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SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT OF THE DRAINAGE DITCH AND CEDAR CREEK NEAR THE SOUTHERN WOOD PIEDMONT FACILITY IN GULF, NORTH CAROLINA – REVISION 1

Submitted to:

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15 June 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
ESV	Ecological Screening Value
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
NCNHP	North Carolina Natural Heritage Program
RTE	Rare, Threatened and Endangered
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
WQS-AL	North Carolina Surface Water Quality Standard for Aquatic Life

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). Therefore, these five VOCs were retained as preliminary COPECs for further assessment as part of ERAGS Step 3.

It is likely that the VOCs will not be retained following the ERAGS Step 3 assessment since they are transient in the environment.

Of the 24 SVOCs detected in the sediment samples, 14 had conservative sediment screening criteria (Appendix Table B-3). All 14 of these SVOCs exceeded the sediment screening criteria and were retained as COPECs. The 10 remaining SVOCs that lacked sediment screening criteria were also retained as COPECs for further screening as part of ERAGS Step 3.

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 four inorganics (arsenic, cobalt, nickel, and silver) exceeded their screening values (Appendix Table B-4). Ten of the inorganics (aluminum, barium, beryllium, calcium, cobalt, iron, magnesium, manganese, potassium, and vanadium) lacked screening benchmarks and these were also retained as COPECs for further screening as part of ERAGS Step 3. It is likely that many of these inorganics will not be retained following the ERAGS Step 3 assessment since there was no known or suspected use of inorganics at the former SWP facility.

E.4.2 Surface Water Abiotic Screen Results

Six SVOCs (2-methylphenol, isophorone, pentachlorophenol, naphthalene, pyrene, and total PAHs) were positively detected in the unfiltered surface water samples. All of the PAHs were detected in a single sample (SW-034-SW), while pentachlorophenol was detected in two samples and a corresponding field duplicate (SW-02, SW-029-SW and SW-129-SW).

The maximum detected results for three of the positive SVOC results (isophorone, naphthalene and total PAHs) yielded HQ_{screen} values below one based on the chronic ESVs (Appendix Table B-6). These were unlabeled in the chemical category column in Table B-6. Two of the SVOCs (2-methylphenol and pyrene) lacked ESV values and had no WQC-AL values, and were labeled as "category 3" chemicals in the chemical category column in Table B-6. The maximum detected pentachlorophenol result (0.15 mg/L) yielded HQ_{screen} values above one for the USEPA Region IV chronic ESV (HQ_{screen} values of 11.5; Appendix Table B-6). Pentachlorophenol was the only "category 1" chemical in the chemical category column in Table B-5.

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).

Based on this assessment, 14 inorganics were retained as preliminary COPECs based upon the SLERA screening. A refined screening will be performed as part of the ERAGS Step 3 assessment, where alternate screening benchmarks (e.g., National Water Quality Criteria; USEPA, 2004), comparison to local background, identification of essential nutrients, and spatial analysis of results, will be performed that which may significantly reduce the number of inorganics retained as COPECs.

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 indicates that the maximum chemical concentrations for several organics and inorganics in surface water, 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 there is a the need for a more thorough assessment. This includes refined screening of the COPECs based on alternate benchmarks and site-specific information, and additional weight-of-evidence criteria, such as the ecological condition of the creek and ditch. This will be performed in subsequent steps of the ERAGS process.

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*. 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 submission of the current document to 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. Additional detail concerning the property boundaries and adjoining properties is provided in the *Remedial Action Plan* prepared by Schnabel Engineering and Associates. 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, the USGS quadrant map shows that 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

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, 2001b), 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)[1] 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. The Dioxin-TEQs for the mammals [Dioxin-TEQ(mammal)] and birds [Dioxin-TEQ(avian)] were calculated separately. .TEQs were calculated by setting any non-detect PCDD/F congener results to zero, and also to one-half the reported detection limit.

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 hazard quotients (HQ_{screen}). These are calculated as the ratio of the maximum concentration of

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

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 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.

Appendix C Tables C-2 and C-3 present the chemical results for the individual sediment samples.

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[2]. 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, B-4 and B-5 for PCDD/Fs, VOCs, SVOCs, inorganics and dioxin-TEQs, 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 this worksheet table[3]. 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). Therefore, these five VOCs were retained as preliminary COPECs for further assessment as part of ERAGS Step 3. It is likely that the VOCs will not be retained following the ERAGS Step 3 assessment.

Of the 24 SVOCs detected in the sediment samples, 14 had conservative sediment screening criteria (Appendix Table B-3). All 14 of these SVOCs exceeded the sediment screening criteria, were labeled as "chemical category 1" on Table B-3, and were retained as COPECs. The 10 remaining SVOCs that lacked sediment screening criteria were labeled as "chemical category 3" on Table B-3, and were also retained as COPECs for further screening as part of ERAGS Step 3.

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[2] 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.

[3] Table B-6 compares the maximum calculated dioxin-TEQ across all of the samples to the screening benchmark.

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 four inorganics (arsenic, cobalt, nickel and silver) exceeded their screening values and were labeled as "category 1" chemicals in the chemical category column in Appendix Table B-4. Ten of the inorganics (aluminum, barium, beryllium, calcium, cobalt, iron, magnesium, manganese, potassium, and vanadium) lacked screening benchmarks and were labeled as "category 3" chemicals in the chemical category column in Appendix Table B-4. Although there was no known or suspected use of inorganics at the former SWP facility, these metals will be retained for further COPEC screening as part of ERAGS Step 3.

3.3.2.4 Sediment Dioxin-TEQs

The pesticides screening worksheet (Appendix Table B-5) includes the screening benchmark for dioxin-TEQs. These values were summarized by setting non-detect values to zero or half the reported values, and using both the avian and mammalian TEF values. The maximum observed dioxin-TEQ values exceeded the screening benchmark (2.5 ng/Kg), so dioxin-TEQs were retained as COPECs.

3.3.2.5 Summary of Sediment Non-Detect Results

Table 6 summarizes the frequency of detection and range of the non-detect results for the VOCs, SVOCs, metals, PCDD/F congeners, and dioxin-TEQs for the sediment samples collected from the background areas, drainage ditch and Cedar creek. Although not directly relevant to this summary, the frequency of detection information was included in this table to obtain a perspective of the number of non-detect results for each analyte from these three areas. The non-detect results were included in the initial screening of the COPECs, when appropriate.

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-6 and B-7, for the SVOCs and inorganics, respectively. This screening was initially performed using the 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 SVOCs detected in the surface water (isophorone, pentachlorophenol, naphthalene and total PAHs) and four of the metals (aluminum, iron, mercury, and zinc) detected in the surface water. Consistent with the SLERA Guidance (NCDENR, 2003), the *North Carolina Surface Water Quality Standard for Aquatic Life* (WQS-AL) were then used as screening benchmarks. For the ERAGS Step 3 screening, the NC Class C Surface Water criteria (NCAC, 2003) will be used since this is the use classification for Cedar Creek (as of September 2005).

A comparison between the site-specific upstream (background) and downstream samples will be used as part of the Supplemental Screening performed as part of ERAGS Step 3.

3.3.4.1 Surface Water Organics

Six SVOCs (2-methylphenol, isophorone, pentachlorophenol, naphthalene, pyrene, and total PAHs) were positively detected in the unfiltered surface water samples. All of the PAHs were detected in a single sample (SW-034-SW), while pentachlorophenol was detected in two samples and a corresponding field duplicate (SW-02, SW-029-SW and SW-129-SW).

The maximum detected results for three of the positive SVOC results (isophorone, naphthalene and total PAHs) yielded HQ_{screen} values below one based on the chronic ESVs (Appendix Table B-6). These were unlabeled in the chemical category column in Table B-6. Two of the SVOCs (2-methylphenol and pyrene) lacked ESV values and had no WQC-AL values, and were labeled as "category 3" chemicals in the chemical category column in Table B-6. The maximum detected pentachlorophenol result (0.15 mg/L) yielded HQ_{screen} values above one for the USEPA Region IV chronic ESV (HQ_{screen} values of 11.5; Appendix Table B-6). Pentachlorophenol was the only "category 1" chemical in the chemical category column in Table B-5.

Table 7 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.

Twenty-six of the non-detect SVOCs had EPA Region IV chronic ESV values. The HQ_{screen} values were calculated using the maximum detection limit (10 µg/L for all of the SVOCs). The HQ_{screen} values exceeded one for 10 of the 26 chemicals, and these were labeled as "category 2" chemicals in the chemical category column in Table B-6.

3.3.4.2 Surface Water Inorganics

The comparisons of the surface water inorganic results to the ESVs are presented in Appendix Table B-7. USEPA Region IV 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

[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 May 1990 and sample SW-029-SW/SW-129-SW was collected in November 1995.

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 8 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.

Based on this assessment, 14 inorganics were retained as preliminary COPECs based upon the SLERA screening. A refined screening will be performed as part of the ERAGS Step 3 assessment, where alternate screening benchmarks (e.g., National Water Quality Criteria; USEPA, 2004), comparison to regional background (e.g., USGS, 2003), identification of essential nutrients, and spatial analysis of results, will be performed that which may significantly reduce the number of inorganics retained as COPECs.

Appendix B, Table B-7 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 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).

3.3.4.3 Summary of Surface Water Non-Detect Results

Table 9 summarizes the frequency of detection and range of the non-detect results for the VOCs, SVOCs, and metals for the surface water samples collected from the background areas and Cedar creek. As with the comparable summary prepared for the sediment samples, the frequency of detection information was included in this table to obtain a perspective of the number of non-detect results for each analyte from these areas.

3.3.5 Summary of COPECs Identified in SLERA Steps 1 and 2

Table 10 compiles the COPECs identified as part of this SLERA that will be carried into ERAGS Step 3 for further evaluation and refinement. The positively detected chemicals that were labeled as chemical category 1 (the chemical's maximum concentration exceeds the screening value) or chemical category 3 (the chemical's maximum concentration exceeds the SQL but it lacks an NCDENR screening value) were retained as COPECs at this stage.

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 several organics and inorganics in surface water, 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 there is the need for a more thorough assessment. This includes a refined screening of the COPECs based on alternate benchmarks and site-specific information, and additional weight-of-evidence criteria, such as the ecological condition of the creek and ditch. This will be performed in subsequent steps of the ERAGS process. Some of the key elements of ERAGS Step 3 are presented in Section 4.

4.0 COMPONENTS OF ERAGS STEP 3

ERAGS Step 3 (Problem Formulation) is the first step in conducting a quantitative ERA following the initial screening steps (USEPA, 1997). As described by USEPA (1998c), it is a process "*for generating and evaluating preliminary hypotheses about why ecological effects have occurred, or may occur, from human activities.*" The components of problem formulation that will be emphasized in the ERA are listed below and described in detail in subsequent sections of this Work Plan:

- Developing preliminary chemicals of potential ecological concern (COPECs) based on the evaluation of site-specific data.
- Developing a Conceptual Site Model that reflects the potential fate and transport pathways and exposure routes for ecological receptors.
- Identifying assessment and measurement endpoints to frame the evaluation.
- Selecting receptors to be evaluated.

Some of the components of ERAGS Step 3 were addressed in the WPM (AMEC, 2006) and will be examined in detail in the ERAGS Step 3 Report. In the comment letter to the WPM, NCDENR (2006) outlined the following elements to include as part of ERAGS Step 3 (USEPA, 1997, 1998c), and include the following:

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

   The remaining COPECs 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.

4.1 Supplemental Screening of COPECs

As part of the ERAGS Step 3 a supplemental screening will be performed to revise the initial selection of COPECs that were based on conservative benchmarks (USEPA, 1997, 2001c).

Supplemental Sediment COPEC Screening

The following additional benchmarks will be used as screening values to refine the surface water COPECs identified in the SLERA:

- Compare the frequency of detection to a value of 5%, and assess the pattern and spatial distribution, of the potential COPECs. The spatial distribution of the results are used to determine how representative the COPECs may be for site conditions, or whether it represents a localized area of contamination only.

- The average and maximum observed concentrations will be compared to the *Region 4 Waste Management Division Sediment Screening Values for Hazardous Waste Sites* (USEPA, 2001b).

- Compare the average and maximum observed sediment concentrations to alternate sediment benchmarks (e.g., Buchman, 2006)

- For metals in sediments, the maximum results are compared to the site-specific background.

In those cases where no suitable benchmarks sources were available, a comparison between the site-specific upstream (background) and downstream samples will be performed. In addition, essential nutrients (e.g., calcium, iron, magnesium, sodium and potassium) present at low concentrations or concentrations slightly elevated above background will be eliminated as COPECs for further evaluation.

Supplemental SW COPEC Screening

The following additional steps will be used to refine the surface water COPECs identified in the SLERA:

- Compare the frequency of detection to a value of 5%, and assess the pattern and spatial distribution, of the potential COPECs. The spatial distribution of the results are used to determine how representative the COPEC may be for site conditions, or whether it represents a localized area of contamination only.

- Compare the average and maximum observed concentrations to NC Class C Surface Water criteria (NCAC, 2003). In the SLERA the *North Carolina Surface Water Quality Standard for Aquatic Life* were used as screening benchmarks. For the ERAGS Step 3 screening, the NC Class C Surface Water criteria (NCAC, 2003) will be used since this is the use classification for Cedar Creek (as of September 2005).

- Compare the average and maximum observed concentrations to National Water Quality Criteria (USEPA, 2004)

- Compare the average and maximum observed concentrations to 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 will be performed. In addition, essential nutrients (e.g., calcium, iron, magnesium, sodium and potassium) present at low concentrations or concentrations slightly elevated above background will be eliminated as COPECs for further evaluation.

4.2 Toxicological Profiles for COPECs

Summaries of the studies selected to derive the NOAEL-based and LOAEL-based TRVs will be included in the ERAGS Step 3 Report, as well as the proposed TRVs. If a determination is made that a BERA is required, the TRVs may be re-examined and updated based on recent relevant toxicological studies.

4.3 Spatial Extent of Chemical Results

The spatial assessment of chemical results, especially for those chemicals that may elicit an adverse effect, can be used to determine how representative the COPC may be for site conditions, or whether it represents a localized area of contamination only. Figures 4a and 4b

for the PAH and Dioxin-TEQ results for the Drainage Ditch sediments, respectively, and Figures 5a and 5b for the PAH and Dioxin-TEQ results for the Cedar Creek sediments, respectively - show the spatial distribution of PAHs and dioxin-TEQs. A more detailed examination of these results, as well as for other chemicals in site media (e.g., iron in surface water) will be provided in the ERAGS Step 3 Report.

4.4 ERAGS Step 3 Report

The focus of this SLERA was on Steps 1 and 2 of the ERAGS process, consistent with NCDENR (2003) SLERA guidance. Following submission of this SLERA, ,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. It is anticipated that this report will be submitted to NCDENR for review in late August 2007.

This report will include a semi-quantitative assessment of the potential contribution of COPECs from the tributaries to Cedar. Based on field observations made during prior field investigations by staff from Schnabel Engineering, and also observations made during ecological habitat assessment, flow is not perennial in many of these tributaries, which are also highly responsive to storm events.

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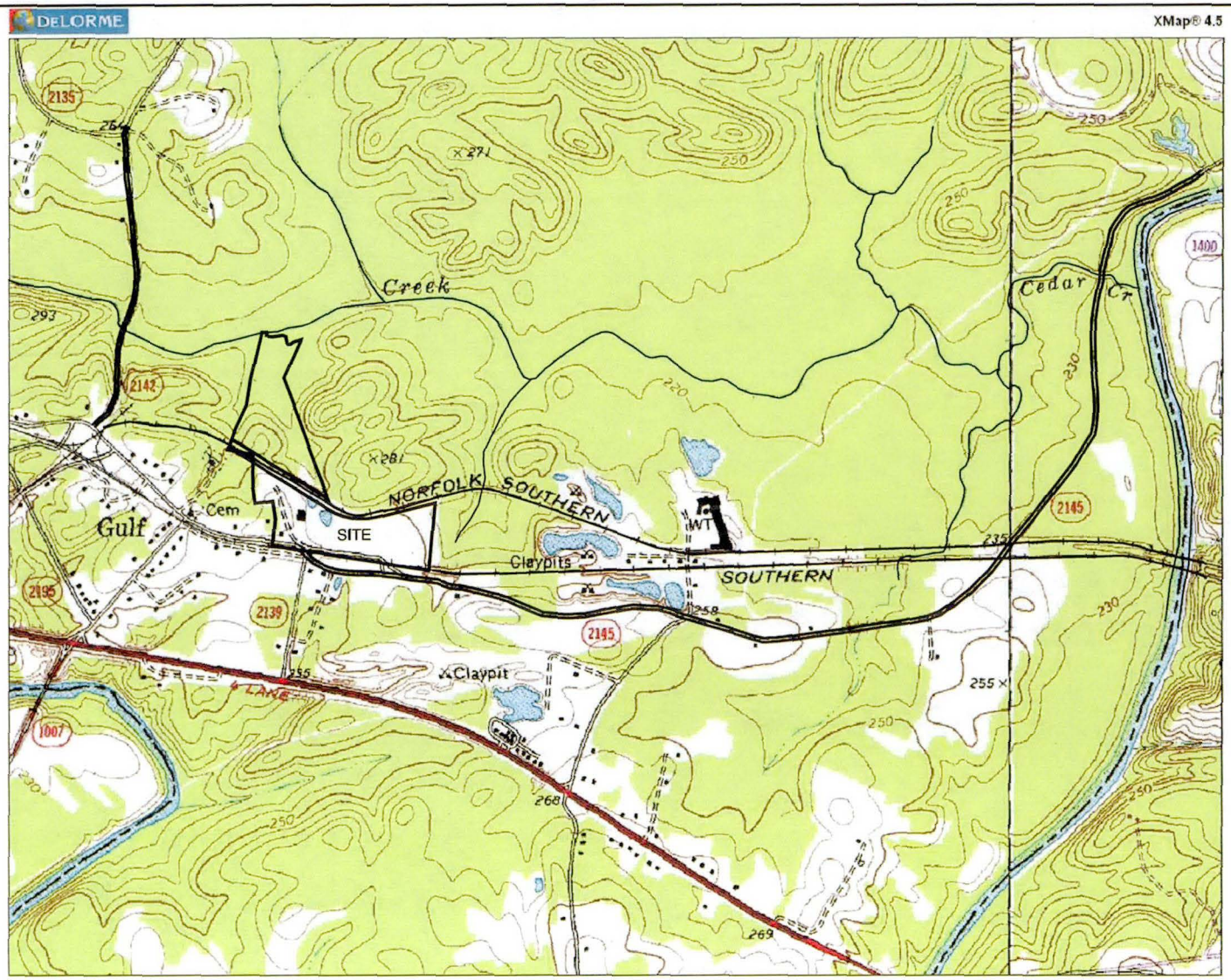

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SITE LOCATION AND TOPOGRAPHIC MAP

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY

PROJECT NO. 979010.A0
FIGURE 1

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3/3/05

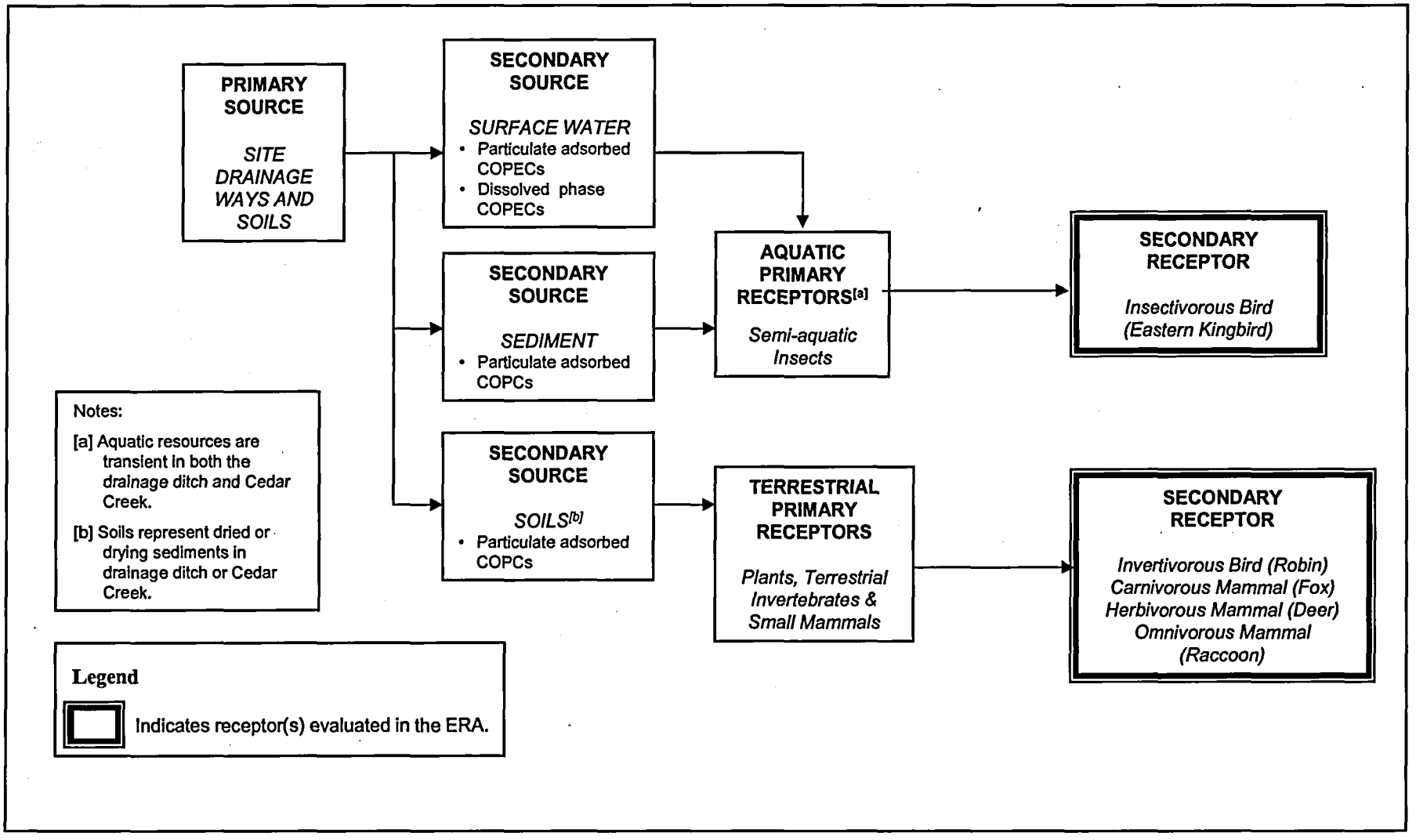
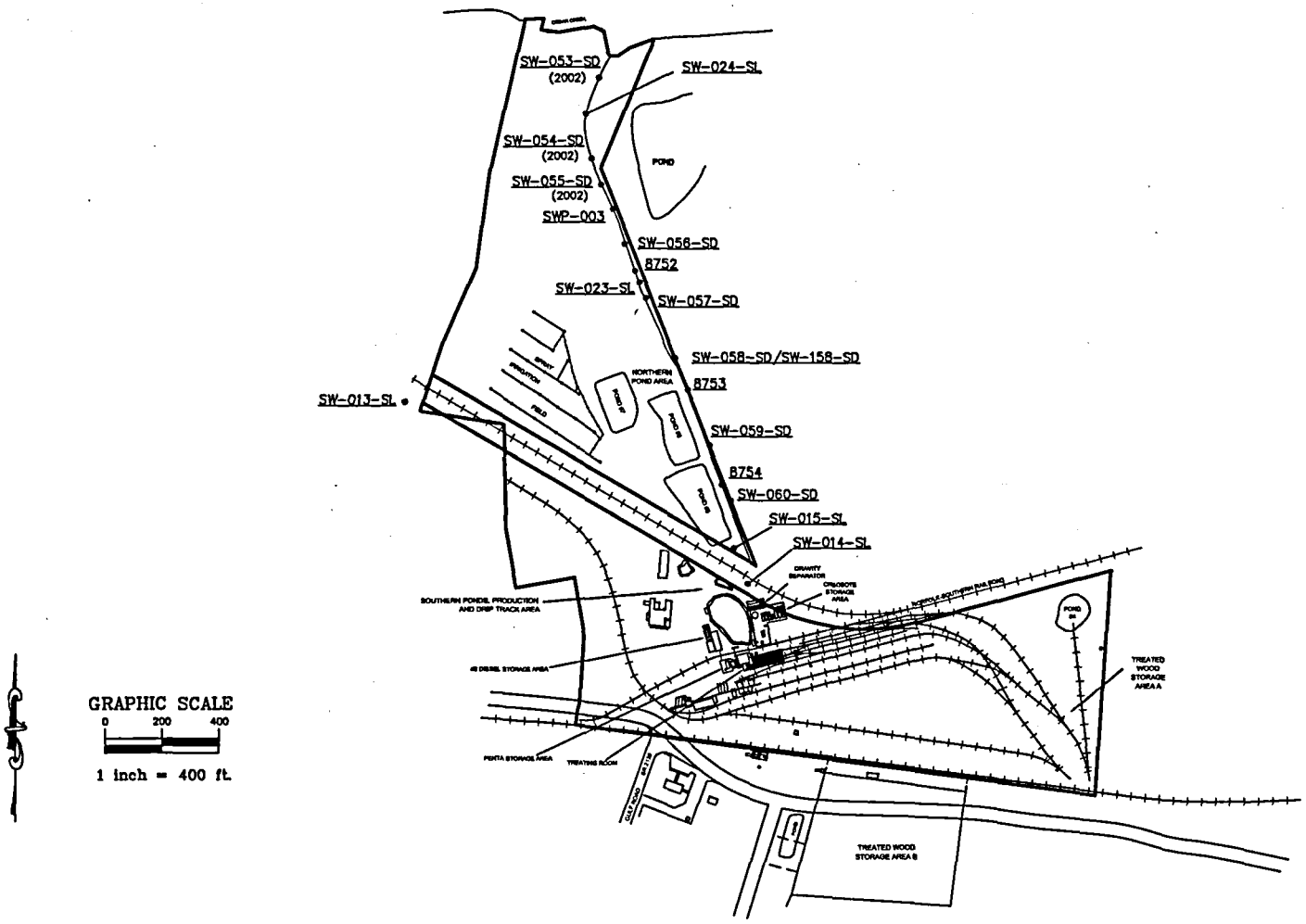


Figure 2. Conceptual Site Model for the Ecological Risk Assessment of the Former Southern Wood Piedmont–Gulf Facility



Schnabel Schnabel Engineering	DRAINAGE DITCH SEDIMENT SAMPLES	SOUTHERN WOOD PIEDMONT GULF, N.C. FACILITY FIGURE 3A

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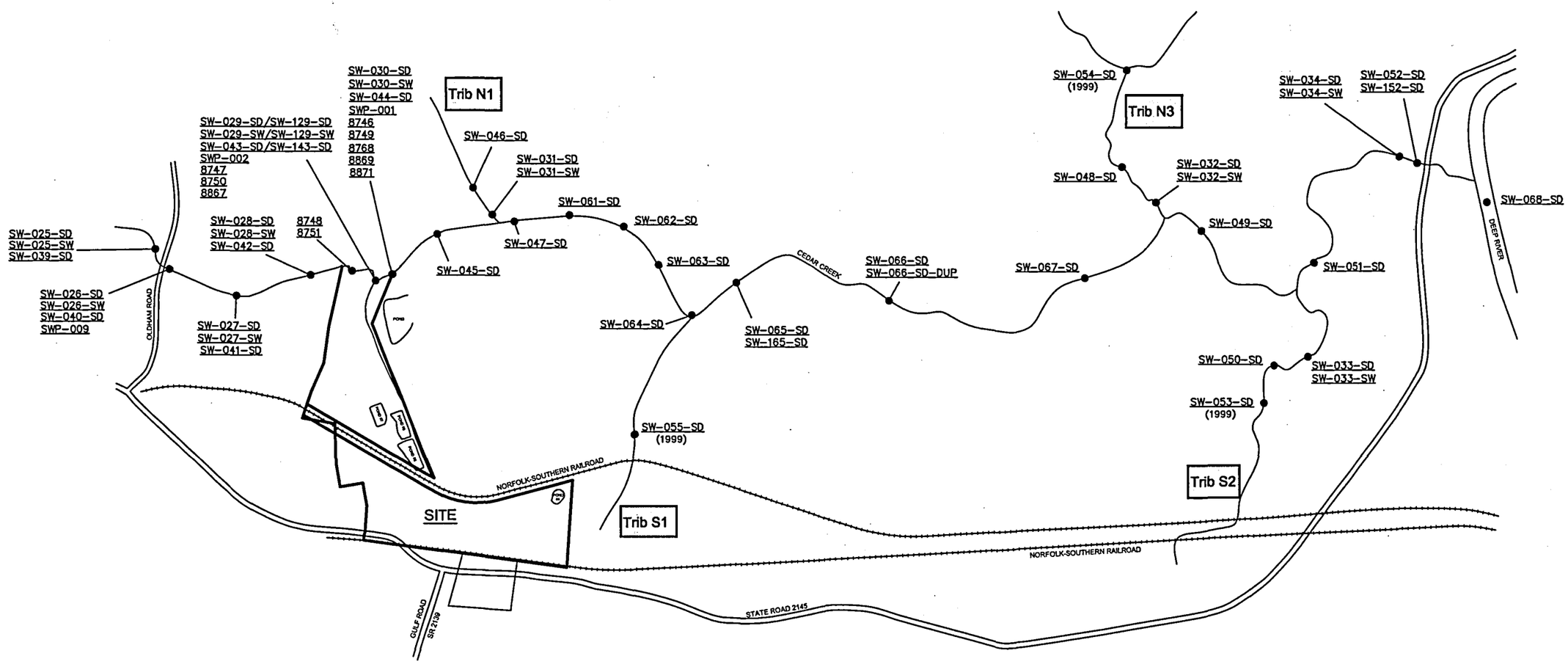

GRAPHIC SCALE

0 500 1000

1 inch = 1000 ft.

