SD | SW-158-SD | SWP-003 |
| | | *Date Collected* | 7/19/2006 | 7/18/2002 | 7/18/2002 | 9/21/1983 |
| | | *Waterbody* | Drainage Ditch | Drainage Ditch | Drainage Ditch | Drainage Ditch |
| | | *Location* | Downstream | Downstream | Downstream | Downstream |
| | | *Depth Interval* | 0 - 3" | 0 - 3" | 0 - 3" | Surface |
| ChemClass | Analyte Name | Conc Unit | | | | |
| TCLP-PAHs | Fluoranthene in TCLP Extract | mg/L | 0.01 U | | | |
| TCLP-PAHs | Fluorene in TCLP Extract | mg/L | 0.0085 U | | | |
| TCLP-PAHs | Indeno(1,2,3-cd)pyrene in TCLP Extract | mg/L | 0.016 U | | | |
| TCLP-PAHs | Isophorone in TCLP Extract | mg/L | 0.0095 U | | | |
| TCLP-PAHs | Naphthalene in TCLP Extract | mg/L | 0.0095 U | | | |
| TCLP-PAHs | Phenanthrene in TCLP Extract | mg/L | 0.0075 U | | | |
| TCLP-PAHs | Pyrene in TCLP Extract | mg/L | 0.006 U | | | |
| TCLP-Phenolics | 2,3,4,6-Tetrachlorophenol in TCLP Extract | mg/L | 0.0065 U | | | |
| TCLP-Phenolics | 2,4,5-Trichlorophenol in TCLP Extract | mg/L | 0.0075 U | | | |
| TCLP-Phenolics | 2,4-Dimethylphenol in TCLP Extract | mg/L | 0.01 U | | | |
| TCLP-Phenolics | 2-Chlorophenol in TCLP Extract | mg/L | 0.0075 U | | | |
| TCLP-Phenolics | o-Cresol in TCLP Extract | mg/L | 0.0075 U | | | |
| TCLP-Phenolics | p-chloro-m-cresol in TCLP Extract | mg/L | 0.0085 U | | | |
| TCLP-Phenolics | Pentachlorophenol in TCLP Extract | mg/L | 0.01 U | | | |
| TCLP-Phenolics | Phenol in TCLP Extract | mg/L | 0.0065 U | | | |
| TCLP-SVOCs | Aniline in TCLP Extract | mg/L | 0.008 U | | | |

**Table C-2. Compilation of Sediment Results from the On-Site Drainage Ditch**
**Table Footnotes**
**Southern Wood Piedmont - Former Gulf, NC Facility**

Notes:
Data compiled from databases from multiple sources. Missing values indicate chemical not analyzed or not reported by original data source.
Qualifiers: U = Not detected; UJ = Not detected at estimated concentration shown; J = estimated concentration; UR = Not detected and rejected (unusable result).
NA: Not available
The "TEQ (I-TEF)" values shown are from the historical datasets. The TEQ value was updated to reflect the latest TEF values for all sample calculations in the current assessment.
The TCLP results were reported for completeness, but were not used directly in the risk assessments.
[1] Date shown is for the collection of TOC and grain size only

Table C-3. Compilation of Sediment Results from the Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

| | | Sample ID | SW-025-SD | SW-025-SD (NCDENR) | SW-026-SD | SW-026-SD (NCDENR) | SW-027-SD (NCDENR) | SW-028-SD (NCDENR) | SW-028-SD (NCDENR) | SW-039-SD | SW-039-SD (NCDENR) | SW-040-SD | SW-040-SD (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | | SW-025-SD | | SW-026-SD | SW-027-SD | SW-028-SD | SW-028-SD | | SW-039-SD | | SW-040-SD |
| | | Date Collected | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Background | Background | Background | Background | Background | Background | Background | Background | Background | Background | Background |
| | | Depth Interval | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" |
| ChemClass | Analyte Name | Conv Unit | | | | | | | | | | | |
| VOCs | 1,1,1-Trichloroethane | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | 1,1,2,2-Tetrachloroethane | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | 1,1,2-Trichloroethane | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | 1,1-Dichloroethane | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | 1,1-Dichloroethene | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | 1,2,4-Trichlorobenzene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| VOCs | 1,2-Dichlorobenzene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| VOCs | 1,2-Dichloroethane | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | 1,2-Dichloroethene (total) | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | 1,2-Dichloropropane | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | 1,3-Dichlorobenzene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| VOCs | 1,4-Dichlorobenzene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| VOCs | 2-Butanone | mg/Kg dw | 0.025 U | 0.013 U | 0.025 U | 0.012 U | 0.016 U | | | | | | |
| VOCs | 4-Bromophenyl phenyl ether | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| VOCs | Acetone | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Benzene | mg/Kg dw | 0.005 U | 0.013 U | 0.005 U | 0.012 U | 0.016 U | | | | | | |
| VOCs | bis(2-Chloro-1-methylethyl) ether | mg/Kg dw | | | | | | | | 0.33 U | | 0.33 U | |
| VOCs | Bis(2-chloroethoxy) methane | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| VOCs | Bis(2-Chloroethyl) ether | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| VOCs | Bis(2-Chloroisopropyl) ether | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | | | | 0.41 U |
| VOCs | Bromodichloromethane | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Bromoform | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Bromomethane | mg/Kg dw | | 0.013 UR | | 0.012 UR | 0.016 UR | | | | | | |
| VOCs | Carbon disulfide | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Carbon tetrachloride | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Chlorobenzene | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Chloroethane | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Chloroform | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Chloromethane | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | cis-1,3-Dichloropropene | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Dibromochloromethane | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Ethylbenzene | mg/Kg dw | 0.005 U | 0.013 U | 0.005 U | 0.012 U | 0.016 U | | | | | | |
| VOCs | Methyl butyl ketone | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Methyl isobutyl ketone | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Methylene chloride | mg/Kg dw | 0.005 U | 0.013 U | 0.005 U | 0.012 U | 0.016 U | | | | | | |
| VOCs | m-Xylene | mg/Kg dw | | | | | | | | | | | |
| VOCs | o-Xylene | mg/Kg dw | | | | | | | | | | | |
| VOCs | p-Xylene | mg/Kg dw | | | | | | | | | | | |
| VOCs | Styrene | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Tetrachloroethene | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Toluene | mg/Kg dw | 0.005 U | 0.013 U | 0.084 | 0.012 U | 0.016 U | | | | | | |
| VOCs | trans-1,3-Dichloropropene | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Trichloroethene | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Vinyl chloride | mg/Kg dw | | 0.013 U | | 0.012 U | 0.016 U | | | | | | |
| VOCs | Xylenes (total) | mg/Kg dw | 0.005 U | 0.013 U | 0.005 U | 0.012 U | 0.016 U | | | | | | |
| SVOCs | 2,4-Dinitrotoluene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | 2,6-Dinitrotoluene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | 2-Chloronaphthalene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | 2-Methylphenol | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | 2-Nitroaniline | mg/Kg dw | | 1 U | | 0.99 U | 1.3 U | 1 U | 0.9 U | 1.7 U | | 1.7 U | 1 U |
| SVOCs | 3,3'-Dichlorobenzidine | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 UR | 0.66 U | | 0.66 U | 0.41 U |
| SVOCs | 3-Nitroaniline | mg/Kg dw | | 1 U | | 0.99 U | 1.3 U | 1 U | 0.9 U | 1.7 U | | 1.7 U | 1 U |
| SVOCs | 4-Chloroaniline | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | | | | 0.41 U |
| SVOCs | 4-Chlorophenyl Phenyl Ether | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | 4-Nitroaniline | mg/Kg dw | | 1 U | | 0.99 U | 1.3 U | 1 U | 0.9 U | 1.7 U | | 1.7 U | 1 U |
| SVOCs | Aniline | mg/Kg dw | 0.33 U | | 0.33 U | | | | | | | | |
| SVOCs | Benzidine | mg/Kg dw | | | | | | | | 2.7 U | | 2.7 U | |
| SVOCs | Benzoic acid | mg/Kg dw | | | | | | | | 1.7 U | | 1.7 U | |
| SVOCs | Benzyl alcohol | mg/Kg dw | | | | | | | | 0.33 U | | 0.33 U | |
| SVOCs | Biphenyl | mg/Kg dw | | | | | | | | | | | |
| SVOCs | Bis(2-ethylhexyl) phthalate | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | Butyl benzyl phthalate | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | Diethylphthalate | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | Dimethylphthalate | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | Di-n-butylphthalate | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | Di-n-octylphthalate | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | Hexachlorobenzene | mg/Kg dw | | 0.42 UJ | | 0.39 UJ | 0.51 UJ | 0.41 UJ | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | Hexachlorobutadiene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | Hexachlorocyclopentadiene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | Hexachloroethane | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | Isophorone | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | Nitrobenzene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |

Table C-3. Compilation of Sediment Results from the Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

| | | Sample ID | SW-025-SD | SW-025-SD (NCDENR) | SW-026-SD | SW-026-SD (NCDENR) | SW-027-SD (NCDENR) | SW-029-SD (NCDENR) | SW-030-SD (NCDENR) | SW-039-SD | SW-039-SD (NCDENR) | SW-040-SD | SW-040-SD (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | | SW-025-SD | | SW-026-SD | SW-027-SD | SW-029-SD | SW-030-SD | | SW-039-SD | | SW-040-SD |
| | | Date Collected | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Background | Background | Background | Background | Background | Background | Background | Background | Background | Background | Background |
| | | Depth Interval | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | |
| SVOCs | N-Nitrosodimethylamine | mg/Kg dw | | | | | | | | 0.33 U | | 0.33 U | |
| SVOCs | N-nitrosodi-n-propylamine | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | N-nitrosodiphenylamine | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| SVOCs | p-Chloroaniline | mg/Kg dw | | | | | | | | 0.66 U | | 0.66 U | |
| Phenolics | 2,3,4,6-Tetrachlorophenol | mg/Kg dw | 1.7 U | | 1.7 U | | | | | | | | |
| Phenolics | 2,4,5-Trichlorophenol | mg/Kg dw | | 1 U | | 0.99 U | 1.3 U | 1 U | 0.9 U | 0.33 U | | 0.33 U | 1 U |
| Phenolics | 2,4,6-Trichlorophenol | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| Phenolics | 2,4-Dichlorophenol | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| Phenolics | 2,4-Dimethylphenol | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| Phenolics | 2,4-Dinitrophenol | mg/Kg dw | | 1 U | | 0.99 U | 1.3 U | 1 U | 0.9 U | 1.7 U | | 1.7 U | 1 U |
| Phenolics | 2-Chlorophenol | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| Phenolics | 2-Methyl-4,6-dinitrophenol | mg/Kg dw | | 1 U | | 0.99 U | 1.3 U | 1 U | 0.9 U | | | | 1 U |
| Phenolics | 2-Nitrophenol | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| Phenolics | 3&4-Methylphenol | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| Phenolics | 4,6-Dinitro-2-methylphenol | mg/Kg dw | | | | | | | | 1.7 U | | 1.7 U | |
| Phenolics | 4-Chloro-3-methylphenol | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| Phenolics | 4-Methylphenol | mg/Kg dw | | | | | | | | | | | |
| Phenolics | 4-Nitrophenol | mg/Kg dw | | 1 U | | 0.99 U | 1.3 U | 1 U | 0.9 U | 1.7 U | | 1.7 U | 1 U |
| Phenolics | Pentachlorophenol | mg/Kg dw | 1.7 U | 1 U | 1.7 U | 0.99 U | 1.3 U | 1 U | 0.9 U | 1.7 U | | 1.7 U | 1 U |
| Phenolics | Phenol | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | 1-Methylnaphthalene | mg/Kg dw | | | | | | | | | | | |
| PAHs | 2-Methylnaphthalene | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Acenaphthene | mg/Kg dw | 0.33 U | 0.42 UJ | 0.33 U | 0.39 UJ | 0.51 UJ | 0.41 UJ | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Acenaphthylene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Anthracene | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Benzo(a)anthracene | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Benzo(a)pyrene | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Benzo(b&k)fluoranthene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | | | | 0.41 U |
| PAHs | Benzo(b)fluoranthene | mg/Kg dw | 0.33 U | | 0.33 U | | | | | 0.33 U | | 0.33 U | |
| PAHs | Benzo(g,h,i)perylene | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Benzo(k)fluoranthene | mg/Kg dw | 0.33 U | | 0.33 U | | | | | 0.33 U | | 0.33 U | |
| PAHs | Carbazole | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | | | | 0.41 U |
| PAHs | Chrysene | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Dibenzo(a,h)anthracene | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Dibenzo(a,h)pyrene | mg/Kg dw | | | | | | | | | | | |
| PAHs | Dibenzofuran | mg/Kg dw | | 0.42 U | | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Fluoranthene | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Fluorene | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Indeno(1,2,3-cd)pyrene | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Naphthalene | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Phenanthrene | mg/Kg dw | 0.33 U | 0.42 U | 0.33 U | 0.39 U | 0.51 U | 0.41 U | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PAHs | Pyrene | mg/Kg dw | | 0.42 UJ | | 0.39 UJ | 0.51 UJ | 0.41 UJ | 0.36 U | 0.33 U | | 0.33 U | 0.41 U |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDD | ng/Kg dw | | 30 U | | | | 12 U | | 3.6 | 9 U | 5.9 | 6 U |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDF | ng/Kg dw | | 13 | | | | 12 U | | 0.1 U | 5 U | 0.26 | 5 U |
| PCDD/Fs | 1,2,3,4,7,8,9-HpCDF | ng/Kg dw | | 12 U | | | | 12 U | | 0.2 U | 5 U | 0.1 U | 5 U |
| PCDD/Fs | 1,2,3,4,7,8-HxCDD | ng/Kg dw | | 12 U | | | | 12 U | | 0.07 U | 5 U | 0.08 U | 5 U |
| PCDD/Fs | 1,2,3,4,7,8-HxCDF | ng/Kg dw | | 12 U | | | | 12 U | | 0.06 U | 5 U | 0.12 | 5 U |
| PCDD/Fs | 1,2,3,6,7,8-HxCDD | ng/Kg dw | | 12 U | | | | 12 U | | 0.07 U | 5 U | 0.07 U | 5 U |
| PCDD/Fs | 1,2,3,6,7,8-HxCDF | ng/Kg dw | | 12 U | | | | 12 U | | 0.05 U | 5 U | 0.05 U | 5 U |
| PCDD/Fs | 1,2,3,7,8,9-HxCDD | ng/Kg dw | | 12 U | | | | 12 U | | 0.07 U | 5 U | 0.21 EMPC | 5 U |
| PCDD/Fs | 1,2,3,7,8,9-HxCDF | ng/Kg dw | | 12 U | | | | 12 U | | 0.07 U | 5 U | 0.07 U | 5 U |
| PCDD/Fs | 1,2,3,7,8-PeCDD | ng/Kg dw | | 12 U | | | | 12 U | | | 5 U | | 5 U |
| PCDD/Fs | 1,2,3,7,8-PeCDF | ng/Kg dw | | 12 U | | | | 12 U | | 0.08 U | 5 R | 0.09 U | 5 R |
| PCDD/Fs | 2,3,4,6,7,8-HxCDF | ng/Kg dw | | 12 U | | | | 12 U | | 0.06 U | 5 U | 0.06 U | 5 U |
| PCDD/Fs | 2,3,4,7,8-PeCDF | ng/Kg dw | | 12 U | | | | 12 U | | 0.07 U | 5 U | 0.06 U | 5 U |
| PCDD/Fs | 2,3,7,8-TeCDD | ng/Kg dw | | 5 U | | | | 5 U | | 0.13 EMPC | 2 U | 0.06 U | 2 U |
| PCDD/Fs | 2,3,7,8-TeCDF | ng/Kg dw | | 5 U | | | | 5 U | | 0.29 | 2 U | 0.27 | 2 U |
| PCDD/Fs | OCDD | ng/Kg dw | | 810 | | | | 140 U | | 301 | 520 | 406 | 410 |
| PCDD/Fs | OCDF | ng/Kg dw | | 25 U | | | | 25 U | | 0.3 U | 10 U | 0.3 U | 10 U |
| PCDD/F TEQ | TEQ (I-TEF) | ng/Kg dw | | 0.94 | | | | 0 | | | 0.52 | | 0.41 |
| PCDD/F homologs | TeCDDs (total) | ng/Kg dw | | 5 UJ | | | | 5 UJ | | 0.13 EMPC | 2 UJ | 0.09 EMPC | 2 UJ |
| PCDD/F homologs | TeCDFs (total) | ng/Kg dw | | 5 UJ | | | | 5 UJ | | 0.29 | 0.4 J | 0.27 | 0.27 J |
| PCDD/F homologs | PeCDDs (total) | ng/Kg dw | | 12 UJ | | | | 12 UJ | | 0.08 U | 5 UJ | 0.09 U | 5 UJ |
| PCDD/F homologs | PeCDFs (total) | ng/Kg dw | | 12 UJ | | | | 12 UJ | | 0 | 1.4 U | 0.48 EMPC | 5 UJ |
| PCDD/F homologs | HxCDD (total) | ng/Kg dw | | 22 J | | | | 12 UJ | | 0.59 | 6 U | 1.5 | 5 U |
| PCDD/F homologs | HxCDF (total) | ng/Kg dw | | 27 J | | | | 12 UJ | | 0 | 5 UJ | 0.31 | 5 UJ |
| PCDD/F homologs | HpCDD (total) | ng/Kg dw | | 70 UJ | | | | 20 UJ | | 8.9 | 20 U | 14 | 14 UJ |
| PCDD/F homologs | HpCDF (total) | ng/Kg dw | | 18 J | | | | 12 UJ | | 0 | 5 UJ | 0.56 | 5 UJ |
| Metals | Aluminum | mg/Kg dw | | 4500 | | 9700 | 4100 | 1900 | | | | | |
| Metals | Antimony | mg/Kg dw | | 3 UR | | 2.8 UR | 2.7 UR | 3 UR | | | | | |
| Metals | Arsenic | mg/Kg dw | | 2.6 J | | 2 U | 3 U | 3.3 | | | | | |
| Metals | Barium | mg/Kg dw | | 35 | | 70 | 37 | 14 | | | | | |