Note:
Although the USGS quadrant map shows the presence of another northern tributary (Trib N2) near sample SW-066-SD no analytical samples were available from this tributary, likely due to absence of standing water.

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CEDAR CREEK SEDIMENT AND SURFACE WATER SAMPLES

SOUTHERN WOOD PIEDMONT GULF, N.C. FACILITY

FIGURE 3B

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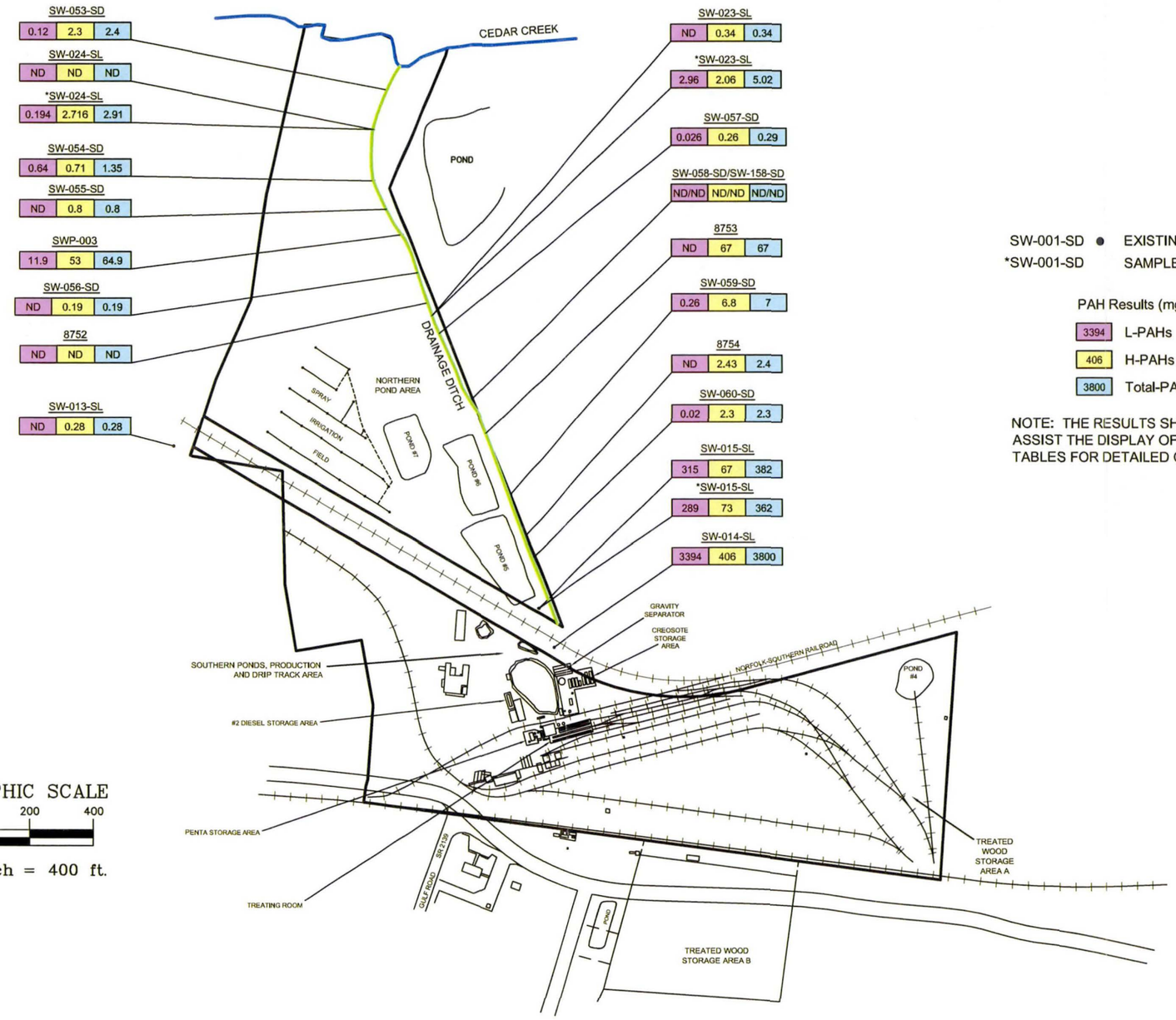

SW-001-SD ● EXISTING SOIL SAMPLE LOCATIONS

*SW-001-SD SAMPLES COLLECTED BY NCDENR AND SPLIT WITH SWP

PAH Results (mg/Kg)

3394	L-PAHs
406	H-PAHs
3800	Total-PAHs

NOTE: THE RESULTS SHOWN ON THIS FIGURE WERE ROUNDED TO ASSIST THE DISPLAY OF THE INFORMATION. REFER TO APPENDIX TABLES FOR DETAILED COMPILATION OF THE RESULTS.

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DRAINAGE DITCH SEDIMENT
L-PAH, H-PAH
and
TOTAL PAH RESULTS

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY

PROJECT NO. 979010.A0-31
FIGURE 4a

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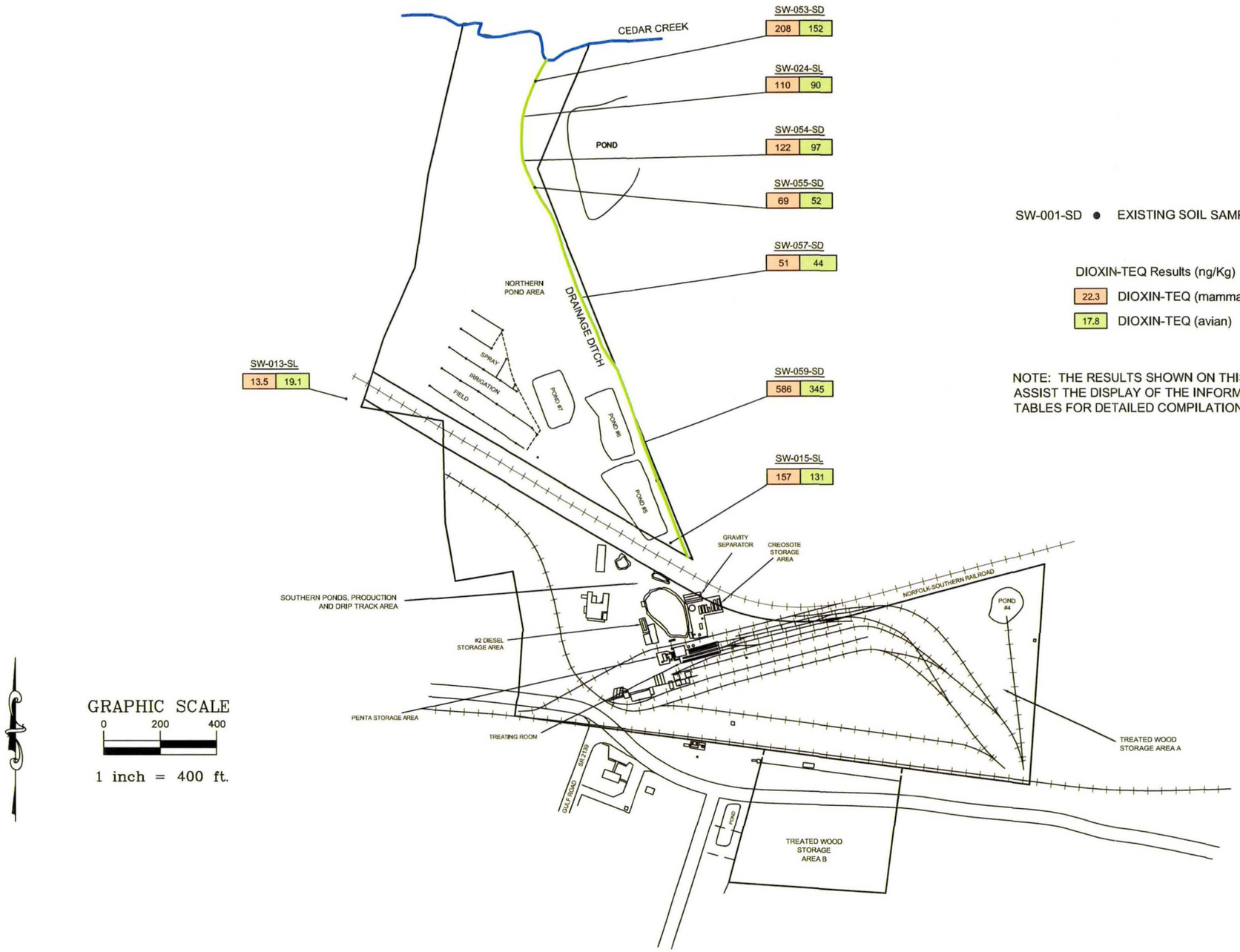

SW-001-SD ● EXISTING SOIL SAMPLE LOCATIONS

DIOXIN-TEQ Results (ng/Kg)

22.3 DIOXIN-TEQ (mammal)

17.8 DIOXIN-TEQ (avian)

NOTE: THE RESULTS SHOWN ON THIS FIGURE WERE ROUNDED TO ASSIST THE DISPLAY OF THE INFORMATION. REFER TO APPENDIX TABLES FOR DETAILED COMPILATION OF THE RESULTS.

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DRAINAGE DITCH SEDIMENT DIOXINS-TEQ(mammal) and DIOXINS-TEQ(avain) RESULTS

SOUTHERN WOOD PIEDMONT GULF, N.C. FACILITY

PROJECT NO. 979010.A0-31

FIGURE 4b

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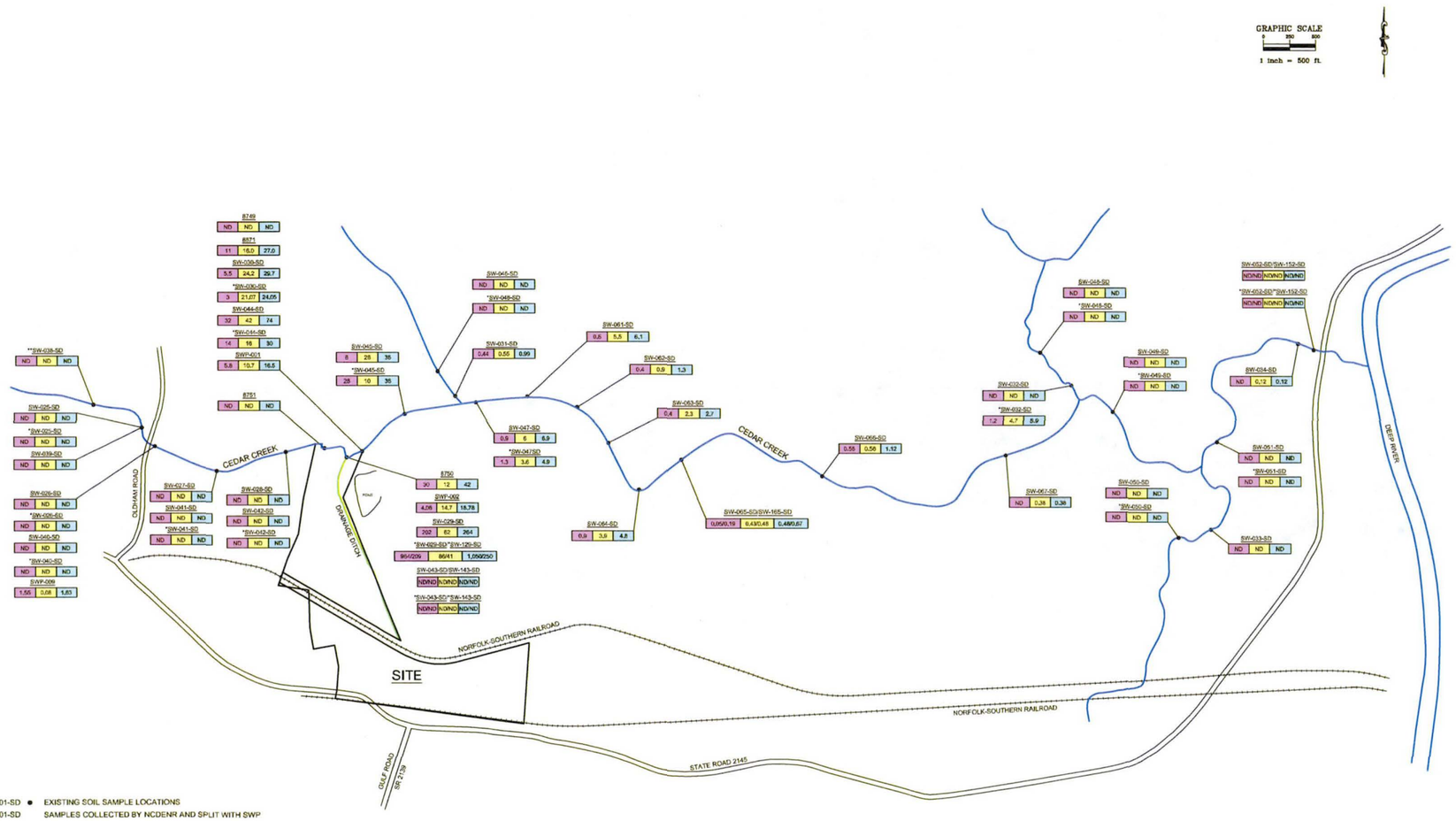

SW-001-SD ● EXISTING SOIL SAMPLE LOCATIONS

*SW-001-SD SAMPLES COLLECTED BY NCDENR AND SPLIT WITH SWP

**SW-001-SD SW-038-SD COLLECTED BY NCDENR. THE ACTUAL SAMPLE LOCATION IS UNKNOWN. THE SAMPLE LOCATION IS ASSUMED TO BE UPGRADIENT OF THE OLDHAM ROAD BRIDGE UPGRADIENT OF THE SITE.

PAH Results (mg/Kg)

3394	L-PAHs
406	H-PAHs
3800	Total-PAHs

NOTE: THE RESULTS SHOWN ON THIS FIGURE WERE ROUNDED TO ASSIST THE DISPLAY OF THE INFORMATION. REFER TO APPENDIX TABLES FOR DETAILED COMPILATION OF THE RESULTS.

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PROJECT: SOUTHERN WOOD PIEDMONT GULF, N.C. FACILITY

SHEET TITLE: CEDAR CREEK SEDIMENT L-PAH, H-PAH AND TOTAL PAH RESULTS

DESIGNED BY:	DRAWN BY:	CHECKED BY:
GBK	CAB	GBK

REV	DESCRIPTION	DATE

Schnabel Engineering
104 Corporate Boulevard
Suite 420
West Columbia, SC 29169
Phone: 803-796-8240
Fax: 803-796-6250

SCALE: 1"=500' | DATE: 6/4/07 | FIGURE NO: 5c | SHEET:

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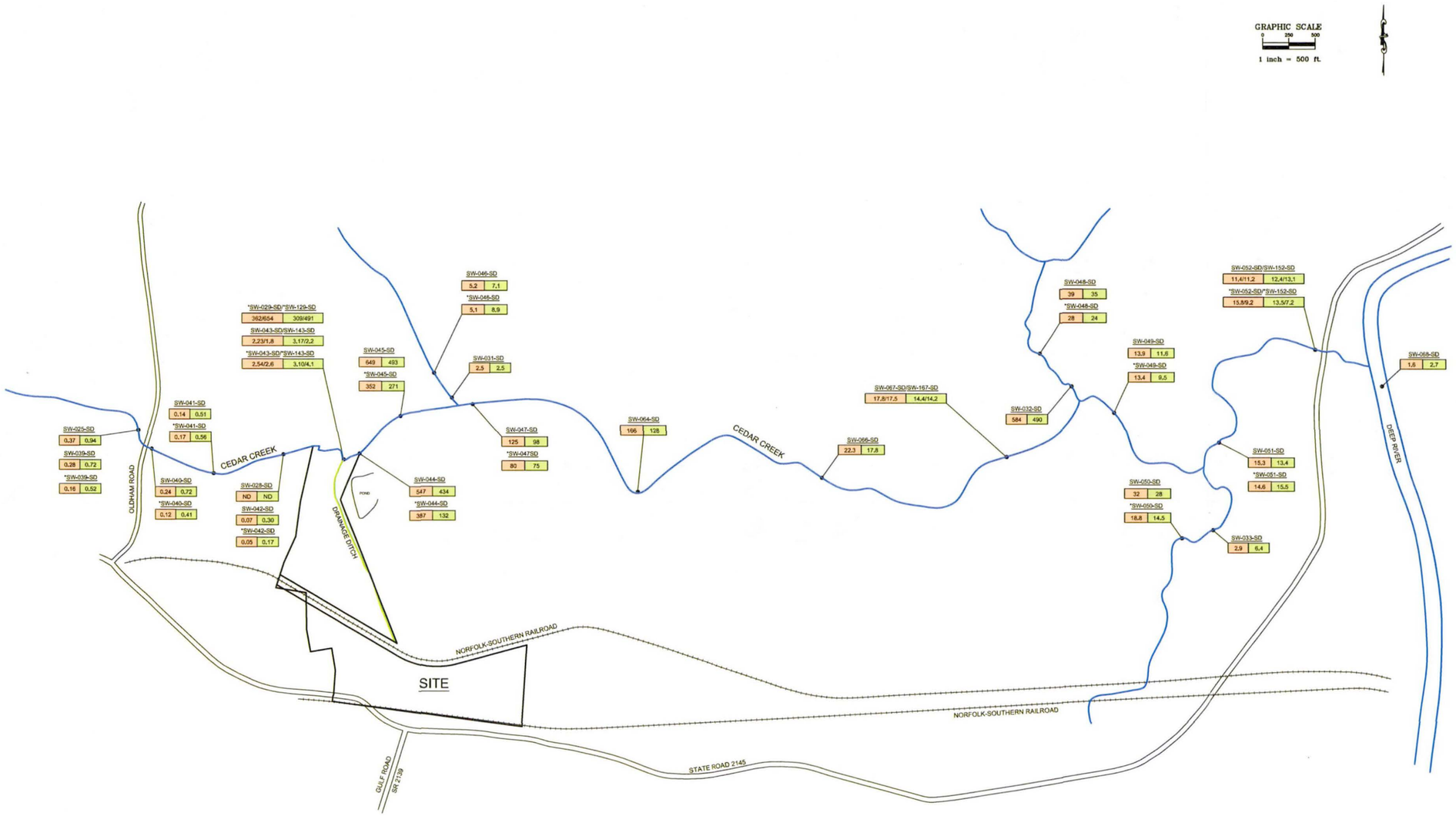
6/4/07



SW-001-SD ● EXISTING SOIL SAMPLE LOCATIONS
*SW-001-SD SAMPLES COLLECTED BY NCDENR AND SPLIT WITH SWP

DIOXIN-TEQ Results (ng/Kg)

22.3 DIOXIN-TEQ (mammal)
17.8 DIOXIN-TEQ (avian)

NOTE: THE RESULTS SHOWN ON THIS FIGURE WERE ROUNDED TO ASSIST THE DISPLAY OF THE INFORMATION. REFER TO APPENDIX TABLES FOR DETAILED COMPILATION OF THE RESULTS.

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PROJECT: SOUTHERN WOOD PIEDMONT GULF, N.C. FACILITY

DESIGNED BY:	DRAWN BY:	CHECKED BY:
CBK	CAB	CBK

SHEET TITLE: CEDAR CREEK SEDIMENT DIOXIN-TEQ(mammal) and DIOXIN-TEQ(avain) RESULTS

REV	DESCRIPTION	DATE

Schnabel Engineering
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SCALE: 1"=500' | DATE: 6/4/07 | FIGURE NO: 5b | SHEET:

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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

						Areas and Station Ids							
		Max Values				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. 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
Drainage Ditch Sediment Samples					
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	
Cedar Creek Sediment Samples					
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	
Cedar Creek Surface Water Samples					
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	%
Drainage Ditch Samples								
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
Cedar Creek Samples								
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. 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-Specific Screening Values (µg/L)		Observed Results (µg/L)		Exceeds Screening Value?	
Sample ID	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 8. 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 (ug/L)		Observed Results (ug/L)		Exceeds Screening Value?	
		Acute	Chronic	Conc	Lab Flag	Acute	Chronic
SW-025-SW (NCDENR)	29.07	41.08	37.21	7	UJ	NA	NA
SW-026-SW (NCDENR)	29.98	42.17	38.20	11	J	No	No
SW-027-SW (NCDENR)	29.32	41.38	37.48	8	U	NA	NA
SW-028-SW (NCDENR)	29.07	41.08	37.21	28	J	No	No
SW-029-SW (NCDENR)	30.72	43.05	38.99	8	UJ	NA	NA
SW-129-SW (NCDENR)	29.89	42.07	38.10	7	U	NA	NA
SW-030-SW (NCDENR)	27.50	39.19	35.50	20	U	NA	NA
SW-031-SW (NCDENR)	11.99	19.40	17.58	7	U	NA	NA
SW-033-SW (NCDENR)	9.61	16.08	14.57	13	J	No	No
SW-034-SW (NCDENR)	21.87	32.28	29.24	9	UJ	NA	NA
SW-032-SW (NCDENR)	14.75	23.13	20.95	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.

Table 9. Summary of Maximum Non-Detect Values for Sediment 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 9. Summary of Maximum Non-Detect Values for Sediment 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 10. Compilation of Preliminary COPECs based on the SLERA Screening for Further Assessment as Part of ERAGS Step 3
Southern Wood Piedmont - Gulf, North Carolina Facility

Chemical Class	Preliminary Sediment COPEC	Cat [a]	Preliminary Surface Water COPEC	Cat [a]
VOCs	Benzene	3		
	Ethylbenzene	3		
	Styrene	3		
	Toluene	3		
	Xylenes (Total)	3		
SVOCs	2,4-Dimethylphenol	3	2-Methylphenol	3
	2-Methylnaphthalene	1	Pentachlorophenol	1
	2-Methylphenol	3	Pyrene	3
	Acenaphthene	1		
	Acenaphthylene	1		
	Anthracene	1		
	Benzo(a)anthracene	1		
	Benzo(a)pyrene	1		
	Benzo(b)fluoranthene	3		
	Benzo(g,h,i)perylene	3		
	Benzo(k)fluoranthene	3		
	Carbazole	3		
	Chrysene	1		
	Dibenz(a,h)anthracene	1		
	Dibenzofuran	3		
	Fluoranthene	1		
	Fluorene	1		
	Indeno(1,2,3-cd)pyrene	3		
	Naphthalene	1		
	Pentachlorophenol	3		
	Phenanthrene	1		
	Phenol	3		
	Pyrene	1		
	Total PAHs	1		
Inorganics	Aluminum	3	Aluminum	1
	Arsenic	1	Barium	3
	Barium	3	Calcium	3
	Beryllium	3	Iron	1, 5
	Calcium	3	Magnesium	3
	Cobalt	3	Manganese	3
	Copper	1	Mercury	1, 5
	Iron	3	Potassium	3
	Magnesium	3	Sodium	3
	Manganese	3		
	Nickel	1		
	Potassium	3		
	Silver	1		
	Vanadium	3		
Dioxin-TEQs	Dioxin-TEQs	1		

Note:
The preliminary COPECs were identified based on comparison to conservative screening benchmarks. A refined COPEC screening will be performed as part of ERAGS Step 3. See Section 4 of text for discussion.
Only those chemicals that were detected in at least one sample are shown in this table.
[a] Cat: Chemical category values shown in Appendix B tables (from NCDNER, 2003).

amec

Appendix A

NCDENR Checklist for Ecological Assessments/Sampling

amec

APPENDIX A
NCDENR Checklist for Ecological Assessments/Sampling

Preface

This appendix shows the completed checklist for ecological assessments and sampling that is included as part of NCDENR (2003). Tables, figures, and additional attachments were prepared to support the preparation of this checklist, which are listed below.

List of Tables

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

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

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

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

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

Table A1-6 Benthic Macroinvertebrates from the Drainage Ditch, Cedar Creek, and the Off-Site Pond, 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

List of Figures

Figure A3-1 SWP-Gulf Facility 1962 and 1979 Aerial Photographs

Figure A3-2 SWP-Gulf Facility 2004 Aerial Photograph

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 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

amec

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

amec

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

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.

amec

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.

amec

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.