Table C-3. Compilation of Sediment Results from the Cedar Creek
*Southern Wood Piedmont - Gulf, North Carolina Facility*

| | | Sample ID | SW-025-SD | SW-025-SD (NCDENR) | SW-026-SD | SW-026-SD (NCDENR) | SW-027-SD (NCDENR) | SW-028-SD (NCDENR) | SW-036-SD (NCDENR) | SW-039-SD | SW-039-SD (NCDENR) | SW-040-SD | SW-040-SD (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | | SW-025-SD | | SW-026-SD | SW-027-SD | SW-028-SD | SW-036-SD | | SW-039-SD | | SW-040-SD |
| | | Date Collected | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Background | Background | Background | Background | Background | Background | Background | Background | Background | Background | Background |
| | | Depth Interval | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | |
| Metals | Beryllium | mg/Kg dw | | 1 U | | 0.65 J | 0.24 J | 1 U | | | | | |
| Metals | Cadmium | mg/Kg dw | | 0.29 U | | 0.28 U | 0.26 U | 0.3 U | | | | | |
| Metals | Calcium | mg/Kg dw | | 480 | | 550 | 530 | 250 | | | | | |
| Metals | Chromium | mg/Kg dw | | 11 | | 15 | 9.6 | 9.7 | | | | | |
| Metals | Cobalt | mg/Kg dw | | 6 U | | 6 U | 6 U | 4 U | | | | | |
| Metals | Copper | mg/Kg dw | | 6 U | | 8 U | 7 U | 3 U | | | | | |
| Metals | Iron | mg/Kg dw | | 11000 | | 13000 | 9000 | 13000 | | | | | |
| Metals | Lead | mg/Kg dw | | 6.2 J | | 7.4 J | 6.3 J | 4.9 J | | | | | |
| Metals | Magnesium | mg/Kg dw | | 790 | | 1500 | 710 | 250 | | | | | |
| Metals | Manganese | mg/Kg dw | | 240 J | | 200 J | 190 J | 160 J | | | | | |
| Metals | Mercury | mg/Kg dw | | 0.06 U | | 0.06 U | 0.06 U | 0.06 U | | | | | |
| Metals | Nickel | mg/Kg dw | | 4 U | | 6 U | 4 U | 3 U | | | | | |
| Metals | Potassium | mg/Kg dw | | 140 | | 200 | 130 | 46 J | | | | | |
| Metals | Selenium | mg/Kg dw | | 0.52 U | | 1 U | 0.46 U | 0.53 U | | | | | |
| Metals | Silver | mg/Kg dw | | 0.81 U | | 0.77 U | 0.73 U | 0.83 U | | | | | |
| Metals | Sodium | mg/Kg dw | | 70 U | | 80 U | 40 U | 20 U | | | | | |
| Metals | Thallium | mg/Kg dw | | 0.54 U | | 0.51 U | 0.48 U | 0.55 U | | | | | |
| Metals | Tin | mg/Kg dw | | | | | | | | | | | |
| Metals | Vanadium | mg/Kg dw | | 26 | | 30 | 20 | 19 | | | | | |
| Metals | Zinc | mg/Kg dw | | 30 UJ | | 30 UJ | 30 UJ | 20 UJ | | | | | |
| General Parameters | Percent Clay | % | | | | | | | | | | | |
| General Parameters | Percent Gravel | % | | | | | | | | | | | |
| General Parameters | Percent Sand | % | | | | | | | | | | | |
| General Parameters | Percent Silt | % | | | | | | | | | | | |
| General Parameters | Total Organic Carbon | mg/Kg dw | | | | | | | | | | | |
| General Parameters | Total Solids | % | | | | | | | | | | | |
| General Parameters | Percent Moisture (metals) | % | | 22 | | 20 | 17 | 26 | | | | | |
| General Parameters | Percent Moisture (PCDD/F) | % | | 15 | | | | 13 | | | 17 | | 12 |
| General Parameters | Percent Moisture (SVOC) | % | | | | | | | 8 | | | | 19 |
| General Parameters | Percent Moisture (SVOCs) | % | | 21 | | 21 | 37 | 20 | | | | | |
| General Parameters | Percent Moisture (VOCs) | % | | 21 | | 18 | 37 | | | | | | |
| TCLP-PAHs | Acenaphthene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Acenaphthylene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Anthracene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Benzo(a)anthracene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Benzo(a)pyrene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Benzo(b)fluoranthene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Benzo(g,h,i)perylene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Benzo(k)fluoranthene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Carbazole in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Chrysene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Dibenzo(a,h)anthracene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Dibenzofuran in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Dimethyl Naphthalene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Fluoranthene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Fluorene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Indeno(1,2,3-cd)pyrene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Isophorone in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Naphthalene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Phenanthrene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Pyrene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | 2,4,5-Trichlorophenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | 2,4-Dimethylphenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | 2-Chlorophenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | 2-Methylphenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | 4-Chloro-3-methylphenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | Pentachlorophenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | Phenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-SVOCs | Aniline in TCLP Extract | mg/L | | | | | | | | | | | |

Table C-3. Compilation of Sediment Results from the Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

| | | Sample ID | SW-041-SD | SW-041-SD (NCDENR) | SW-043-SD | SW-043-SD (NCDENR) | SWP-009 | 6748 | 6750 | 6751 | 6871 | SW-029-SD | SW-029-SD (NCDENR) | SW-030-SD | SW-030-SD (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | | SW-041-SD | | SW-043-SD | SWP-009 | | | | | | SW-029-SD | | SW-030-SD |
| | | Date Collected | 11/8/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 9/21/1993 | 5/2/1990 | 5/3/1990 | 5/3/1990 | 5/13/1990 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Background | Background | Background | Background | Background | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" | Surface | NA | NA | NA | NA | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | | | |
| VOCs | 1,1,1-Trichloroethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | 1,1,2,2-Tetrachloroethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | 1,1,2-Trichloroethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | 1,1-Dichloroethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | 1,1-Dichloroethene | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | 1,2,4-Trichlorobenzene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| VOCs | 1,2-Dichlorobenzene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| VOCs | 1,2-Dichloroethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | 1,2-Dichloroethene (total) | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | 1,2-Dichloropropane | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | 1,3-Dichlorobenzene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| VOCs | 1,4-Dichlorobenzene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| VOCs | 2-Butanone | mg/Kg dw | | | | | | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.025 U | 0.013 U | 0.025 U | 0.015 U |
| VOCs | 4-Bromophenyl phenyl ether | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| VOCs | Acetone | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Benzene | mg/Kg dw | | | | | | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.013 U | 0.005 U | 0.015 U |
| VOCs | bis(2-Chloro-1-methylethyl) ether | mg/Kg dw | 0.33 U | | 0.33 U | | | | | | | | | | |
| VOCs | Bis(2-chloroethoxy) methane | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| VOCs | Bis(2-Chloroethyl) ether | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| VOCs | Bis(2-Chloroisopropyl) ether | mg/Kg dw | | 0.35 U | | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| VOCs | Bromodichloromethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Bromoform | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Bromomethane | mg/Kg dw | | | | | | | | | | | 0.013 UR | | 0.015 UR |
| VOCs | Carbon disulfide | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Carbon tetrachloride | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Chlorobenzene | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Chloroethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Chloroform | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Chloromethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | cis-1,3-Dichloropropene | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Dibromochloromethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Ethylbenzene | mg/Kg dw | | | | | | 0.005 U | 0.1 | 0.005 U | 0.005 U | 0.005 U | 0.013 U | 0.005 U | 0.015 U |
| VOCs | Methyl butyl ketone | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Methyl isobutyl ketone | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Methylene chloride | mg/Kg dw | | | | | | 5 U | 5 U | 5 U | 0.005 U | 0.005 U | 0.013 U | 0.005 U | 0.015 U |
| VOCs | m-Xylene | mg/Kg dw | | | | | | 0.05 U | 0.18 | 0.05 U | | | | | |
| VOCs | o-Xylene | mg/Kg dw | | | | | | 0.05 U | 0.15 | 0.05 U | | | | | |
| VOCs | p-Xylene | mg/Kg dw | | | | | | 0.005 U | 0.005 U | 0.005 U | | | | | |
| VOCs | Styrene | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Tetrachloroethene | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Toluene | mg/Kg dw | | | | | | 0.005 U | 0.0085 | 0.005 U | 0.005 U | 0.066 | 0.013 U | 0.018 | 0.015 U |
| VOCs | trans-1,3-Dichloropropene | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Trichloroethene | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Vinyl chloride | mg/Kg dw | | | | | | | | | | | 0.013 U | | 0.015 U |
| VOCs | Xylenes (total) | mg/Kg dw | | | | | | 0.005 U | 0.34 | 0.005 U | 0.005 U | 0.0077 | 0.002 J | 0.005 U | 0.015 U |
| SVOCs | 2,4-Dinitrotoluene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | 2,6-Dinitrotoluene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | 2-Chloronaphthalene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | 2-Methylphenol | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 2 U | 0.41 U | 0.41 U | 0.41 U | 0.33 U | 0.33 U | 0.43 U | 0.33 U | 0.99 U |
| SVOCs | 2-Nitroaniline | mg/Kg dw | 1.7 U | 0.89 U | 1.7 U | 0.96 U | | | | | | | 1.1 U | | 2.5 U |
| SVOCs | 3,3'-Dichlorobenzidine | mg/Kg dw | 0.66 U | 0.35 U | 0.66 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | 3-Nitroaniline | mg/Kg dw | 1.7 U | 0.89 U | 1.7 U | 0.96 U | | | | | | | 1.1 U | | 2.5 U |
| SVOCs | 4-Chloroaniline | mg/Kg dw | | 0.35 U | | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | 4-Chlorophenyl Phenyl Ether | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | 4-Nitroaniline | mg/Kg dw | 1.7 U | 0.89 U | 1.7 U | 0.96 U | | | | | | | 1.1 U | | 2.5 U |
| SVOCs | Aniline | mg/Kg dw | | | | | | 0.41 U | 0.41 U | 0.41 U | 0.33 U | 0.33 U | | 0.33 U | |
| SVOCs | Benzidine | mg/Kg dw | 2.7 U | | 2.7 U | | | | | | | | | | |
| SVOCs | Benzoic acid | mg/Kg dw | 1.7 U | | 1.7 U | | | | | | | | | | |
| SVOCs | Benzyl alcohol | mg/Kg dw | 0.33 U | | 0.33 U | | | | | | | | | | |
| SVOCs | Biphenyl | mg/Kg dw | | | | | | | | | | | | | |
| SVOCs | Bis(2-ethylhexyl) phthalate | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | Butyl benzyl phthalate | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | Diethylphthalate | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | Dimethylphthalate | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | Di-n-butylphthalate | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | Di-n-octylphthalate | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | Hexachlorobenzene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 UJ | | 0.99 UJ |
| SVOCs | Hexachlorobutadiene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | Hexachlorocyclopentadiene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | Hexachloroethane | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | Isophorone | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | Nitrobenzene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |

**Table C-3. Compilation of Sediment Results from the Cedar Creek**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

| | | Sample ID | SW-041-SD | SW-041-SD (NCDENR) | SW-042-SD | SW-042-SD (NCDENR) | SWP-008 | 6748 | 6750 | 6751 | 6871 | SW-029-SD | SW-029-SD (NCDENR) | SW-030-SD | SW-030-SD (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | | SW-041-SD | | SW-042-SD | SWP-008 | | | | | | SW-029-SD | | SW-030-SD |
| | | Date Collected | 11/8/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 9/21/1993 | 5/3/1990 | 5/3/1990 | 5/3/1990 | 9/13/1990 | 11/13/1996 | 11/13/1996 | 11/13/1996 | 11/13/1996 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Background | Background | Background | Background | Background | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" | Surface | NA | NA | NA | NA | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | | | |
| SVOCs | N-Nitrosodimethylamine | mg/Kg dw | 0.33 U | | 0.33 U | | | | | | | | | | |
| SVOCs | N-nitrosodi-n-propylamine | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | N-nitrosodiphenylamine | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| SVOCs | p-Chloroaniline | mg/Kg dw | 0.66 U | | 0.66 U | | | | | | | | | | |
| Phenolics | 2,3,4,6-Tetrachlorophenol | mg/Kg dw | | | | | | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 1.7 U | | 1.7 U | |
| Phenolics | 2,4,5-Trichlorophenol | mg/Kg dw | 0.33 U | 0.89 U | 0.33 U | 0.96 U | | | | | | | 1.1 U | | 2.5 U |
| Phenolics | 2,4,6-Trichlorophenol | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 2 U | 0.41 U | 0.41 U | 0.41 U | 0.33 U | 0.33 U | 0.43 U | 0.33 U | 0.99 U |
| Phenolics | 2,4-Dichlorophenol | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| Phenolics | 2,4-Dimethylphenol | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 2 U | 0.41 U | 0.41 U | 0.41 U | 0.33 U | 0.33 U | 0.43 U | 0.33 U | 0.99 U |
| Phenolics | 2,4-Dinitrophenol | mg/Kg dw | 1.7 U | 0.89 U | 1.7 U | 0.96 U | | | | | | | 1.1 U | | 2.5 U |
| Phenolics | 2-Chlorophenol | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 2 U | 0.41 U | 0.41 U | 0.41 U | 0.33 U | 0.33 U | 0.43 U | 0.33 U | 0.99 U |
| Phenolics | 2-Methyl-4,6-dinitrophenol | mg/Kg dw | | 0.89 U | | 0.96 U | | | | | | | 1.1 U | | 2.5 U |
| Phenolics | 2-Nitrophenol | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | | | | | | | 0.43 U | | 0.99 U |
| Phenolics | 3&4-Methylphenol | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 2 U | 0.41 U | 0.41 U | 0.41 U | 0.33 U | 0.33 U | 0.43 U | 0.33 U | 0.99 U |
| Phenolics | 4,6-Dinitro-2-methylphenol | mg/Kg dw | 1.7 U | | 1.7 U | | | | | | | | | | |
| Phenolics | 4-Chloro-3-methylphenol | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 2 U | 0.83 U | 0.83 U | 0.83 U | 0.33 U | 0.33 U | 0.43 U | 0.33 U | 0.99 U |
| Phenolics | 4-Methylphenol | mg/Kg dw | | | | | | | | | | | | | |
| Phenolics | 4-Nitrophenol | mg/Kg dw | 1.7 U | 0.89 U | 1.7 U | 0.96 U | | | | | | | 1.1 U | | 2.5 U |
| Phenolics | Pentachlorophenol | mg/Kg dw | 1.7 U | 0.89 U | 1.7 U | 0.96 U | 2 U | 2.1 U | 2.1 U | 2.1 U | 1.7 U | 1.7 U | 110 J | 1.7 U | 0.74 J |
| Phenolics | Phenol | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 2 U | 0.41 U | 0.41 U | 0.41 U | 0.33 U | 0.33 U | 0.43 U | 0.33 U | 0.99 U |
| PAHs | 1-Methylnaphthalene | mg/Kg dw | | | | | | | | | | | | | |
| PAHs | 2-Methylnaphthalene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 2 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 25 | 250 | 0.33 U | 0.99 U |
| PAHs | Acenaphthene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 2 U | 0.41 U | 5.8 | 0.41 U | 1.5 | 30 | 180 J | 0.33 U | 0.22 J |
| PAHs | Acenaphthylene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 1.2 J | | | | | | 0.43 U | | 0.99 U |
| PAHs | Anthracene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.0038 | 0.41 U | 0.41 U | 0.41 U | 2.1 | 15 | 9.2 J | 1.9 | 1.1 |
| PAHs | Benzo(a)anthracene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.0057 | 0.41 U | 0.41 U | 0.41 U | 1.9 | 6.6 | 6.5 J | 3.4 | 2 |
| PAHs | Benzo(a)pyrene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.0091 | 0.41 U | 0.41 U | 0.41 U | 0.86 | 0.33 U | 1.2 | 1.4 | 1.8 |
| PAHs | Benzo(b&k)fluoranthene | mg/Kg dw | | 0.35 U | | 0.38 U | | 0.82 U | 0.82 U | 0.82 U | 3.1 | | 4.2 J | | 5.3 |
| PAHs | Benzo(b)fluoranthene | mg/Kg dw | 0.33 U | | 0.33 U | | 0.013 | | | | | 4.6 | | 3.4 | |
| PAHs | Benzo(g,h,i)perylene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.003 | | | | | | 0.089 J | | 0.5 J |
| PAHs | Benzo(k)fluoranthene | mg/Kg dw | 0.33 U | | 0.33 U | | | | | | | 0.33 U | | 1.1 | |
| PAHs | Carbazole | mg/Kg dw | | 0.35 U | | 0.38 U | | 0.41 U | 0.41 U | 0.41 U | 0.33 U | 6.8 | 12 J | 0.33 U | 0.18 J |
| PAHs | Chrysene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.019 | 0.41 U | 0.41 U | 0.41 U | 2.5 | 6.8 | 4.6 J | 3.9 | 3.5 |
| PAHs | Dibenzo(a,h)anthracene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 2 U | 0.41 U | 0.41 U | 0.41 U | 0.33 U | 0.33 U | 0.43 U | 0.33 U | 0.28 J |
| PAHs | Dibenzo(a,h)pyrene | mg/Kg dw | | | | | | | | | | | | | |
| PAHs | Dibenzofuran | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 2 U | | | | | | 150 | | 0.2 J |
| PAHs | Fluoranthene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.014 | 0.41 U | 12 | 0.41 U | 7.5 | 44 | 59 | 11 | 3.5 |
| PAHs | Fluorene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.34 J | 0.33 U | 7.1 | 0.33 U | 1.9 | 38 | 110 | 0.33 U | 0.38 J |
| PAHs | Indeno(1,2,3-cd)pyrene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.0044 | 0.41 U | 0.41 U | 0.41 U | 0.33 U | 0.33 U | 0.18 J | 0.33 U | 0.09 J |
| PAHs | Naphthalene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 2 U | 0.41 U | 0.41 U | 0.41 U | 0.33 U | 12 | 53 | 0.33 U | 0.99 U |
| PAHs | Phenanthrene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.0025 | 0.41 U | 17 | 0.41 U | 5.2 | 67 | 200 | 3.6 | 0.9 J |
| PAHs | Pyrene | mg/Kg dw | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.013 | | | | | | 10 J | | 3.2 J |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDD | ng/Kg dw | 3.6 | 7 U | 1.6 | 3.2 U | | | | | | | 18000 | | |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDF | ng/Kg dw | 0.1 U | 4.5 U | 0.14 EMPC | 3.2 U | | | | | | | 4300 | | |
| PCDD/Fs | 1,2,3,4,7,8,9-HpCDF | ng/Kg dw | 0.2 U | 4.5 U | 0.1 U | 3.2 U | | | | | | | 170 | | |
| PCDD/Fs | 1,2,3,4,7,8-HxCDD | ng/Kg dw | 0.08 U | 4.5 U | 0.05 U | 3.2 U | | | | | | | 23 | | |
| PCDD/Fs | 1,2,3,4,7,8-HxCDF | ng/Kg dw | 0.06 U | 4.5 U | 0.04 U | 3.2 U | | | | | | | 610 U | | |
| PCDD/Fs | 1,2,3,6,7,8-HxCDD | ng/Kg dw | 0.07 U | 4.5 U | 0.05 U | 3.2 U | | | | | | | 470 | | |
| PCDD/Fs | 1,2,3,6,7,8-HxCDF | ng/Kg dw | 0.05 U | 4.5 U | 0.04 U | 3.2 U | | | | | | | 9 J | | |
| PCDD/Fs | 1,2,3,7,8,9-HxCDD | ng/Kg dw | 0.06 U | 4.5 U | 0.05 U | 3.2 U | | | | | | | 100 | | |
| PCDD/Fs | 1,2,3,7,8,9-HxCDF | ng/Kg dw | 0.07 U | 4.5 U | 0.05 U | 3.2 U | | | | | | | 14 U | | |
| PCDD/Fs | 1,2,3,7,8-PeCDD | ng/Kg dw | | 4.5 U | | 3.2 U | | | | | | | 4 J | | |
| PCDD/Fs | 1,2,3,7,8-PeCDF | ng/Kg dw | 0.1 U | 4.5 R | 0.07 U | 3.2 R | | | | | | | 14 U | | |
| PCDD/Fs | 2,3,4,6,7,8-HxCDF | ng/Kg dw | 0.06 U | 4.5 U | 0.04 U | 3.2 U | | | | | | | 14 U | | |
| PCDD/Fs | 2,3,4,7,8-PeCDF | ng/Kg dw | 0.06 U | 4.5 U | 0.06 U | 3.2 U | | | | | | | 4 J | | |
| PCDD/Fs | 2,3,7,8-TeCDD | ng/Kg dw | 0.06 U | 1.8 U | 0.06 U | 1.3 U | | | | | | | 6 U | | |
| PCDD/Fs | 2,3,7,8-TeCDF | ng/Kg dw | 0.25 | 1.8 U | 0.18 EMPC | 3.2 U | | | | | | | 6 U | | |
| PCDD/Fs | OCDD | ng/Kg dw | 258 | 560 | 115 | 170 | | | | | | | 220000 J | | |
| PCDD/Fs | OCDF | ng/Kg dw | 0.4 U | 10 U | 0.1 U | 6.5 U | | | | | | | 20000 | | |
| PCDD/F TEQ | TEQ (I-TEF) | ng/Kg dw | | 0.56 | | 0.17 | | | | | | | 530 J | | |
| PCDD/F homologs | TeCDDs (total) | ng/Kg dw | 0.08 EMPC | 1.8 UJ | 0.14 EMPC | 1.3 UJ | | | | | | | 24 J | | |
| PCDD/F homologs | TeCDFs (total) | ng/Kg dw | 0.25 | 0.7 J | 0.41 EMPC | 3.2 UJ | | | | | | | 8.5 J | | |
| PCDD/F homologs | PeCDDs (total) | ng/Kg dw | 0.1 U | 4.5 UJ | 0.07 U | 3.2 UJ | | | | | | | 40 J | | |
| PCDD/F homologs | PeCDFs (total) | ng/Kg dw | 0.23 EMPC | 4.5 UJ | 0.06 U | 3.2 UJ | | | | | | | 120 J | | |
| PCDD/F homologs | HxCDD (total) | ng/Kg dw | 0.4 | 4.5 UJ | 0.24 | 3.2 UJ | | | | | | | 4100 J | | |
| PCDD/F homologs | HxCDF (total) | ng/Kg dw | 0.06 U | 4.5 UJ | 0.04 U | 3.2 UJ | | | | | | | 3300 J | | |
| PCDD/F homologs | HpCDD (total) | ng/Kg dw | 9.8 | 17 UJ | 4 | 7 UJ | | | | | | | 72000 J | | |
| PCDD/F homologs | HpCDF (total) | ng/Kg dw | 0.2 U | 4.5 UJ | 0.14 EMPC | 3.2 UJ | | | | | | | 5200 J | | |
| Metals | Aluminum | mg/Kg dw | | | | | 3200 | | | | | | 10000 | | 12000 |
| Metals | Antimony | mg/Kg dw | | | | | 1 U | | | | | | 3.2 UR | | 5 UJ |
| Metals | Arsenic | mg/Kg dw | | | | | 2.1 | | | | | | 2 U | | 9.9 |
| Metals | Barium | mg/Kg dw | | | | | 29 | | | | | | 110 | | 100 |

Table C-3. Compilation of Sediment Results from the Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

| | | Sample ID | SW-041-SD | SW-041-SD (NCDENR) | SW-042-SD | SW-042-SD (NCDENR) | SWP-009 | 6748 | 6750 | 6791 | 6871 | SW-029-SD | SW-029-SD (NCDENR) | SW-030-SD | SW-030-SD (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | | SW-041-SD | | SW-042-SD | SWP-009 | | | | | | SW-029-SD | | SW-030-SD |
| | | Date Collected | 11/8/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 8/21/1993 | 5/3/1990 | 5/3/1990 | 5/3/1990 | 5/13/1990 | 11/13/1995 | 11/13/1995 | 11/13/1995 | 11/13/1995 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Background | Background | Background | Background | Background | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" | Surface | NA | NA | NA | NA | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | | | |
| Metals | Beryllium | mg/Kg dw | | | | | 0.25 U | | | | | | 1 U | | 1.1 J |
| Metals | Cadmium | mg/Kg dw | | | | | 0.05 U | | | | | | 0.32 U | | 0.3 U |
| Metals | Calcium | mg/Kg dw | | | | | | | | | | | 820 | | 1300 |
| Metals | Chromium | mg/Kg dw | | | | | 4.6 | | | | | | 15 | | 32 |
| Metals | Cobalt | mg/Kg dw | | | | | 5.4 | | | | | | 20 U | | 18 |
| Metals | Copper | mg/Kg dw | | | | | 3.9 | | | | | | 20 U | | 20 |
| Metals | Iron | mg/Kg dw | | | | | 9500 | | | | | | 15000 | | 37000 |
| Metals | Lead | mg/Kg dw | | | | | 8.9 | | | | | | 7 J | | 11 J |
| Metals | Magnesium | mg/Kg dw | | | | | | | | | | | 2000 | | 2600 |
| Metals | Manganese | mg/Kg dw | | | | | 260 | | | | | | 360 J | | 570 J |
| Metals | Mercury | mg/Kg dw | | | | | | | | | | | 0.06 U | | 0.06 U |
| Metals | Nickel | mg/Kg dw | | | | | 2.3 | | | | | | 15 U | | 36 |
| Metals | Potassium | mg/Kg dw | | | | | | | | | | | 240 J | | 310 |
| Metals | Selenium | mg/Kg dw | | | | | 1 U | | | | | | 1 U | | 1 U |
| Metals | Silver | mg/Kg dw | | | | | 1.4 | | | | | | 0.87 U | | 1 U |
| Metals | Sodium | mg/Kg dw | | | | | | | | | | | 160 U | | 110 U |
| Metals | Thallium | mg/Kg dw | | | | | 0.5 U | | | | | | 0.58 U | | 0.54 U |
| Metals | Tin | mg/Kg dw | | | | | 3.3 X | | | | | | | | |
| Metals | Vanadium | mg/Kg dw | | | | | 12 | | | | | | 27 | | 51 |
| Metals | Zinc | mg/Kg dw | | | | | 13 | | | | | | 30 UJ | | 40 UJ |
| General Parameters | Percent Clay | % | | | | | | | | | | | | | |
| General Parameters | Percent Gravel | % | | | | | | | | | | | | | |
| General Parameters | Percent Sand | % | | | | | | | | | | | | | |
| General Parameters | Percent Silt | % | | | | | | | | | | | | | |
| General Parameters | Total Organic Carbon | mg/Kg dw | | | | | | | | | | | | | |
| General Parameters | Total Solids | % | | | | | | 84 | 67 | 89 | | | | | |
| General Parameters | Percent Moisture (metals) | % | | | | | 0 | | | | | | 25 | | 24 |
| General Parameters | Percent Moisture (PCDD/F) | % | | | | 18 | | | | | | | 24 | | |
| General Parameters | Percent Moisture (SVOC) | % | | 7 | | 14 | | | | | | | | | |
| General Parameters | Percent Moisture (SVOCs) | % | | | | | 11 | | | | | | 23 | | 34 |
| General Parameters | Percent Moisture (VOCs) | % | | | | | | | | | | | 23 | | 34 |
| TCLP-PAHs | Acenaphthene in TCLP Extract | mg/L | | | | | | | | | | 0.009 U | | | |
| TCLP-PAHs | Acenaphthylene in TCLP Extract | mg/L | | | | | | | | | | 0.009 U | | | |
| TCLP-PAHs | Anthracene in TCLP Extract | mg/L | | | | | | | | | | 0.008 U | | | |
| TCLP-PAHs | Benzo(a)anthracene in TCLP Extract | mg/L | | | | | | | | | | 0.0065 U | | | |
| TCLP-PAHs | Benzo(a)pyrene in TCLP Extract | mg/L | | | | | | | | | | 0.0075 U | | | |
| TCLP-PAHs | Benzo(b)fluoranthene in TCLP Extract | mg/L | | | | | | | | | | 0.008 U | | | |
| TCLP-PAHs | Benzo(g,h,i)perylene in TCLP Extract | mg/L | | | | | | | | | | 0.012 U | | | |
| TCLP-PAHs | Benzo(k)fluoranthene in TCLP Extract | mg/L | | | | | | | | | | 0.006 U | | | |
| TCLP-PAHs | Carbazole in TCLP Extract | mg/L | | | | | | | | | | 0.0085 U | | | |
| TCLP-PAHs | Chrysene in TCLP Extract | mg/L | | | | | | | | | | 0.0044 U | | | |
| TCLP-PAHs | Dibenzo(a,h)anthracene in TCLP Extract | mg/L | | | | | | | | | | 0.014 U | | | |
| TCLP-PAHs | Dibenzofuran in TCLP Extract | mg/L | | | | | | | | | | 0.0075 U | | | |
| TCLP-PAHs | Dimethyl Naphthalene in TCLP Extract | mg/L | | | | | | | | | | 0.025 U | | | |
| TCLP-PAHs | Fluoranthene in TCLP Extract | mg/L | | | | | | | | | | 0.01 U | | | |
| TCLP-PAHs | Fluorene in TCLP Extract | mg/L | | | | | | | | | | 0.0085 U | | | |
| TCLP-PAHs | Indeno(1,2,3-cd)pyrene in TCLP Extract | mg/L | | | | | | | | | | 0.016 U | | | |
| TCLP-PAHs | Isophorone in TCLP Extract | mg/L | | | | | | | | | | 0.0095 U | | | |
| TCLP-PAHs | Naphthalene in TCLP Extract | mg/L | | | | | | | | | | 0.0095 U | | | |
| TCLP-PAHs | Phenanthrene in TCLP Extract | mg/L | | | | | | | | | | 0.0075 U | | | |
| TCLP-PAHs | Pyrene in TCLP Extract | mg/L | | | | | | | | | | 0.006 U | | | |
| TCLP-Phenolics | Extract | mg/L | | | | | | | | | | 0.0065 U | | | |
| TCLP-Phenolics | 2,4,5-Trichlorophenol in TCLP Extract | mg/L | | | | | | | | | | 0.0075 U | | | |
| TCLP-Phenolics | 2,4-Dimethylphenol in TCLP Extract | mg/L | | | | | | | | | | 0.01 U | | | |
| TCLP-Phenolics | 2-Chlorophenol in TCLP Extract | mg/L | | | | | | | | | | 0.0075 U | | | |
| TCLP-Phenolics | 2-Methylphenol in TCLP Extract | mg/L | | | | | | | | | | 0.0075 U | | | |
| TCLP-Phenolics | 4-Chloro-3-methylphenol in TCLP Extract | mg/L | | | | | | | | | | 0.0085 U | | | |
| TCLP-Phenolics | Pentachlorophenol in TCLP Extract | mg/L | | | | | | | | | | 0.01 U | | | |
| TCLP-Phenolics | Phenol in TCLP Extract | mg/L | | | | | | | | | | 0.0065 U | | | |
| TCLP-SVOCs | Aniline in TCLP Extract | mg/L | | | | | | | | | | 0.008 U | | | |

Table C-3. Compilation of Sediment Results from the Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

| | | Sample ID | SW-031-SD (NCDENR) | SW-032-SD | SW-032-SD (NCDENR) | SW-033-SD (NCDENR) | SW-034-SD (NCDENR) | SW-043-SD | SW-043-SD (NCDENR) | SW-044-SD | SW-044-SD (NCDENR) | SW-045-SD | SW-045-SD (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-031-SD | SW-032-SD | SW-032-SD | SW-033-SD | SW-034-SD | | SW-043-SD | | SW-044-SD | SW-045-SD | SW-045-SD |
| | | Date Collected | 11/13/1996 | 7/18/2006 | 11/14/1996 | 11/13/1996 | 11/13/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 7/18/2006 | 11/8/1996 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 12" | 0 - 3" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" |
| ChemClass | Analyte Name | Core Unit | | | | | | | | | | | |
| VOCs | 1,1,1-Trichloroethane | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | 1,1,2,2-Tetrachloroethane | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | 1,1,2-Trichloroethane | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | 1,1-Dichloroethane | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | 1,1-Dichloroethene | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | 1,2,4-Trichlorobenzene | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| VOCs | 1,2-Dichlorobenzene | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| VOCs | 1,2-Dichloroethane | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | 1,2-Dichloroethene (total) | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | 1,2-Dichloropropane | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | 1,3-Dichlorobenzene | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| VOCs | 1,4-Dichlorobenzene | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| VOCs | 2-Butanone | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | 4-Bromophenyl phenyl ether | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| VOCs | Acetone | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Benzene | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | bis(2-Chloro-1-methylethyl) ether | mg/Kg dw | | | | | | 0.33 U | | 0.33 U | | 0.33 U | |
| VOCs | Bis(2-chloroethoxy) methane | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| VOCs | Bis(2-Chloroethyl) ether | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| VOCs | Bis(2-Chloroisopropyl) ether | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | | 0.35 U | | 0.38 U | | 0.42 U |
| VOCs | Bromodichloromethane | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Bromoform | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Bromomethane | mg/Kg dw | 0.014 UR | | 0.016 UR | 0.014 UR | 0.016 UR | | | | | | |
| VOCs | Carbon disulfide | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Carbon tetrachloride | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Chlorobenzene | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Chloroethane | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Chloroform | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Chloromethane | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | cis-1,3-Dichloropropene | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Dibromochloromethane | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Ethylbenzene | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Methyl butyl ketone | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Methyl isobutyl ketone | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Methylene chloride | mg/Kg dw | 0.02 U | | 0.016 U | 0.014 U | 0.03 U | | | | | | |
| VOCs | m-Xylene | mg/Kg dw | | | | | | | | | | | |
| VOCs | o-Xylene | mg/Kg dw | | | | | | | | | | | |
| VOCs | p-Xylene | mg/Kg dw | | | | | | | | | | | |
| VOCs | Styrene | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Tetrachloroethene | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Toluene | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | trans-1,3-Dichloropropene | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Trichloroethene | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Vinyl chloride | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| VOCs | Xylenes (total) | mg/Kg dw | 0.014 U | | 0.016 U | 0.014 U | 0.016 U | | | | | | |
| SVOCs | 2,4-Dinitrotoluene | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | 2,6-Dinitrotoluene | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | 2-Chloronaphthalene | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | 2-Methylphenol | mg/Kg dw | 0.46 U | 150 U | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | 2-Nitroaniline | mg/Kg dw | 1.2 U | | 1.4 U | 1.2 U | 1.2 U | 1.7 U | 0.89 U | 1.7 U | 0.94 U | 1.7 U | 1.1 U |
| SVOCs | 3,3'-Dichlorobenzidine | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.66 U | 0.35 U | 0.66 U | 0.38 U | 0.66 U | 0.42 U |
| SVOCs | 3-Nitroaniline | mg/Kg dw | 1.2 U | | 1.4 U | 1.2 U | 1.3 U | 1.7 U | 0.89 U | 1.7 U | 0.94 U | 1.7 U | 1.1 U |
| SVOCs | 4-Chloroaniline | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | | 0.35 U | | 0.38 U | | 0.42 U |
| SVOCs | 4-Chlorophenyl Phenyl Ether | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | 4-Nitroaniline | mg/Kg dw | 1.2 U | | 1.4 U | 1.2 U | 1.3 U | 1.7 U | 0.89 U | 1.7 U | 0.94 U | 1.7 U | 1.1 U |
| SVOCs | Aniline | mg/Kg dw | | 0.69 U | | | | | | | | | |
| SVOCs | Benzidine | mg/Kg dw | | | | | | 2.7 U | | 2.7 U | | 2.7 U | |
| SVOCs | Benzoic acid | mg/Kg dw | | | | | | 1.7 U | | 1.7 U | | 1.7 U | |
| SVOCs | Benzyl alcohol | mg/Kg dw | | | | | | 0.33 U | | 0.33 U | | 0.33 U | |
| SVOCs | Biphenyl | mg/Kg dw | | | | | | | | | | | |
| SVOCs | Bis(2-ethylhexyl) phthalate | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | Butyl benzyl phthalate | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | Diethylphthalate | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | Dimethylphthalate | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | Di-n-butylphthalate | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | Di-n-octylphthalate | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | Hexachlorobenzene | mg/Kg dw | 0.46 UJ | | 0.54 UJ | 0.47 UJ | 0.52 UJ | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | Hexachlorobutadiene | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | Hexachlorocyclopentadiene | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | Hexachloroethane | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | Isophorone | mg/Kg dw | 0.46 U | 0.054 U | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | Nitrobenzene | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |