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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Attachment A1 Tables, Figures and Supplemental Information
Attachment A2 Threatened and/or Endangered Species

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Attachment A3 Aerial Photographs
Attachment A4 Historical Wetlands Assessment

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

		Background Samples				Drainage Ditch Samples				Cedar Creek Samples			
Chemical	Units	Freq	Mean	ND Range	Pos Range	Freq	Mean	ND Range	Pos Range	Freq	Mean	ND Range	Pos Range
VOLATILES													
Benzene	mg/Kg (dw)	0/6	ND	0.005 - 0.016	-	1/10	0.0075	0.005 - 0.015	0.039 - 0.039	0/13	ND	0.005 - 0.016	-
Ethylbenzene	mg/Kg (dw)	0/6	ND	0.005 - 0.016	-	3/10	0.021	0.005 - 0.014	0.004 - 0.1	1/13	0.013	0.005 - 0.016	0.1 - 0.1
m-Xylene	mg/Kg (dw)	NA	NA	NA	NA	0/3	ND	0.05 - 0.05	-	1/3	0.077	0.05 - 0.05	0.18 - 0.18
o-Xylene	mg/Kg (dw)	NA	NA	NA	NA	0/3	ND	0.05 - 0.05	-	1/3	0.067	0.05 - 0.05	0.15 - 0.15
p-Xylene	mg/Kg (dw)	NA	NA	NA	NA	0/3	ND	0.005 - 0.005	-	0/3	ND	0.005 - 0.005	-
Toluene	mg/Kg (dw)	1/6	0.019	0.005 - 0.016	0.084 - 0.084	3/10	0.027	0.005 - 0.015	0.043 - 0.14	3/13	0.012	0.005 - 0.016	0.0086 - 0.066
Xylenes (total)	mg/Kg (dw)	0/6	ND	0.005 - 0.016	-	3/10	0.075	0.005 - 0.014	0.016 - 0.42	3/13	0.031	0.005 - 0.016	0.002 - 0.34
SEMI-VOLATILES													
2-Methylnaphthalene	mg/Kg (dw)	0/16	ND	0.33 - 2	-	4/20	16.5	0.01 - 2	0.051 - 260	6/49	6.70	0.33 - 2	0.064 - 250
Acenaphthene	mg/Kg (dw)	0/16	ND	0.33 - 2	-	4/20	14.1	0.01 - 2	0.069 - 200	13/49	5.67	0.33 - 2	0.05 - 180
Acenaphthylene	mg/Kg (dw)	1/14	0.263	0.33 - 0.51	1.2 - 1.2	3/14	0.5	0.33 - 0.44	0.5 - 4.3	2/43	5.76	0.33 - 150	0.074 - 0.083
Anthracene	mg/Kg (dw)	1/16	0.176	0.33 - 0.51	0.0038 - 0.0038	9/20	44.7	0.01 - 0.41	0.086 - 860	21/49	1.60	0.33 - 0.7	0.052 - 18
Benzo(a)anthracene	mg/Kg (dw)	1/16	0.176	0.33 - 0.51	0.0057 - 0.0057	10/20	2.6	0.01 - 0.44	0.014 - 32	21/49	0.85	0.33 - 2	0.049 - 6.6
Benzo(a)pyrene	mg/Kg (dw)	1/16	0.176	0.33 - 0.51	0.0091 - 0.0091	10/20	1.1	0.01 - 0.41	0.067 - 8.1	20/49	0.41	0.33 - 2	0.064 - 1.8
Benzo(b&k)fluoranthene	mg/Kg (dw)	1/9	0.188	0.35 - 0.51	0.079 - 0.079	13/16	3.1	0.33 - 0.82	0.056 - 22	16/29	1.00	0.35 - 0.82	0.033 - 5.3
Benzo(b)fluoranthene	mg/Kg (dw)	1/7	0.143	0.33 - 0.33	0.013 - 0.013	8/13	0.8	0.01 - 0.33	0.03 - 7.9	9/26	8.81	0.33 - 130	0.25 - 4.6
Benzo(g,h,i)perylene	mg/Kg (dw)	1/14	0.177	0.33 - 0.51	0.003 - 0.003	8/14	0.8	0.33 - 13	0.032 - 0.36	7/43	0.22	0.028 - 2	0.089 - 0.5
Benzo(k)fluoranthene	mg/Kg (dw)	0/6	ND	0.33 - 0.33	-	7/12	0.2	0.01 - 0.33	0.027 - 0.65	5/24	9.20	0.33 - 140	0.28 - 2.2
Carbazole	mg/Kg (dw)	0/11	ND	0.33 - 0.51	-	4/19	16.1	0.01 - 0.42	0.044 - 300	9/35	0.93	0.33 - 0.7	0.05 - 12
Chrysene	mg/Kg (dw)	2/16	0.168	0.33 - 0.51	0.019 - 0.067	12/20	3.02	0.01 - 0.41	0.027 - 29	23/49	1.07	0.33 - 0.7	0.064 - 6.8
Dibenzo(a,h)anthracene	mg/Kg (dw)	0/16	ND	0.33 - 2	-	2/20	0.62	0.01 - 13	0.076 - 0.15	8/45	0.22	0.33 - 2	0.057 - 0.9
Dibenzofuran	mg/Kg (dw)	0/14	ND	0.33 - 2	-	4/14	17.8	0.33 - 2	0.026 - 220	8/43	4.51	0.041 - 2	0.066 - 150
Fluoranthene	mg/Kg (dw)	2/16	0.168	0.33 - 0.51	0.014 - 0.072	11/20	16.8	0.01 - 0.41	0.14 - 200	24/49	4.17	0.33 - 0.7	0.06 - 59
Fluorene	mg/Kg (dw)	1/16	0.197	0.33 - 0.51	0.34 - 0.34	5/20	22.8	0.01 - 0.42	0.48 - 370	19/49	4.18	0.33 - 0.7	0.054 - 110
Indeno(1,2,3-cd)pyrene	mg/Kg (dw)	1/16	0.176	0.33 - 0.51	0.0044 - 0.0044	5/20	0.63	0.01 - 13	0.093 - 0.39	10/49	0.26	0.33 - 2	0.058 - 0.99
Naphthalene	mg/Kg (dw)	0/16	ND	0.33 - 2	-	4/20	28.9	0.01 - 2	0.35 - 480	6/49	1.79	0.33 - 2	0.079 - 53
Phenanthrene	mg/Kg (dw)	1/16	0.176	0.33 - 0.51	0.0025 - 0.0025	9/20	46.7	0.01 - 0.41	0.021 - 700	22/49	7.75	0.33 - 0.7	0.053 - 200
Pyrene	mg/Kg (dw)	2/14	0.168	0.33 - 0.51	0.013 - 0.061	11/14	11.3	0.33 - 0.33	0.068 - 120	17/43	7.22	0.33 - 160	0.16 - 15
Total L-PAHs	mg/Kg (dw)	1/16	0.097		ND - 1.55	11/20	200.7		ND - 3,394	24/48	31.73		ND - 964
Total H-PAHs	mg/Kg (dw)	2/16	0.023		ND - 0.28	16/20	34.30		ND - 406	26/48	8.62		ND - 85.8
Total PAHs	mg/Kg (dw)	2/16	0.119		ND - 1.63	16/20	235.0		ND - 3,800	26/48	40.30		ND - 1,050
2,4-Dimethylphenol	mg/Kg (dw)	0/16	ND	0.33 - 2	-	1/20	0.50	0.01 - 5.1	3.9 - 3.9	0/49	ND	0.33 - 2	-
3&4-Methylphenol	mg/Kg (dw)	0/16	ND	0.33 - 2	-	1/11	0.646	0.01 - 5.1	2.5 - 2.5	2/39	0.237	0.33 - 2	0.052 - 0.08
Pentachlorophenol	mg/Kg (dw)	0/16	ND	0.89 - 2	-	5/20	3.181	0.05 - 32	0.25 - 11	5/49	3.042	0.89 - 3.6	0.3 - 110
Phenol	mg/Kg (dw)	0/16	ND	0.33 - 2	-	3/19	0.598	0.01 - 13	0.065 - 0.12	0/49	ND	0.33 - 2	-
2-Methylphenol	mg/Kg (dw)	0/16	ND	0.33 - 2	-	1/20	0.365	0.01 - 5.1	1.2 - 1.2	0/49	ND	0.33 - 160	-
Aniline	mg/Kg (dw)	0/2	ND	0.33 - 0.33	-	0/16	ND	0.05 - 2	-	2/18	0.278	0.33 - 2	0.034 - 0.091
METALS													
Aluminum	mg/Kg (dw)	5/5	4,680	-	1900 - 9700	5/5	9,860.0	-	7400 - 13000	9/9	9,956	-	3900 - 13000
Antimony	mg/Kg (dw)	0/1	ND	1 - 1	-	0/3	ND	1 - 4	-	0/5	ND	1 - 5	-
Arsenic	mg/Kg (dw)	3/5	2.1	2 - 3	2.1 - 3.3	5/5	4.74	-	3.1 - 6.9	6/9	4.233	1 - 2	2.9 - 9.9
Barium	mg/Kg (dw)	5/5	37	-	14 - 70	5/5	93.6	-	62 - 150	9/9	101.8	-	34 - 160
Beryllium	mg/Kg (dw)	2/5	0.40	0.25 - 1	0.24 - 0.65	5/5	0.62	-	0.32 - 0.9	5/9	0.65	0.25 - 1	0.69 - 1.1
Cadmium	mg/Kg (dw)	0/5	ND	0.05 - 0.3	-	0/5	ND	0.05 - 0.34	-	0/9	ND	0.05 - 0.36	-
Calcium	mg/Kg (dw)	4/4	453	-	250 - 550	4/4	1,320	-	980 - 1500	7/7	961.4	-	360 - 2100
Chromium	mg/Kg (dw)	5/5	10.02	-	4.6 - 15	5/5	21.0	-	14 - 26	9/9	20.7	-	8.5 - 32
Cobalt	mg/Kg (dw)	1/5	3.38	4 - 8	5.4 - 5.4	2/5	9.3	9 - 20	12 - 15	4/9	12.6	4 - 20	10 - 27
Copper	mg/Kg (dw)	1/5	3.18	3 - 8	3.9 - 3.9	4/5	18.8	20 - 20	13 - 28	5/9	17.4	20 - 20	17 - 29

Revised: 21 May 2007

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

		Background Samples				Drainage Ditch Samples				Cedar Creek Samples			
Chemical	Units	Freq	Mean	ND Range	Pos Range	Freq	Mean	ND Range	Pos Range	Freq	Mean	ND Range	Pos Range
Iron	mg/Kg (dw)	5/5	11,100	-	9000 - 13000	5/5	21,200	-	15000 - 29000	9/9	18,533	-	4000 - 37000
Lead	mg/Kg (dw)	5/5	6.74	-	4.9 - 8.9	5/5	12.18	-	6.2 - 20	9/9	12.3	-	6.2 - 23
Magnesium	mg/Kg (dw)	4/4	812.5	-	250 - 1500	4/4	2,425	-	1800 - 3200	7/7	1,839	-	390 - 4000
Manganese	mg/Kg (dw)	6/6	191.7	-	100 - 260	5/5	278.0	-	220 - 350	9/9	447	-	92 - 900
Mercury	mg/Kg (dw)	0/5	ND	0.06 - 0.06	-	0/4	ND	0.06 - 0.07	-	0/8	ND	0.06 - 0.2	-
Nickel	mg/Kg (dw)	2/6	4.8	3 - 8	2.3 - 17	5/5	17.4	-	14 - 23	4/9	18.0	3 - 15	26 - 43
Potassium	mg/Kg (dw)	5/5	217.2	-	46 - 570	4/4	390.0	-	170 - 530	7/7	279	-	70 - 380
Selenium	mg/Kg (dw)	0/6	ND	0.46 - 1	-	0/5	ND	0.51 - 1	-	0/9	ND	0.57 - 1	-
Silver	mg/Kg (dw)	1/6	0.562	0.73 - 0.83	1.4 - 1.4	1/5	0.917	0.79 - 0.93	2.9 - 2.9	2/9	0.99	0.87 - 1	2.5 - 3.2
Sodium	mg/Kg (dw)	0/5	ND	20 - 90	-	0/4	ND	80 - 220	-	0/7	ND	40 - 190	-
Thallium	mg/Kg (dw)	0/6	ND	0.48 - 0.55	-	0/5	ND	0.5 - 0.62	-	0/8	ND	0.05 - 0.66	-
Tin	mg/Kg (dw)	1/1	3.3	-	3.3 - 3.3	1/1	13.0	-	13 - 13	2/2	20.0	-	19 - 21
Vanadium	mg/Kg (dw)	6/6	22.8	-	12 - 30	5/5	31.4	-	24 - 41	9/9	32.1	-	14 - 51
Zinc	mg/Kg (dw)	1/6	14.7	20 - 40	13 - 13	1/5	20.0	30 - 50	25 - 25	2/9	19.6	30 - 40	22 - 24
DIOXINS/FURANS													
2,3,7,8-TeCDD	ng/Kg (dw)	2/11	0.9	0.06 - 5	0.13 - 0.6	2/11	1.1	0.2 - 7	0.82 - 3.35	5/34	1.5	0.03 - 20.9	0.13 - 0.95
1,2,3,7,8-PeCDD	ng/Kg (dw)	1/7	3.3	3.2 - 12	2.3 - 2.3	5/8	6.6	5 - 5	0.7 - 32.7	9/17	3.8	4.2 - 16	0.93 - 10
1,2,3,4,7,8-HxCDD	ng/Kg (dw)	1/11	2.2	0.05 - 12	3.7 - 3.7	11/11	21.7	-	1.1 - 117	24/34	12.5	4.3 - 16	0.38 - 78.9
1,2,3,6,7,8-HxCDD	ng/Kg (dw)	1/11	2.6	0.05 - 12	7.9 - 7.9	11/11	129.9	-	3 - 634	33/34	148.5	5 - 5	1.4 - 820
1,2,3,7,8,9-HxCDD	ng/Kg (dw)	2/11	2.8	0.05 - 12	0.21 - 9.1	11/11	48.3	-	4.4 - 207	32/34	37.6	5 - 5	0.76 - 238
1,2,3,4,6,7,8-HpCDD	ng/Kg (dw)	5/11	33.5	3.2 - 30	1.6 - 320	11/11	6,460	-	104 - 33000	34/34	6,687	-	53 - 36000
OCDD	ng/Kg (dw)	10/11	1,420	140 - 140	115 - 12000	11/11	46,280	-	2780 - 138000	34/34	63,151	-	1400 - 360000
2,3,7,8-TeCDF	ng/Kg (dw)	4/11	1.2	1.8 - 6	0.18 - 0.29	5/11	1.1	1 - 7	0.37 - 1	15/34	1.3	0.3 - 16.1	0.15 - 1.2
1,2,3,7,8-PeCDF	ng/Kg (dw)	0/11	ND	0.05 - 15	-	8/14	2.6	5 - 18	0.41 - 4.4	12/44	2.5	0.05 - 20.4	0.16 - 2.1
2,3,4,7,8-PeCDF	ng/Kg (dw)	1/11	2.0	0.06 - 12	1.4 - 1.4	7/11	6.5	5 - 18	0.36 - 35.9	13/34	3.3	0.05 - 15.7	0.38 - 17.5
1,2,3,4,7,8-HxCDF	ng/Kg (dw)	1/11	2.6	0.04 - 15	0.12 - 0.12	9/11	39.7	200 - 210	0.87 - 123	20/34	61.8	4.3 - 1200	0.42 - 147
1,2,3,6,7,8-HxCDF	ng/Kg (dw)	1/11	2.1	0.04 - 12	2.5 - 2.5	8/11	8.9	5 - 18	0.63 - 47.2	20/34	7.4	0.3 - 17	0.17 - 51.4
1,2,3,7,8,9-HxCDF	ng/Kg (dw)	0/11	ND	0.05 - 15	-	5/11	4.1	0.3 - 18	0.51 - 19.2	2/34	3.4	0 - 17	0.51 - 27.6
2,3,4,6,7,8-HxCDF	ng/Kg (dw)	1/11	2.5	0.04 - 12	6.9 - 6.9	10/11	18.3	18 - 18	0.85 - 100	18/34	11.6	4.2 - 38	0.32 - 136
1,2,3,4,6,7,8-HpCDF	ng/Kg (dw)	4/11	5.4	0.1 - 12	0.14 - 31	11/11	776.0	-	13.4 - 3600	34/34	1,094	-	9.29 - 6800
1,2,3,4,7,8,9-HpCDF	ng/Kg (dw)	1/11	2.1	0.1 - 12	1.9 - 1.9	11/11	58.9	-	1.6 - 276	29/34	79.3	4.3 - 16	0.85 - 573
OCDF	ng/Kg (dw)	1/11	14.9	0.1 - 25	120 - 120	11/11	3,030	-	42.4 - 13400	33/34	5,586	32 - 32	25.4 - 37000
Dioxin-TEQ(mammalian) - Half DLs	ng/Kg (dw)	10/11	1.37		ND - 15.52	7/7	193.11		55.3 - 585.9	34/34	132.1		1.89 - 719.3
Dioxin-TEQ(mammalian) - Zero DLs	ng/Kg (dw)	10/11	6.33		ND - 13.50	7/7	186.08		50.9 - 585.7	34/34	123.9		1.65 - 654.4
Dioxin-TEQ(avian) - Half DLs	ng/Kg (dw)	10/11	2.18		ND - 24.33	7/7	140.61		50.8 - 345.6	34/34	104.7		2.39 - 561.4
Dioxin-TEQ(avian) - Zero Dls	ng/Kg (dw)	10/11	9.33		ND - 19.08	7/7	130.15		44.0 - 344.9	34/34	94.3		2.21 - 493.0

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.

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

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
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).

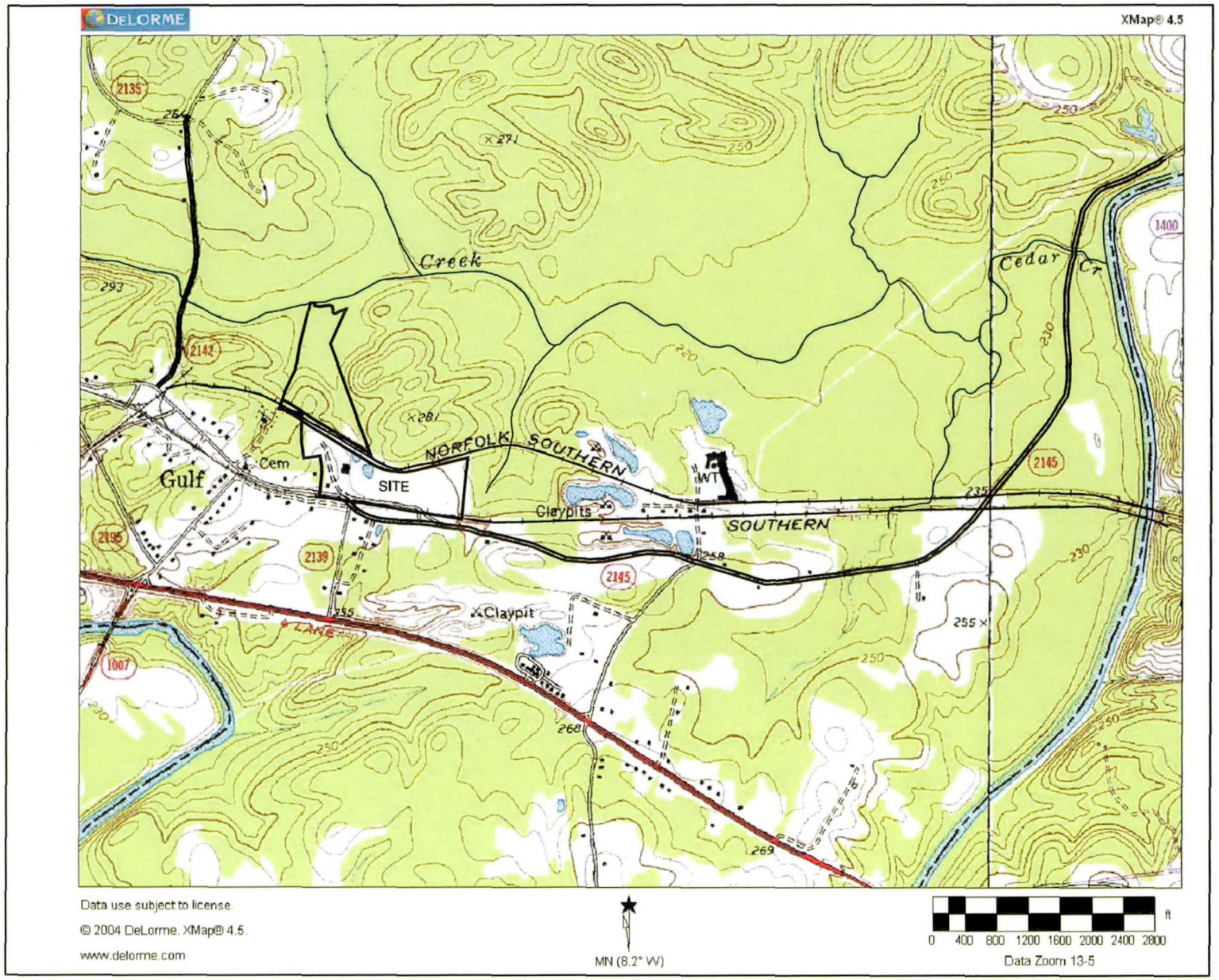

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FIGURE A1-1
Site Location and
Topographic Map

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY

PROJECT NO. 979010.A0

G: ActiveProjects\SWP\Gulf\Drawings\2005\CedarCreekTopo.dwg

3/3/05

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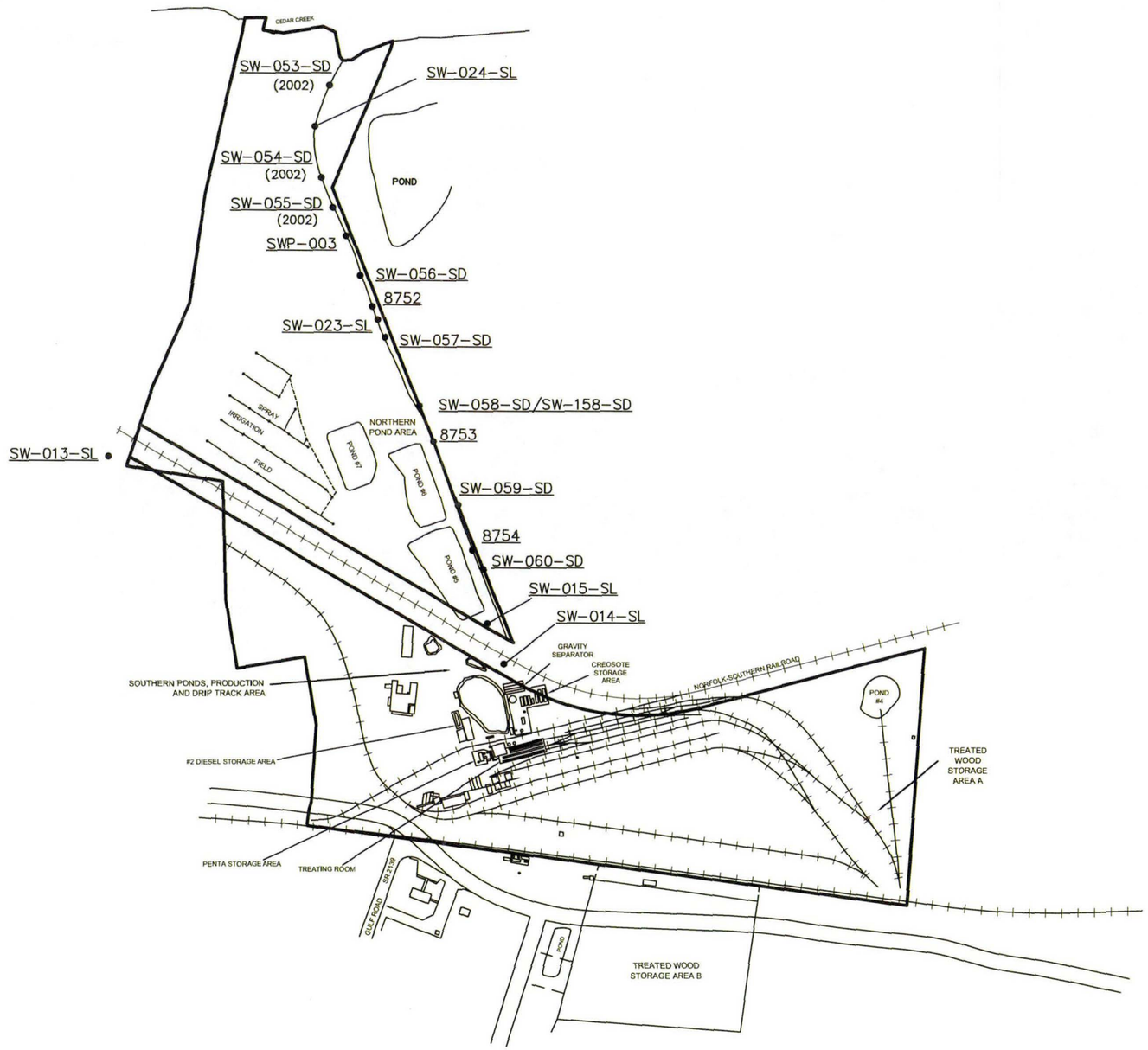

GRAPHIC SCALE

0 200 400

1 inch = 400 ft.

Schnabel

Schnabel Engineering

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

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY

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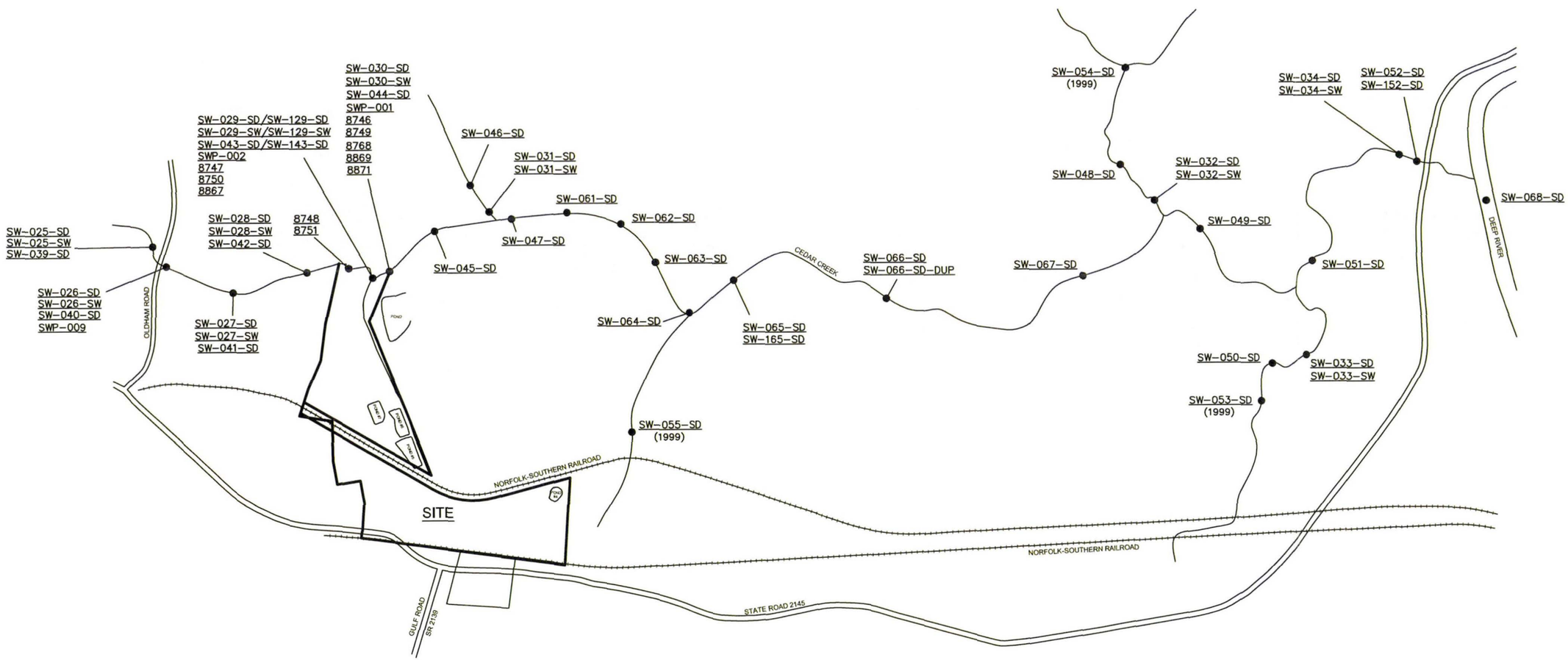
9/12/05 G:\ActiveProjects\SWP\Gulf\2004\Report\G:\ActiveProjects\SWP\Gulf\Drawings\2004\Protectionof GWReport\Drainege Ditch Sediment Samples.dwg



GRAPHIC SCALE

0 500 1000

1 inch = 1000 ft.

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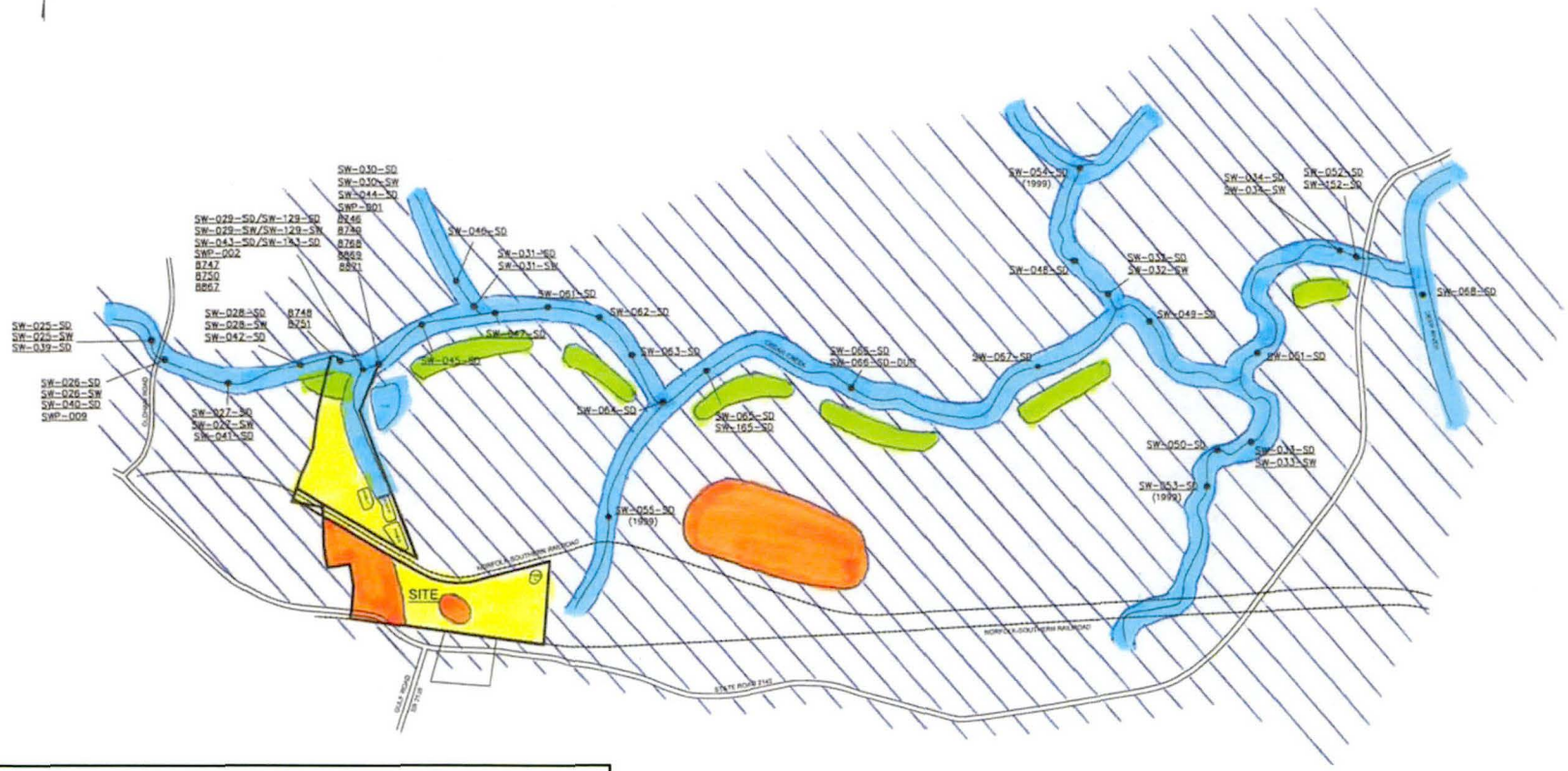
9/12/05 G:\ActiveProjects\SWP\Gulf\2004\Report\G:\ActiveProjects\SWP\Gulf\Drawings\2005\Cedar Creek Sediment Samples.dwg



Forest/woods, primarily deciduous in composition with some pockets of mixed deciduous/evergreen assemblages

Open water or dry drainage channels

Evergreen stands, primarily loblolly pine

Wetland areas - their exact locations are not depicted here, rather they are depicted merely to illustrate the patchiness of their distribution

Mixed open field with some tree-rows and small wooded stands

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 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 Natural Heritage Program (NCNHP) 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.

In response to NCDENR comment following review of the draft SLERA[1], the NCNHP was contacted concerning the availability of any higher resolution data concerning rate, threatened and/or endangered (RTE) species that have been reported more local to the site, since county-level data was available on-line. In their correspondence dated 4 June 2007 (enclosed, along with the request for information correspondence dated 24 May 2007) they indicated that there were no records of any RTE species at the site, although the Cape Fear Shiner has been reported in the Deep River near the project area.

List of Tables

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

[1] North Carolina Department of Environment and Natural Resources (NCDENR). 2007. *Evaluation of SLERA, Southern Wood Piedmont, Gulf, Chatham County.* Letter from Keith Snavely (NCDENR) to William Arrants (SWP), dated 28 March 2007 (corrected year).

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	*Piedmont longleaf pine forest*	None	None	None	S1	G1?	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	*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

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
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	G3	Chatham - Current
Vascular Plant	*Ptilimnium nodosum*	Harperella	E	E	S1	G2	Chatham - Current
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
Vascular Plant	*Trifolium reflexum*	Buffalo Clover	SR-T	None	S1S2	G3G4	Chatham - Historical
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	*Notropis mekistocholas*	Cape Fear Shiner	E	E	S1	G1	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
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://149.168.1.196/nhp/county.html). Accessed 15 June 2007. Latest update in 1 March 2007.
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 subspecies very rare but questionable taxonomic status for subspecies; G4 - Rare in parts but secure globally;
G4T4 - Main and subspecies rare in parts but secure globally; G5 - Demonstrably secure globally; GNR - Not ranked.

amec

24 May 2007

North Carolina Natural Heritage Program
1601 Mail Service Center
Raleigh, NC 27699-1601

RE: Request for Site-Specific Information for Natural Heritage Features near the Southern Wood Piedmont Facility in Gulf, North Carolina

Dear Sir or Madam:

We are in the process of performing an Ecological Risk Assessment of the drainage ditch and Cedar Creek near the Southern Wood Piedmont Facility in Gulf, Chatham County, North Carolina. As part of this effort, we need to compile the natural heritage features of the evaluated area. For the initial screening phase of this risk assessment, the county-level information was collected from your website and tabulated (see enclosed Table 1; accessed on 13 November 2006 when the screening report was under preparation). Table 2 summarizes the existing features for the evaluated area and existing vegetation cover based on a habitat survey that was performed in July 2006. Following review of the screening document, NCDENR requested whether information was available for the immediate vicinity of the drainage ditch and Cedar Creek near this property (see enclosed Figure 1). If available, please provide us any such "higher resolution" information concerning the types of rare, threatened, or endangered species that have been observed or are suspected to be present in these two areas. The enclosed Figure 2 provides a summary of the habitats in the evaluated to facilitate your assessment.

Thank you for your assistance in this matter. I can be contacted at the address and phone number shown below.

Sincerely,

John H. Samuelian, Ph.D.
Senior Environmental Scientist/
Project Manager

WB

AMEC Earth & Environmental, Inc.
15 Franklin Street
Portland, ME 04101
Tel (207) 879-4222
Fax (207) 879-4223
www.amec.com

Table 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 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 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.

Table 2. Summary of Vegetation Types and other Information for the Areas near the Drainage Ditch and Cedar Creek
Southern Wood Piedmont - Gulf, North Carolina Facility

Category	Drainage Ditch	Cedar Creek
Ownership	Portion of ditch on SWP property and also on private property	Multiple private or commercial properties
Existing Features	Portion of ditch on SWP property is in open areas, all buildings have been removed. This area is naturally revegetating. Portion of ditch that lies outside of the SWP fenceline is in an open but undeveloped area.	Undeveloped
Vegetative Cover - Riparian Areas	NA	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.).

Table 2. Summary of Vegetation Types and other Information for the Areas near the Drainage Ditch and Cedar Creek Southern Wood Piedmont - Gulf, North Carolina Facility

Category	Drainage Ditch	Cedar Creek
Vegetative Cover - Wetlands	This wetland complex near the northern portion of the Drainage Ditch 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 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*).
Wetland area	Present but they have not been mapped by the USFWS National Wetlands Inventory, presumably because of their relatively small size.	The wetland areas near the creek are fragmented and may be characterized as "moist woods" based on observations by a wetlands scientist during site visits in July 2006.
Hydrology	Intermittent, used for the conveyance of stormwater.	Cedar Creek receives stormwater runoff from the on-site ditch, several tributaries that are not hydrologically connected to SWP property, and from sheet flow through the wooded riparian corridor. The surface water in Cedar Creek is shallow in depth, intermittent, with many areas exhibiting zero flow. Discharges to the Deep River.

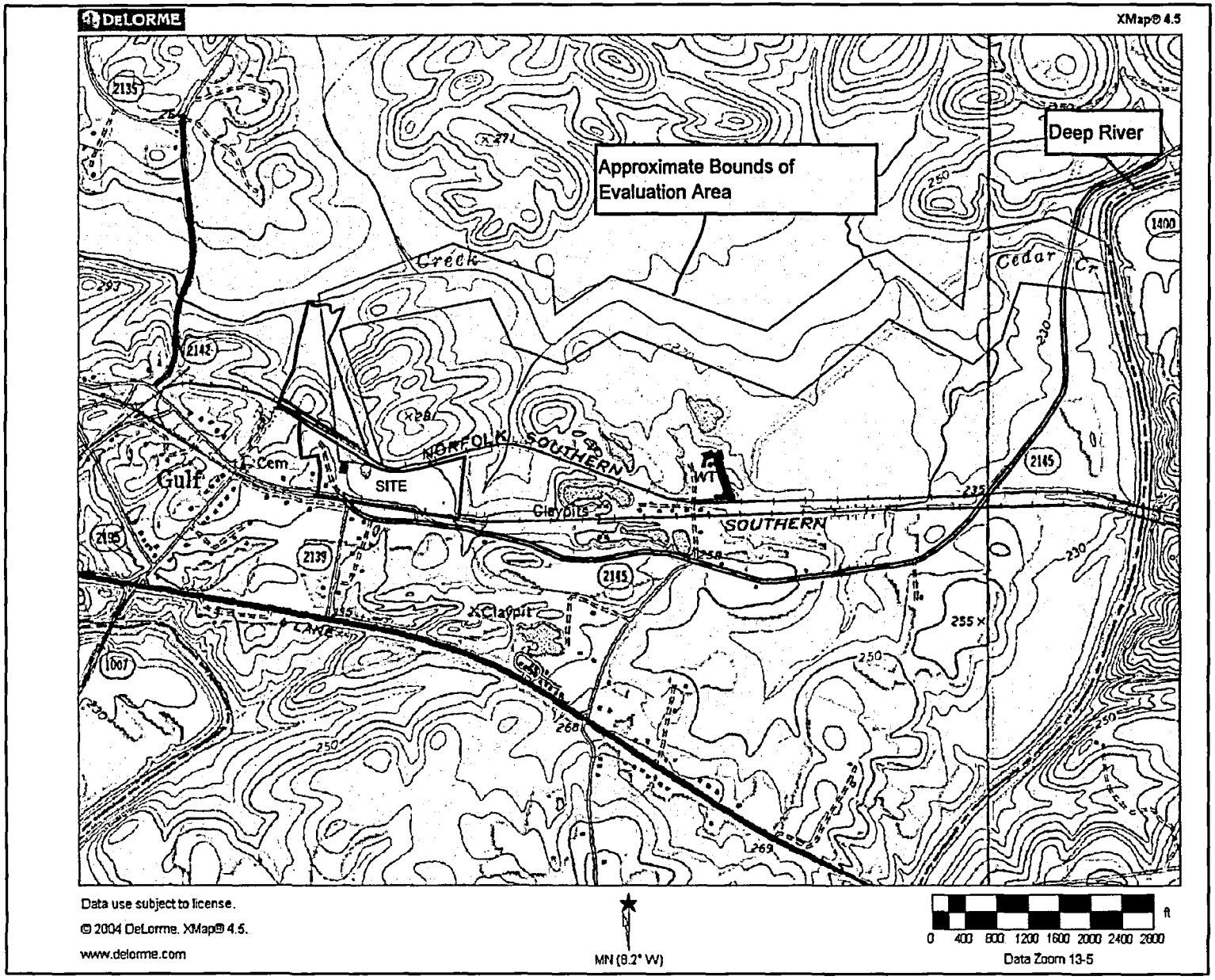


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FIGURE 1
Site Location and Topographic Map

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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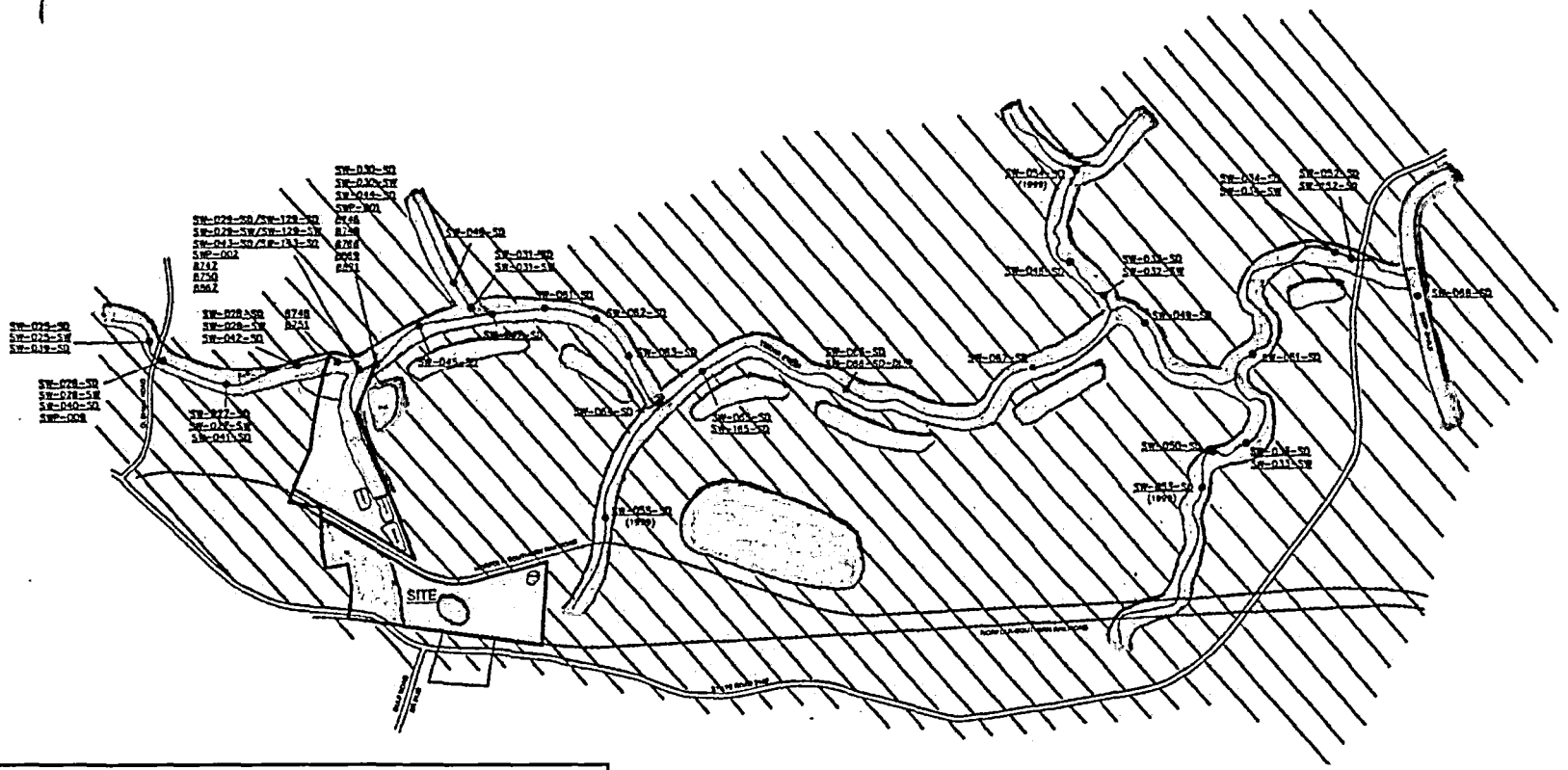


- Hardwoods, primarily deciduous in composition with some pockets of mixed deciduous/evergreen assemblages
- Open water or dry drainage channels
- Evergreen stands, primarily loblolly pine
- Wetland areas - their exact locations are not depicted here, rather they are depicted merely to illustrate the patchiness of their distribution
- Mixed open field with some tree rows and small wooded stands

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

FIGURE 2

NCDENR

RECEIVED 6-11-2007

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

June 4, 2007

Mr. John H. Samuelian, Ph.D.
AMEC Earth & Environmental, Inc.
15 Franklin Street
Portland, ME 04101

Subject: Ecological Risk Assessment for Southern Wood Piedmont Facility; Gulf, Chatham County, NC

Dear Mr. Samuelian:

The Natural Heritage Program has no record of rare species, significant natural communities, or significant natural heritage areas at the site. However, the Federal and State Endangered Cape Fear shiner (*Notropis mekistocholas*) has been found in the Deep River near the project area. It has been found at the SR 2153 bridge crossing, just downstream from the confluence of Cedar Creek with the river. We assume that the fish occurs upstream and downstream of this site, as we have records from such places several miles away. Thus, it is imperative that sedimentation from the facility not reach the Cape Fear River.

Also, the Vegetative Cover description for Cedar Creek (Table 2) attached with your letter lists a plant species that is Significantly Rare in North Carolina – twig rush (*Cladium mariscoides*). This species occurs in bogs near the coast, in the Sandhills region, and in the mountains. As bog habitat is probably not present along Cedar Creek, I wonder if the species was correctly identified. Our Program would like to receive more information about this plant (location, number of individuals, etc.) if you feel that the species was correctly identified. A Rare Plant Form is available for downloading on our website (below).

You may wish to check the Natural Heritage Program database website at www.ncnhp.org for a listing of rare plants and animals and significant natural communities in the county and on the quad map.

NC OneMap now provides digital Natural Heritage data online for free. This service provides site specific information on GIS layers with Natural Heritage Program rare species occurrences and Significant Natural Heritage Areas. The NC OneMap website provides Element Occurrence (EO) ID numbers (instead of species name), and the data user is then encouraged to contact the Natural Heritage Program for detailed information. This service allows the user to quickly and efficiently get site specific NHP data without visiting the NHP workroom or waiting for the Information Request to be answered by NHP staff. For more information about data formats and access, visit <www.nconemap.com/data.html>, or email NC OneMap at <dataq@ncmail.net>.

Please do not hesitate to contact me at 919-715-8697 if you have questions or need further information.

Sincerely,

Harry E. LeGrand, Jr., Zoologist
Natural Heritage Program

Attachment A3
Aerial Photographs

Preface

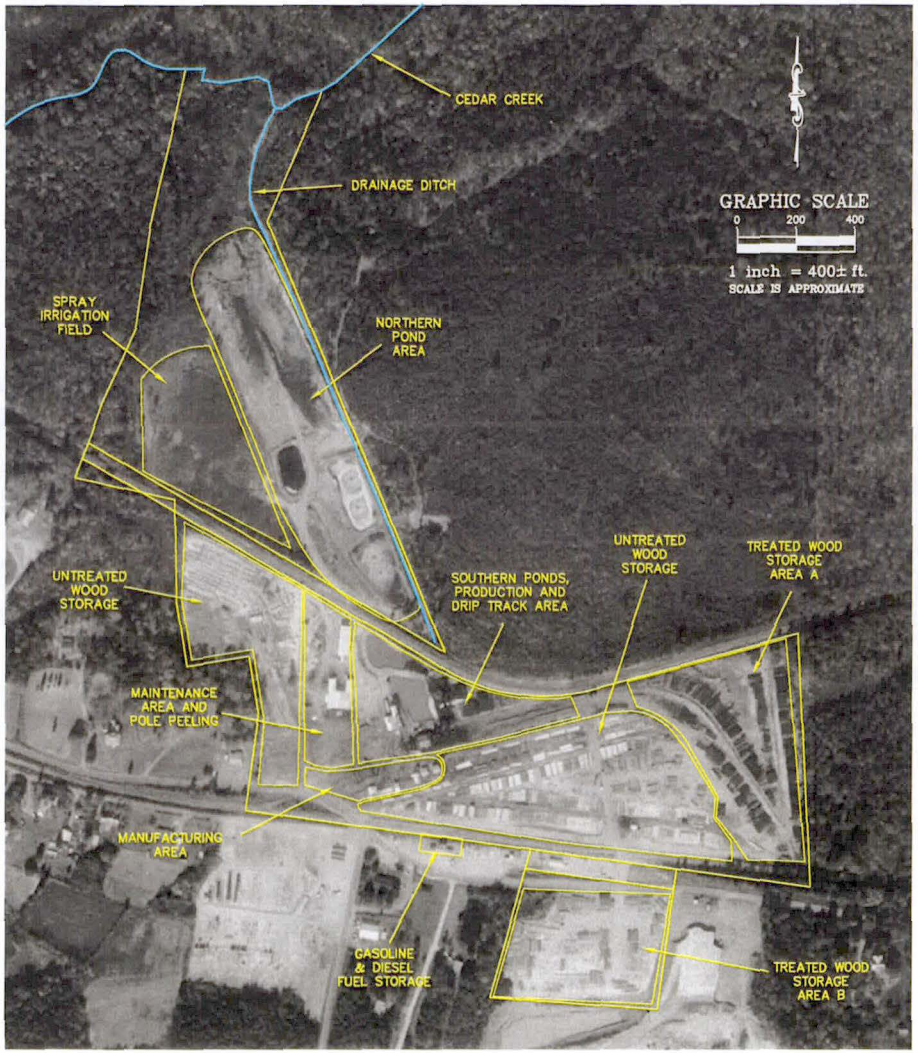
Aerial photographs from 1962, 1979 and 2004 were available and are provided in Figures A3-1 and A3-2. An annotated overlay of the historical site operations is shown on the 1979 aerial photograph, with the boundaries of these operations shown on the remaining aerial photographs.

List of Figures

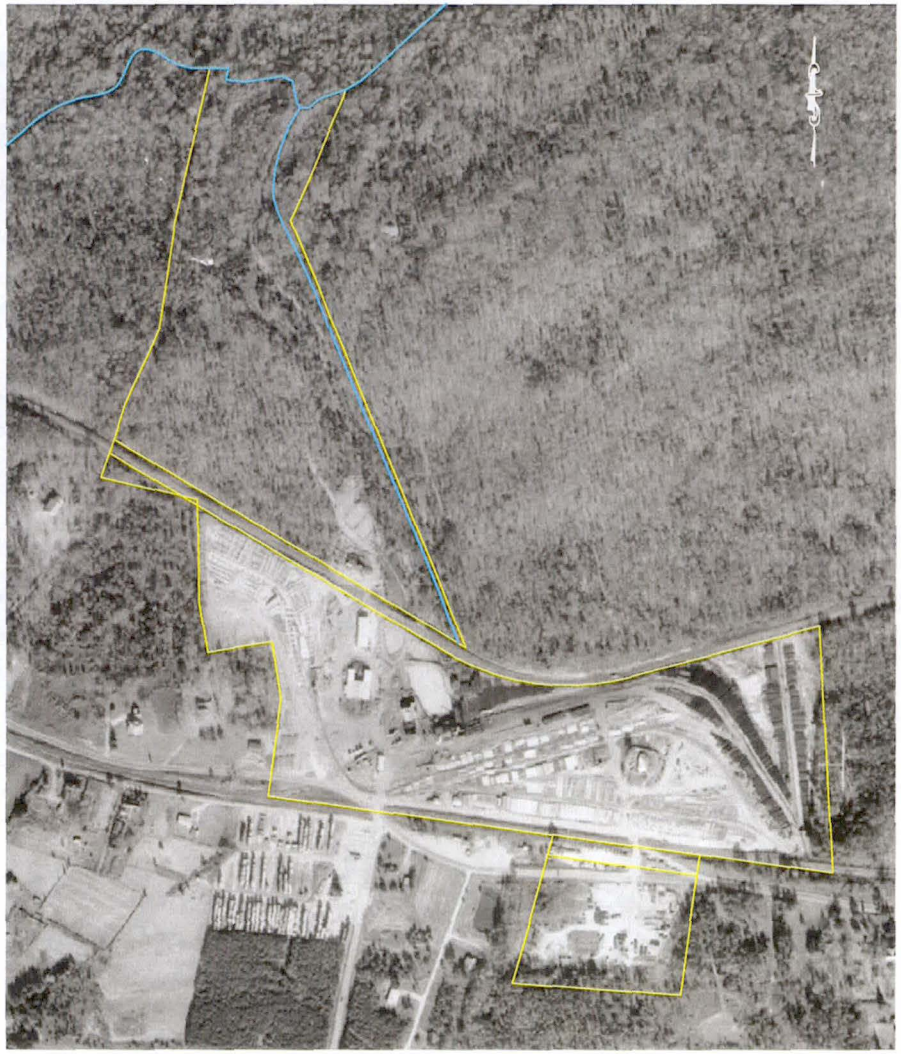
Figure A3-1 Aerial photographs from 1962 and 1979

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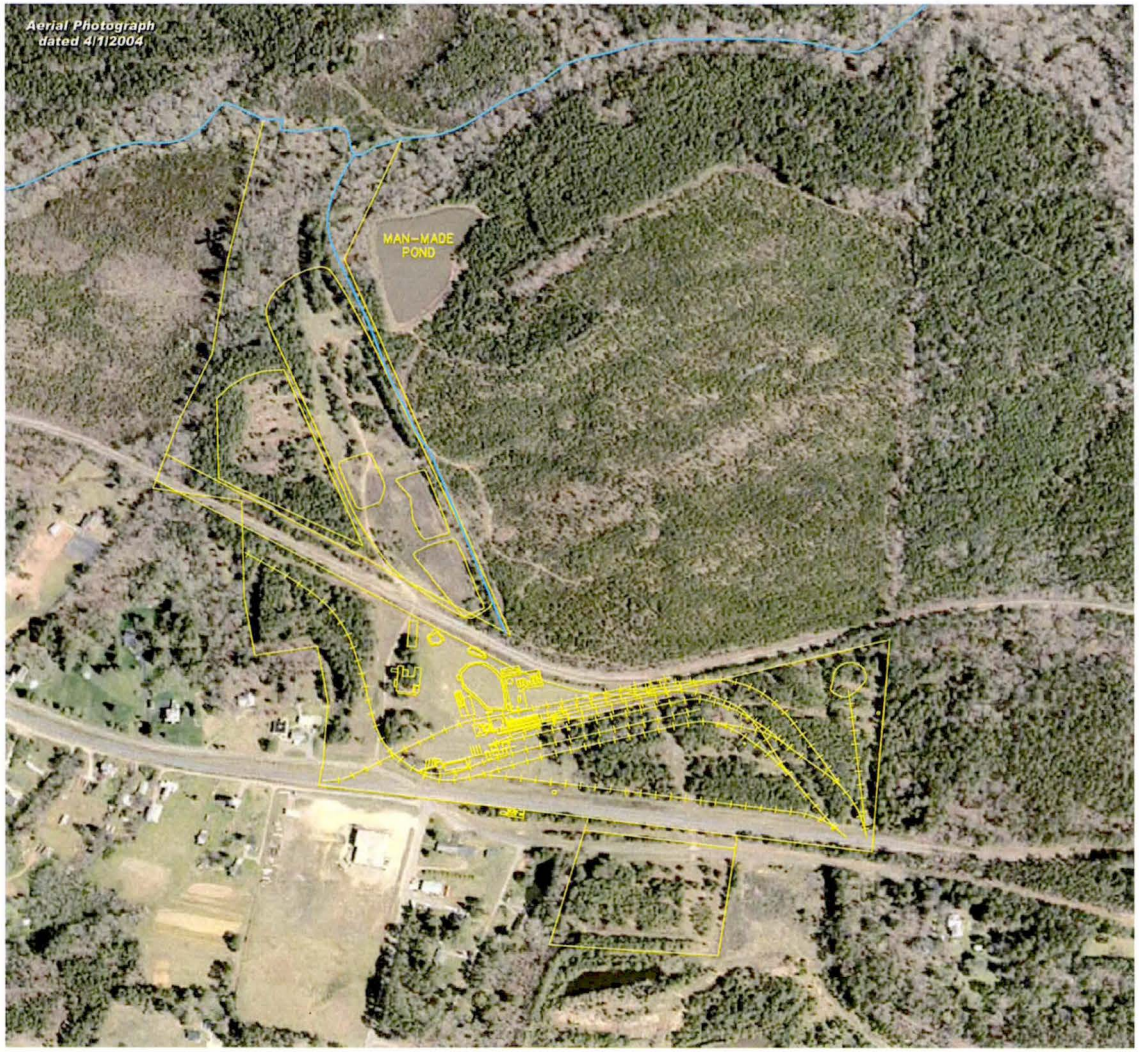
1/8/07 G:SWP\Gulf\Drawings\1979 AND 1962 Gulf Aerial Photographs.dwg

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

FROM KHLEJAN REGULATORY 03.28.1996 12:14

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.
ay: 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 ___
he area a potential Problem Area? (Explain on reverse) Yes ___ No X
mity ID: Uplands Along Stream Bank Plot ID: ___

TATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
riodendron lipifera	Tre/Sap	40%-FAC	2.Ulmus rubra	Tre/Sap	25%-FAC
lbia 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
axonomy (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		

Hydric 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
X	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.

HYDROLOGY

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.)

Wetland 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 Hydrology Indicators.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes X No ___
Hydric Soils Present? Yes ___ No X
Wetland Hydrology Present? Yes ___ No X

Is this Sampling Point Within a Wetland? Yes ___ No X

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

amec

Appendix B
NCDENR SLERA Tables

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.

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		B-5
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-6
19	Selection of COPCs, Pesticides in Freshwater	Excluded, not collected	
20	Selection of COPCs, Inorganics in Freshwater		B-7

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).

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]

Van den Berg, M., L. Birnbaum, A.T.C. Bosveld, B. Brunstrom, P. Cook, M. Freeley, J.P. Giesy, A. Hanberg, R. Hasegawa, S.W. Kennedy, T. Kubiak, J.C. Larsen, F.X. Rolaf van Leeuwen, A.K. Djien Liem, C. Nolt, R.E. Peterson, L. Poellinger, S. Safe, D. Schrenk, D. Tillitt, M. Tysklind,

F. Waern, and T. Zachareweski. 1998. Toxic equivalency factors (TEFs) for PCBs, PCDDs, PCDFs for humans and wildlife. *Environmental Health Perspectives*. 106(12): 775-792.