Table C-3. Compilation of Sediment Results from the Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

| | | Sample ID | SW-031-SD (NCDENR) | SW-032-SD | SW-032-SD (NCDENR) | SW-033-SD (NCDENR) | SW-034-SD (NCDENR) | SW-043-SD | SW-043-SD (NCDENR) | SW-044-SD | SW-044-SD (NCDENR) | SW-045-SD | SW-045-SD (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-031-SD | SW-032-SD | SW-032-SD | SW-033-SD | SW-034-SD | | SW-043-SD | | SW-044-SD | SW-045-SD | SW-045-SD |
| | | Date Collected | 11/13/1996 | 7/18/2006 | 11/14/1996 | 11/13/1996 | 11/12/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 7/19/2006 | 11/8/1996 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 12" | 0 - 3" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | |
| SVOCs | N-Nitrosodimethylamine | mg/Kg dw | | | | | | 0.33 U | | 0.33 U | | 0.33 U | |
| SVOCs | N-nitrosodi-n-propylamine | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | N-nitrosodiphenylamine | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| SVOCs | p-Chloroaniline | mg/Kg dw | | | | | | 0.66 U | | 0.66 U | | 0.66 U | |
| Phenolics | 2,3,4,6-Tetrachlorophenol | mg/Kg dw | | 0.69 U | | | | | | | | | |
| Phenolics | 2,4,5-Trichlorophenol | mg/Kg dw | 1.2 U | | 1.4 U | 1.2 U | 1.3 U | 0.33 U | 0.89 U | 0.33 U | 0.94 U | 0.33 U | 1.1 U |
| Phenolics | 2,4,6-Trichlorophenol | mg/Kg dw | 0.46 U | 0.69 U | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| Phenolics | 2,4-Dichlorophenol | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| Phenolics | 2,4-Dimethylphenol | mg/Kg dw | 0.46 U | 0.69 U | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| Phenolics | 2,4-Dinitrophenol | mg/Kg dw | 1.2 U | | 1.4 U | 1.2 U | 1.3 U | 1.7 U | 0.89 U | 1.7 U | 0.94 U | 1.7 U | 1.1 U |
| Phenolics | 2-Chlorophenol | mg/Kg dw | 0.46 U | 0.69 U | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| Phenolics | 2-Methyl-4,6-dinitrophenol | mg/Kg dw | 1.2 U | | 1.4 U | 1.2 U | 1.3 U | | 0.89 U | | 0.94 U | | 1.1 U |
| Phenolics | 2-Nitrophenol | mg/Kg dw | 0.46 U | | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| Phenolics | 3&4-Methylphenol | mg/Kg dw | 0.46 U | | 0.052 J | 0.08 J | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| Phenolics | 4,6-Dinitro-2-methylphenol | mg/Kg dw | | | | | | 1.7 U | | 1.7 U | | 1.7 U | |
| Phenolics | 4-Chloro-3-methylphenol | mg/Kg dw | 0.46 U | 0.69 U | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| Phenolics | 4-Methylphenol | mg/Kg dw | | | | | | | | | | | |
| Phenolics | 4-Nitrophenol | mg/Kg dw | 1.2 U | | 1.4 U | 1.2 U | 1.3 U | 1.7 U | 0.89 U | 1.7 U | 0.94 U | 1.7 U | 1.1 U |
| Phenolics | Pentachlorophenol | mg/Kg dw | 1.2 U | 3.5 U | 0.3 J | 1.2 U | 1.3 U | 1.7 U | 0.89 U | 1.7 U | 0.94 U | 1.7 U | 0.31 J |
| Phenolics | Phenol | mg/Kg dw | 0.46 U | 0.69 U | 0.54 U | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.42 U |
| PAHs | 1-Methylnaphthalene | mg/Kg dw | | | | | | | | | | | |
| PAHs | 2-Methylnaphthalene | mg/Kg dw | 0.46 U | 0.69 U | 0.064 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.15 J | 0.33 U | 0.61 |
| PAHs | Acenaphthene | mg/Kg dw | 0.46 UJ | 0.69 U | 0.065 J | 0.47 UJ | 0.52 UJ | 0.33 U | 0.35 U | 3.1 | 1.6 | 0.33 U | 0.42 U |
| PAHs | Acenaphthylene | mg/Kg dw | 0.46 U | 150 U | 0.074 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.38 U | 0.33 U | 0.063 J |
| PAHs | Anthracene | mg/Kg dw | 0.46 U | 0.69 U | 0.39 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 4.2 | 1.5 | 6.9 | 18 |
| PAHs | Benzo(a)anthracene | mg/Kg dw | 0.049 J | 0.69 U | 0.28 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 3.1 | 1.3 | 3 | 1.1 |
| PAHs | Benzo(a)pyrene | mg/Kg dw | 0.46 U | 0.69 U | 0.53 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.51 | 1.7 | 0.82 |
| PAHs | Benzo(b&k)fluoranthene | mg/Kg dw | 0.08 J | | 1.9 | 0.47 U | 0.12 J | | 0.35 U | | 1.3 | | 2.9 |
| PAHs | Benzo(b)fluoranthene | mg/Kg dw | | 130 U | | | | 0.33 U | | 2.2 | | 4.5 | |
| PAHs | Benzo(g,h,i)perylene | mg/Kg dw | 0.46 U | 0.048 U | 0.27 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.16 J | 0.33 U | 0.46 |
| PAHs | Benzo(k)fluoranthene | mg/Kg dw | | 130 U | | | | 0.33 U | | 0.33 U | | 2.2 | |
| PAHs | Carbazole | mg/Kg dw | 0.46 U | 0.69 U | 0.1 J | 0.47 U | 0.52 U | | 0.35 U | | 0.086 J | | 3.3 J |
| PAHs | Chrysene | mg/Kg dw | 0.064 J | 0.69 U | 0.64 | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 3.7 | 1.5 | 5.3 | 1.9 |
| PAHs | Dibenzo(a,h)anthracene | mg/Kg dw | 0.46 U | | 0.11 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.094 J | 0.33 U | 0.23 J |
| PAHs | Dibenzo(e,h)pyrene | mg/Kg dw | | 0.69 U | | | | | | | | | |
| PAHs | Dibenzofuran | mg/Kg dw | 0.2 J | 0.071 U | 0.066 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 2.1 | 1.1 | 0.33 U | 0.64 |
| PAHs | Fluoranthene | mg/Kg dw | 0.2 J | 0.69 U | 0.23 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 19 | 7.1 | 6.4 | 1.1 |
| PAHs | Fluorene | mg/Kg dw | 0.46 U | 0.69 U | 0.08 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 4.6 | 2.4 | 0.33 U | 1.6 |
| PAHs | Indeno(1,2,3-cd)pyrene | mg/Kg dw | 0.46 U | 0.69 U | 0.54 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.19 J | 0.33 U | 0.63 |
| PAHs | Naphthalene | mg/Kg dw | 0.46 U | 0.69 U | 0.12 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 0.33 U | 0.079 J | 0.33 U | 0.26 J |
| PAHs | Phenanthrene | mg/Kg dw | 0.24 J | 0.69 U | 0.23 J | 0.47 U | 0.52 U | 0.33 U | 0.35 U | 18 | 6.4 | 0.96 | 3.9 J |
| PAHs | Pyrene | mg/Kg dw | 0.16 J | 150 U | 0.23 J | 0.47 UJ | 0.52 UJ | 0.33 U | 0.35 U | 14 | 4.2 | 5.2 | 1 |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDD | ng/Kg dw | 130 | | 30000 | 53 | | 62.6 | 120 | 30060 | 26000 | 34840 | 17000 |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDF | ng/Kg dw | 10 J | | 4600 | 29 | | 13.8 | 12 | 5080 | 3400 | 5450 | 2700 |
| PCDD/Fs | 1,2,3,4,7,8,9-HpCDF | ng/Kg dw | 12 U | | 390 | 16 U | | 1.1 | 4.3 U | 614 | 190 | 573 | 240 |
| PCDD/Fs | 1,2,3,4,7,8-HxCDD | ng/Kg dw | 12 U | | 62 | 16 U | | 0.4 | 4.3 U | 29.1 | 16 | 78.9 | 50 |
| PCDD/Fs | 1,2,3,4,7,8-HxCDF | ng/Kg dw | 12 U | | 1200 U | 16 U | | 0.42 | 4.3 U | 122 | 73 J | 147 | 69 J |
| PCDD/Fs | 1,2,3,6,7,8-HxCDD | ng/Kg dw | 3 J | | 790 | 1.4 J | | 1.7 | 2.6 J | 529 | 490 | 680 | 530 |
| PCDD/Fs | 1,2,3,6,7,8-HxCDF | ng/Kg dw | 12 U | | 17 U | 16 U | | 0.17 EMPC | 4.3 U | 38.6 EMPC | 12 | 51.4 | 25 |
| PCDD/Fs | 1,2,3,7,8,9-HxCDD | ng/Kg dw | 2 J | | 210 | 2.2 J | | 1 | 1.3 J | 133 | 83 | 238 | 140 |
| PCDD/Fs | 1,2,3,7,8,9-HxCDF | ng/Kg dw | 12 U | | 17 U | 16 U | | 0.03 U | 4.3 U | 15.1 U | 6.3 U | 27.6 | 4.5 U |
| PCDD/Fs | 1,2,3,7,8-PeCDD | ng/Kg dw | 12 U | | 7 J | 16 U | | | 4.3 U | | 2.4 J | | 10 |
| PCDD/Fs | 1,2,3,7,8-PeCDF | ng/Kg dw | 12 U | | 17 U | 16 U | | 0.16 EMPC | 4.3 R | 20.4 U | 1 J | 20.4 U | 2.1 J |
| PCDD/Fs | 2,3,4,6,7,8-HxCDF | ng/Kg dw | 12 U | | 38 U | 16 U | | 0.32 EMPC | 4.3 U | 88.4 | 7.9 | 136 | 17 |
| PCDD/Fs | 2,3,4,7,8-PeCDF | ng/Kg dw | 12 U | | 6.2 J | 4.4 J | | 0.05 U | 4.3 U | 14.7 U | 3.9 J | 15.7 U | 7.2 |
| PCDD/Fs | 2,3,7,8-TeCDD | ng/Kg dw | 5 U | | 6.7 U | 6.3 U | | 0.13 | 1.7 U | 19.9 U | 0.22 J | 20.9 U | 0.95 J |
| PCDD/Fs | 2,3,7,8-TeCDF | ng/Kg dw | 5 U | | 6.7 U | 6.3 U | | 0.28 | 1.7 U | 15.1 U | 0.27 J | 16.1 U | 0.59 J |
| PCDD/Fs | OCDD | ng/Kg dw | 2000 | | 360000 J | 1400 J | | 2280 | 2700 J | 300700 | 37000 | 325020 | 170000 J |
| PCDD/Fs | OCDF | ng/Kg dw | 63 | | 31000 | 32 U | | 41.7 | 62 J | 19390 | 28000 | 22060 | 12000 J |
| PCDD/F TEQ | TEQ (I-TEF) | ng/Kg dw | 3.9 J | | 830 J | 2.6 J | | | 4.5 J | | 430 | | 480 J |
| PCDD/F homologs | TeCDDs (total) | ng/Kg dw | 5 UJ | | 11 J | 0.7 J | | 0.13 | 1.7 UJ | 19.9 U | 6.1 J | 20.9 U | 25 J |
| PCDD/F homologs | TeCDFs (total) | ng/Kg dw | 5 UJ | | 22 J | 1.8 J | | 0.28 | 0.12 J | 15.1 U | 9.9 J | 16.1 U | 55 J |
| PCDD/F homologs | PeCDDs (total) | ng/Kg dw | 1.3 J | | 79 J | 16 UJ | | 0.32 | 4.3 UJ | 20.4 U | 45 J | 92 | 140 J |
| PCDD/F homologs | PeCDFs (total) | ng/Kg dw | 1.5 J | | 200 J | 200 J | | 0.62 | 4.3 UJ | 107 EMPC | 54 J | 243 | 210 J |
| PCDD/F homologs | HxCDD (total) | ng/Kg dw | 28 J | | 5200 J | 14 J | | 12.5 | 17 J | 3030 | 2400 J | 3900 | 3200 J |
| PCDD/F homologs | HxCDF (total) | ng/Kg dw | 12 J | | 4400 J | 12 J | | 9.1 | 10 J | 3820 | 580 J | 4450 | 3000 J |
| PCDD/F homologs | HpCDD (total) | ng/Kg dw | 340 J | | 79000 J | 130 J | | 213 | 300 J | 76650 | 65000 J | 66060 | 45000 J |
| PCDD/F homologs | HpCDF (total) | ng/Kg dw | 13 J | | 6100 J | 34 J | | 48.7 | 52 J | 25530 | 1400 J | 27590 | 13000 J |
| Metals | Aluminum | mg/Kg dw | 3900 | | 8400 | 8600 | 13000 | | | | | | |
| Metals | Antimony | mg/Kg dw | 6 UJ | | 4 UJ | 3.3 UR | 3.3 UR | | | | | | |
| Metals | Arsenic | mg/Kg dw | 6.2 | | 2 U | 1 U | 2.9 | | | | | | |
| Metals | Barium | mg/Kg dw | 34 | | 95 | 76 | 140 | | | | | | |

Table C-3. Compilation of Sediment Results from the Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

| | | Sample ID | SW-031-SD (NCDENR) | SW-032-SD | SW-032-SD (NCDENR) | SW-033-SD (NCDENR) | SW-034-SD (NCDENR) | SW-043-SD | SW-043-SD (NCDENR) | SW-044-SD | SW-044-SD (NCDENR) | SW-045-SD | SW-045-SD (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-031-SD | SW-032-SD | SW-032-SD | SW-033-SD | SW-034-SD | | SW-043-SD | | SW-044-SD | SW-045-SD | SW-045-SD |
| | | Date Collected | 11/13/1996 | 7/19/2006 | 11/14/1996 | 11/13/1996 | 11/13/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 | 7/19/2006 | 11/8/1996 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 12" | 0 - 3" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" | 0 - 4" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | |
| Metals | Beryllium | mg/Kg dw | 1 | | 0.69 J | 1 U | 0.79 J | | | | | | |
| Metals | Cadmium | mg/Kg dw | 0.36 U | | 0.34 U | 0.32 U | 0.33 U | | | | | | |
| Metals | Calcium | mg/Kg dw | 360 | | 670 | 560 | 920 | | | | | | |
| Metals | Chromium | mg/Kg dw | 27 | | 12 | 6.5 | 14 | | | | | | |
| Metals | Cobalt | mg/Kg dw | 5 U | | 20 U | 4 U | 20 U | | | | | | |
| Metals | Copper | mg/Kg dw | 20 U | | 20 U | 20 U | 25 | | | | | | |
| Metals | Iron | mg/Kg dw | 19000 | | 9600 | 4000 | 18000 | | | | | | |
| Metals | Lead | mg/Kg dw | 6.2 J | | 13 | 12 J | 9.6 | | | | | | |
| Metals | Magnesium | mg/Kg dw | 300 | | 1500 | 680 | 1700 | | | | | | |
| Metals | Manganese | mg/Kg dw | 130 J | | 460 J | 92 J | 660 | | | | | | |
| Metals | Mercury | mg/Kg dw | 0.08 U | | 0.07 U | 0.07 U | 0.2 U | | | | | | |
| Metals | Nickel | mg/Kg dw | 3 U | | 9 U | 4 U | 9 U | | | | | | |
| Metals | Potassium | mg/Kg dw | 70 J | | 310 | 330 | 380 | | | | | | |
| Metals | Selenium | mg/Kg dw | 0.63 U | | 0.6 U | 0.57 U | 1 U | | | | | | |
| Metals | Silver | mg/Kg dw | 0.99 U | | 0.94 U | 0.89 U | 0.9 U | | | | | | |
| Metals | Sodium | mg/Kg dw | 40 U | | 70 U | 80 U | 70 U | | | | | | |
| Metals | Thallium | mg/Kg dw | 0.66 U | | 0.63 U | 0.6 U | 0.6 U | | | | | | |
| Metals | Tin | mg/Kg dw | | | | | | | | | | | |
| Metals | Vanadium | mg/Kg dw | 28 | | 24 | 14 | 42 | | | | | | |
| Metals | Zinc | mg/Kg dw | 30 UJ | | 40 UJ | 40 UJ | 40 UJ | | | | | | |
| General Parameters | Percent Clay | % | | 12.7 | | | | | | | | 3.5 | |
| General Parameters | Percent Gravel | % | | 22 | | | | | | | | 29.1 | |
| General Parameters | Percent Sand | % | | 43.8 | | | | | | | | 51.5 | |
| General Parameters | Percent Silt | % | | 21.5 | | | | | | | | 15.9 | |
| General Parameters | Total Organic Carbon | mg/Kg dw | | 24900 | | | | | | | | 3740 | |
| General Parameters | Total Solids | % | | | | | | | | | | | |
| General Parameters | Percent Moisture (metals) | % | 36 | | 33 | 40 | 30 | | | | | | |
| General Parameters | Percent Moisture (PCDD/F) | % | 15 | | 35 | 30 | | | | | 19 | | 22 |
| General Parameters | Percent Moisture (SVOC) | % | | | | | | | 7 | | 12 | | 22 |
| General Parameters | Percent Moisture (SVOCs) | % | 29 | | 39 | 31 | 36 | | | | | | |
| General Parameters | Percent Moisture (VOCs) | % | 29 | | 39 | 31 | 36 | | | | | | |
| TCLP-PAHs | Acenaphthene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Acenaphthylene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Anthracene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Benzo(a)anthracene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Benzo(a)pyrene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Benzo(b)fluoranthene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Benzo(g,h,i)perylene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Benzo(k)fluoranthene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Carbazole in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Chrysene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Dibenzo(a,h)anthracene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Dibenzofuran in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Dimethyl Naphthalene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Fluoranthene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Fluorene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Indeno(1,2,3-cd)pyrene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Isophorone in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Naphthalene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Phenanthrene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-PAHs | Pyrene in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | 2,4,5-Trichlorophenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | 2,4-Dimethylphenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | 2-Chlorophenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | 2-Methylphenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | 4-Chloro-3-methylphenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | Pentachlorophenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-Phenolics | Phenol in TCLP Extract | mg/L | | | | | | | | | | | |
| TCLP-SVOCs | Aniline in TCLP Extract | mg/L | | | | | | | | | | | |

Table C-3. Compilation of Sediment Results from the Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

| | | Sample ID | SW-046-SD | SW-046-SD (NCDENR) | SW-047-SD | SW-047-SD (NCDENR) | SW-048-SD | SW-048-SD (NCDENR) | SW-049-SD | SW-049-SD (NCDENR) | SW-050-SD | SW-050-SD (NCDENR) | SW-051-SD | SW-051-SD (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-046-SD | SW-046-SD | SW-047-SD | SW-047-SD | SW-048-SD | SW-048-SD | SW-049-SD | SW-049-SD | SW-050-SD | SW-050-SD | SW-051-SD | SW-051-SD |
| | | Date Collected | 7/19/2009 | 11/8/1998 | 7/19/2009 | 11/8/1998 | 7/18/2009 | 11/8/1998 | 7/18/2009 | 11/8/1998 | 7/18/2009 | 11/8/1998 | 7/19/2009 | 11/8/1998 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | | |
| VOCs | 1,1,1-Trichloroethane | mg/Kg dw | | | | | | | | | | | | |
| VOCs | 1,1,2,2-Tetrachloroethane | mg/Kg dw | | | | | | | | | | | | |
| VOCs | 1,1,2-Trichloroethane | mg/Kg dw | | | | | | | | | | | | |
| VOCs | 1,1-Dichloroethane | mg/Kg dw | | | | | | | | | | | | |
| VOCs | 1,1-Dichloroethene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | 1,2,4-Trichlorobenzene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| VOCs | 1,2-Dichlorobenzene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| VOCs | 1,2-Dichloroethane | mg/Kg dw | | | | | | | | | | | | |
| VOCs | 1,2-Dichloroethene (total) | mg/Kg dw | | | | | | | | | | | | |
| VOCs | 1,2-Dichloropropane | mg/Kg dw | | | | | | | | | | | | |
| VOCs | 1,3-Dichlorobenzene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| VOCs | 1,4-Dichlorobenzene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| VOCs | 2-Butanone | mg/Kg dw | | | | | | | | | | | | |
| VOCs | 4-Bromophenyl phenyl ether | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| VOCs | Acetone | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Benzene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | bis(2-Chloro-1-methylethyl) ether | mg/Kg dw | 0.33 U | | 0.33 U | | 0.33 U | | 0.33 U | | 0.33 U | | 0.33 U | |
| VOCs | Bis(2-chloroethoxy) methane | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| VOCs | Bis(2-Chloroethyl) ether | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| VOCs | Bis(2-Chloroisopropyl) ether | mg/Kg dw | | 0.7 U | | 0.39 U | | 0.42 UJ | | 0.36 U | | 0.44 U | | 0.41 U |
| VOCs | Bromodichloromethane | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Bromoform | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Bromomethane | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Carbon disulfide | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Carbon tetrachloride | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Chlorobenzene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Chloroethane | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Chloroform | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Chloromethane | mg/Kg dw | | | | | | | | | | | | |
| VOCs | cis-1,3-Dichloropropene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Dibromochloromethane | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Ethylbenzene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Methyl butyl ketone | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Methyl isobutyl ketone | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Methylene chloride | mg/Kg dw | | | | | | | | | | | | |
| VOCs | m-Xylene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | o-Xylene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | p-Xylene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Styrene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Tetrachloroethene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Toluene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | trans-1,3-Dichloropropene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Trichloroethene | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Vinyl chloride | mg/Kg dw | | | | | | | | | | | | |
| VOCs | Xylenes (total) | mg/Kg dw | | | | | | | | | | | | |
| SVOCs | 2,4-Dinitrotoluene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | 2,6-Dinitrotoluene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | 2-Chloronaphthalene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | 2-Methylphenol | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | 2-Nitroaniline | mg/Kg dw | 1.7 U | 1.8 U | 1.7 U | 0.99 U | 1.7 U | 1.1 UJ | 1.7 U | 0.9 U | 1.7 U | 1.1 U | 1.7 U | 1 U |
| SVOCs | 3,3'-Dichlorobenzidine | mg/Kg dw | 0.66 U | 0.7 UR | 0.66 U | 0.39 U | 0.66 U | 0.42 UJ | 0.66 U | 0.36 U | 0.66 U | 0.44 U | 0.66 U | 0.41 U |
| SVOCs | 3-Nitroaniline | mg/Kg dw | 1.7 U | 1.8 U | 1.7 U | 0.99 U | 1.7 U | 1.1 UJ | 1.7 U | 0.9 U | 1.7 U | 1.1 U | 1.7 U | 1 U |
| SVOCs | 4-Chloroaniline | mg/Kg dw | | 0.7 U | | 0.39 U | | 0.42 UJ | | 0.36 U | | 0.44 U | | 0.41 U |
| SVOCs | 4-Chlorophenyl Phenyl Ether | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | 4-Nitroaniline | mg/Kg dw | 1.7 U | 1.8 U | 1.7 U | 0.99 U | 1.7 U | 1.1 UJ | 1.7 U | 0.9 U | 1.7 U | 1.1 U | 1.7 U | 1 U |
| SVOCs | Aniline | mg/Kg dw | | | | | | | | | | | | |
| SVOCs | Benzidine | mg/Kg dw | 2.7 U | | 2.7 U | | 2.7 U | | 2.7 U | | 2.7 U | | 2.7 U | |
| SVOCs | Benzoic acid | mg/Kg dw | 1.7 U | | 1.7 U | | 1.7 U | | 1.7 U | | 1.7 U | | 1.7 U | |
| SVOCs | Benzyl alcohol | mg/Kg dw | 0.33 U | | 0.33 U | | 0.33 U | | 0.33 U | | 0.33 U | | 0.33 U | |
| SVOCs | Biphenyl | mg/Kg dw | | | | | | | | | | | | |
| SVOCs | Bis(2-ethylhexyl) phthalate | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | Butyl benzyl phthalate | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | Diethylphthalate | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | Dimethylphthalate | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | Di-n-butylphthalate | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | Di-n-octylphthalate | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | Hexachlorobenzene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | Hexachlorobutadiene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | Hexachlorocyclopentadiene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | Hexachloroethane | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | Isophorone | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | Nitrobenzene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |

Table C-3. Compilation of Sediment Results from the Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

| | | Sample ID | SW-046-SD | SW-046-SD (NCDENR) | SW-047-SD | SW-047-SD (NCDENR) | SW-048-SD | SW-048-SD (NCDENR) | SW-049-SD | SW-049-SD (NCDENR) | SW-050-SD | SW-050-SD (NCDENR) | SW-051-SD | SW-051-SD (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-046-SD | SW-046-SD | SW-047-SD | SW-047-SD | SW-048-SD | SW-048-SD | SW-049-SD | SW-049-SD | SW-050-SD | SW-050-SD | SW-051-SD | SW-051-SD |
| | | Date Collected | 7/19/2006 | 11/8/1996 | 7/19/2006 | 11/8/1996 | 7/19/2006 | 11/8/1996 | 7/19/2006 | 11/8/1996 | 7/19/2006 | 11/8/1996 | 7/19/2006 | 11/8/1996 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | | |
| SVOCs | N-Nitrosodimethylamine | mg/Kg dw | 0.33 U | | 0.33 U | | 0.33 U | | 0.33 U | | 0.33 U | | 0.33 U | |
| SVOCs | N-nitrosodi-n-propylamine | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | N-nitrosodiphenylamine | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| SVOCs | p-Chloroaniline | mg/Kg dw | 0.66 U | | 0.66 U | | 0.66 U | | 0.66 U | | 0.66 U | | 0.66 U | |
| Phenolics | 2,3,4,6-Tetrachlorophenol | mg/Kg dw | | | | | | | | | | | | |
| Phenolics | 2,4,5-Trichlorophenol | mg/Kg dw | 0.33 U | 1.8 U | 0.33 U | 0.99 U | 0.33 U | 1.1 UJ | 0.33 U | 0.9 U | 0.33 U | 1.1 U | 0.33 U | 1 U |
| Phenolics | 2,4,6-Trichlorophenol | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| Phenolics | 2,4-Dichlorophenol | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| Phenolics | 2,4-Dimethylphenol | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| Phenolics | 2,4-Dinitrophenol | mg/Kg dw | 1.7 U | 1.8 U | 1.7 U | 0.99 U | 1.7 U | 1.1 UJ | 1.7 U | 0.9 U | 1.7 U | 1.1 U | 1.7 U | 1 U |
| Phenolics | 2-Chlorophenol | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| Phenolics | 2-Methyl-4,6-dinitrophenol | mg/Kg dw | | 1.8 U | | 0.99 U | | 1.1 UJ | | 0.9 U | | 1.1 U | | 1 U |
| Phenolics | 2-Nitrophenol | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| Phenolics | 3&4-Methylphenol | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| Phenolics | 4,6-Dinitro-2-methylphenol | mg/Kg dw | 1.7 U | | 1.7 U | | 1.7 U | | 1.7 U | | 1.7 U | | 1.7 U | |
| Phenolics | 4-Chloro-3-methylphenol | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| Phenolics | 4-Methylphenol | mg/Kg dw | | | | | | | | | | | | |
| Phenolics | 4-Nitrophenol | mg/Kg dw | 1.7 U | 1.8 U | 1.7 U | 0.99 U | 1.7 U | 1.1 UJ | 1.7 U | 0.9 U | 1.7 U | 1.1 U | 1.7 U | 1 U |
| Phenolics | Pentachlorophenol | mg/Kg dw | 1.7 U | 1.8 U | 1.7 U | 0.99 U | 1.7 U | 1.1 UJ | 1.7 U | 0.9 U | 1.7 U | 1.1 U | 1.7 U | 1 U |
| Phenolics | Phenol | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | 1-Methylnaphthalene | mg/Kg dw | | | | | | | | | | | | |
| PAHs | 2-Methylnaphthalene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Acenaphthene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Acenaphthylene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Anthracene | mg/Kg dw | 0.33 U | 0.7 U | 0.9 | 0.89 | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Benzo(a)anthracene | mg/Kg dw | 0.33 U | 0.7 U | 0.6 | 0.3 J | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Benzo(a)pyrene | mg/Kg dw | 0.33 U | 0.7 U | 0.64 | 0.38 J | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Benzo(b&k)fluoranthene | mg/Kg dw | | 0.7 U | | 1.2 J | | 0.42 UJ | | 0.36 U | | 0.44 U | | 0.41 U |
| PAHs | Benzo(b)fluoranthene | mg/Kg dw | 0.33 U | | 1.3 | | 0.33 U | | 0.33 U | | 0.33 U | | 0.33 U | |
| PAHs | Benzo(g,h,i)perylene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.2 J | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Benzo(k)fluoranthene | mg/Kg dw | 0.33 U | | 0.66 | | 0.33 U | | 0.33 U | | 0.33 U | | 0.33 U | |
| PAHs | Carbazole | mg/Kg dw | | 0.7 U | | 0.096 J | | 0.42 UJ | | 0.36 U | | 0.44 U | | 0.41 U |
| PAHs | Chrysene | mg/Kg dw | 0.33 U | 0.7 U | 1 | 0.64 | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Dibenzo(a,h)anthracene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.12 J | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Dibenzo(a,h)pyrene | mg/Kg dw | | | | | | | | | | | | |
| PAHs | Dibenzofuran | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Fluoranthene | mg/Kg dw | 0.33 U | 0.7 U | 0.8 | 0.32 J | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Fluorene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.092 J | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Indeno(1,2,3-cd)pyrene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.24 J | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Naphthalene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.39 U | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Phenanthrene | mg/Kg dw | 0.33 U | 0.7 U | 0.33 U | 0.25 J | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PAHs | Pyrene | mg/Kg dw | 0.33 U | 0.7 U | 1 | 0.32 J | 0.33 U | 0.42 UJ | 0.33 U | 0.36 U | 0.33 U | 0.44 U | 0.33 U | 0.41 U |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDD | ng/Kg dw | 192 | 180 | 6730 | 4200 | 1930 | 1300 | 708 | 680 | 1610 | 820 | 777 | 720 |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDF | ng/Kg dw | 22.9 | 17 | 946 | 490 | 273 | 220 | 130 | 130 | 242 | 160 | 120 | 89 |
| PCDD/Fs | 1,2,3,4,7,8,9-HpCDF | ng/Kg dw | 1.5 | 1.3 J | 55 | 34 | 14.3 | 16 | 6.6 | 7.8 | 17.8 | 13 | 6.8 | 5.5 |
| PCDD/Fs | 1,2,3,4,7,8-HxCDD | ng/Kg dw | 0.86 EMPC | 0.87 J | 13.2 | 7.8 | 6.1 | 5.6 | 1.3 EMPC | 1.8 J | 5.3 | 3.8 J | 1.9 | 17 J |
| PCDD/Fs | 1,2,3,4,7,8-HxCDF | ng/Kg dw | 1.2 | 5 U | 32.3 | 16 J | 8 | 5.4 J | 3.3 | 3 J | 7.9 | 4.8 J | 3.5 | 2.5 J |
| PCDD/Fs | 1,2,3,6,7,8-HxCDD | ng/Kg dw | 4.3 | 3.8 J | 137 | 83 | 39.4 | 37 | 16.7 | 21 | 34.6 | 29 | 17.5 | 1.4 |
| PCDD/Fs | 1,2,3,6,7,8-HxCDF | ng/Kg dw | 0.3 U | 5 U | 8.4 | 3.4 J | 3.2 | 2.4 J | 1.1 EMPC | 5 U | 3.1 | 1.8 J | 1.2 | 0.7 J |
| PCDD/Fs | 1,2,3,7,8,9-HxCDD | ng/Kg dw | 6.1 | 2 J | 52.2 | 18 | 23.4 | 15 | 5.1 | 4.8 J | 15.3 | 10 | 6.3 | 4.6 |
| PCDD/Fs | 1,2,3,7,8,9-HxCDF | ng/Kg dw | 0.3 U | 5 U | 0.4 U | 4.4 U | 0.3 U | 5 U | 0.2 U | 5 U | 0.51 EMPC | 5 U | 0 U | 4.2 U |
| PCDD/Fs | 1,2,3,7,8-PeCDD | ng/Kg dw | | 5 U | | 1.3 J | | 1.3 J | | 5 U | | 0.93 J | | 4.2 U |
| PCDD/Fs | 1,2,3,7,8-PeCDF | ng/Kg dw | 0.3 U | 5 R | 1.9 EMPC | 0.36 J | 2.1 | 0.4 J | 0.2 U | 5 R | 1.3 | 0.27 J | 0.2 U | 4.2 R |
| PCDD/Fs | 2,3,4,6,7,8-HxCDF | ng/Kg dw | 0.68 EMPC | 5 U | 16.8 | 2.6 J | 6.7 | 2.2 J | 2.2 | 5 U | 7.2 | 1.4 J | 2.9 | 4.2 U |
| PCDD/Fs | 2,3,4,7,8-PeCDF | ng/Kg dw | 0.3 U | 5 U | 2 EMPC | 1.5 J | 0.91 EMPC | 5 U | 0.1 U | 5 U | 0.91 | 5 U | 0.38 EMPC | 4.2 U |
| PCDD/Fs | 2,3,7,8-TeCDD | ng/Kg dw | 0.03 U | 2 U | 0.3 U | 1.7 U | 0.4 U | 2 U | 0.1 U | 2 U | 0.23 | 2 U | 0.1 U | 1.7 U |
| PCDD/Fs | 2,3,7,8-TeCDF | ng/Kg dw | 0.4 U | 2 U | 0.3 U | 1.7 U | 0.4 U | 0.43 J | 0.5 | 0.15 J | 0.72 | 0.31 J | 0.54 | 0.18 J |
| PCDD/Fs | OCDD | ng/Kg dw | 5800 | 8200 | 66030 | 57000 | 24490 | 15000 | 7600 | 6100 | 17860 | 8300 | 8760 | 12000 |
| PCDD/Fs | OCDF | ng/Kg dw | 67.8 | 97 | 2590 | 3800 | 701 | 1200 | 398 | 900 | 810 | 1000 | 447 | 570 |
| PCDD/F TEQ | TEQ (I-TEF) | ng/Kg dw | | 11 | | 120 | | 39 | | 18 | | 25 | | 23 |
| PCDD/F homologs | TeCDDs (total) | ng/Kg dw | 0.88 EMPC | 2 UJ | 1.6 EMPC | 2.7 UJ | 0.74 EMPC | 2 UJ | 0.17 | 2 UJ | 3.1 | 3.6 UJ | 0.82 | 1.9 UJ |
| PCDD/F homologs | TeCDFs (total) | ng/Kg dw | 2.8 EMPC | 1.6 J | 4 | 9.2 J | 1.9 EMPC | 7.4 J | 1 | 1.6 J | 4.7 | 3.8 J | 2.4 | 1.9 J |
| PCDD/F homologs | PeCDDs (total) | ng/Kg dw | 8.2 EMPC | 1.8 J | 9.9 | 20 J | 6 | 8.4 J | 3.6 EMPC | 4.6 J | 17.3 | 9.4 J | 3.6 | 5.6 J |
| PCDD/F homologs | PeCDFs (total) | ng/Kg dw | 1.9 | 1.3 J | 46.3 | 43 J | 20.3 | 22 J | 5.6 | 7.2 J | 25.4 | 15 J | 9.3 | 7.2 J |
| PCDD/F homologs | HxCDD (total) | ng/Kg dw | 43.2 | 30 J | 951 | 420 J | 267 | 230 J | 112 | 120 J | 270 | 190 J | 118 | 85 J |
| PCDD/F homologs | HxCDF (total) | ng/Kg dw | 14.1 | 15 J | 834 | 430 J | 191 | 190 J | 99.3 | 110 J | 204 | 150 J | 98.6 | 78 J |
| PCDD/F homologs | HpCDD (total) | ng/Kg dw | 519 | 480 J | 21260 | 11000 J | 5030 | 3000 J | 1740 | 1700 J | 4330 | 2000 J | 2030 | 720 J |
| PCDD/F homologs | HpCDF (total) | ng/Kg dw | 67 | 74 J | 4010 | 520 J | 902 | 1000 J | 530 | 690 J | 957 | 780 J | 615 | 400 J |
| Metals | Aluminum | mg/Kg dw | | | | | | | | | | | | |
| Metals | Antimony | mg/Kg dw | | | | | | | | | | | | |
| Metals | Arsenic | mg/Kg dw | | | | | | | | | | | | |
| Metals | Barium | mg/Kg dw | | | | | | | | | | | | |