Van den Berg, M., L.S. Birnbaum, M. Denison, M. De Vito, W. Farland, M. Feeley, H. Fiedler, H. Hakansson, A. Hanberg, L. Haws, M. Rose, S. Safe, D. Schrenk, C. Tohyama, A. Tritscher, J. Tuomisto, M. Tysklind, N. Walker, and R.E. Peterson. 2006. The 2005 World Health Organization reevaluation of human and mammalian toxic equivalency factors for dioxins and dioxin-like compounds. *Toxicological Sciences*. 93(2): 223–241.

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	Contaminant Category[3]
Organics - VOCs (µg/Kg)														
1,1,1-Trichloroethane	0/10	—		—		—	—	—	NA	10	NA	—	—	
1,1,2,2-Tetrachloroethane	0/10	—		—		—	—	—	NA	10	NA	—	—	
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	—		—		—	—	—	NA	10	NA	—	—	
1,1,2-Trichloroethane	0/5	—		—		—	—	—	NA	10	NA	—	—	
1,1-Dichloroethane	0/5	—		—		—	—	—	NA	10	NA	—	—	
1,1-Dichloroethene	0/5	—		—		—	—	—	NA	10	NA	—	—	
1,2,3-Trichlorobenzene	NA	—		—		—	—	—	NA	NA	NA	—	—	
1,2,4-Trichlorobenzene	0/43	—		—		—	—	—	NA	10	NA	—	—	
1,2-Dibromo-3-chloropropane	NA	—		—		—	—	—	NA	10	NA	—	—	
1,2-Dibromoethane	NA	—		—		—	—	—	NA	10	NA	—	—	
1,2-Dichlorobenzene	0/43	—		—		—	—	—	NA	10	NA	—	—	
1,2-Dichloroethane	0/5	—		—		—	—	—	NA	10	NA	—	—	
1,2-Dichloropropane	0/5	—		—		—	—	—	NA	10	NA	—	—	
1,3-Dichlorobenzene	0/43	—		—		—	—	—	NA	10	NA	—	—	
1,4-Dichlorobenzene	0/16	—		—		—	—	—	NA	10	NA	—	—	
2-Butanone	0/11	—		—		—	—	—	NA	10	NA	—	—	
2-Hexanone	NA	—		—		—	—	—	NA	10	NA	—	—	
4-Methyl-2-pentanone	NA	—		—		—	—	—	NA	10	NA	—	—	
Acetone	0/5	—		—		—	—	—	NA	10	NA	—	—	
Benzene	1/11	39		39		SW-014-SL (NCDENR)	5 - 15	39	NA	10	NA	—	—	3
Bromochloromethane	NA	—		—		—	—	—	NA	NA	NA	—	—	
Bromodichloromethane	0/5	—		—		—	—	—	NA	10	NA	—	—	
Bromoform	0/5	—		—		—	—	—	NA	10	NA	—	—	
Bromomethane	NA	—		—		—	—	—	NA	10	NA	—	—	
Carbon Disulfide	0/10	—		—		—	—	—	NA	10	NA	—	—	
Carbon Tetrachloride	0/10	—		—		—	—	—	NA	10	NA	—	—	
Chlorobenzene	0/5	—		—		—	—	—	NA	10	NA	—	—	
Chloroethane	0/10	—		—		—	—	—	NA	10	NA	—	—	
Chloroform	0/10	—		—		—	—	—	NA	10	NA	—	—	
Chloromethane	0/5	—		—		—	—	—	NA	10	NA	—	—	
cis-1,2-Dichloroethene	NA	—		—		—	—	—	NA	10	NA	—	—	
cis-1,3-Dichloropropene	NA	—		—		—	—	—	NA	10	NA	—	—	
Cyclohexane	NA	—		—		—	—	—	NA	10	NA	—	—	
Dibromochloromethane	0/5	—		—		—	—	—	NA	10	NA	—	—	
Dichlorodifluoromethane	NA	—		—		—	—	—	NA	10	NA	—	—	
Ethylbenzene	2/14	100		100		8750 SW-015-SL	5 - 5	100	NA	10	NA	—	—	3
Isopropylbenzene	NA	—		—		—	—	—	NA	10	NA	—	—	
Methyl Acetate	NA	—		—		—	—	—	NA	10	NA	—	—	
Methyl tert-Butyl Ether	NA	—		—		—	—	—	NA	10	NA	—	—	
Methylcyclohexane	NA	—		—		—	—	—	NA	10	NA	—	—	
Methylene Chloride	0/18	—		—		—	—	—	NA	10	NA	—	—	
Styrene	1/5	82		82		SW-014-SL (NCDENR)	12 - 16	82	NA	10	NA	—	—	3
Tetrachloroethene	0/5	—		—		—	—	—	NA	10	NA	—	—	
Toluene	4/18	8.6		140		SW-014-SL (NCDENR)	5 - 16	140	NA	10	NA	—	—	3
trans-1,2-Dichloroethene	NA	—		—		—	—	—	NA	10	NA	—	—	
trans-1,3-Dichloropropene	0/5	—		—		—	—	—	NA	10	NA	—	—	
Trichloroethene	0/10	—		—		—	—	—	NA	10	NA	—	—	
Trichlorofluoromethane	NA	—		—		—	—	—	NA	10	NA	—	—	
Vinyl Chloride	0/10	—		—		—	—	—	NA	10	NA	—	—	
Xylenes (Total)	3/18	2	J	420		SW-015-SL	5 - 16	420	NA	10	NA	—	—	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	Range of Detection 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	Contaminant Category
Organics - SVOCs (µg/Kg)														
1,1-Biphenyl	NA	—		—		—	—	—	NA	330	NA	—	—	
1,2,4,5-Tetrachlorobenzene	NA	—		—		—	—	—	NA	NA	NA	—	—	
2,2'-oxybis(1-chloropropane)	NA	—		—		—	—	—	NA	330	NA	—	—	
2,4,5-Trichlorophenol	0/48	—		—		—	—	—	NA	830	NA	—	—	
2,4,6-Trichlorophenol	0/85	—		—		—	—	—	NA	330	NA	—	—	
2,4-Dichlorophenol	0/48	—		—		—	—	—	NA	330	NA	—	—	
2,4-Dimethylpheno	1/85	3,900		3,900		SW-014-SL (NCDENR)	10 - 5,100	3,900	NA	330	NA			3
2,4-Dinitrophenol	0/48	—		—		—	—	—	NA	830	NA	—	—	
2,4-Dinitrotoluene	0/48	—		—		—	—	—	NA	330	NA	—	—	
2,6-Dinitrotoluene	0/48	—		—		—	—	—	NA	330	NA	—	—	
2-Chloronaphthalene	0/48	—		—		—	—	—	NA	330	NA	—	—	
2-Chlorophenol	0/85	—		—		—	—	—	NA	330	NA	—	—	
2-Methylpheno	1/85	1,200	J	1,200	J	SW-014-SL (NCDENR)	10 - 160,000	1,200	NA	330	NA			3
2-Nitroaniline	0/48	—		—		—	—	—	NA	830	NA	—	—	
2-Nitrophenol	0/48	—		—		—	—	—	NA	330	NA	—	—	
3,3'-Dichlorobenzidine	0/92	—		—		—	—	—	NA	330	NA	—	—	
3-Nitroaniline	0/48	—		—		—	—	—	NA	830	NA	—	—	
4,6-Dinitro-2-methylphenol	0/16	—		—		—	—	—	NA	830	NA	—	—	
4-Bromophenyl phenyl ether	NA	—		—		—	—	—	NA	330	NA	—	—	
4-Chloro-3-methylphenol	0/85	—		—		—	—	—	NA	330	NA	—	—	
4-Chloroaniline	0/32	—		—		—	—	—	NA	330	NA	—	—	
4-Chlorophenyl phenyl ether	0/48	—		—		—	—	—	NA	330	NA	—	—	
4-Methylphenol	0/15	—		—		—	—	—	NA	330	NA	—	—	
4-Nitroaniline	0/48	—		—		—	—	—	NA	830	NA	—	—	
4-Nitrophenol	0/48	—		—		—	—	—	NA	830	NA	—	—	
Acetaphenone	NA	—		—		—	—	—	NA	330	NA	—	—	
Atrazine	NA	—		—		—	—	—	NA	330	NA	—	—	
Benzaldehyde	NA	—		—		—	—	—	NA	330	NA	—	—	
bis(2-Chloroethoxy)methane	NA	—		—		—	—	—	NA	330	NA	—	—	
bis(2-Chloroethyl)ether	NA	—		—		—	—	—	NA	330	NA	—	—	
Caprolactam	NA	—		—		—	—	—	NA	330	NA	—	—	
Dibenzofuran	12/71	26		220,000		SW-014-SL (NCDENR)	41 - 2,000	220,000	NA	330	NA			3
Hexachlorobenzene	0/48	—		—		—	—	—	NA	330	NA	—	—	
Hexachlorobutadiene	0/48	—		—		—	—	—	NA	330	NA	—	—	
Hexachlorocyclopentadiene	0/48	—		—		—	—	—	NA	330	NA	—	—	
Hexachloroethane	0/48	—		—		—	—	—	NA	330	NA	—	—	
Isophorone	0/70	—		—		—	—	—	NA	330	NA	—	—	
n-Nitroso-di-n-propylamine	NA	—		—		—	—	—	NA	330	NA	—	—	
n-Nitrosodiphenylamine	0/48	—		—		—	—	—	NA	330	NA	—	—	
Nitrobenzene	0/48	—		—		—	—	—	NA	330	NA	—	—	
Pentachloropheno	10/85	300	J	110,000	J	SW-029-SD (NCDENR)	50 - 32,000	110,000	NA	830	NA			3
Phenol	3/84	65	J	120	J	SW-056-SD	10 - 13,000	120	NA	330	NA			3
Butyl benzyl phthalate	0/16	—		—		—	—	—	NA	330	NA	—	—	
Di-n-butylphthalate	0/48	—		—		—	—	—	NA	330	NA	—	—	
Di-n-octylphthalate	0/48	—		—		—	—	—	NA	330	NA	—	—	
Diethylphthalate	0/48	—		—		—	—	—	NA	330	NA	—	—	
Dimethylphthalate	0/48	—		—		—	—	—	NA	330	NA	—	—	

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	Contaminant Category
bis(2-Ethylhexyl)phthalate	NA	—		—		—	—	—	182	3.6	182	—	—	
Total Phthalates[1]	NA	—		—		—	—	—	182	330	182	—	—	
2-Methylnaphthalene	10/85	51	J	250,000		SW-029-SD (NCDENR)	10 - 2,000	250,000	20.2	330	330		1.2E+04	1
Acenaphthene	17/85	50	J	200,000		SW-014-SL (NCDENR)	10 - 2,000	200,000	6.71	330	330		3.0E+04	1
Acenaphthylene	6/71	74	J	4,300	J	SW-014-SL (NCDENR)	330 - 150,000	4,300	5.87	330	330		7.3E+02	1
Anthracene	31/85	3.8		860,000		SW-014-SL (NCDENR)	10 - 700	860,000	46.9	330	330		1.8E+04	1
Benzo(a)anthracene	32/85	5.7		32,000		SW-014-SL (NCDENR)	10 - 2,000	32,000	74.8	330	330		4.3E+02	1
Benzo(a)pyrene	31/85	9.1		8,100	J	SW-014-SL (NCDENR)	10 - 2,000	8,100	88.8	330	330		9.1E+01	1
Benzo(b)fluoranthene	18/46	13		7,900		SWP-003	10 - 130,000	7,900	NA	330	NA		—	3
Benzo(g,h,i)perylene	16/71	3		500	J	SW-030-SD (NCDENR)	28 - 13,000	500	NA	330	NA		—	3
Benzo(k)fluoranthene	12/42	27	J	2,200		SW-045-SD	10 - 140,000	2,200	NA	330	NA		—	3
Carbazole	13/65	44	J	300,000		SW-014-SL (NCDENR)	10 - 700	300,000	NA	330	NA		—	3
Chrysene	37/85	19		29,000		SW-014-SL (NCDENR)	10 - 700	29,000	108	330	330		2.7E+02	1
Dibenz(a,h)anthracene	10/81	57	J	900	J	SWP-001	57 - 900	900	6.22	330	330		1.4E+02	1
Fluoranthene	37/85	14		200,000		SW-014-SL (NCDENR)	10 - 700	200,000	113	330	330		1.8E+03	1
Fluorene	25/85	54	J	370,000		SW-014-SL (NCDENR)	10 - 700	370,000	21.2	330	330		1.7E+04	1
Indeno(1,2,3-cd)pyrene	16/85	4.4		990	J	SW-030-SD (NCDENR)	10 - 13,000	990	NA	330	NA		—	3
Naphthalene	9/51	79	J	480,000		SW-014-SL (NCDENR)	10 - 2,000	480,000	34.6	330	330		1.4E+04	1
Phenanthrene	32/85	2.5		700,000		SW-014-SL (NCDENR)	10 - 700	700,000	86.7	330	330		8.1E+03	1
Pyrene	30/71	13		120,000	J	SW-014-SL (NCDENR)	330 - 160,000	120,000	153	330	330		7.8E+02	1
Total PAHs	44/84	410		3,820,000		SW-014-SL (NCDENR)	10 - 150,000	3,820,000	1,684	330	1,684		2.3E+03	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	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			3
Antimony[3]	0/9	-		-			1 - 5	[5]	2	12	12		0.4	
Arsenic[4]	14/19	2.1		9.9		SW-030-SD (NCDENR)	1 - 3	9.9	7.24	2	7.24		1.4	1
Barium	19/19	14		160		SW-129-SD (NCDENR)	-	160	NA	40	NA			3
Beryllium	12/19	0.24	J	1.1	J	SW-030-SD (NCDENR)	0.25 - 1	1.1	NA	1	NA			3
Cadmium[4]	0/19	-		-			0.05 - 0.36	[0.36]	0.676	1	1		0.4	
Calcium	15/15	250		2,100		SW-129-SD (NCDENR)	-	2,100	NA	1,000	NA			3
Chromium[4]	19/19	4.6		32		SW-030-SD (NCDENR)	-	32	52.3	2	52.3		0.6	
Cobalt	7/19	5.4		27		SW-129-SD (NCDENR)	4 - 20	27	NA	10	NA			3
Copper[4]	10/19	3.9		29		SWP-002	3 - 20	29	18.7	5	18.7		1.6	1
Iron	19/19	4,000		37,000		SW-030-SD (NCDENR)	-	37,000	NA	20	NA			3
Lead[4]	19/19	4.9		23		SWP-002	-	23	30.2	0.6	30.2		0.8	
Magnesium	15/15	250		4,000		SW-129-SD (NCDENR)	-	4,000	NA	1,000	NA			3
Manganese	20/20	92	J	900	J	SW-129-SD (NCDENR)	-	900	NA	3	NA			3
Mercury[4]	0/19	-		-			0.06 - 0.2	[0.2]	0.13	0.02	0.13		1.5	2
Nickel[5]	11/20	2.3		43		SWP-002	3 - 15	43	15.9	8	15.9		2.7	1
Potassium	16/16	46	J	570		SW-013-SL (NCDENR)	-	570	NA	1,000	NA			3
Selenium	0/20	-		-			0.46 - 1	[1]	NA	1	NA			3
Silver[4]	4/20	1.4		3.2		SWP-002	0.73 - 1	3.2	0.733	2	2		1.6	1
Sodium	0/16	-		-			20 - 220	[220]	NA	1,000	NA			3
Thallium	0/19	-		-			0.05 - 0.66	[0.66]	NA	2	NA			3
Vanadium	20/20	12		51		SW-030-SD (NCDENR)	-	51	NA	10	NA			3
Zinc[4]	4/20	13		25		SWP-003	20 - 50	25	124	4	124		0.2	

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 Pesticides, PCBs, and PCDD/Fs 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[9]
Pesticides (µg/kg)															
p,p'-DDD[3]	NQ	—		—		—	—	—	1.22	3.3	NA	NQ	—	—	
DDD[4]	NQ	—		—		—	—	—	2	3.3	NA	NQ	—	—	
p,p'-DDE[3]	NQ	—		—		—	—	—	2.07	3.3	NA	NQ	—	—	
DDE[4]	NQ	—		—		—	—	—	2	3.3	NA	NQ	—	—	
p,p'-DDT[3]	NQ	—		—		—	—	—	1.19	3.3	NA	NQ	—	—	
DDT[4]	NQ	—		—		—	—	—	1	3.3	NA	NQ	—	—	
DDT/DDE/DDD (Total)[5]	NQ	—		—		—	—	—	1.58	3.3	NA	NQ	—	—	
Aldrin	NQ	—		—		—	—	—	NA	1.7	NA	NQ	—	—	
Alpha Chlordane	NQ	—		—		—	—	—	NA	1.7	NA	NQ	—	—	
Gamma Chlordane[4]	NQ	—		—		—	—	—	0.5	1.7	NA	NQ	—	—	
Total Chlordanes[6]	NQ	—		—		—	—	—	1.7	1.7	NA	NQ	—	—	
alpha-BHC	NQ	—		—		—	—	—	NA	1.7	NA	NQ	—	—	
beta-BHC	NQ	—		—		—	—	—	NA	1.7	NA	NQ	—	—	
delta-BHC	NQ	—		—		—	—	—	NA	1.7	NA	NQ	—	—	
gamma-BHC (Lindane)[7]	NQ	—		—		—	—	—	0.32	3.3	NA	NQ	—	—	
Total BHCs[7]	NQ	—		—		—	—	—	0.32	3.3	NA	NQ	—	—	
alpha-Endosulfan	NQ	—		—		—	—	—	NA	1.7	NA	NQ	—	—	
beta-Endosulfan	NQ	—		—		—	—	—	NA	3.3	NA	NQ	—	—	
Endosulfan sulfate	NQ	—		—		—	—	—	NA	3.3	NA	NQ	—	—	
Dieldrin[4]	NQ	—		—		—	—	—	0.02	3.3	NA	NQ	—	—	
Endrin aldehyde	NQ	—		—		—	—	—	NA	3.3	NA	NQ	—	—	
Endrin ketone	NQ	—		—		—	—	—	NA	3.3	NA	NQ	—	—	
Endrin[4]	NQ	—		—		—	—	—	0.02	3.3	NA	NQ	—	—	
Total Endrins[8]	NQ	—		—		—	—	—	0.02	3.3	NA	NQ	—	—	
Heptachlor	NQ	—		—		—	—	—	NA	1.7	NA	NQ	—	—	
Heptachlor epoxide	NQ	—		—		—	—	—	NA	1.7	NA	NQ	—	—	
Methoxychlor	NQ	—		—		—	—	—	NA	17	NA	NQ	—	—	
Toxaphene	NQ	—		—		—	—	—	NA	170	NA	NQ	—	—	
Dioxin-TEQ(mammalian) - Half DLs [ng/Kg]	51/52	1.89		719.3		SW-129-SD (NCDENR)	15.1 - 15.1	719.3	2.5	5	2.5	NA	2.9E+02	Yes	1
Dioxin-TEQ(mammalian) - Zero DLs [ng/Kg]	51/52	1.65		654.4		SW-129-SD (NCDENR)	0 - 0	654.4	2.5	5	2.5	NA	2.6E+02	Yes	1
Dioxin-TEQ(avian) - Half DLs [ng/Kg]	51/52	2.39		561.4		SW-032-SD (NCDENR)	21.2 - 21.2	561.4	2.5	5	2.5	NA	2.2E+02	Yes	1
Dioxin-TEQ(avian) - Zero DLs [ng/Kg]	51/52	2.21		493		SW-045-SD	0 - 0	493	2.5	5	2.5	NA	2.0E+02	Yes	1
Total PCBs	NQ	—		—		—	—	—	21.6	33	33	NQ	—	—	

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] = Values obtained from MacDonald, D.D. "Approach to the Assessment of Sediment Quality in Florida Coastal Waters." Florida Department of Environmental Protection. 1994.
[4] = 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
[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] = US EPA Region 4 recommends that, since no effects value is available, the CLP PQL is used as a surrogate value for total chlordane.
[7] = US EPA Region 4 recommends that, since no effects value is available, the value for gamma BHC is used as a surrogate value for total BHCs.
[8] = US EPA Region 4 recommends that, since no effects value is available, the value for endrin is used as a surrogate value for total endrins.
[9] = 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
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.

Table B-6. Selection of COPCs for Semivolatile Organics in Freshwater
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?	Contaminant Category
Organics - SVOCs (µg/L)													
1,1-Biphenyl	NQ	---		---		NA	10 - 10	10	NA	NA	NA	NA	
1,2,4,5-Tetrachlorobenzene	NQ	---		---		NA	10 - 10	10	50	0.20	NA	NA	
2,2'-oxybis(1-chloropropane)	NQ	---		---		NA	10 - 10	10	NA	NA	NA	NA	
2,4,5-Trichlorophenol	0/11	---		---		NA	10 - 10	10	NA	NA	NA	NA	4
2,4,6-Trichlorophenol	0/20	---		---		NA	10 - 10	10	3.2	**3.13**	NA	NA	2
2,4-Dichlorophenol	0/11	---		---		NA	10 - 10	10	36.5	0.27	NA	NA	
2,4-Dimethylphenol	0/20	---		---		NA	10 - 10	10	21.2	0.47	NA	NA	
2,4-Dinitrophenol	0/11	---		---		NA	10 - 10	10	6.2	**1.61**	NA	NA	2
2,4-Dinitrotoluene	0/11	---		---		NA	10 - 10	10	310	0.03	NA	NA	
2,6-Dinitrotoluene	0/11	---		---		NA	10 - 10	10	NA	NA	NA	NA	4
2-Chloronaphthalene	0/11	---		---		NA	10 - 10	10	NA	NA	NA	NA	4
2-Chlorophenol	0/20	---		---		NA	10 - 10	10	43.8	0.23	NA	NA	
2-Methylphenol	1/20	1		1		SW-034-SW	10 - 10	1	NA	NA	NA	NA	3
2-Nitroaniline	0/11	---		---		NA	10 - 10	10	NA	NA	NA	NA	4
2-Nitrophenol	0/11	---		---		NA	10 - 10	10	3,500	0.00	NA	NA	
3,3'-Dichlorobenzidine	0/11	---		---		NA	10 - 10	10	NA	NA	NA	NA	4
3-Nitroaniline	0/11	---		---		NA	10 - 10	10	NA	NA	NA	NA	4
4,6-Dinitro-2-methylphenol	0/11	---		---		NA	10 - 10	10	2.3	**4.35**	NA	NA	2
4-Bromophenyl phenyl ether	0/11	---		---		NA	10 - 10	10	12.2	0.82	NA	NA	
4-Chloro-3-methylphenol	0/20	---		---		NA	10 - 10	10	0.3	**33.3**	NA	NA	2
4-Chloroaniline	0/11	---		---		NA	10 - 10	10	NA	NA	NA	NA	4
4-Chlorophenyl phenyl ether	0/11	---		---		NA	10 - 10	10	NA	NA	NA	NA	4
4-Methylphenol	NQ	---		---		NA	10 - 10	10	NA	NA	NA	NA	
4-Nitroaniline	0/11	---		---		NA	10 - 10	10	NA	NA	NA	NA	4
4-Nitrophenol	0/11	---		---		NA	10 - 10	10	82.8	0.12	NA	NA	
Acetophenone	NQ	---		---		NA	10 - 10	10	NA	NA	NA	NA	
Atrazine	NQ	---		---		NA	10 - 10	10	NA	NA	NA	NA	
Benzaldehyde	NQ	---		---		NA	10 - 10	10	NA	NA	NA	NA	
bis(2-Chloroethoxy)methane	0/11	---		---		NA	10 - 10	10	NA	NA	NA	NA	4
bis(2-Chloroethyl)ether	0/11	---		---		NA	10 - 10	10	2,380	0.00	NA	NA	
Caprolactam	NQ	---		---		NA	10 - 10	10	NA	NA	NA	NA	
Dibenzofuran	0/11	---		---		NA	10 - 10	10	NA	NA	NA	NA	4
Hexachlorobenzene	0/11	---		---		NA	10 - 10	10	NA	NA	NA	NA	4

Table B-6. Selection of COPCs for Semivolatile Organics in Freshwater
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?	Contaminant Category
Hexachlorobutadiene	0/11	—		—		NA	10 - 10	10	0.93	**10.8**	NA	NA	2
Hexachlorocyclopentadiene	0/11	—		—		NA	10 - 10	10	0.07	**142.9**	NA	NA	2
Hexachloroethane	0/11	—		—		NA	10 - 10	10	9.8	**1.02**	NA	NA	2
Isophorone	1/11	1		1		SW-034-SW	10 - 10	1	1,170	0.001	NA	NA	
n-Nitroso-di-n-propylamine	0/11	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
n-Nitrosodiphenylamine	0/11	—		—		NA	10 - 10	10	58.5	0.17	NA	NA	
Nitrobenzene	0/11	—		—		NA	10 - 10	10	270	0.04	NA	NA	
Pentachlorophenol[4]	3/20	11	J	150		SW-02	11 - 150	150	13	**11.5**	NA	NA	1
Phenol	0/20	—		—		NA	10 - 10	10	256	0.04	NA	NA	
Butyl benzyl phthalate	0/11	—		—		NA	10 - 10	10	22	0.45	NA	NA	
Di-n-butylphthalate	0/11	—		—		NA	10 - 10	10	9.4	**1.06**	NA	NA	2
Di-n-octylphthalate[5]	0/11	—		—		NA	10 - 10	10	0.3	**33.3**	NA	NA	2
Diethylphthalate	0/11	—		—		NA	10 - 10	10	521	0.02	NA	NA	
Dimethylphthalate	0/11	—		—		NA	10 - 10	10	330	0.03	NA	NA	
bis(2-Ethylhexyl) phthalate	0/11	—		—		NA	10 - 10	10	0.3	**33.3**	NA	NA	2
2-Methylnaphthalene	0/20	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
Acenaphthene	0/20	—		—		NA	10 - 10	10	17	0.59	NA	NA	
Acenaphthylene	0/11	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
Anthracene	0/20	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
Benzo(a)anthracene	0/20	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
Benzo(a)pyrene	0/20	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
Benzo(b)fluoranthene	0/20	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
Benzo(g,h,i)perylene	0/11	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
Benzo(k)fluoranthene	0/20	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
Carbazole	0/20	—		—		NA	10 - 50	10	NA	NA	NA	NA	4
Chrysene	0/20	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
Dibenz(a,h)anthracene	0/20	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
Fluoranthene	0/21	—		—		NA	10 - 10	10	39.8	0.25	NA	NA	
Fluorene	0/22	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
Indeno(1,2,3-cd)pyrene	0/20	—		—		NA	10 - 10	10	NA	NA	NA	NA	4

Table B-6. Selection of COPCs for Semivolatile Organics in Freshwater
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?	Contaminant Category
		Min.	Q	Max.	Q								
Naphthalene	1/20	1	J	1	J	SW-034-SW	10 - 50	1	62	0.02	NA	NA	
Phenanthrene	0/20	—		—		NA	10 - 10	10	NA	NA	NA	NA	4
Pyrene	1/11	3	J	3	J	SW-034-SW	10 - 10	3	NA	NA	NA	NA	3
Total PAHs[6]	1/20	4	J	4	J	SW-034-SW	10 - 10	4	17	0.24	NA	NA	

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-7. Selection of COPCs for Inorganics in Freshwater
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?	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	1
Antimony	0/11	--		--		NA	20 - 20	20	160	0.1	NA	NA	
Arsenic III	0/11	--		--		NA	3 - 3	3	190	0.0	50	No	
Barium	8/11	20	J	38		SW-032-SW	20 - 20	38	NA	NA	NA	NA	3
Beryllium	0/11	--		--		NA	1 - 1	1	0.53	1.9	6.5	No	2
Cadmium[4]	0/11	--		--		NA	2 - 2	2	0.66	3.0	0.4	Yes	2, 5
Calcium	11/11	2,000		6,400		SW-026-SW		6,400	NA	NA	NA	NA	3
Chromium (III)[4]	0/11					NA	2 - 3	3	117.32	0.03	NA	NA	
Chromium (VI)	NA					NA	NA	NA	11	NA	NA	NA	
Total Chromium	0/11					NA	2 - 3	3	NA	NA	50	No	
Cobalt	0/11	--		--		NA	3 - 4	4	NA	NA	NA	NA	4
Copper[4]	0/11	--		--		NA	4 - 7	7	6.54	1.1	7	No	2
Iron	11/11	770	J	2,000	J	SW-029-SW		2,000	1,000	2.0	1,000	Yes	1, 5
Lead[4]	0/11	--		--		NA	1 - 2	2	1.32	1.5	25	No	2
Magnesium	11/11	1,000		3,700	J	SW-029-SW		3,700	NA	NA	NA	NA	3
Manganese	11/11	37		110		SW-032-SW		110	NA	NA	NA	NA	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	1, 5
Nickel[4]	0/11	--		--		NA	7 - 7	7	87.71	0.1	88	No	
Potassium	11/11	860		2,000		SW-027-SW		2,000	NA	NA	NA	NA	3
Selenium	0/11	--		--		NA	3 - 3	3	5	0.6	5	No	
Silver[4]	0/11	--		--		NA	3 - 5	5	0.012	416.7	0.06	Yes	2, 5
Sodium	11/11	3,100		5,900	J	SW-029-SW		5,900	NA	NA	NA	NA	3
Thallium	0/11	--		--		NA	3 - 3	3	4	0.8	NA	NA	
Vanadium	0/11	--		--		NA	3 - 5	5	NA	NA	NA	NA	4
Zinc[4]	3/11	11	J	28	J	SW-028-SW	7 - 20	28.0	58.91	0.5	34.9	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.

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

		Sample ID	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	5749	5747	5748	5667	5668	5669 (1)
		Station ID	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	SW-21	SW-46	SW-43	SB-DWN0A1	SB-DWN0B2	SB-DWN0B2F
		Date Collected	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/13/1996	8/3/1999	8/3/1999	8/3/1999	8/13/1999	8/13/1999	8/13/1999
		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
		Location	Background	Background	Background	Background	Background	Background	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
Chem Class	Analyte Name	Conv 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 U		0.01 U	0.01 U	0.01 U						
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	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	8746	8747	8748	8867	[redacted]	[redacted]
		Station ID	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		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	Conv 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 J						
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-628-SW	SW-629-SW (NCDENR)	SW-138-SW (NCDENR) [SW-629-SW (NCDENR) Dup]	SW-630-SW	SW-630-SW (NCDENR)	SW-631-SW (NCDENR)	SW-632-SW (NCDENR)	SW-633-SW (NCDENR)	SW-634-SW (NCDENR)
		Station ID	SW-628-SW	SW-629-SW	SW-138-SW	SW-630-SW	SW-630-SW	SW-631-SW	SW-632-SW	SW-633-SW	SW-634-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	Conv 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	Chloroethane	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-628-SW	SW-629-SW (NCDENR)	SW-129-SW (NCDENR) [SW-629-SW (NCDENR) Dup]	SW-630-SW	SW-630-SW (NCDENR)	SW-631-SW (NCDENR)	SW-632-SW (NCDENR)	SW-633-SW (NCDENR)	SW-634-SW (NCDENR)
		Station ID	SW-628-SW	SW-629-SW	SW-129-SW	SW-630-SW	SW-630-SW	SW-631-SW	SW-632-SW	SW-633-SW	SW-634-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
Chemical Class	Analyte Name	Conv 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	3.6	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 8809 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	SW-023-SL (NCDENR)
		Station ID	SW-013-SL	8752	8753	8754	SW-014-SL	SW-015-SL	SW-015-SL	SW-023-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	11/14/1995
		Waterbody	Drainage Ditch	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	Downstream
		Depth Interval	0 - 12"	NA	NA	NA	0 - 12"	0 - 6"	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		0.014 U
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	1,1,2-Trichloroethane	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	1,1-Dichloroethane	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	1,1-Dichloroethene	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	1,2,4-Trichlorobenzene	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
VOCs	1,2-Dichlorobenzene	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
VOCs	1,2-Dichloroethane	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	1,2-Dichloroethene (total)	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	1,2-Dichloropropane	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	1,3-Dichlorobenzene	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
VOCs	1,4-Dichlorobenzene	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 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	0.014 U
VOCs	4-Bromophenyl phenyl ether	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
VOCs	Acetone	mg/Kg dw	0.012 U				0.02 U		0.015 U		0.014 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	0.014 U
VOCs	Bis(2-chloroethoxy) methane	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
VOCs	Bis(2-Chloroethyl) ether	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
VOCs	Bis(2-Chloroisopropyl) ether	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
VOCs	Bromodichloromethane	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	Bromoform	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	Bromomethane	mg/Kg dw	0.012 UR				0.013 UR		0.015 UR		0.014 UR
VOCs	Carbon disulfide	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	Carbon tetrachloride	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	Chlorobenzene	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	Chloroethane	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	Chloroform	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	Chloromethane	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	cis-1,3-Dichloropropene	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	Dibromochloromethane	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 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	0.014 U
VOCs	Methyl butyl ketone	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	Methyl isobutyl ketone	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 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	0.014 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		0.014 U
VOCs	Tetrachloroethene	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 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	0.014 U
VOCs	trans-1,3-Dichloropropene	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	Trichloroethene	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 U
VOCs	Vinyl chloride	mg/Kg dw	0.012 U				0.013 U		0.015 U		0.014 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	0.014 U
SVOCs	2,4-Dinitrotoluene	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	2,6-Dinitrotoluene	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	2-Chloronaphthalene	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 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	0.44 U
SVOCs	2-Nitroaniline	mg/Kg dw	1 U				32 U		13 U		1.1 U
SVOCs	3,3'-Dichlorobenzidine	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	3-Nitroaniline	mg/Kg dw	1 U				32 U		13 U		1.1 U
SVOCs	4-Chloroaniline	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	4-Chlorophenyl Phenyl Ether	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	4-Nitroaniline	mg/Kg dw	1 U				32 U		13 U		1.1 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		0.44 U
SVOCs	Butyl benzyl phthalate	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	Diethylphthalate	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	Dimethylphthalate	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 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	SW-023-SL (NCDENR)
		Station ID	SW-013-SL	8752	8753	8754	SW-014-SL	SW-015-SL	SW-015-SL	SW-023-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	11/14/1995
		Waterbody	Drainage Ditch	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	Downstream
		Depth Interval	0 - 12"	NA	NA	NA	0 - 12"	0 - 6"	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		0.44 U
SVOCs	Di-n-octylphthalate	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	Hexachlorobenzene	mg/Kg dw	0.41 UJ				13 UJ		5.1 UJ		0.44 UJ
SVOCs	Hexachlorobutadiene	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	Hexachlorocyclopentadiene	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	Hexachloroethane	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	Isophorone	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	Nitrobenzene	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	N-nitrosodi-n-propylamine	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 U
SVOCs	N-nitrosodiphenylamine	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 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		1.1 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	0.44 U
Phenolics	2,4-Dichlorophenol	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 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	0.44 U
Phenolics	2,4-Dinitrophenol	mg/Kg dw	1 U				32 U		13 U		1.1 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	0.44 U
Phenolics	2-Methyl-4,6-dinitrophenol	mg/Kg dw	1 U				32 U		13 U		1.1 U
Phenolics	2-Nitrophenol	mg/Kg dw	0.41 U				13 U		5.1 U		0.44 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	0.44 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	0.44 U
Phenolics	4-Methylphenol	mg/Kg dw									
Phenolics	4-Nitrophenol	mg/Kg dw	1 U				32 U		13 U		1.1 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	7.6 J
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	0.44 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	0.051 J
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	0.069 J
PAHs	Acenaphthylene	mg/Kg dw	0.41 U				4.3 J		0.66 J		0.44 U
PAHs	Anthracene	mg/Kg dw	0.41 U	0.41 U	0.41 U	0.41 U	860	15	7.3	0.01 U	0.1 J
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	0.44 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	0.14 J
PAHs	Benzo(b&k)fluoranthene	mg/Kg dw	0.079 J	0.82 U	22	1.1	17		4.5		0.64
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		0.08 J
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	0.44 J
PAHs	Chrysene	mg/Kg dw	0.067 J	0.41 U	12	0.45	29	0.01 U	6.1	0.01 U	0.31 J
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	0.44 U
PAHs	Dibenzofuran	mg/Kg dw	0.41 U				220		26		0.99
PAHs	Fluoranthene	mg/Kg dw	0.072 J	0.41 U	19	0.88	200	67	30	0.01 U	0.36 J
PAHs	Fluorene	mg/Kg dw	0.41 U	0.33 U	0.33 U	0.33 U	370	52	30	0.01 U	0.48
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	0.14 J
PAHs	Naphthalene	mg/Kg dw	0.41 U	0.41 U	0.41 U	0.41 U	480	56	39	0.01 U	0.35 J
PAHs	Phenanthrene	mg/Kg dw	0.41 U	0.41 U	0.41 U	0.41 U	700	110	120	0.01 U	0.48
PAHs	Pyrene	mg/Kg dw	0.061 J				120 J		24 J		0.39 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	SW-023-SL (NCDENR)
		Station ID	SW-013-SL	8752	8753	8754	SW-014-SL	SW-015-SL	SW-015-SL	SW-023-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	11/14/1995
		Waterbody	Drainage Ditch	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	Downstream
		Depth Interval	0 - 12"	NA	NA	NA	0 - 12"	0 - 6"	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 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		
Dioxin-TEQ	Dioxin-TEQ(mammal) - Zero DL	ng/Kg dw	13.50	NC	NC	NC	NC	NC	157.12	NC	NC
Dioxin-TEQ	Dioxin-TEQ(mammal) - Half DL	ng/Kg dw	15.52	NC	NC	NC	NC	NC	177.14	NC	NC
Dioxin-TEQ	Dioxin-TEQ(avian)-Zero DL	ng/Kg dw	19.08	NC	NC	NC	NC	NC	130.87	NC	NC
Dioxin-TEQ	Dioxin-TEQ(avian)-Half DL	ng/Kg dw	24.33	NC	NC	NC	NC	NC	160.97	NC	NC
Metals	Aluminum	mg/Kg dw					12000		8100		7400
Metals	Antimony	mg/Kg dw					3 UR		3.4 UR		4 UJ
Metals	Arsenic	mg/Kg dw					6.9		3.2		3.1
Metals	Barium	mg/Kg dw					94		62		69
Metals	Beryllium	mg/Kg dw					0.71 J		0.68 J		0.5 J
Metals	Cadmium	mg/Kg dw					0.3 U		0.34 U		0.3 U
Metals	Calcium	mg/Kg dw					1400		980		1500
Metals	Chromium	mg/Kg dw					23		14		23
Metals	Cobalt	mg/Kg dw					20 U		9 U		15
Metals	Copper	mg/Kg dw					25		20 U		13
Metals	Iron	mg/Kg dw					29000		17000		15000
Metals	Lead	mg/Kg dw					14		9.7		6.2 J
Metals	Magnesium	mg/Kg dw					2200		1800		2500
Metals	Manganese	mg/Kg dw	100				350		220		260 J
Metals	Mercury	mg/Kg dw	0.06 U				0.06 U		0.07 U		0.06 U
Metals	Nickel	mg/Kg dw	17				16		14		23
Metals	Potassium	mg/Kg dw	570				530		500		170
Metals	Selenium	mg/Kg dw	0.53 U				1 U		0.52 U		0.53 U
Metals	Silver	mg/Kg dw	0.8 U				0.82 U		0.93 U		0.83 U
Metals	Sodium	mg/Kg dw	90 U				220 U		80 U		140 U
Metals	Thallium	mg/Kg dw	0.54 U				0.54 U		0.62 U		0.55 U
Metals	Tin	mg/Kg dw									
Metals	Vanadium	mg/Kg dw	30				35		24		32
Metals	Zinc	mg/Kg dw	40 U				40 U		50 U		30 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	mg/Kg dw		79	81	81					
General Parameters	Percent Moisture (metals)	%	20						31		24
General Parameters	Percent Moisture (PCDD/F)	%	18						30		
General Parameters	Percent Moisture (SVOC)	%	20				22		35		26
General Parameters	Percent Moisture (SVOCs)	%									
General Parameters	Percent Moisture (VOCs)	%	20				22		35		26
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									

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	SW-023-SL (NCDENR)
		Station ID	SW-013-SL	8752	8753	8754	SW-014-SL	SW-015-SL	SW-015-SL	SW-023-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	11/14/1995
		Waterbody	Drainage Ditch	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	Downstream
		Depth Interval	0 - 12"	NA	NA	NA	0 - 12"	0 - 6"	0 - 6"	0 - 6"	0 - 6"
ChemClass	Analyte Name	Conc Unit									
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	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-024-SL	SW-024-SL (NCDENR)	SW-053-SD	SW-054-SD	SW-055-SD	SW-056-SD	SW-057-SD	SW-058-SD	SW-059-SD	SW-060-SD
		Station ID	SW-024-SL	SW-024-SL	SW-053-SD	SW-054-SD	SW-055-SD	SW-056-SD	SW-057-SD	SW-058-SD	SW-059-SD	SW-060-SD
		Date Collected	11/14/1995	11/14/1995	4/7/1999 7/19/2006 [1]	4/7/1999	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/19/2006	7/16/2002
		Waterbody	Drainage Ditch	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	Downstream
		Depth Interval	0 - 6"	0 - 6"	0 - 2"	0 - 2"	0 - 2"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"
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		0.42 U								
VOCs	1,2-Dichlorobenzene	mg/Kg dw		0.42 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		0.42 U								
VOCs	1,4-Dichlorobenzene	mg/Kg dw		0.42 U								
VOCs	2-Butanone	mg/Kg dw	0.025 U	0.013 U								
VOCs	4-Bromophenyl phenyl ether	mg/Kg dw		0.42 U								
VOCs	Acetone	mg/Kg dw		0.013 U								
VOCs	Benzene	mg/Kg dw	0.005 U	0.013 U								
VOCs	Bis(2-chloroethoxy) methane	mg/Kg dw		0.42 U								
VOCs	Bis(2-Chloroethyl) ether	mg/Kg dw		0.42 U								
VOCs	Bis(2-Chloroisopropyl) ether	mg/Kg dw		0.42 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	0.005 U	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	0.005 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		0.013 U								
VOCs	Tetrachloroethene	mg/Kg dw		0.013 U								
VOCs	Toluene	mg/Kg dw	0.057	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	0.005 U	0.013 U								
SVOCs	2,4-Dinitrotoluene	mg/Kg dw		0.42 U								
SVOCs	2,6-Dinitrotoluene	mg/Kg dw		0.42 U								
SVOCs	2-Chloronaphthalene	mg/Kg dw		0.42 U								
SVOCs	2-Methylphenol	mg/Kg dw	0.01 U	0.42 U	0.33 U	0.33 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 U								
SVOCs	3,3'-Dichlorobenzidine	mg/Kg dw		0.42 U								
SVOCs	3-Nitroaniline	mg/Kg dw		1 U								
SVOCs	4-Chloroaniline	mg/Kg dw		0.42 U								
SVOCs	4-Chlorophenyl Phenyl Ether	mg/Kg dw		0.42 U								
SVOCs	4-Nitroaniline	mg/Kg dw		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	0.33 U	0.33 U
SVOCs	Biphenyl	mg/Kg dw										
SVOCs	Bis(2-ethylhexyl) phthalate	mg/Kg dw		0.42 U								
SVOCs	Butyl benzyl phthalate	mg/Kg dw		0.42 U								
SVOCs	Diethylphthalate	mg/Kg dw		0.42 U								
SVOCs	Dimethylphthalate	mg/Kg dw		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-024-SL	SW-024-SL (NCDENR)	SW-053-SD	SW-054-SD	SW-055-SD	SW-056-SD	SW-057-SD	SW-058-SD	SW-059-SD	SW-060-SD
		Station ID	SW-024-SL	SW-024-SL	SW-053-SD	SW-054-SD	SW-055-SD	SW-056-SD	SW-057-SD	SW-058-SD	SW-059-SD	SW-060-SD
		Date Collected	11/14/1995	11/14/1995	4/7/1999 7/19/2006 [1]	4/7/1999	7/18/2002	7/18/2002	7/18/2002	7/18/2002	7/19/2006	7/18/2002
		Waterbody	Drainage Ditch	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	Downstream
		Depth Interval	0 - 6"	0 - 6"	0 - 2"	0 - 2"	0 - 2"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"
ChemClass	Analyte Name	Conc Unit										
SVOCs	Di-n-butylphthalate	mg/Kg dw		0.42 U								
SVOCs	Di-n-octylphthalate	mg/Kg dw		0.42 U								
SVOCs	Hexachlorobenzene	mg/Kg dw		0.42 UJ								
SVOCs	Hexachlorobutadiene	mg/Kg dw		0.42 U								
SVOCs	Hexachlorocyclopentadiene	mg/Kg dw		0.42 U								
SVOCs	Hexachloroethane	mg/Kg dw		0.42 U								
SVOCs	Isophorone	mg/Kg dw		0.42 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
SVOCs	Nitrobenzene	mg/Kg dw		0.42 U								
SVOCs	N-nitrosodi-n-propylamine	mg/Kg dw		0.42 U								
SVOCs	N-nitrosodiphenylamine	mg/Kg dw		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	0.33 U	0.33 U
Phenolics	2,4,5-Trichlorophenol	mg/Kg dw		1 U								
Phenolics	2,4,6-Trichlorophenol	mg/Kg dw	0.01 U	0.42 U	0.33 U	0.33 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		0.42 U								
Phenolics	2,4-Dimethylphenol	mg/Kg dw	0.01 U	0.42 U	0.33 U	0.33 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 U								
Phenolics	2-Chlorophenol	mg/Kg dw	0.01 U	0.42 U	0.33 U	0.33 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 U								
Phenolics	2-Nitrophenol	mg/Kg dw		0.42 U								
Phenolics	3&4-Methylphenol	mg/Kg dw	0.01 U	0.42 U								
Phenolics	4-Chloro-3-methylphenol	mg/Kg dw	0.01 U	0.42 U	0.33 U	0.33 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	0.33 U	0.33 U
Phenolics	4-Nitrophenol	mg/Kg dw		1 U								
Phenolics	Pentachlorophenol	mg/Kg dw	0.05 U	0.25 J	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.76 J	1.7 U
Phenolics	Phenol	mg/Kg dw	0.01 U	0.42 U	0.065 J	0.071 J	0.33 U	0.12 J	0.33 U	0.33 U	0.33 U	0.33 U
PAHs	1-Methylnaphthalene	mg/Kg dw										
PAHs	2-Methylnaphthalene	mg/Kg dw	0.01 U	0.42 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
PAHs	Acenaphthene	mg/Kg dw	0.01 U	0.42 UJ	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
PAHs	Acenaphthylene	mg/Kg dw		0.42 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
PAHs	Anthracene	mg/Kg dw	0.01 U	0.14 J	0.086 J	0.64	0.33 U	0.33 U	0.33 U	0.33 U	0.12 J	0.33 U
PAHs	Benzo(a)anthracene	mg/Kg dw	0.01 U	0.17 J	0.17 J	0.045 J	0.33 U	0.014 J	0.33 U	0.33 U	0.26 J	0.14 J
PAHs	Benzo(a)pyrene	mg/Kg dw	0.01 U	0.35 J	0.14 J	0.067 J	0.33 U	0.33 U	0.33 U	0.33 U	0.41	0.17 J
PAHs	Benzo(b&k)fluoranthene	mg/Kg dw		0.93	0.43	0.19 J	0.3 J	0.056 J	0.073 J	0.33 U	1.7	0.66
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	1	0.37
PAHs	Benzo(g,h,i)perylene	mg/Kg dw		0.17 J	0.098 J	0.076 J	0.092 J	0.032 J	0.034 J	0.33 U	0.36 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	0.65	0.3 J
PAHs	Carbazole	mg/Kg dw	0.01 U	0.42 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.044 J	0.33 U
PAHs	Chrysene	mg/Kg dw	0.01 U	0.32 J	0.24 J	0.092 J	0.33 U	0.027 J	0.33 U	0.33 U	0.79	0.23 J
PAHs	Dibenzo(a,h)anthracene	mg/Kg dw	0.01 U	0.076 J	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.15 J	0.33 U
PAHs	Dibenzofuran	mg/Kg dw		0.42 U	0.33 U	0.33 U	0.33 U	0.33 U	0.026 J	0.33 U	0.33 U	0.33 U
PAHs	Fluoranthene	mg/Kg dw	0.01 U	0.21 J	0.38 J	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.36 J	0.14 J
PAHs	Fluorene	mg/Kg dw	0.01 U	0.42 U	0.33 U	0.33 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	0.01 U	0.29 J	0.093 J	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.39	0.11 J
PAHs	Naphthalene	mg/Kg dw	0.01 U	0.42 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
PAHs	Phenanthrene	mg/Kg dw	0.01 U	0.054	0.034 J	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.1 J	0.021 J
PAHs	Pyrene	mg/Kg dw		0.2 J	0.34 J	0.08 J	0.097 J	0.33 U	0.068 J	0.33 U	0.69	0.2 J
PCDD/Fs	1,2,3,4,6,7,8-HpCDD	ng/Kg dw		5800	11200	6220	3420		2690		33000	
PCDD/Fs	1,2,3,4,6,7,8-HpCDF	ng/Kg dw		680	293	750	395		328		3600	
PCDD/Fs	1,2,3,4,7,8,9-HpCDF	ng/Kg dw		55	91	58.1	40.3		26.8		276	
PCDD/Fs	1,2,3,4,7,8-HxCDD	ng/Kg dw		17	24.1	18.5	21.3		7.03		117	
PCDD/Fs	1,2,3,4,7,8-HxCDF	ng/Kg dw		200 U	44.8	26.1	16.6		12.1		123	
PCDD/Fs	1,2,3,6,7,8-HxCDD	ng/Kg dw		120	4.1	3	75		60		634	
PCDD/Fs	1,2,3,6,7,8-HxCDF	ng/Kg dw		14 U	2.3	7.07	8		5 U		47.2	
PCDD/Fs	1,2,3,7,8,9-HxCDD	ng/Kg dw		60	45.9	4.4	56.2		13.3		207	
PCDD/Fs	1,2,3,7,8,9-HxCDF	ng/Kg dw		14 U	5 U	5 U	0.3 U		5 U		19.2	
PCDD/Fs	1,2,3,7,8-PeCDD	ng/Kg dw		4 J	5 U	5 U			5 U		32.7	
PCDD/Fs	1,2,3,7,8-PeCDF	ng/Kg dw		14 U	5 U	5 U	4.4		5 U		5 U	
PCDD/Fs	2,3,4,6,7,8-HxCDF	ng/Kg dw		10	4.3	17.6	20.2		7.32		100	
PCDD/Fs	2,3,4,7,8-PeCDF	ng/Kg dw		14 U	8.58	5 U	2.6		5 U		35.9	
PCDD/Fs	2,3,7,8-TeCDD	ng/Kg dw		5.6 U	1 U	1 U	0.82		1 U		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-024-SL	SW-024-SL (NCDENR)	SW-053-SD	SW-054-SD	SW-055-SD	SW-056-SD	SW-057-SD	SW-058-SD	SW-059-SD	SW-060-SD
		Station ID	SW-024-SL	SW-024-SL	SW-053-SD	SW-054-SD	SW-055-SD	SW-056-SD	SW-057-SD	SW-058-SD	SW-059-SD	SW-060-SD
		Date Collected	11/14/1995	11/14/1995	4/7/1996 7/19/2006 [1]	4/7/1996	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/19/2006	7/16/2002
		Waterbody	Drainage Ditch	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	Downstream
		Depth Interval	0 - 6"	0 - 6"	0 - 2"	0 - 2"	0 - 2"	0 - 3"	0 - 3"	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		1 U	
PCDD/Fs	OCDD	ng/Kg dw		63000 J	82500	6210	27500		33400		138000	
PCDD/Fs	OCDF	ng/Kg dw		3400	4630	42.4	1450		1620		13400	
PCDD/F homologs	TeCDDs (total)	ng/Kg dw		2 J	3.64	5.97	3.6		1 U		92	
PCDD/F homologs	TeCDFs (total)	ng/Kg dw		3 J	8.8	7.15	12.6		2.56		78.8	
PCDD/F homologs	PeCDDs (total)	ng/Kg dw		22 J	4.9	45.1	30.1		5 U		391	
PCDD/F homologs	PeCDFs (total)	ng/Kg dw		43 J	84.5	47.1	75.2		18.8		428	
PCDD/F homologs	HxCDD (total)	ng/Kg dw		900 J	51.6	38.2	691		382		4590	
PCDD/F homologs	HxCDF (total)	ng/Kg dw		580 J	128	751	403		310		3350	
PCDD/F homologs	HpCDD (total)	ng/Kg dw		16000 J	426	417	10800		7360		79700	
PCDD/F homologs	HpCDF (total)	ng/Kg dw		860 J	6210	3760	1800		1650		19200	
Dioxin-TEQ	Dioxin-TEQ(mammal) - Zero DL	ng/Kg dw	NC	109.97	207.51	122.42	68.85	NC	50.93	NC	585.74	NC
Dioxin-TEQ	Dioxin-TEQ(mammal) - Half DL	ng/Kg dw	NC	126.76	211.09	126.75	68.86	NC	55.30	NC	585.87	NC
Dioxin-TEQ	Dioxin-TEQ(avian)-Zero DL	ng/Kg dw	NC	89.54	152.26	97.13	52.34	NC	44.02	NC	344.88	NC
Dioxin-TEQ	Dioxin-TEQ(avian)-Half DL	ng/Kg dw	NC	114.24	156.46	103.83	52.36	NC	50.77	NC	345.63	NC
Metals	Aluminum	mg/Kg dw		13000								
Metals	Antimony	mg/Kg dw		4 UJ								
Metals	Arsenic	mg/Kg dw		3.9								
Metals	Barium	mg/Kg dw		150								
Metals	Beryllium	mg/Kg dw		0.9 J								
Metals	Cadmium	mg/Kg dw		0.29 U								
Metals	Calcium	mg/Kg dw		1400								
Metals	Chromium	mg/Kg dw		19								
Metals	Cobalt	mg/Kg dw		10 U								
Metals	Copper	mg/Kg dw		28								
Metals	Iron	mg/Kg dw		25000								
Metals	Lead	mg/Kg dw		11								
Metals	Magnesium	mg/Kg dw		3200								
Metals	Manganese	mg/Kg dw		290								
Metals	Mercury	mg/Kg dw		0.06 U								
Metals	Nickel	mg/Kg dw		14								
Metals	Potassium	mg/Kg dw		360								
Metals	Selenium	mg/Kg dw		0.51 U								
Metals	Silver	mg/Kg dw		0.79 U								
Metals	Sodium	mg/Kg dw		160 U								
Metals	Thallium	mg/Kg dw		0.53 U								
Metals	Tin	mg/Kg dw										
Metals	Vanadium	mg/Kg dw		41								
Metals	Zinc	mg/Kg dw		30 UJ								
General Parameters	Percent Clay	%			16.4						15.4	
General Parameters	Percent Gravel	%			1.7						0 U	
General Parameters	Percent Sand	%			34.4						15	
General Parameters	Percent Silt	%			47.5						69.6	
General Parameters	Total Organic Carbon	mg/Kg dw			5090						9040	
General Parameters	Total Solids	mg/Kg dw										
General Parameters	Percent Moisture (metals)	%		23								
General Parameters	Percent Moisture (PCDD/F)	%		21								
General Parameters	Percent Moisture (SVOC)	%		21								
General Parameters	Percent Moisture (SVOCs)	%										
General Parameters	Percent Moisture (VOCs)	%		21								
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	

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

		Sample ID	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	SW-059-SD	SW-060-SD
		Station ID	SW-024-SL	SW-024-SL	SW-053-SD	SW-054-SD	SW-055-SD	SW-056-SD	SW-057-SD	SW-058-SD	SW-059-SD	SW-060-SD
		Date Collected	11/14/1995	11/14/1995	4/7/1999 7/19/2006 [1]	4/7/1999	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/19/2006	7/16/2002
		Waterbody	Drainage Ditch	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	Downstream
		Depth Interval	0 - 6"	0 - 6"	0 - 2"	0 - 2"	0 - 2"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"
ChemClass	Analyte Name	Conc Unit										
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	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
Southern Wood Piedmont - Former Gulf, NC Facility