**Table C-3. Compilation of Sediment Results from the Cedar Creek**
***Southern Wood Piedmont - Gulf, North Carolina Facility***

| | | *Sample ID* | SW-046-SD | SW-046-SD (NCDENR) | SW-047-SD | SW-047-SD (NCDENR) | SW-048-SD | SW-048-SD (NCDENR) | SW-049-SD | SW-049-SD (NCDENR) | SW-050-SD | SW-050-SD (NCDENR) | SW-051-SD | SW-051-SD (NCDENR) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *Station ID* | SW-046-SD | SW-046-SD | SW-047-SD | SW-047-SD | SW-048-SD | SW-048-SD | SW-049-SD | SW-049-SD | SW-050-SD | SW-050-SD | SW-051-SD | SW-051-SD |
| | | *Date Collected* | 7/19/2006 | 11/8/1996 | 7/19/2006 | 11/8/1996 | 7/19/2006 | 11/8/1996 | 7/19/2006 | 11/8/1996 | 7/19/2006 | 11/8/1996 | 7/19/2006 | 11/8/1996 |
| | | *Waterbody* | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | *Location* | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | *Depth Interval* | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" | 0 - 2" |
| **ChemClass** | **Analyte Name** | **Conc Unit** | | | | | | | | | | | | |
| Metals | Beryllium | mg/Kg dw | | | | | | | | | | | | |
| Metals | Cadmium | mg/Kg dw | | | | | | | | | | | | |
| Metals | Calcium | mg/Kg dw | | | | | | | | | | | | |
| Metals | Chromium | mg/Kg dw | | | | | | | | | | | | |
| Metals | Cobalt | mg/Kg dw | | | | | | | | | | | | |
| Metals | Copper | mg/Kg dw | | | | | | | | | | | | |
| Metals | Iron | mg/Kg dw | | | | | | | | | | | | |
| Metals | Lead | mg/Kg dw | | | | | | | | | | | | |
| Metals | Magnesium | mg/Kg dw | | | | | | | | | | | | |
| Metals | Manganese | mg/Kg dw | | | | | | | | | | | | |
| Metals | Mercury | mg/Kg dw | | | | | | | | | | | | |
| Metals | Nickel | mg/Kg dw | | | | | | | | | | | | |
| Metals | Potassium | mg/Kg dw | | | | | | | | | | | | |
| Metals | Selenium | mg/Kg dw | | | | | | | | | | | | |
| Metals | Silver | mg/Kg dw | | | | | | | | | | | | |
| Metals | Sodium | mg/Kg dw | | | | | | | | | | | | |
| Metals | Thallium | mg/Kg dw | | | | | | | | | | | | |
| Metals | Tin | mg/Kg dw | | | | | | | | | | | | |
| Metals | Vanadium | mg/Kg dw | | | | | | | | | | | | |
| Metals | Zinc | mg/Kg dw | | | | | | | | | | | | |
| General Parameters | Percent Clay | % | 0.9 | | 0.6 | | 6.2 | | 0.8 | | 18.8 | | 38 | |
| General Parameters | Percent Gravel | % | 0 U | | 8.1 | | 38 | | 16.1 | | 0 U | | 0 U | |
| General Parameters | Percent Sand | % | 89.9 | | 83.7 | | 47.1 | | 81 | | 47.6 | | 3.9 | |
| General Parameters | Percent Silt | % | 9.2 | | 7.4 | | 8.7 | | 2.1 | | 38.1 | | 58.1 | |
| General Parameters | Total Organic Carbon | mg/Kg dw | 4530 | | 1830 | | 16100 | | 523 | | 44200 | | 7450 | |
| General Parameters | Total Solids | % | | | | | | | | | | | | |
| General Parameters | Percent Moisture (metals) | % | | | | | | | | | | | | |
| General Parameters | Percent Moisture (PCDD/F) | % | | 49 | | 25 | | 36 | | 25 | | 44 | | 33 |
| General Parameters | Percent Moisture (SVOC) | % | | 53 | | 16 | | 22 | | 8 | | 25 | | 20 |
| General Parameters | Percent Moisture (SVOCs) | % | | | | | | | | | | | | |
| General Parameters | Percent Moisture (VOCs) | % | | | | | | | | | | | | |
| TCLP-PAHs | Acenaphthene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Acenaphthylene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Anthracene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Benzo(a)anthracene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Benzo(a)pyrene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Benzo(b)fluoranthene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Benzo(g,h,i)perylene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Benzo(k)fluoranthene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Carbazole in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Chrysene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Dibenzo(a,h)anthracene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Dibenzofuran in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Dimethyl Naphthalene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Fluoranthene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Fluorene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Indeno(1,2,3-cd)pyrene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Isophorone in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Naphthalene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Phenanthrene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-PAHs | Pyrene in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-Phenolics | Extract | mg/L | | | | | | | | | | | | |
| TCLP-Phenolics | 2,4,5-Trichlorophenol in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-Phenolics | 2,4-Dimethylphenol in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-Phenolics | 2-Chlorophenol in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-Phenolics | 2-Methylphenol in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-Phenolics | 4-Chloro-3-methylphenol in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-Phenolics | Pentachlorophenol in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-Phenolics | Phenol in TCLP Extract | mg/L | | | | | | | | | | | | |
| TCLP-SVOCs | Aniline in TCLP Extract | mg/L | | | | | | | | | | | | |

Table C-3. Compilation of Sediment Results from the Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

| | | Sample ID | SW-052-SD | SW-052-SD (NCDENR) | SW-061-SD | SW-062-SD | SW-063-SD | SW-064-SD | SW-065-SD | SW-066-SD | SW-067-SD | SW-068-SD | SW-129-SD (NCDENR) | SW-143-SD | SW-143-SD (NCDENR) | SW-182-SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-052-SD | SW-052-SD | | | | SW-064-SD | | SW-066-SD | SW-067-SD | | SW-029-SD Dup | | SW-043-SD Dup | |
| | | Date Collected | 7/18/2006 | 11/8/1999 | 7/17/2002 | 7/17/2002 | 7/17/2002 | 7/18/2006 | 7/17/2002 | 7/18/2006 | 7/18/2006 | 7/18/2002 | 11/13/1995 | 11/8/1999 | 11/8/1999 | 11/8/1999 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 2" | 0 - 2" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 12" | 0 - 4" | 0 - 4" | 0 - 2" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | | | | |
| VOCs | 1,1,1-Trichloroethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | 1,1,2,2-Tetrachloroethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | 1,1,2-Trichloroethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | 1,1-Dichloroethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | 1,1-Dichloroethene | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | 1,2,4-Trichlorobenzene | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| VOCs | 1,2-Dichlorobenzene | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| VOCs | 1,2-Dichloroethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | 1,2-Dichloroethene (total) | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | 1,2-Dichloropropane | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | 1,3-Dichlorobenzene | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| VOCs | 1,4-Dichlorobenzene | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| VOCs | 2-Butanone | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | 4-Bromophenyl phenyl ether | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| VOCs | Acetone | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Benzene | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | bis(2-Chloro-1-methylethyl) ether | mg/Kg dw | 0.33 U | | | | | | | | | | | 0.33 U | | 0.33 U |
| VOCs | Bis(2-chloroethoxy) methane | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| VOCs | Bis(2-Chloroethyl) ether | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| VOCs | Bis(2-Chloroisopropyl) ether | mg/Kg dw | | 0.43 U | | | | | | | | | 0.41 U | | 0.39 U | |
| VOCs | Bromodichloromethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Bromoform | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Bromomethane | mg/Kg dw | | | | | | | | | | | 0.013 UR | | | |
| VOCs | Carbon disulfide | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Carbon tetrachloride | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Chlorobenzene | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Chloroethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Chloroform | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Chloromethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | cis-1,3-Dichloropropene | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Dibromochloromethane | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Ethylbenzene | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Methyl butyl ketone | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Methyl isobutyl ketone | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Methylene chloride | mg/Kg dw | | | | | | | | | | | 0.02 U | | | |
| VOCs | m-Xylene | mg/Kg dw | | | | | | | | | | | | | | |
| VOCs | o-Xylene | mg/Kg dw | | | | | | | | | | | | | | |
| VOCs | p-Xylene | mg/Kg dw | | | | | | | | | | | | | | |
| VOCs | Styrene | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Tetrachloroethene | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Toluene | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | trans-1,3-Dichloropropene | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Trichloroethene | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Vinyl chloride | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| VOCs | Xylenes (total) | mg/Kg dw | | | | | | | | | | | 0.013 U | | | |
| SVOCs | 2,4-Dinitrotoluene | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | 2,6-Dinitrotoluene | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | 2-Chloronaphthalene | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | 2-Methylphenol | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 91 U | 160 U | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | 2-Nitroaniline | mg/Kg dw | 1.7 U | 1.1 U | | | | | | | | | 1 U | 1.7 U | 0.99 U | 1.7 U |
| SVOCs | 3,3'-Dichlorobenzidine | mg/Kg dw | 0.66 U | 0.43 U | | | | | | | | | 0.41 U | 0.66 U | 0.39 U | 0.66 U |
| SVOCs | 3-Nitroaniline | mg/Kg dw | 1.7 U | 1.1 U | | | | | | | | | 1 U | 1.7 U | 0.99 U | 1.7 U |
| SVOCs | 4-Chloroaniline | mg/Kg dw | | 0.43 U | | | | | | | | | 0.41 U | | 0.39 U | |
| SVOCs | 4-Chlorophenyl Phenyl Ether | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | 4-Nitroaniline | mg/Kg dw | 1.7 U | 1.1 U | | | | | | | | | 1 U | 1.7 U | 0.99 U | 1.7 U |
| SVOCs | Aniline | mg/Kg dw | | | 0.034 J | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.41 U | 0.7 U | | | | | |
| SVOCs | Benzidine | mg/Kg dw | 2.7 U | | | | | | | | | | | 2.7 U | | 2.7 U |
| SVOCs | Benzoic acid | mg/Kg dw | 1.7 U | | | | | | | | | | | 1.7 U | | 1.7 U |
| SVOCs | Benzyl alcohol | mg/Kg dw | 0.33 U | | | | | | | | | | | 0.33 U | | 0.33 U |
| SVOCs | Biphenyl | mg/Kg dw | | | | | | | | | | | | | | |
| SVOCs | Bis(2-ethylhexyl) phthalate | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | Butyl benzyl phthalate | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | Diethylphthalate | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | Dimethylphthalate | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | Di-n-butylphthalate | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | Di-n-octylphthalate | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | Hexachlorobenzene | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 UJ | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | Hexachlorobutadiene | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | Hexachlorocyclopentadiene | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | Hexachloroethane | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | Isophorone | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.032 U | 0.055 U | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | Nitrobenzene | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |

Table C-3. Compilation of Sediment Results from the Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

| | | Sample ID | SW-052-SD | SW-052-SD (NCDENR) | SW-061-SD | SW-062-SD | SW-063-SD | SW-064-SD | SW-065-SD | SW-066-SD | SW-067-SD | SW-068-SD | SW-129-SD (NCDENR) | SW-143-SD | SW-143-SD (NCDENR) | SW-152-SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-052-SD | SW-052-SD | | | | SW-064-SD | | SW-066-SD | SW-067-SD | | SW-029-SD Dup | | SW-043-SD Dup | |
| | | Date Collected | 7/18/2006 | 11/8/1996 | 7/17/2002 | 7/17/2002 | 7/17/2002 | 7/19/2006 | 7/17/2002 | 7/19/2006 | 7/19/2006 | 7/18/2002 | 11/13/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 2" | 0 - 2" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 12" | 0 - 4" | 0 - 4" | 0 - 2" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | | | | |
| SVOCs | N-Nitrosodimethylamine | mg/Kg dw | 0.33 U | | | | | | | | | | | 0.33 U | | 0.33 U |
| SVOCs | N-nitrosodi-n-propylamine | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | N-nitrosodiphenylamine | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| SVOCs | p-Chloroaniline | mg/Kg dw | 0.66 U | | | | | | | | | | | 0.66 U | | 0.66 U |
| Phenolics | 2,3,4,6-Tetrachlorophenol | mg/Kg dw | | | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.41 U | 0.7 U | | | | | |
| Phenolics | 2,4,5-Trichlorophenol | mg/Kg dw | 0.33 U | 1.1 U | | | | | | | | | 1 U | 0.33 U | 0.99 U | 0.33 U |
| Phenolics | 2,4,6-Trichlorophenol | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.41 U | 0.7 U | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| Phenolics | 2,4-Dichlorophenol | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| Phenolics | 2,4-Dimethylphenol | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.41 U | 0.7 U | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| Phenolics | 2,4-Dinitrophenol | mg/Kg dw | 1.7 U | 1.1 U | | | | | | | | | 1 U | 1.7 U | 0.99 U | 1.7 U |
| Phenolics | 2-Chlorophenol | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.41 U | 0.7 U | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| Phenolics | 2-Methyl-4,6-dinitrophenol | mg/Kg dw | | 1.1 U | | | | | | | | | 1 U | | 0.99 U | |
| Phenolics | 2-Nitrophenol | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| Phenolics | 3&4-Methylphenol | mg/Kg dw | 0.33 U | 0.43 U | | | | | | | | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| Phenolics | 4,6-Dinitro-2-methylphenol | mg/Kg dw | 1.7 U | | | | | | | | | | | 1.7 U | | 1.7 U |
| Phenolics | 4-Chloro-3-methylphenol | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.41 U | 0.7 U | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| Phenolics | 4-Methylphenol | mg/Kg dw | | | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | | | | | | | |
| Phenolics | 4-Nitrophenol | mg/Kg dw | 1.7 U | 1.1 U | | | | | | | | | 1 U | 1.7 U | 0.99 U | 1.7 U |
| Phenolics | Pentachlorophenol | mg/Kg dw | 1.7 U | 1.1 U | 1.7 U | 1.7 U | 1.7 U | 1.7 U | 1.7 U | 2.1 U | 3.6 U | | 1.2 | 1.7 U | 0.99 U | 1.7 U |
| Phenolics | Phenol | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.41 U | 0.7 U | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| PAHs | 1-Methylnaphthalene | mg/Kg dw | | | | | | | | | | | | | | |
| PAHs | 2-Methylnaphthalene | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.41 U | 0.7 U | | 42 | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Acenaphthene | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.051 J | 0.075 J | 0.33 U | 0.33 U | 0.13 J | 0.7 U | | 37 J | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Acenaphthylene | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 90 U | 150 U | | 0.41 U | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Anthracene | mg/Kg dw | 0.33 U | 0.43 U | 0.31 J | 0.063 J | 0.16 J | 0.58 J | 0.052 J | 0.41 U | 0.7 U | | 2.8 | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Benzo(a)anthracene | mg/Kg dw | 0.33 U | 0.43 U | 0.4 J | 0.059 J | 0.2 J | 0.26 J | 0.059 J | 0.41 U | 0.7 U | | 2.3 | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Benzo(a)pyrene | mg/Kg dw | 0.33 U | 0.43 U | 0.43 J | 0.075 J | 0.17 J | 0.19 J | 0.064 J | 0.41 U | 0.12 J | | 0.83 | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Benzo(b&k)fluoranthene | mg/Kg dw | | 0.43 U | 1.3 | 0.033 J | 0.54 | 0.72 J | 0.18 J | | | | 2.5 | | 0.39 U | |
| PAHs | Benzo(b)fluoranthene | mg/Kg dw | 0.33 U | | 0.72 | 0.33 U | 0.25 J | 0.72 J | 0.33 U | 78 U | 130 U | | | 0.33 U | | 0.33 U |
| PAHs | Benzo(g,h,i)perylene | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.029 U | 0.049 U | | 0.13 J | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Benzo(k)fluoranthene | mg/Kg dw | 0.33 U | | 0.63 | 0.33 U | 0.28 J | 0.33 U | 0.33 U | 60 U | 140 U | | | 0.33 U | | 0.33 U |
| PAHs | Carbazole | mg/Kg dw | | 0.43 U | 0.05 J | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.41 U | 0.7 U | | 5.4 J | | 0.39 U | |
| PAHs | Chrysene | mg/Kg dw | 0.33 U | 0.43 U | 0.7 | 0.07 J | 0.28 J | 0.52 J | 0.13 J | 0.41 U | 0.12 J | | 2 | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Dibenzo(a,h)anthracene | mg/Kg dw | 0.33 U | 0.43 U | 0.073 J | 0.33 U | 0.33 U | 0.33 U | 0.33 U | | | | 0.057 J | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Dibenzo(a,h)pyrene | mg/Kg dw | | | | | | | | 0.41 U | 0.7 U | | | | | |
| PAHs | Dibenzofuran | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.042 U | 0.072 U | | 32 | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Fluoranthene | mg/Kg dw | 0.33 U | 0.43 U | 0.48 | 0.39 J | 0.22 J | 0.72 J | 0.33 U | 0.12 J | 0.086 J | | 18 | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Fluorene | mg/Kg dw | 0.33 U | 0.43 U | 0.054 J | 0.085 J | 0.082 J | 0.09 J | 0.33 U | 0.14 J | 0.7 U | | 31 | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Indeno(1,2,3-cd)pyrene | mg/Kg dw | 0.33 U | 0.43 U | 0.21 J | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.41 U | 0.058 J | | 0.21 J | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Naphthalene | mg/Kg dw | 0.33 U | 0.43 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.33 U | 0.41 U | 0.7 U | | 12 | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Phenanthrene | mg/Kg dw | 0.33 U | 0.43 U | 0.19 J | 0.2 J | 0.11 J | 0.19 J | 0.33 U | 0.13 J | 0.7 U | | 47 | 0.33 U | 0.39 U | 0.33 U |
| PAHs | Pyrene | mg/Kg dw | 0.33 U | 0.43 U | 0.6 | 0.3 J | 0.31 J | 0.8 | 0.33 U | 91 U | 160 U | | 15 J | 0.33 U | 0.39 U | 0.33 U |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDD | ng/Kg dw | 810 | 630 | | | | 9560 | | 1250 | 1020 | 79 | 36000 J | 76.5 | 100 | 489 |
| PCDD/Fs | 1,2,3,4,6,7,8-HpCDF | ng/Kg dw | 77.4 | 70 | | | | 1010 | | 167 | 133 | 9.29 | 6600 | 12.6 | 11 | 72.3 |
| PCDD/Fs | 1,2,3,4,7,8,9-HpCDF | ng/Kg dw | 4.4 | 4.4 J | | | | 61.9 | | 9.02 | 9.3 | 5 U | 310 | 0.85 | 5 U | 4.9 |
| PCDD/Fs | 1,2,3,4,7,8-HxCDD | ng/Kg dw | 1.6 | 5 U | | | | 19.3 | | 5 U | 5 U | 5 U | 43 | 0.36 EMPC | 5 U | 2.2 |
| PCDD/Fs | 1,2,3,4,7,8-HxCDF | ng/Kg dw | 2.7 | 5 U | | | | 33.7 | | 5 U | 5 U | 5 U | 1200 U | 0.55 | 5 U | 2.6 |
| PCDD/Fs | 1,2,3,6,7,8-HxCDD | ng/Kg dw | 12.4 | 13 | | | | 174 | | 30.6 | 24.9 | 5 U | 820 | 1.6 | 2.1 J | 11.8 |
| PCDD/Fs | 1,2,3,6,7,8-HxCDF | ng/Kg dw | 0.9 EMPC | 5 U | | | | 11 | | 5 U | 5 U | 5 U | 31 J | 0.22 EMPC | 5 U | 1.3 |
| PCDD/Fs | 1,2,3,7,8,9-HxCDD | ng/Kg dw | 5.1 | 4.1 J | | | | 40.6 | | 5.76 | 5 U | 5 U | 130 | 0.76 EMPC | 1.1 J | 5.1 |
| PCDD/Fs | 1,2,3,7,8,9-HxCDF | ng/Kg dw | 0 U | 5 U | | | | 5 U | | 5 U | 5 U | 5 U | 14 U | 0.2 U | 5 U | 0.8 U |
| PCDD/Fs | 1,2,3,7,8-PeCDD | ng/Kg dw | | 5 J | | | | | | | | | 5.1 J | | 5 U | |
| PCDD/Fs | 1,2,3,7,8-PeCDF | ng/Kg dw | 0.58 | 5 R | | | | 5 U | | 5 U | 5 U | 5 U | 14 U | 0.2 U | 5 R | 0.76 EMPC |
| PCDD/Fs | 2,3,4,6,7,8-HxCDF | ng/Kg dw | 2.2 | 5 U | | | | 25.3 | | 5 U | 5 U | 5 U | 14 U | 0.46 | 5 U | 2 |
| PCDD/Fs | 2,3,4,7,8-PeCDF | ng/Kg dw | 0.44 EMPC | 5 U | | | | 17.5 | | 5 U | 5 U | 5 U | 9.1 J | 0.2 U | 5 U | 0.4 U |
| PCDD/Fs | 2,3,7,8-TeCDD | ng/Kg dw | 0.13 | 2 U | | | | 1 U | | 1 U | 1 U | 1 U | 6 U | 0.1 U | 2 U | 0.3 U |
| PCDD/Fs | 2,3,7,8-TeCDF | ng/Kg dw | 0.69 | 0.4 J | | | | 1 U | | 1 U | 1 U | 1 U | 6 U | 0.21 | 2 U | 1.2 |
| PCDD/Fs | OCDD | ng/Kg dw | 8380 | 6100 | | | | 75700 | | 13800 E | 11600 E | 2530 | 340000 J | 1550 | 3800 | 9220 |
| PCDD/Fs | OCDF | ng/Kg dw | 293 | 430 | | | | 4490 | | 766 | 629 | 25.4 | 37000 | 33.3 | 70 | 295 |
| PCDD/F TEQ | TEQ (I-TEF) | ng/Kg dw | | 15 | | | | | | | | | 920 J | | 5.3 | |
| PCDD/F homologs | TeCDDs (total) | ng/Kg dw | 2.5 | 2 UJ | | | | 11.4 | | 1 U | 1 U | 1 U | 17 J | 0.1 U | 2 UJ | 2.2 |
| PCDD/F homologs | TeCDFs (total) | ng/Kg dw | 6 | 5.3 J | | | | 43.4 | | 1.7 | 1 U | 1 U | 11 J | 0.21 EMPC | 2 UJ | 7.3 |
| PCDD/F homologs | PeCDDs (total) | ng/Kg dw | 6.4 | 4 J | | | | 32.4 | | 5 U | 5 U | 5 U | 36 J | 0.2 U | 5 UJ | 3.6 |
| PCDD/F homologs | PeCDFs (total) | ng/Kg dw | 9.8 | 8.4 J | | | | 236 | | 20.9 | 8.72 | 5 U | 190 J | 0.53 EMPC | 5 UJ | 14.3 |
| PCDD/F homologs | HxCDD (total) | ng/Kg dw | 94 | 85 J | | | | 1220 | | 205 | 160 | 17.2 | 5400 J | 10.5 | 14 J | 97.5 |
| PCDD/F homologs | HxCDF (total) | ng/Kg dw | 73.5 | 60 J | | | | 858 | | 155 | 113 | 5 U | 5000 J | 10.2 | 8.4 J | 67.9 |
| PCDD/F homologs | HpCDD (total) | ng/Kg dw | 1400 | 1600 J | | | | 26300 | | 3320 | 2820 | 215 | 120000 J | 205 | 240 J | 1260 |
| PCDD/F homologs | HpCDF (total) | ng/Kg dw | 312 | 360 J | | | | 5470 | | 602 | 634 | 28.6 | 8200 J | 49.1 | 46 J | 272 |
| Metals | Aluminum | mg/Kg dw | | | | | | | | | | | 12000 | | | |
| Metals | Antimony | mg/Kg dw | | | | | | | | | | | 3.2 UR | | | |
| Metals | Arsenic | mg/Kg dw | | | | | | | | | | | 4 J | | | |
| Metals | Barium | mg/Kg dw | | | | | | | | | | | 160 | | | |

Table C-3. Compilation of Sediment Results from the Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

| | | Sample ID | SW-052-SD | SW-052-SD (NCDENR) | SW-061-SD | SW-062-SD | SW-063-SD | SW-064-SD | SW-065-SD | SW-066-SD | SW-067-SD | SW-068-SD | SW-129-SD (NCDENR) | SW-143-SD | SW-143-SD (NCDENR) | SW-162-SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Station ID | SW-052-SD | SW-052-SD | | | | SW-064-SD | | SW-066-SD | SW-067-SD | | SW-129-SD Dup | | SW-143-SD Dup | |
| | | Date Collected | 7/18/2006 | 11/8/1996 | 7/17/2002 | 7/17/2002 | 7/17/2002 | 7/19/2006 | 7/17/2002 | 7/18/2006 | 7/18/2006 | 7/18/2002 | 11/13/1996 | 11/8/1996 | 11/8/1996 | 11/8/1996 |
| | | Waterbody | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek | Cedar Creek |
| | | Location | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream | Downstream |
| | | Depth Interval | 0 - 2" | 0 - 2" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 3" | 0 - 12" | 0 - 4" | 0 - 4" | 0 - 2" |
| ChemClass | Analyte Name | Conc Unit | | | | | | | | | | | | | | |
| Metals | Beryllium | mg/Kg dw | | | | | | | | | | | 0.99 J | | | |
| Metals | Cadmium | mg/Kg dw | | | | | | | | | | | 0.32 U | | | |
| Metals | Calcium | mg/Kg dw | | | | | | | | | | | 2100 | | | |
| Metals | Chromium | mg/Kg dw | | | | | | | | | | | 26 | | | |
| Metals | Cobalt | mg/Kg dw | | | | | | | | | | | 27 | | | |
| Metals | Copper | mg/Kg dw | | | | | | | | | | | 26 | | | |
| Metals | Iron | mg/Kg dw | | | | | | | | | | | 26000 | | | |
| Metals | Lead | mg/Kg dw | | | | | | | | | | | 9.2 J | | | |
| Metals | Magnesium | mg/Kg dw | | | | | | | | | | | 4000 | | | |
| Metals | Manganese | mg/Kg dw | | | | | | | | | | | 900 J | | | |
| Metals | Mercury | mg/Kg dw | | | | | | | | | | | 0.06 U | | | |
| Metals | Nickel | mg/Kg dw | | | | | | | | | | | 37 | | | |
| Metals | Potassium | mg/Kg dw | | | | | | | | | | | 310 | | | |
| Metals | Selenium | mg/Kg dw | | | | | | | | | | | 1 U | | | |
| Metals | Silver | mg/Kg dw | | | | | | | | | | | 0.87 U | | | |
| Metals | Sodium | mg/Kg dw | | | | | | | | | | | 190 U | | | |
| Metals | Thallium | mg/Kg dw | | | | | | | | | | | 0.58 U | | | |
| Metals | Tin | mg/Kg dw | | | | | | | | | | | | | | |
| Metals | Vanadium | mg/Kg dw | | | | | | | | | | | 46 | | | |
| Metals | Zinc | mg/Kg dw | | | | | | | | | | | 40 UJ | | | |
| General Parameters | Percent Clay | % | 21.5 | | | | | 9.3 | | 3.5 | 11.5 | | | | | |
| General Parameters | Percent Gravel | % | 0 U | | | | | 0 U | | 0 U | 2.8 | | | | | |
| General Parameters | Percent Sand | % | 12 | | | | | 46.9 | | 77.5 | 83 | | | | | |
| General Parameters | Percent Silt | % | 66.5 | | | | | 43.8 | | 19 | 2.7 | | | | | |
| General Parameters | Total Organic Carbon | mg/Kg dw | 7220 | | | | | 20400 | | 5900 | 917 | | | | | |
| General Parameters | Total Solids | % | | | | | | | | | | | | | | |
| General Parameters | Percent Moisture (metals) | % | | | | | | | | | | | 25 | | | |
| General Parameters | Percent Moisture (PCDD/F) | % | | 40 | | | | | | | | | 26 | | 19 | |
| General Parameters | Percent Moisture (SVOC) | % | | 23 | | | | | | | | | | | 16 | |
| General Parameters | Percent Moisture (SVOCs) | % | | | | | | | | | | | 21 | | | |
| General Parameters | Percent Moisture (VOCs) | % | | | | | | | | | | | 21 | | | |
| TCLP-PAHs | Acenaphthene in TCLP Extract | mg/L | | | | | | 0.009 U | | 0.009 U | | | | | | |
| TCLP-PAHs | Acenaphthylene in TCLP Extract | mg/L | | | | | | 0.009 U | | 0.009 U | | | | | | |
| TCLP-PAHs | Anthracene in TCLP Extract | mg/L | | | | | | 0.008 U | | 0.008 U | | | | | | |
| TCLP-PAHs | Benzo(a)anthracene in TCLP Extract | mg/L | | | | | | 0.0065 U | | 0.0065 U | | | | | | |
| TCLP-PAHs | Benzo(a)pyrene in TCLP Extract | mg/L | | | | | | 0.0075 U | | 0.0075 U | | | | | | |
| TCLP-PAHs | Benzo(b)fluoranthene in TCLP Extract | mg/L | | | | | | 0.008 U | | 0.008 U | | | | | | |
| TCLP-PAHs | Benzo(g,h,i)perylene in TCLP Extract | mg/L | | | | | | 0.012 U | | 0.012 U | | | | | | |
| TCLP-PAHs | Benzo(k)fluoranthene in TCLP Extract | mg/L | | | | | | 0.006 U | | 0.006 U | | | | | | |
| TCLP-PAHs | Carbazole in TCLP Extract | mg/L | | | | | | 0.0085 U | | 0.0085 U | | | | | | |
| TCLP-PAHs | Chrysene in TCLP Extract | mg/L | | | | | | 0.0044 U | | 0.0044 U | | | | | | |
| TCLP-PAHs | Dibenzo(a,h)anthracene in TCLP Extract | mg/L | | | | | | 0.014 U | | 0.014 U | | | | | | |
| TCLP-PAHs | Dibenzofuran in TCLP Extract | mg/L | | | | | | 0.0075 U | | 0.0075 U | | | | | | |
| TCLP-PAHs | Dimethyl Naphthalene in TCLP Extract | mg/L | | | | | | 0.025 U | | 0.025 U | | | | | | |
| TCLP-PAHs | Fluoranthene in TCLP Extract | mg/L | | | | | | 0.01 U | | 0.01 U | | | | | | |
| TCLP-PAHs | Fluorene in TCLP Extract | mg/L | | | | | | 0.0085 U | | 0.0085 U | | | | | | |
| TCLP-PAHs | Indeno(1,2,3-cd)pyrene in TCLP Extract | mg/L | | | | | | 0.016 U | | 0.016 U | | | | | | |
| TCLP-PAHs | Isophorone in TCLP Extract | mg/L | | | | | | 0.0095 U | | 0.0095 U | | | | | | |
| TCLP-PAHs | Naphthalene in TCLP Extract | mg/L | | | | | | 0.0095 U | | 0.0095 U | | | | | | |
| TCLP-PAHs | Phenanthrene in TCLP Extract | mg/L | | | | | | 0.0075 U | | 0.0075 U | | | | | | |
| TCLP-PAHs | Pyrene in TCLP Extract | mg/L | | | | | | 0.006 U | | 0.006 U | | | | | | |
| TCLP-Phenolics | Extract | mg/L | | | | | | 0.0065 U | | 0.0065 U | | | | | | |
| TCLP-Phenolics | 2,4,5-Trichlorophenol in TCLP Extract | mg/L | | | | | | 0.0075 U | | 0.0075 U | | | | | | |
| TCLP-Phenolics | 2,4-Dimethylphenol in TCLP Extract | mg/L | | | | | | 0.01 U | | 0.01 U | | | | | | |
| TCLP-Phenolics | 2-Chlorophenol in TCLP Extract | mg/L | | | | | | 0.0075 U | | 0.0075 U | | | | | | |
| TCLP-Phenolics | 2-Methylphenol in TCLP Extract | mg/L | | | | | | 0.0075 U | | 0.0075 U | | | | | | |
| TCLP-Phenolics | 4-Chloro-3-methylphenol in TCLP Extract | mg/L | | | | | | 0.0085 U | | 0.0085 U | | | | | | |
| TCLP-Phenolics | Pentachlorophenol in TCLP Extract | mg/L | | | | | | 0.01 U | | 0.01 U | | | | | | |
| TCLP-Phenolics | Phenol in TCLP Extract | mg/L | | | | | | 0.0065 U | | 0.0065 U | | | | | | |
| TCLP-SVOCs | Aniline in TCLP Extract | mg/L | | | | | | 0.008 U | | 0.008 U | | | | | | |

**Table C-3. Compilation of Sediment Results from Cedar Creek**
**Table Footnotes**
**Southern Wood Piedmont - Gulf, North Carolina Facility**

Notes:
Data compiled from databases from multiple sources. Missing values indicate chemical not analyzed or not reported by original data source.
Qualifiers: U = Not detected; UJ = Not detected at estimated concentration shown; J = estimated concentration; UR = Not detected and rejected (unusable result).
NA: Not available
The "TEQ (I-TEF)" values shown are from the historical datasets. The TEQ value was updated to reflect the latest TEF values for all sample calculations in the current assessment.
The TCLP results were reported for completeness, but were not used directly in the risk assessments.
[1] Date shown is for the collection of TOC and grain size only.

*Appendix D*

*Photographs from the July 2006 Field Survey*

# APPENDIX D
# PHOTOGRAPHS FROM THE JULY 2006 FIELD SURVEY

## Preface

This appendix contains the photographs taken as part of the July 2006 field survey. The key objectives of this survey were the following:

- Perform an ecological survey of the Drainage Ditch, Cedar Creek, and environs to support the preparation of the SLERA checklist (NCDENR, 2003) and ERA;
- Collect sediment samples for TOC and grain size; and
- Collect stream width data for the Drainage Ditch and Cedar Creek.

The ecological survey included the collection of field measurements of surface water quality, benthic organisms, and observations of local flora and fauna.

Figure D-1 summarizes the following:

- The stream width measurement points for Cedar Creek (points 1 through 35) and for the Drainage Ditch (points 36 through 40);
- The photograph locations (1 through 22) and their orientations; and
- The locations of the ecological survey field measurement and survey points (E1 through E8).

The photograph log is provided in Figure D-2.