		Sample ID	SW-158-SD	SWP-003
		Station ID	SW-158-SD	SWP-003
		Date Collected	7/18/2002	9/21/1983
		Waterbody	Drainage Ditch	Drainage Ditch
		Location	Downstream	Downstream
		Depth Interval	0 - 3"	Surface
ChemClass	Analyte Name	Core 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	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	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-158-SD	SWP-003
		Station ID	SW-158-SD	SWP-003
		Date Collected	7/18/2002	9/21/1983
		Waterbody	Drainage Ditch	Drainage Ditch
		Location	Downstream	Downstream
		Depth Interval	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	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	
Phenolics	2,4,5-Trichlorophenol	mg/Kg dw		
Phenolics	2,4,6-Trichlorophenol	mg/Kg dw	0.33 U	2 U
Phenolics	2,4-Dichlorophenol	mg/Kg dw		
Phenolics	2,4-Dimethylphenol	mg/Kg dw	0.33 U	2 U
Phenolics	2,4-Dinitrophenol	mg/Kg dw		
Phenolics	2-Chlorophenol	mg/Kg dw	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	2 U
Phenolics	4-Methylphenol	mg/Kg dw	0.33 U	
Phenolics	4-Nitrophenol	mg/Kg dw		
Phenolics	Pentachlorophenol	mg/Kg dw	1.7 U	11
Phenolics	Phenol	mg/Kg dw	0.33 U	2 U
PAHs	1-Methylnaphthalene	mg/Kg dw		
PAHs	2-Methylnaphthalene	mg/Kg dw	0.33 U	2 U
PAHs	Acenaphthene	mg/Kg dw	0.33 U	2 U
PAHs	Acenaphthylene	mg/Kg dw	0.33 U	0.5 J
PAHs	Anthracene	mg/Kg dw	0.33 U	8.3
PAHs	Benzo(a)anthracene	mg/Kg dw	0.33 U	3.9
PAHs	Benzo(a)pyrene	mg/Kg dw	0.33 U	3.2
PAHs	Benzo(b&k)fluoranthene	mg/Kg dw	0.33 U	
PAHs	Benzo(b)fluoranthene	mg/Kg dw	0.33 U	7.9
PAHs	Benzo(g,h,i)perylene	mg/Kg dw	0.33 U	2 U
PAHs	Benzo(k)fluoranthene	mg/Kg dw	0.33 U	
PAHs	Carbazole	mg/Kg dw	0.33 U	
PAHs	Chrysene	mg/Kg dw	0.33 U	10
PAHs	Dibenzo(a,h)anthracene	mg/Kg dw	0.33 U	2 U
PAHs	Dibenzofuran	mg/Kg dw	0.33 U	2 U
PAHs	Fluoranthene	mg/Kg dw	0.33 U	16
PAHs	Fluorene	mg/Kg dw	0.33 U	1.1 J
PAHs	Indeno(1,2,3-cd)pyrene	mg/Kg dw	0.33 U	2 U
PAHs	Naphthalene	mg/Kg dw	0.33 U	2 U
PAHs	Phenanthrene	mg/Kg dw	0.33 U	2 J
PAHs	Pyrene	mg/Kg dw	0.33 U	12
PCDD/Fs	1,2,3,4,6,7,8-HpCDD	ng/Kg dw		
PCDD/Fs	1,2,3,4,6,7,8-HpCDF	ng/Kg dw		
PCDD/Fs	1,2,3,4,7,8,9-HpCDF	ng/Kg dw		
PCDD/Fs	1,2,3,4,7,8-HxCDD	ng/Kg dw		
PCDD/Fs	1,2,3,4,7,8-HxCDF	ng/Kg dw		
PCDD/Fs	1,2,3,6,7,8-HxCDD	ng/Kg dw		
PCDD/Fs	1,2,3,6,7,8-HxCDF	ng/Kg dw		
PCDD/Fs	1,2,3,7,8,9-HxCDD	ng/Kg dw		
PCDD/Fs	1,2,3,7,8,9-HxCDF	ng/Kg dw		
PCDD/Fs	1,2,3,7,8-PeCDD	ng/Kg dw		
PCDD/Fs	1,2,3,7,8-PeCDF	ng/Kg dw		
PCDD/Fs	2,3,4,6,7,8-HxCDF	ng/Kg dw		
PCDD/Fs	2,3,4,7,8-PeCDF	ng/Kg dw		
PCDD/Fs	2,3,7,8-TeCDD	ng/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-158-SD	SWP-003
		Station ID	SW-158-SD	SWP-003
		Date Collected	7/18/2002	9/21/1983
		Waterbody	Drainage Ditch	Drainage Ditch
		Location	Downstream	Downstream
		Depth Interval	0 - 3"	Surface
ChemClass	Analyte Name	Core Unit		
PCDD/Fs	2,3,7,8-TeCDF	ng/Kg dw		
PCDD/Fs	OCDD	ng/Kg dw		
PCDD/Fs	OCDF	ng/Kg dw		
PCDD/F homologs	TeCDDs (total)	ng/Kg dw		
PCDD/F homologs	TeCDFs (total)	ng/Kg dw		
PCDD/F homologs	PeCDDs (total)	ng/Kg dw		
PCDD/F homologs	PeCDFs (total)	ng/Kg dw		
PCDD/F homologs	HxCDD (total)	ng/Kg dw		
PCDD/F homologs	HxCDF (total)	ng/Kg dw		
PCDD/F homologs	HpCDD (total)	ng/Kg dw		
PCDD/F homologs	HpCDF (total)	ng/Kg dw		
Dioxin-TEQ	Dioxin-TEQ(mammal) - Zero DL	ng/Kg dw	NC	NC
Dioxin-TEQ	Dioxin-TEQ(mammal) - Half DL	ng/Kg dw	NC	NC
Dioxin-TEQ	Dioxin-TEQ(avian)-Zero DL	ng/Kg dw	NC	NC
Dioxin-TEQ	Dioxin-TEQ(avian)-Half DL	ng/Kg dw	NC	NC
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	%		
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		
General Parameters	Percent Moisture (metals)	%		
General Parameters	Percent Moisture (PCDD/F)	%		
General Parameters	Percent Moisture (SVOC)	%		
General Parameters	Percent Moisture (SVOCs)	%		26
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		

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

		Sample ID	SW-158-SD	SWP-003
		Station ID	SW-158-SD	SWP-003
		Date Collected	7/18/2002	9/21/1983
		Waterbody	Drainage Ditch	Drainage Ditch
		Location	Downstream	Downstream
		Depth Interval	0 - 3"	Surface
ChemClass	Analyte Name	Conc Unit		
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	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
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
NC: Not collected
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-026-SD (NCDENR)	SW-027-SD	SW-028-SD (NCDENR)	SW-037-SD (NCDENR)	SW-038-SD (NCDENR)	SW-039-SD (NCDENR)	SW-039-SD	SW-039-SD (NCDENR)	SW-040-SD	SW-040-SD (NCDENR)	SW-041-SD
		Station ID		SW-026-SD		SW-028-SD	SW-037-SD	SW-038-SD	SW-039-SD		SW-039-SD		SW-040-SD	
		Date Collected	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/8/1996	11/8/1996	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	Cedar Creek
		Location	Background	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 - 6"	0 - 6"	0 - 6"	0 - 6"	0 - 6"
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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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		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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	1.7 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	0.66 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	1.7 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	0.33 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	1.7 U
SVOCs	Aniline	mg/Kg dw	0.33 U		0.33 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		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 U
SVOCs	N-Nitrosodimethylamine	mg/Kg dw								0.33 U		0.33 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-035-SD	SW-035-SD (NCDENR)	SW-036-SD	SW-036-SD (NCDENR)	SW-037-SD (NCDENR)	SW-038-SD (NCDENR)	SW-038-SD (NCDENR)	SW-039-SD	SW-039-SD (NCDENR)	SW-040-SD	SW-040-SD (NCDENR)	SW-041-SD
		Station ID		SW-035-SD		SW-036-SD	SW-037-SD	SW-038-SD	SW-038-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	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	Background	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"	0 - 4"
Chem Class	Analyte Name	Conv Unit												
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	0.33 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	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	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	0.33 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	0.33 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	0.33 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	0.33 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	1.7 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	0.33 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	0.33 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	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	0.42 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	0.33 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	1.7 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	1.7 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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		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	0.33 U
PAHs	Benzo(k)fluoranthene	mg/Kg dw	0.33 U		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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 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	0.33 U
PCDD/Fs	1,2,3,4,6,7,8-HpCDD	ng/Kg dw		30 U				12 U		3.5	9 U	5.9	6 U	3.8
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	0.1 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	0.2 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	0.08 U
PCDD/Fs	1,2,3,4,7,8-HxCDF	ng/Kg dw		12 U				12 U		0.08 U	5 U	0.12	5 U	0.08 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	0.07 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	0.05 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	0.08 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	0.07 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	0.1 U
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	0.06 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	0.08 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	0.08 U
PCDD/Fs	2,3,7,8-TeCDF	ng/Kg dw		5 U				5 U		0.29	2 U	0.27	2 U	0.25
PCDD/Fs	OCDD	ng/Kg dw		810				140 U		301	520	406	410	258
PCDD/Fs	OCDF	ng/Kg dw		25 U				25 U		0.3 U	10 U	0.3 U	10 U	0.4 U
PCDD/F homologs	TeCDDs (total)	ng/Kg dw		5 UJ				5 UJ		0.13 EMPC	2 UJ	0.09 EMPC	2 UJ	0.08 EMPC
PCDD/F homologs	TeCDFs (total)	ng/Kg dw		5 UJ				5 UJ		0.29	0.4 J	0.27	0.27 J	0.25
PCDD/F homologs	PeCDDs (total)	ng/Kg dw		12 UJ				12 UJ		0.08 U	5 UJ	0.09 U	5 UJ	0.1 U
PCDD/F homologs	PeCDFs (total)	ng/Kg dw		12 UJ				12 UJ		0	1.4 U	0.48 EMPC	5 UJ	0.23 EMPC
PCDD/F homologs	HxCDD (total)	ng/Kg dw		22 J				12 UJ		0.59	6 U	1.5	5 U	0.4
PCDD/F homologs	HxCDF (total)	ng/Kg dw		27 J				12 UJ		0	5 UJ	0.31	5 UJ	0.06 U
PCDD/F homologs	HpCDD (total)	ng/Kg dw		70 UJ				20 UJ		8.9	20 U	14	14 UJ	9.8
PCDD/F homologs	HpCDF (total)	ng/Kg dw		18 J				12 UJ		0	5 UJ	0.56	5 UJ	0.2 U
Dioxin-TEQ	Dioxin-TEQ(mammal) - Zero DL	ng/Kg dw	NC	0.37	NC	NC	NC	0.00	NC	0.26	0.16	0.24	0.12	0.14
Dioxin-TEQ	Dioxin-TEQ(mammal) - Half DL	ng/Kg dw	NC	16.52	NC	NC	NC	15.13	NC	0.32	6.35	0.30	6.30	0.22
Dioxin-TEQ	Dioxin-TEQ(avian)-Zero DL	ng/Kg dw	NC	0.94	NC	NC	NC	0.00	NC	0.72	0.52	0.72	0.41	0.51
Dioxin-TEQ	Dioxin-TEQ(avian)-Half DL	ng/Kg dw	NC	21.98	NC	NC	NC	21.16	NC	0.79	8.98	0.80	8.86	0.62
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						

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-029-SD (NCDENR)	SW-029-SD	SW-030-SD (NCDENR)	SW-040-SD	SW-040-SD (NCDENR)	SW-041-SD
		Station ID		SW-025-SD		SW-026-SD	SW-027-SD	SW-028-SD	SW-029-SD		SW-030-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	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	Background	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"	0 - 4"
ChemClass	Analyte Name	Conc Unit												
Metals	Barium	mg/Kg dw		35		70	37	14						
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	9.8	9.7						
Metals	Cobalt	mg/Kg dw		5 U		6 U	8 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		8 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		60 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		20		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	20						
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	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 (NCDENR)	SW-043-SD	SW-042-SD (NCDENR)	SWP-000	5749	5750	5751	5871	SW-039-SD	SW-029-SD (NCDENR)	SW-030-SD	SW-038-SD (NCDENR)	SW-031-SD (NCDENR)
		Station ID	SW-041-SD		SW-042-SD	SWP-000						SW-029-SD		SW-038-SD	SW-031-SD
		Date Collected	11/8/1996	11/8/1996	11/8/1996	9/21/1993	5/3/1999	5/3/1999	5/3/1999	5/13/1999	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	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Background	Background	Background	Background	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 4"	0 - 4"	0 - 4"	Surface	NA	NA	NA	NA	0 - 12"	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	0.014 U
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	1,1,2-Trichloroethane	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	1,1-Dichloroethane	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	1,1-Dichloroethene	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	1,2,4-Trichlorobenzene	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
VOCs	1,2-Dichlorobenzene	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
VOCs	1,2-Dichloroethane	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	1,2-Dichloroethene (total)	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	1,2-Dichloropropane	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	1,3-Dichlorobenzene	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
VOCs	1,4-Dichlorobenzene	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 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	0.014 U
VOCs	4-Bromophenyl phenyl ether	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
VOCs	Acetone	mg/Kg dw										0.013 U		0.015 U	0.014 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	0.014 U
VOCs	bis(2-Chloro-1-methylethyl) ether	mg/Kg dw		0.33 U											
VOCs	Bis(2-chloroethoxy) methane	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
VOCs	Bis(2-Chloroethyl) ether	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
VOCs	Bis(2-Chloroisopropyl) ether	mg/Kg dw	0.35 U		0.38 U							0.43 U		0.99 U	0.46 U
VOCs	Bromodichloromethane	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	Bromoform	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	Bromomethane	mg/Kg dw										0.013 UR		0.015 UR	0.014 UR
VOCs	Carbon disulfide	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	Carbon tetrachloride	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	Chlorobenzene	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	Chloroethane	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	Chloroform	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	Chloromethane	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	cis-1,3-Dichloropropene	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	Dibromochloromethane	mg/Kg dw										0.013 U		0.015 U	0.014 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	0.014 U
VOCs	Methyl butyl ketone	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	Methyl isobutyl ketone	mg/Kg dw										0.013 U		0.015 U	0.014 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	0.02 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	0.014 U
VOCs	Tetrachloroethene	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	Toluene	mg/Kg dw					0.005 U	0.0086	0.005 U	0.005 U	0.066	0.013 U	0.018	0.015 U	0.014 U
VOCs	trans-1,3-Dichloropropene	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	Trichloroethene	mg/Kg dw										0.013 U		0.015 U	0.014 U
VOCs	Vinyl chloride	mg/Kg dw										0.013 U		0.015 U	0.014 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	0.014 U
SVOCs	2,4-Dinitrotoluene	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	2,6-Dinitrotoluene	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	2-Chloronaphthalene	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	2-Methylphenol	mg/Kg dw	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	0.46 U
SVOCs	2-Nitroaniline	mg/Kg dw	0.89 U	1.7 U	0.96 U							1.1 U		2.5 U	1.2 U
SVOCs	3,3'-Dichlorobenzidine	mg/Kg dw	0.35 U	0.66 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	3-Nitroaniline	mg/Kg dw	0.89 U	1.7 U	0.96 U							1.1 U		2.5 U	1.2 U
SVOCs	4-Chloroaniline	mg/Kg dw	0.35 U		0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	4-Chlorophenyl Phenyl Ether	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	4-Nitroaniline	mg/Kg dw	0.89 U	1.7 U	0.96 U							1.1 U		2.5 U	1.2 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											
SVOCs	Benzoic acid	mg/Kg dw		1.7 U											
SVOCs	Benzyl alcohol	mg/Kg dw		0.33 U											
SVOCs	Biphenyl	mg/Kg dw													
SVOCs	Bis(2-ethylhexyl) phthalate	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	Butyl benzyl phthalate	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	Diethylphthalate	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	Dimethylphthalate	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	Di-n-butylphthalate	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	Di-n-octylphthalate	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	Hexachlorobenzene	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 UJ		0.99 UJ	0.46 UJ
SVOCs	Hexachlorobutadiene	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	Hexachlorocyclopentadiene	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	Hexachloroethane	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	Isophorone	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	Nitrobenzene	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	N-Nitrosodimethylamine	mg/Kg dw		0.33 U											

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

		Sample ID	SW-041-SD (NCDENR)	SW-043-SD	SW-043-SD (NCDENR)	SWP-069	5749	5750	5751	5671	SW-029-SD	SW-029-SD (NCDENR)	SW-030-SD	SW-030-SD (NCDENR)	SW-031-SD (NCDENR)
		Station ID	SW-041-SD		SW-043-SD	SWP-069						SW-029-SD		SW-030-SD	SW-031-SD
		Date Collected	11/8/1996	11/8/1996	11/8/1996	9/21/1993	8/3/1999	8/3/1999	8/3/1999	8/13/1999	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	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Background	Background	Background	Background	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 4"	0 - 4"	0 - 4"	Surface	NA	NA	NA	NA	0 - 12"	0 - 12"	0 - 12"	0 - 12"	0 - 12"
ChemClass	Analyte Name	Conc Unit													
SVOCs	N-nitrosodi-n-propylamine	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	N-nitrosodiphenylamine	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
SVOCs	p-Chloroaniline	mg/Kg dw		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	0.89 U	0.33 U	0.96 U							1.1 U		2.5 U	1.2 U
Phenolics	2,4,6-Trichlorophenol	mg/Kg dw	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	0.46 U
Phenolics	2,4-Dichlorophenol	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
Phenolics	2,4-Dimethylphenol	mg/Kg dw	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	0.46 U
Phenolics	2,4-Dinitrophenol	mg/Kg dw	0.89 U	1.7 U	0.96 U							1.1 U		2.5 U	1.2 U
Phenolics	2-Chlorophenol	mg/Kg dw	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	0.46 U
Phenolics	2-Methyl-4,6-dinitrophenol	mg/Kg dw	0.89 U		0.96 U							1.1 U		2.5 U	1.2 U
Phenolics	2-Nitrophenol	mg/Kg dw	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U	0.46 U
Phenolics	3&4-Methylphenol	mg/Kg dw	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	0.46 U
Phenolics	4,6-Dinitro-2-methylphenol	mg/Kg dw		1.7 U											
Phenolics	4-Chloro-3-methylphenol	mg/Kg dw	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	0.46 U
Phenolics	4-Methylphenol	mg/Kg dw													
Phenolics	4-Nitrophenol	mg/Kg dw	0.89 U	1.7 U	0.96 U							1.1 U		2.5 U	1.2 U
Phenolics	Pentachlorophenol	mg/Kg dw	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	1.2 U
Phenolics	Phenol	mg/Kg dw	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	0.46 U
PAHs	1-Methylnaphthalene	mg/Kg dw													
PAHs	2-Methylnaphthalene	mg/Kg dw	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	0.46 U
PAHs	Acenaphthene	mg/Kg dw	0.35 U	0.33 U	0.38 U	2 U	0.41 U	5.8	0.41 U	1.5	39	180 J	0.33 U	0.22 J	0.46 UJ
PAHs	Acenaphthylene	mg/Kg dw	0.35 U	0.33 U	0.38 U	1.2 J						0.43 U		0.99 U	0.46 U
PAHs	Anthracene	mg/Kg dw	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	0.46 U
PAHs	Benzo(a)anthracene	mg/Kg dw	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	0.049 J
PAHs	Benzo(a)pyrene	mg/Kg dw	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	0.46 U
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	0.08 J
PAHs	Benzo(b)fluoranthene	mg/Kg dw		0.33 U		0.013					4.6		3.4		
PAHs	Benzo(g,h,i)perylene	mg/Kg dw	0.35 U	0.33 U	0.38 U	0.003						0.089 J		0.5 J	0.46 U
PAHs	Benzo(k)fluoranthene	mg/Kg dw		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	5.8	12 J	0.33 U	0.18 J	0.46 U
PAHs	Chrysene	mg/Kg dw	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	0.064 J
PAHs	Dibenzo(a,h)anthracene	mg/Kg dw	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	0.46 U
PAHs	Dibenzo(a,h)pyrene	mg/Kg dw													
PAHs	Dibenzofuran	mg/Kg dw	0.35 U	0.33 U	0.38 U	2 U						150		0.2 J	0.2 J
PAHs	Fluoranthene	mg/Kg dw	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	0.2 J
PAHs	Fluorene	mg/Kg dw	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	0.46 U
PAHs	Indeno(1,2,3-cd)pyrene	mg/Kg dw	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	0.99 J	0.46 U
PAHs	Naphthalene	mg/Kg dw	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	0.46 U
PAHs	Phenanthrene	mg/Kg dw	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	0.24 J
PAHs	Pyrene	mg/Kg dw	0.35 U	0.33 U	0.38 U	0.013						10 J		3.2 J	0.16 J
PCDD/Fs	1,2,3,4,6,7,8-HpCDD	ng/Kg dw	7 U	1.6	3.2 U							18000			130
PCDD/Fs	1,2,3,4,6,7,8-HpCDF	ng/Kg dw	4.5 U	0.14 EMPC	3.2 U							4300			10 J
PCDD/Fs	1,2,3,4,7,8,9-HpCDF	ng/Kg dw	4.5 U	0.1 U	3.2 U							170			12 U
PCDD/Fs	1,2,3,4,7,8-HxCDD	ng/Kg dw	4.5 U	0.05 U	3.2 U							23			12 U
PCDD/Fs	1,2,3,4,7,8-HxCDF	ng/Kg dw	4.5 U	0.04 U	3.2 U							610 U			12 U
PCDD/Fs	1,2,3,6,7,8-HxCDD	ng/Kg dw	4.5 U	0.05 U	3.2 U							470			3 J
PCDD/Fs	1,2,3,6,7,8-HxCDF	ng/Kg dw	4.5 U	0.04 U	3.2 U							9 J			12 U
PCDD/Fs	1,2,3,7,8,9-HxCDD	ng/Kg dw	4.5 U	0.05 U	3.2 U							100			2 J
PCDD/Fs	1,2,3,7,8,9-HxCDF	ng/Kg dw	4.5 U	0.05 U	3.2 U							14 U			12 U
PCDD/Fs	1,2,3,7,8-PeCDD	ng/Kg dw	4.5 U		3.2 U							4 J			12 U
PCDD/Fs	1,2,3,7,8-PeCDF	ng/Kg dw	4.5 R	0.07 U	3.2 R							14 U			12 U
PCDD/Fs	2,3,4,6,7,8-HxCDF	ng/Kg dw	4.5 U	0.04 U	3.2 U							14 U			12 U
PCDD/Fs	2,3,4,7,8-PeCDF	ng/Kg dw	4.5 U	0.06 U	3.2 U							4 J			12 U
PCDD/Fs	2,3,7,8-TeCDD	ng/Kg dw	1.8 U	0.06 U	1.3 U							6 U			5 U
PCDD/Fs	2,3,7,8-TeCDF	ng/Kg dw	1.8 U	0.16 EMPC	3.2 U							6 U			5 U
PCDD/Fs	OCDD	ng/Kg dw	560	115	170							220000 J			2000
PCDD/Fs	OCDF	ng/Kg dw	10 U	0.1 U	6.5 U							20000			63
PCDD/F homologs	TeCDDs (total)	ng/Kg dw	1.8 UJ	0.14 EMPC	1.3 UJ							24 J			5 UJ
PCDD/F homologs	TeCDFs (total)	ng/Kg dw	0.7 J	0.41 EMPC	3.2 UJ							8.5 J			5 UJ
PCDD/F homologs	PeCDDs (total)	ng/Kg dw	4.5 UJ	0.07 U	3.2 UJ							40 J			1.3 J
PCDD/F homologs	PeCDFs (total)	ng/Kg dw	4.5 UJ	0.06 U	3.2 UJ							120 J			1.5 J
PCDD/F homologs	HxCDD (total)	ng/Kg dw	4.5 UJ	0.24	3.2 UJ							4100 J			28 J
PCDD/F homologs	HxCDF (total)	ng/Kg dw	4.5 UJ	0.04 U	3.2 UJ							3300 J			12 J
PCDD/F homologs	HpCDD (total)	ng/Kg dw	17 UJ	4	7 UJ							72000 J			340 J
PCDD/F homologs	HpCDF (total)	ng/Kg dw	4.5 UJ	0.14 EMPC	3.2 UJ							5200 J			13 J
Dioxin-TEQ	Dioxin-TEQ(mammal) - Zero DL	ng/Kg dw	0.17	0.07	0.05	NC	NC	NC	NC	NC	NC	362.10	NC	NC	2.52
Dioxin-TEQ	Dioxin-TEQ(mammal) - Half DL	ng/Kg dw	5.74	0.13	4.11	NC	NC	NC	NC	NC	NC	397.51	NC	NC	16.31
Dioxin-TEQ	Dioxin-TEQ(avian)-Zero DL	ng/Kg dw	0.56	0.30	0.17	NC	NC	NC	NC	NC	NC	309.45	NC	NC	2.47
Dioxin-TEQ	Dioxin-TEQ(avian)-Half DL	ng/Kg dw	6.17	0.38	6.55	NC	NC	NC	NC	NC	NC	348.05	NC	NC	22.83
Metals	Aluminum	mg/Kg dw				3200						10000		12000	3900
Metals	Antimony	mg/Kg dw				1 U						3.2 UR		5 UJ	5 UJ
Metals	Arsenic	mg/Kg dw				2.1						2 U		9.9	6.2

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

		Sample ID	SW-041-SD (NCDENR)	SW-043-SD	SW-042-SD (NCDENR)	SWP-000	5748	5750	5751	5871	SW-029-SD	SW-029-SD (NCDENR)	SW-030-SD	SW-030-SD (NCDENR)	SW-031-SD (NCDENR)
		Station ID	SW-041-SD		SW-042-SD	SWP-000						SW-029-SD		SW-030-SD	SW-031-SD
		Date Collected	11/8/1996	11/8/1996	11/8/1996	8/21/1995	8/3/1995	8/3/1995	8/3/1995	8/13/1996	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	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Background	Background	Background	Background	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 4"	0 - 4"	0 - 4"	Surface	NA	NA	NA	NA	0 - 12"	0 - 12"	0 - 12"	0 - 12"	0 - 12"
ChemClass	Analyte Name	Conc Unit													
Metals	Barium	mg/Kg dw				29						110		100	34
Metals	Beryllium	mg/Kg dw				0.25 U						1 U		1.1 J	1
Metals	Cadmium	mg/Kg dw				0.05 U						0.32 U		0.3 U	0.36 U
Metals	Calcium	mg/Kg dw										820		1300	360
Metals	Chromium	mg/Kg dw				4.6						15		32	27
Metals	Cobalt	mg/Kg dw				5.4						20 U		18	5 U
Metals	Copper	mg/Kg dw				3.9						20 U		20	20 U
Metals	Iron	mg/Kg dw				9500						15000		37000	19000
Metals	Lead	mg/Kg dw				8.9						7 J		11 J	6.2 J
Metals	Magnesium	mg/Kg dw										2000		2600	390
Metals	Manganese	mg/Kg dw				200						360 J		570 J	130 J
Metals	Mercury	mg/Kg dw										0.06 U		0.06 U	0.06 U
Metals	Nickel	mg/Kg dw				2.3						15 U		36	3 U
Metals	Potassium	mg/Kg dw										240 J		310	70 J
Metals	Selenium	mg/Kg dw				1 U						1 U		1 U	0.63 U
Metals	Silver	mg/Kg dw				1.4						0.87 U		1 U	0.99 U
Metals	Sodium	mg/Kg dw										160 U		110 U	40 U
Metals	Thallium	mg/Kg dw				0.5 U						0.58 U		0.54 U	0.66 U
Metals	Tin	mg/Kg dw				3.3 X									
Metals	Vanadium	mg/Kg dw				12						27		51	28
Metals	Zinc	mg/Kg dw				13						30 UJ		40 UJ	30 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	69						
General Parameters	Percent Moisture (metals)	%				0						25		24	36
General Parameters	Percent Moisture (PCDD/F)	%			18							24			15
General Parameters	Percent Moisture (SVOC)	%	7		14										
General Parameters	Percent Moisture (SVOCs)	%				11						23		34	29
General Parameters	Percent Moisture (VOCs)	%										23		34	29
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									0.006 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									0.0065 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									0.0065 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									0.0076 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	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-033-SD	SW-033-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)	SW-046-SD	SW-046-SD (NCDENR)
		Station ID	SW-033-SD	SW-033-SD	SW-033-SD	SW-034-SD		SW-043-SD		SW-044-SD	SW-045-SD	SW-045-SD	SW-046-SD	SW-046-SD
		Date Collected	7/18/2000	11/14/1996	11/13/1996	11/13/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	7/18/2000	11/8/1996	7/18/2000	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 - 3"	0 - 18"	0 - 18"	0 - 18"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 3"	0 - 3"
ChemClass	Analyte Name	Conv Unit												
VOCs	1,1,1-Trichloroethane	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	1,1,2-Trichloroethane	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	1,1-Dichloroethane	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	1,1-Dichloroethene	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	1,2,4-Trichlorobenzene	mg/Kg dw		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	0.33 U	0.7 U
VOCs	1,2-Dichlorobenzene	mg/Kg dw		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	0.33 U	0.7 U
VOCs	1,2-Dichloroethane	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	1,2-Dichloroethene (total)	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	1,2-Dichloropropane	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	1,3-Dichlorobenzene	mg/Kg dw		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	0.33 U	0.7 U
VOCs	1,4-Dichlorobenzene	mg/Kg dw		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	0.33 U	0.7 U
VOCs	2-Butanone	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	4-Bromophenyl phenyl ether	mg/Kg dw		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	0.33 U	0.7 U
VOCs	Acetone	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Benzene	mg/Kg dw		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		0.33 U	
VOCs	Bis(2-chloroethoxy) methane	mg/Kg dw		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	0.33 U	0.7 U
VOCs	Bis(2-Chloroethyl) ether	mg/Kg dw		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	0.33 U	0.7 U
VOCs	Bis(2-Chloroisopropyl) ether	mg/Kg dw		0.54 U	0.47 U	0.52 U		0.35 U		0.38 U		0.42 U		0.7 U
VOCs	Bromodichloromethane	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Bromoform	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Bromomethane	mg/Kg dw		0.016 UR	0.014 UR	0.016 UR								
VOCs	Carbon disulfide	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Carbon tetrachloride	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Chlorobenzene	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Chloroethene	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Chloroform	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Chloromethane	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	cis-1,3-Dichloropropene	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Dibromochloromethane	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Ethylbenzene	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Methyl butyl ketone	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Methyl isobutyl ketone	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Methylene chloride	mg/Kg dw		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		0.016 U	0.014 U	0.016 U								
VOCs	Tetrachloroethene	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Toluene	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	trans-1,3-Dichloropropene	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Trichloroethene	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Vinyl chloride	mg/Kg dw		0.016 U	0.014 U	0.016 U								
VOCs	Xylenes (total)	mg/Kg dw		0.016 U	0.014 U	0.016 U								
SVOCs	2,4-Dinitrotoluene	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	2,6-Dinitrotoluene	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	2-Chloronaphthalene	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	2-Methylphenol	mg/Kg dw	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	0.33 U	0.7 U
SVOCs	2-Nitroaniline	mg/Kg dw		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	1.7 U	1.8 U
SVOCs	3,3'-Dichlorobenzidine	mg/Kg dw		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	0.66 U	0.7 UR
SVOCs	3-Nitroaniline	mg/Kg dw		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	1.7 U	1.8 U
SVOCs	4-Chloroaniline	mg/Kg dw		0.54 U	0.47 U	0.52 U		0.35 U		0.38 U		0.42 U		0.7 U
SVOCs	4-Chlorophenyl Phenyl Ether	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	4-Nitroaniline	mg/Kg dw		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	1.7 U	1.8 U
SVOCs	Aniline	mg/Kg dw	0.69 U											
SVOCs	Benzidine	mg/Kg dw					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	
SVOCs	Benzyl alcohol	mg/Kg dw					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		0.54 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	0.33 U	0.7 U
SVOCs	Butyl benzyl phthalate	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	Diethylphthalate	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	Dimethylphthalate	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	Di-n-butylphthalate	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	Di-n-octylphthalate	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	Hexachlorobenzene	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	Hexachlorobutadiene	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	Hexachlorocyclopentadiene	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	Hexachloroethane	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	Isophorone	mg/Kg dw	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	0.33 U	0.7 U
SVOCs	Nitrobenzene	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	N-Nitrosodimethylamine	mg/Kg dw					0.33 U		0.33 U		0.33 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-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)	SW-046-SD	SW-046-SD (NCDENR)
		Station ID	SW-032-SD	SW-032-SD	SW-033-SD	SW-034-SD		SW-043-SD		SW-044-SD	SW-045-SD	SW-045-SD	SW-046-SD	SW-046-SD
		Date Collected	7/10/2006	11/14/1996	11/12/1996	11/13/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	7/10/2006	11/8/1996	7/10/2006	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 - 3"	0 - 12"	0 - 12"	0 - 12"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 3"	0 - 3"
ChemClass	Analyte Name	Conv Unit												
SVOCs	N-nitrosodi-n-propylamine	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	N-nitrosodiphenylamine	mg/Kg dw		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	0.33 U	0.7 U
SVOCs	p-Chloroaniline	mg/Kg dw					0.66 U		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		1.4 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	0.33 U	1.8 U
Phenolics	2,4,6-Trichlorophenol	mg/Kg dw	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	0.33 U	0.7 U
Phenolics	2,4-Dichlorophenol	mg/Kg dw		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	0.33 U	0.7 U
Phenolics	2,4-Dimethylphenol	mg/Kg dw	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	0.33 U	0.7 U
Phenolics	2,4-Dinitrophenol	mg/Kg dw		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	1.7 U	1.8 U
Phenolics	2-Chlorophenol	mg/Kg dw	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	0.33 U	0.7 U
Phenolics	2-Methyl-4,6-dinitrophenol	mg/Kg dw		1.4 U	1.2 U	1.3 U		0.89 U		0.94 U		1.1 U		1.8 U
Phenolics	2-Nitrophenol	mg/Kg dw		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	0.33 U	0.7 U
Phenolics	3&4-Methylphenol	mg/Kg dw		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	0.33 U	0.7 U
Phenolics	4,6-Dinitro-2-methylphenol	mg/Kg dw					1.7 U		1.7 U		1.7 U		1.7 U	
Phenolics	4-Chloro-3-methylphenol	mg/Kg dw	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	0.33 U	0.7 U
Phenolics	4-Methylphenol	mg/Kg dw												
Phenolics	4-Nitrophenol	mg/Kg dw		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	1.7 U	1.8 U
Phenolics	Pentachlorophenol	mg/Kg dw	3.6 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	1.7 U	1.8 U
Phenolics	Phenol	mg/Kg dw	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	0.33 U	0.7 U
PAHs	1-Methylnaphthalene	mg/Kg dw												
PAHs	2-Methylnaphthalene	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Acenaphthene	mg/Kg dw	0.69 U	0.065 J	0.47 UJ	0.52 UJ	0.33 U	0.35 U	3.1	1.8	0.33 U	0.42 U	0.33 U	0.7 U
PAHs	Acenaphthylene	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Anthracene	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Benzo(a)anthracene	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Benzo(a)pyrene	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Benzo(b&k)fluoranthene	mg/Kg dw		1.9	0.47 U	0.12 J		0.35 U		1.3		2.9		0.7 U
PAHs	Benzo(b)fluoranthene	mg/Kg dw	130 U				0.33 U		2.2		4.5		0.33 U	
PAHs	Benzo(g,h,i)perylene	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Benzo(k)fluoranthene	mg/Kg dw	130 U				0.33 U		0.33 U		2.2		0.33 U	
PAHs	Carbazole	mg/Kg dw	0.69 U	0.1 J	0.47 U	0.52 U		0.35 U		0.086 J		3.3 J		0.7 U
PAHs	Chrysene	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Dibenzo(a,h)anthracene	mg/Kg dw		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	0.33 U	0.7 U
PAHs	Dibenzo(a,h)pyrene	mg/Kg dw	0.69 U											
PAHs	Dibenzofuran	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Fluoranthene	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Fluorene	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Indeno(1,2,3-cd)pyrene	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Naphthalene	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Phenanthrene	mg/Kg dw	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	0.33 U	0.7 U
PAHs	Pyrene	mg/Kg dw	150 U	0.23 J	0.47 UJ	0.52 UJ	0.33 U	0.35 U	14	4.2	5.2	1	0.33 U	0.7 U
PCDD/Fs	1,2,3,4,6,7,8-HpCDD	ng/Kg dw		30000	53		82.6	120	30000	26000	34840	17000	192	180
PCDD/Fs	1,2,3,4,6,7,8-HpCDF	ng/Kg dw		4800	29		13.8	12	5080	3400	5450	2700	22.9	17
PCDD/Fs	1,2,3,4,7,8,9-HpCDF	ng/Kg dw		390	16 U		1.1	4.3 U	514	190	573	240	1.5	1.3 J
PCDD/Fs	1,2,3,4,7,8-HxCDD	ng/Kg dw		62	16 U		0.4	4.3 U	29.1	16	78.9	50	0.86 EMPC	0.87 J
PCDD/Fs	1,2,3,4,7,8-HxCDF	ng/Kg dw		1200 U	16 U		0.42	4.3 U	122	73 J	147	89 J	1.2	5 U
PCDD/Fs	1,2,3,6,7,8-HxCDD	ng/Kg dw		790	1.4 J		1.7	2.6 J	529	490	680	530	4.3	3.8 J
PCDD/Fs	1,2,3,6,7,8-HxCDF	ng/Kg dw		17 U	16 U		0.17 EMPC	4.3 U	38.6 EMPC	12	51.4	25	0.3 U	5 U
PCDD/Fs	1,2,3,7,8,9-HxCDD	ng/Kg dw		210	2.2 J		1	1.3 J	133	83	238	140	6.1	2 J
PCDD/Fs	1,2,3,7,8,9-HxCDF	ng/Kg dw		17 U	16 U		0.03 U	4.3 U	15.1 U	6.3 U	27.6	4.6 U	0.3 U	5 U
PCDD/Fs	1,2,3,7,8-PeCDD	ng/Kg dw		7 J	16 U			4.3 U		2.4 J		10		5 U
PCDD/Fs	1,2,3,7,8-PeCDF	ng/Kg dw		17 U	16 U		0.16 EMPC	4.3 R	20.4 U	1 J	20.4 U	2.1 J	0.3 U	5 R
PCDD/Fs	2,3,4,6,7,8-HxCDF	ng/Kg dw		36 U	16 U		0.32 EMPC	4.3 U	88.4	7.9	136	17	0.68 EMPC	5 U
PCDD/Fs	2,3,4,7,8-PeCDF	ng/Kg dw		6.2 J	4.4 J		0.05 U	4.3 U	14.7 U	3.9 J	15.7 U	7.2	0.3 U	5 U
PCDD/Fs	2,3,7,8-TeCDD	ng/Kg dw		6.7 U	6.3 U		0.13	1.7 U	19.9 U	0.22 J	20.9 U	0.95 J	0.03 U	2 U
PCDD/Fs	2,3,7,8-TeCDF	ng/Kg dw		6.7 U	6.3 U		0.28	1.7 U	15.1 U	0.27 J	16.1 U	0.59 J	0.4 U	2 U
PCDD/Fs	OCDD	ng/Kg dw		360000 J	1400 J		2280	2700 J	300700	37000	325020	170000 J	5800	8200
PCDD/Fs	OCDF	ng/Kg dw		31000	32 U		41.7	62 J	19390	28000	22060	12000 J	67.6	97
PCDD/F homologs	TeCDDs (total)	ng/Kg dw		11 J	0.7 J		0.13	1.7 UJ	19.9 U	6.1 J	20.9 U	25 J	0.88 EMPC	2 UJ
PCDD/F homologs	TeCDFs (total)	ng/Kg dw		22 J	1.8 J		0.28	0.12 J	15.1 U	9.9 J	16.1 U	55 J	2.8 EMPC	1.6 J
PCDD/F homologs	PeCDDs (total)	ng/Kg dw		79 J	16 UJ		0.32	4.3 UJ	20.4 U	45 J	92	140 J	6.2 EMPC	1.8 J
PCDD/F homologs	PeCDFs (total)	ng/Kg dw		200 J	200 J		0.62	4.3 UJ	107 EMPC	54 J	243	210 J	1.9	1.3 J
PCDD/F homologs	HxCDD (total)	ng/Kg dw		5200 J	14 J		12.5	17 J	3030	2400 J	3900	3200 J	43.2	30 J
PCDD/F homologs	HxCDF (total)	ng/Kg dw		4400 J	12 J		9.1	10 J	3820	580 J	4450	3000 J	14.1	15 J
PCDD/F homologs	HpCDD (total)	ng/Kg dw		79000 J	130 J		213	300 J	76650	65000 J	86060	45000 J	519	480 J
PCDD/F homologs	HpCDF (total)	ng/Kg dw		6100 J	34 J		48.7	52 J	25530	1400 J	27590	13000 J	67	74 J
Dioxin-TEQ	Dioxin-TEQ(mammal) - Zero DL	ng/Kg dw	NC	584.26	2.92	NC	2.24	2.54	646.58	387.44	648.64	352.33	5.24	5.14
Dioxin-TEQ	Dioxin-TEQ(mammal) - Half DL	ng/Kg dw	NC	651.60	18.71	NC	2.25	7.37	660.76	387.75	662.78	352.56	5.35	10.49
Dioxin-TEQ	Dioxin-TEQ(avian)-Zero DL	ng/Kg dw	NC	490.20	6.38	NC	3.17	3.10	433.58	131.88	493.04	271.45	7.13	8.85
Dioxin-TEQ	Dioxin-TEQ(avian)-Half DL	ng/Kg dw	NC	561.35	25.16	NC	3.20	10.09	460.91	132.20	521.16	271.68	7.54	16.85
Metals	Aluminum	mg/Kg dw		8400	8600	13000								
Metals	Antimony	mg/Kg dw		4 UJ	3.3 UR	3.3 UR								
Metals	Arsenic	mg/Kg dw		2 U	1 U	2.9								

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

		Sample ID	SW-032-SD	SW-033-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)	SW-046-SD	SW-046-SD (NCDENR)
		Station ID	SW-032-SD	SW-033-SD	SW-033-SD	SW-034-SD		SW-043-SD		SW-044-SD	SW-045-SD	SW-045-SD	SW-046-SD	SW-046-SD
		Date Collected	7/10/2006	11/14/1995	11/13/1995	11/13/1995	11/8/1995	11/8/1995	11/8/1995	11/8/1995	7/10/2006	11/8/1995	7/10/2006	11/8/1995
		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	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 3"	0 - 12"	0 - 12"	0 - 12"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 3"	0 - 3"
ChemClass	Analyte Name	Conc Unit												
Metals	Barium	mg/Kg dw		95	76	140								
Metals	Beryllium	mg/Kg dw		0.69 J	1 U	0.79 J								
Metals	Cadmium	mg/Kg dw		0.34 U	0.32 U	0.33 U								
Metals	Calcium	mg/Kg dw		670	560	920								
Metals	Chromium	mg/Kg dw		12	8.5	14								
Metals	Cobalt	mg/Kg dw		20 U	4 U	20 U								
Metals	Copper	mg/Kg dw		20 U	20 U	25								
Metals	Iron	mg/Kg dw		9800	4000	18000								
Metals	Lead	mg/Kg dw		13	12 J	9.6								
Metals	Magnesium	mg/Kg dw		1500	680	1700								
Metals	Manganese	mg/Kg dw		460 J	92 J	660								
Metals	Mercury	mg/Kg dw		0.07 U	0.07 U	0.2 U								
Metals	Nickel	mg/Kg dw		9 U	4 U	9 U								
Metals	Potassium	mg/Kg dw		310	330	380								
Metals	Selenium	mg/Kg dw		0.6 U	0.57 U	1 U								
Metals	Silver	mg/Kg dw		0.94 U	0.89 U	0.9 U								
Metals	Sodium	mg/Kg dw		70 U	60 U	70 U								
Metals	Thallium	mg/Kg dw		0.63 U	0.6 U	0.6 U								
Metals	Tin	mg/Kg dw												
Metals	Vanadium	mg/Kg dw		24	14	42								
Metals	Zinc	mg/Kg dw		40 UJ	40 UJ	40 UJ								
General Parameters	Percent Clay	%	12.7								3.5		0.9	
General Parameters	Percent Gravel	%	22								29.1		0 U	
General Parameters	Percent Sand	%	43.8								51.5		89.9	
General Parameters	Percent Silt	%	21.5								15.9		9.2	
General Parameters	Total Organic Carbon	mg/Kg dw	24000								3740		4530	
General Parameters	Total Solids	%												
General Parameters	Percent Moisture (metals)	%		33	40	30								
General Parameters	Percent Moisture (PCDD/F)	%		35	30					19		22		49
General Parameters	Percent Moisture (SVOC)	%						7		12		22		53
General Parameters	Percent Moisture (SVOCs)	%		39	31	36								
General Parameters	Percent Moisture (VOCs)	%		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	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-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)	SW-052-SD	SW-052-SD (NCDENR)	SW-021-SD
		Station ID	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	SW-052-SD	SW-052-SD	
		Date Collected	7/16/2008	11/8/1996	7/16/2008	11/8/1996	7/16/2008	11/8/1996	7/16/2008	11/8/1996	7/16/2008	11/8/1996	7/16/2008	11/8/1996	7/17/2002
		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	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"
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	0.39 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	0.33 U	0.43 U	
VOCs	1,2-Dichlorobenzene	mg/Kg dw	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	0.33 U	0.43 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	0.39 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	0.33 U	0.43 U	
VOCs	1,4-Dichlorobenzene	mg/Kg dw	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	0.33 U	0.43 U	
VOCs	2-Butanone	mg/Kg dw													
VOCs	4-Bromophenyl phenyl ether	mg/Kg dw	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	0.33 U	0.43 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	0.39 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	0.33 U	0.43 U	
VOCs	Bis(2-Chloroethyl) ether	mg/Kg dw	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	0.33 U	0.43 U	
VOCs	Bis(2-Chloroisopropyl) ether	mg/Kg dw		0.39 U		0.42 UJ		0.36 U		0.44 U		0.41 U		0.43 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	0.39 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	0.33 U	0.43 U	
SVOCs	2,6-Dinitrotoluene	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	2-Chloronaphthalene	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	2-Methylphenol	mg/Kg dw	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	0.33 U	0.43 U	0.33 U
SVOCs	2-Nitroaniline	mg/Kg dw	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	1.7 U	1.1 U	
SVOCs	3,3'-Dichlorobenzidine	mg/Kg dw	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	0.66 U	0.43 U	
SVOCs	3-Nitroaniline	mg/Kg dw	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	1.7 U	1.1 U	
SVOCs	4-Chloroaniline	mg/Kg dw		0.39 U		0.42 UJ		0.36 U		0.44 U		0.41 U		0.43 U	
SVOCs	4-Chlorophenyl Phenyl Ether	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	4-Nitroaniline	mg/Kg dw	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	1.7 U	1.1 U	
SVOCs	Aniline	mg/Kg dw													0.034 J
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	0.39 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	0.33 U	0.43 U	
SVOCs	Butyl benzyl phthalate	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	Diethylphthalate	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	Dimethylphthalate	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	Di-n-butylphthalate	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	Di-n-octylphthalate	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	Hexachlorobenzene	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	Hexachlorobutadiene	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	Hexachlorocyclopentadiene	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	Hexachloroethane	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	Isophorone	mg/Kg dw	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	0.33 U	0.43 U	0.33 U
SVOCs	Nitrobenzene	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	N-Nitrosodimethylamine	mg/Kg dw	0.33 U		0.33 U		0.33 U		0.33 U		0.33 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-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)	SW-052-SD	SW-052-SD (NCDENR)	SW-051-SD
		Station ID	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	SW-052-SD	SW-052-SD	
		Date Collected	7/10/2006	11/8/1996	7/10/2006	11/8/1996	7/10/2006	11/8/1996	7/10/2006	11/8/1996	7/10/2006	11/8/1996	7/10/2006	11/8/1996	7/17/2002
		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	Downstream	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"	0 - 2"
ChemClass	Analyte Name	Conc Unit													
SVOCs	N-nitrosodi-n-propylamine	mg/Kg dw	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	0.33 U	0.43 U	
SVOCs	N-nitrosodiphenylamine	mg/Kg dw	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	0.33 U	0.43 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													0.33 U
Phenolics	2,4,5-Trichlorophenol	mg/Kg dw	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	0.33 U	1.1 U	
Phenolics	2,4,6-Trichlorophenol	mg/Kg dw	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	0.33 U	0.43 U	0.33 U
Phenolics	2,4-Dichlorophenol	mg/Kg dw	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	0.33 U	0.43 U	
Phenolics	2,4-Dimethylphenol	mg/Kg dw	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	0.33 U	0.43 U	0.33 U
Phenolics	2,4-Dinitrophenol	mg/Kg dw	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	1.7 U	1.1 U	
Phenolics	2-Chlorophenol	mg/Kg dw	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	0.33 U	0.43 U	0.33 U
Phenolics	2-Methyl-4,6-dinitrophenol	mg/Kg dw		0.99 U		1.1 UJ		0.9 U		1.1 U		1 U		1.1 U	
Phenolics	2-Nitrophenol	mg/Kg dw	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	0.33 U	0.43 U	
Phenolics	3&4-Methylphenol	mg/Kg dw	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	0.33 U	0.43 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	0.39 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	0.33 U	0.43 U	0.33 U
Phenolics	4-Methylphenol	mg/Kg dw													0.33 U
Phenolics	4-Nitrophenol	mg/Kg dw	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	1.7 U	1.1 U	
Phenolics	Pentachlorophenol	mg/Kg dw	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	1.7 U	1.1 U	1.7 U
Phenolics	Phenol	mg/Kg dw	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	0.33 U	0.43 U	0.33 U
PAHs	1-Methylnaphthalene	mg/Kg dw													
PAHs	2-Methylnaphthalene	mg/Kg dw	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	0.33 U	0.43 U	0.33 U
PAHs	Acenaphthene	mg/Kg dw	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	0.33 U	0.43 U	0.33 U
PAHs	Acenaphthylene	mg/Kg dw	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	0.33 U	0.43 U	0.33 U
PAHs	Anthracene	mg/Kg dw	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	0.33 U	0.43 U	0.31 J
PAHs	Benzo(a)anthracene	mg/Kg dw	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	0.33 U	0.43 U	0.4 J
PAHs	Benzo(a)pyrene	mg/Kg dw	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	0.33 U	0.43 U	0.43 J
PAHs	Benzo(b&k)fluoranthene	mg/Kg dw		1.2 J		0.42 UJ		0.36 U		0.44 U		0.41 U		0.43 U	1.3
PAHs	Benzo(b)fluoranthene	mg/Kg dw	1.3		0.33 U		0.33 U		0.33 U		0.33 U		0.33 U		0.72
PAHs	Benzo(g,h,i)perylene	mg/Kg dw	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	0.33 U	0.43 U	0.33 U
PAHs	Benzo(k)fluoranthene	mg/Kg dw	0.66		0.33 U		0.33 U		0.33 U		0.33 U		0.33 U		0.63
PAHs	Carbazole	mg/Kg dw		0.096 J		0.42 UJ		0.36 U		0.44 U		0.41 U		0.43 U	0.05 J
PAHs	Chrysene	mg/Kg dw	1	0.54	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U	0.33 U	0.43 U	0.7
PAHs	Dibenzo(a,h)anthracene	mg/Kg dw	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	0.33 U	0.43 U	0.073 J
PAHs	Dibenzo(a,h)pyrene	mg/Kg dw													
PAHs	Dibenzofuran	mg/Kg dw	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	0.33 U	0.43 U	0.33 U
PAHs	Fluoranthene	mg/Kg dw	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	0.33 U	0.43 U	0.46
PAHs	Fluorene	mg/Kg dw	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	0.33 U	0.43 U	0.054 J
PAHs	Indeno(1,2,3-cd)pyrene	mg/Kg dw	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	0.33 U	0.43 U	0.21 J
PAHs	Naphthalene	mg/Kg dw	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	0.33 U	0.43 U	0.33 U
PAHs	Phenanthrene	mg/Kg dw	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	0.33 U	0.43 U	0.19 J
PAHs	Pyrene	mg/Kg dw	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	0.33 U	0.43 U	0.6
PCDD/Fs	1,2,3,4,6,7,8-HpCDD	ng/Kg dw	6730	4200	1930	1300	708	680	1610	820	777	720	519	630	
PCDD/Fs	1,2,3,4,6,7,8-HpCDF	ng/Kg dw	946	490	273	220	130	130	242	160	120	89	77.4	70	
PCDD/Fs	1,2,3,4,7,8,9-HpCDF	ng/Kg dw	55	34	14.3	16	6.6	7.6	17.6	13	6.8	5.5	4.4	4.4 J	
PCDD/Fs	1,2,3,4,7,8-HxCDD	ng/Kg dw	13.2	7.8	6.1	5.8	1.3 EMPC	1.8 J	5.3	3.8 J	1.9	17 J	1.6	5 U	
PCDD/Fs	1,2,3,4,7,8-HxCDF	ng/Kg dw	32.3	16 J	6	5.4 J	3.3	3 J	7.9	4.8 J	3.5	2.6 J	2.7	5 U	
PCDD/Fs	1,2,3,6,7,8-HxCDD	ng/Kg dw	137	83	39.4	37	16.7	21	34.6	29	17.5	1.4	12.4	13	
PCDD/Fs	1,2,3,6,7,8-HxCDF	ng/Kg dw	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	0.9 EMPC	5 U	
PCDD/Fs	1,2,3,7,8,9-HxCDD	ng/Kg dw	52.2	18	23.4	15	5.1	4.6 J	15.3	10	6.3	4.6	5.1	4.1 J	
PCDD/Fs	1,2,3,7,8,9-HxCDF	ng/Kg dw	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	0 U	5 U	
PCDD/Fs	1,2,3,7,8-PeCDD	ng/Kg dw		1.3 J		1.3 J		5 U		0.93 J		4.2 U		5 J	
PCDD/Fs	1,2,3,7,8-PeCDF	ng/Kg dw	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	0.58	5 R	
PCDD/Fs	2,3,4,6,7,8-HxCDF	ng/Kg dw	16.8	2.6 J	6.7	2.2 J	2.2	5 U	7.2	1.4 J	2.9	4.2 U	2.2	5 U	
PCDD/Fs	2,3,4,7,8-PeCDF	ng/Kg dw	2 EMPC	1.6 J	0.91 EMPC	5 U	0.1 U	5 U	0.91	5 U	0.38 EMPC	4.2 U	0.44 EMPC	5 U	
PCDD/Fs	2,3,7,8-TeCDD	ng/Kg dw	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	0.13	2 U	
PCDD/Fs	2,3,7,8-TeCDF	ng/Kg dw	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	0.69	0.4 J	
PCDD/Fs	OCDD	ng/Kg dw	66030	57000	24490	15000	7600	6100	17800	6300	8760	12000	6380	6100	
PCDD/Fs	OCDF	ng/Kg dw	2500	3800	701	1200	398	900	810	1000	447	570	293	430	
PCDD/F homologs	TeCDDs (total)	ng/Kg dw	1.6 EMPC	2.7 UJ	0.74 EMPC	2 UJ	0.17	2 UJ	3.1	3.6 UJ	0.62	1.9 UJ	2.5	2 UJ	
PCDD/F homologs	TeCDFs (total)	ng/Kg dw	4	9.2 J	1.9 EMPC	7.4 J	1	1.6 J	4.7	3.8 J	2.4	1.9 J	6	5.3 J	
PCDD/F homologs	PeCDDs (total)	ng/Kg dw	9.9	20 J	6	8.4 J	3.6 EMPC	4.6 J	17.3	9.4 J	3.6	5.6 J	6.4	4 J	
PCDD/F homologs	PeCDFs (total)	ng/Kg dw	46.3	43 J	20.3	22 J	5.6	7.2 J	25.4	15 J	9.3	7.2 J	9.8	8.4 J	
PCDD/F homologs	HxCDD (total)	ng/Kg dw	951	420 J	267	230 J	112	120 J	270	190 J	115	85 J	94	85 J	
PCDD/F homologs	HxCDF (total)	ng/Kg dw	834	430 J	191	190 J	99.3	110 J	204	150 J	98.6	78 J	73.5	60 J	
PCDD/F homologs	HpCDD (total)	ng/Kg dw	21200	11000 J	5030	3000 J	1740	1700 J	4330	2000 J	2030	720 J	1400	1600 J	
PCDD/F homologs	HpCDF (total)	ng/Kg dw	4010	520 J	902	1000 J	530	690 J	957	780 J	515	400 J	312	360 J	
Dioxin-TEQ	Dioxin-TEQ(mammal) - Zero DL	ng/Kg dw	124.54	80.32	38.75	26.36	13.67	19.35	32.31	18.77	15.30	14.55	11.45	15.75	NC
Dioxin-TEQ	Dioxin-TEQ(mammal) - Half DL	ng/Kg dw	124.73	81.48	38.99	30.36	13.94	18.35	32.31	20.77	15.35	18.55	11.45	18.75	NC
Dioxin-TEQ	Dioxin-TEQ(avian)-Zero DL