## References

North Carolina Department of Environment and Natural Resources (NCDENR). 2003. *Guidelines for Performing Screening Level Ecological Risk Assessments within the North Carolina Division of Waste Management.* North Carolina Department of Environment and Natural Resources. Division of Waste Management. October. [http://www.wastenotnc.org/SFHOME/SLERA.doc]

## List of Figures

Figure D-1 Cedar Creek Width Measurements and Photo Locations
Figure D-2 Photograph Log from the July 2006 Field Survey

| Point | Latitude | Longitude | Width (ft) |
|---|---|---|---|
| 1 | N35 34.056 | W79 14.702 | 39 |
| 2 | N35 34.077 | W79 14.775 | 33 |
| 3 | N35 34.098 | W79 14.846 | 37 |
| 4 | N35 34.042 | W79 14.919 | 33 |
| 5 | N35 34.051 | W79 14.981 | 23 |
| 6 | N35 33.938 | W79 15.955 | 24 |
| 7 | N35 33.922 | W79 15.957 | 23 |
| 8 | N35 33.858 | W79 15.979 | 28 |
| 9 | N35 33.947 | W79 15.004 | 22 |
| 10 | N35 33.941 | W79 15.055 | 27 |
| | N35 33.912 | W79 15.121 | 30 |
| 12 | N35 33.944 | W79 15.157 | 27 |
| 13 | N35 33.970 | W79 15.255 | 21 |
| 14 | N35 33.926 | W79 15.339 | 26 |
| 15 | N35 33.893 | W79 15.419 | 31 |
| 16 | N35 33.853 | W79 15.483 | 27 |
| 17 | N35 33.839 | W79 15.557 | 23 |
| 18 | N35 33.894 | W79 15.627 | 25 |
| 19 | N35 33.885 | W79 15.723 | 32 |
| 20 | N35 33.930 | W79 15.787 | 22 |
| 21 | N35 33.906 | W79 15.872 | 23 |
| 22 | N35 33.940 | W79 15.954 | 24 |
| 23 | N35 33.927 | W79 16.010 | 20 |
| 24 | N35 33.900 | W79 16.055 | 7 |
| 25 | N35 33.882 | W79 16.097 | 20 |
| 26 | N35 33.924 | W79 16.146 | 30 |
| 27 | N35 34.008 | W79 16.167 | 26 |
| 28 | N35 34.045 | W79 16.245 | 22 |
| 29 | N35 34.035 | W79 16.219 | 28 |
| 30 | N35 34.033 | W79 16.380 | 26 |
| 31 | N35 34.029 | W79 16.455 | 18 |
| 32 | N35 34.035 | W79 16.499 | 17 |
| 33 | N35 34.005 | W79 16.528 | 16 |
| 34 | N35 33.964 | W79 16.574 | 13 |
| 35 | N35 33.949 | W79 16.534 | 27 |
| 36 | N35 33.933 | W79 16.673 | 5 |
| 37 | N35 33.905 | W79 16.638 | 5 |
| 38 | N35 33.84 | W79 16.659 | 3 |
| 39 | N35 33.773 | W79 16.625 | 3 |
| 40 | N35 33.723 | W79 16.593 | 2 |

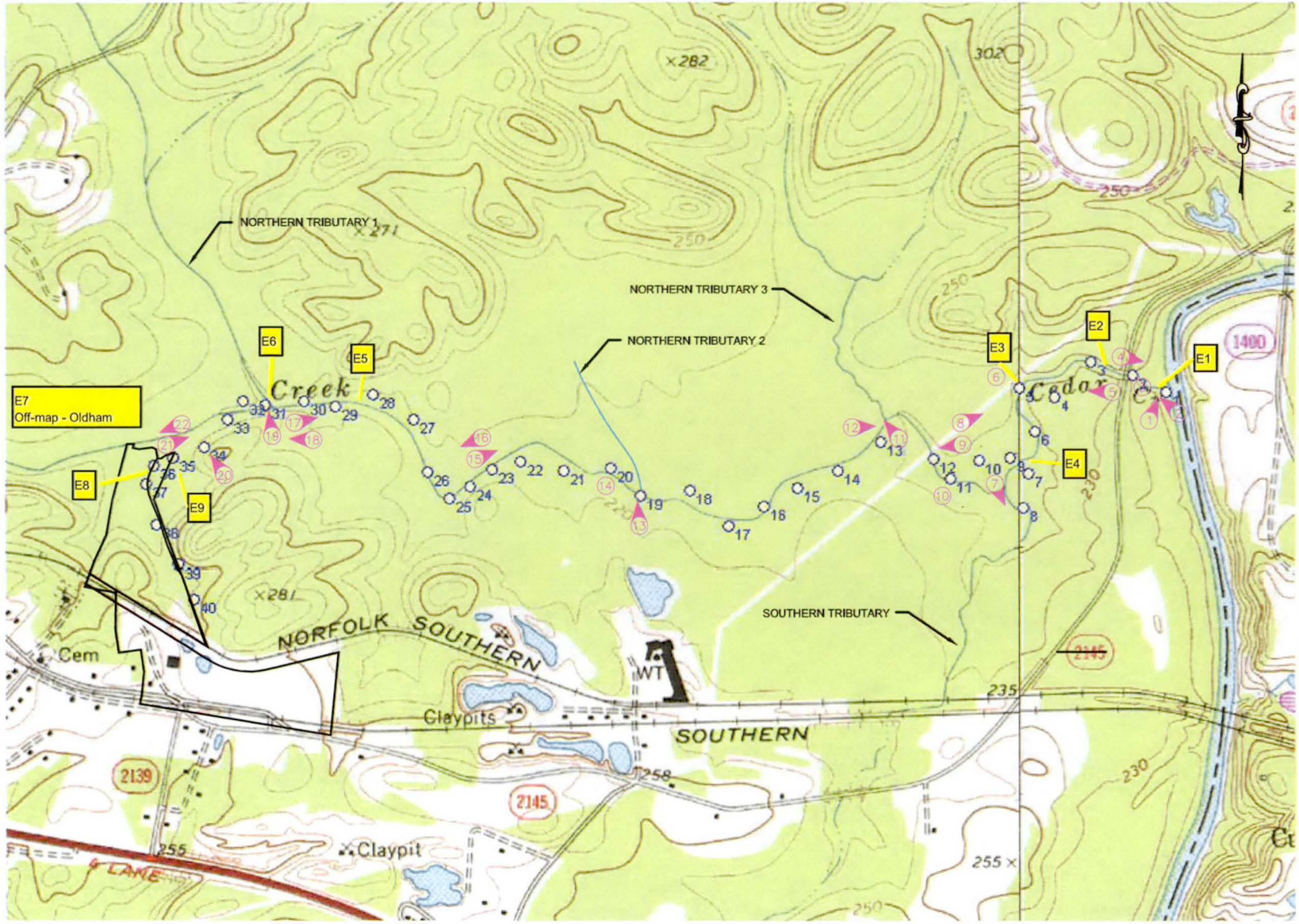



PHOTO POSITION AND ORIENTATION

E6 ECOLOGICAL SURVEY LOCATOIN

Schnabel Engineering

FIGURE D-1
Drainage Ditch and Cedar Creek Width Measurements and Photo Locations

SOUTHERN WOOD PIEDMONT GULF, N.C. FACILITY

PROJECT NO. 979010.A0-34

© Schnabel Engineering 2006 All Rights Reserved

8/11/06 G:\ActiveProjects\SWP\Gulf\2004\Report\G:\ActiveProjects\SWP\Gulf\Drawings\GPS Map Info\Test GPS PTS.dwg

Figure D-2. Photograph Log from the July 2006 Field Survey

**PHOTOGRAPH No.: 1**

**Photo Taken: 07-18-06**

LOCATION:

Looking north up Deep River at confluence with Cedar Creek

COMMENTS:

**PHOTOGRAPH No.: 2**

**Photo Taken: 07-18-06**

LOCATION:

Looking west up Cedar Creek at confluence with Deep River

COMMENTS:

Figure D-2 (cont)

**PHOTOGRAPH No.: 3**

**Photo Taken: 07-18-06**

LOCATION:

Phil Perhamus of AMEC performing ecological assessment in Cedar Creek at Point 2

COMMENTS:

**PHOTOGRAPH No.: 4**

**Photo Taken: 07-18-06**

LOCATION:

Looking east down Cedar Creek from bridge on Hwy 2145

COMMENTS:

Figure D-2 (cont)

**PHOTOGRAPH No.: 5**

**Photo Taken: 07-18-06**

LOCATION:

Looking west up Cedar Creek from bridge on Hwy 2145

COMMENTS:

**PHOTOGRAPH No.: 6**

**Photo Taken: 07-18-06**

LOCATION:

Diabase dike in Cedar Creek at Point 5

COMMENTS:

Figure D-2 (cont)

**PHOTOGRAPH No.: 7**

**Photo Taken: 07-18-06**

LOCATION:

Looking south up the southern tributary to Cedar Creek

COMMENTS:

**PHOTOGRAPH No.: 8**

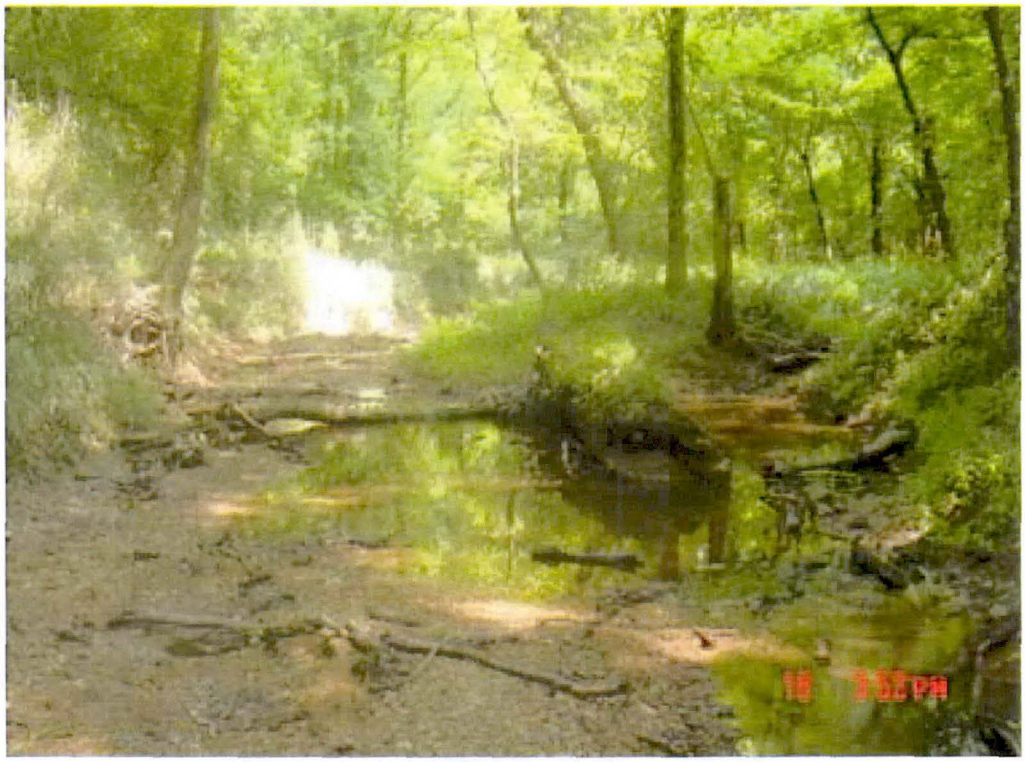
**Photo Taken: 07-18-06**

LOCATION:

Looking east down Cedar Creek at Point 10

COMMENTS:

Figure D-2 (cont)



**PHOTOGRAPH No.: 9**

**Photo Taken: 07-18-06**

LOCATION:

Looking west up Cedar Creek at Point 10

COMMENTS:

**PHOTOGRAPH No.: 10**

**Photo Taken: 07-18-06**

LOCATION:

Diabase dike in Cedar Creek at Point 11

COMMENTS:

Figure D-2 (cont)

**PHOTOGRAPH No.: 11**

**Photo Taken: 07-18-06**

LOCATION:

Looking north up Northern Tributary 3 to Cedar Creek

COMMENTS:

**PHOTOGRAPH No.: 12**

**Photo Taken: 07-19-06**

LOCATION:

Looking east down Cedar Creek at Northern Tributary 3

COMMENTS:

Figure D-2 (cont)

**PHOTOGRAPH No.: 13**

**Photo Taken: 07-19-06**

LOCATION:

Northern Tributary 2 at Point 19

COMMENTS:

**PHOTOGRAPH No.: 14**

**Photo Taken: 07-19-06**

LOCATION:

Diabase dike at Point 20

COMMENTS:

Figure D-2 (cont)

**PHOTOGRAPH No.: 15**

**Photo Taken: 07-19-06**

LOCATION:

Looking east down Cedar Creek at Point 23

COMMENTS:

**PHOTOGRAPH No.: 16**

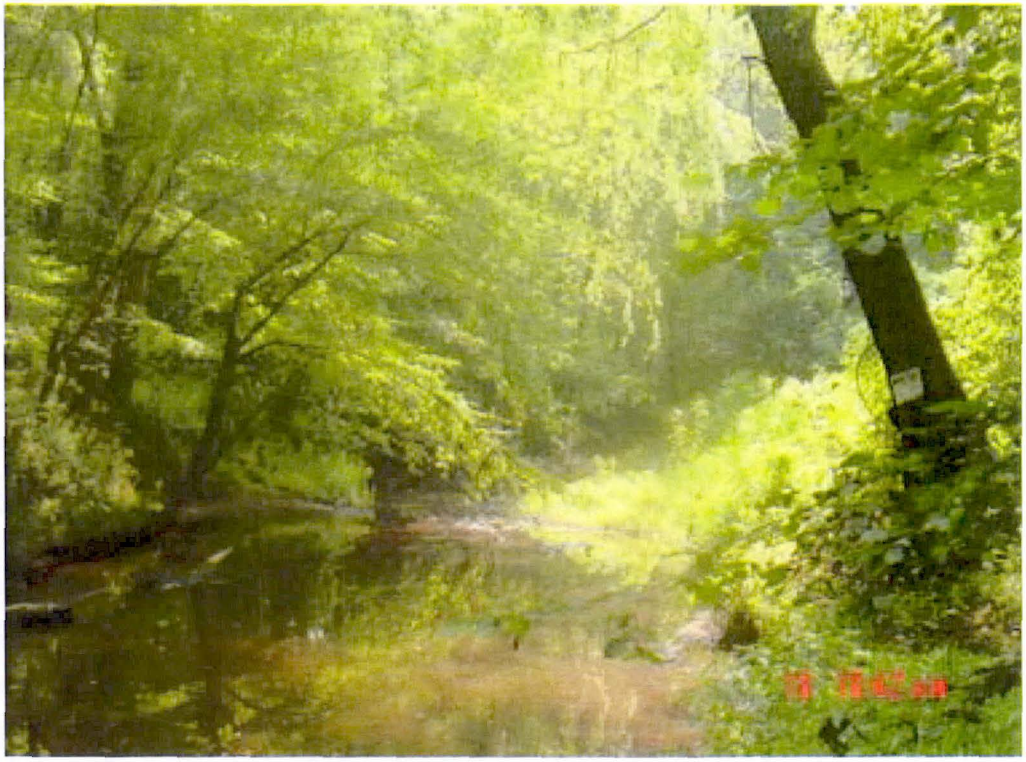
**Photo Taken: 07-19-06**

LOCATION:

Looking west up Cedar Creek at Point 23

COMMENTS:

Figure D-2 (cont)



**PHOTOGRAPH No.: 17**

**Photo Taken: 07-19-06**

LOCATION:

Looking east down Cedar Creek at Point 30

COMMENTS:

**PHOTOGRAPH No.: 18**

**Photo Taken: 07-19-06**

LOCATION:

Looking west up Cedar Creek at Point 30

COMMENTS:

Figure D-2 (cont)

**PHOTOGRAPH No.: 19**

**Photo Taken: 07-19-06**

LOCATION:

Looking north up Northern Tributary 1 to Cedar Creek

COMMENTS:

**PHOTOGRAPH No.: 20**
**Photo Taken: 07-19-06**

LOCATION:

Bridge over Cedar Creek installed by Deer Hunters at Point 34

COMMENTS:

Figure D-2 (cont)

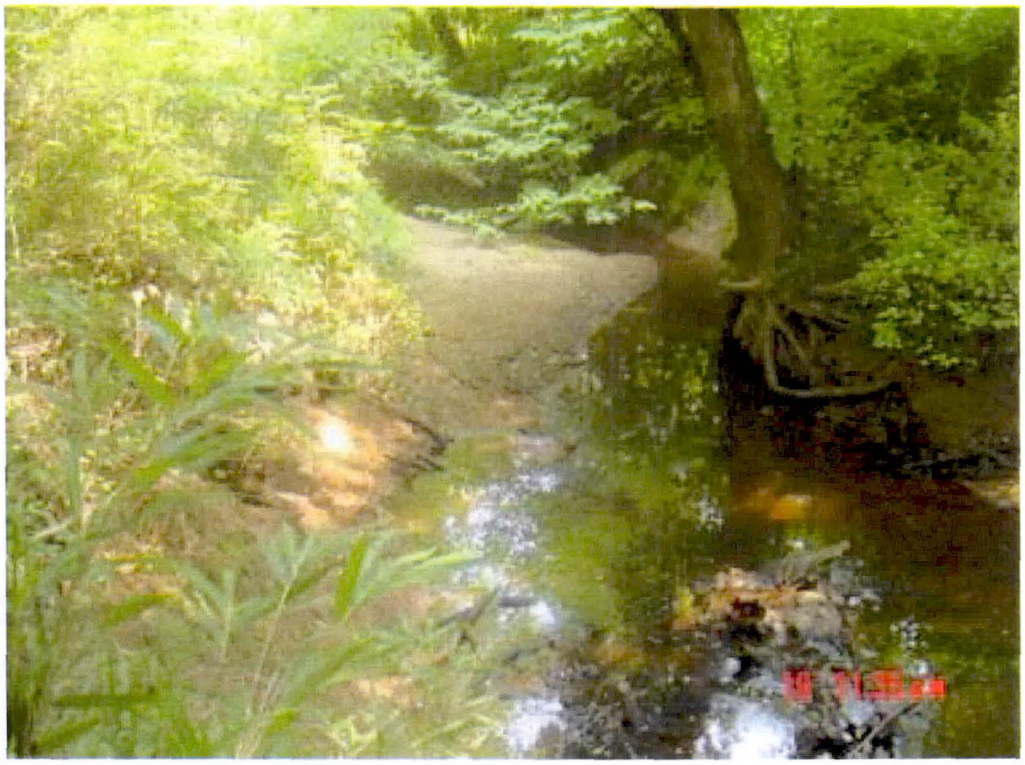
**PHOTOGRAPH No.: 21**

**Photo Taken: 07-19-06**

LOCATION:

Looking east down Cedar Creek at northeast corner of Southern Wood Piedmont property

COMMENTS:



**PHOTOGRAPH No.: 22**

**Photo Taken: 07-19-06**

LOCATION:

Looking west up Cedar Creek at northeast corner of Southern Wood Piedmont property

COMMENTS: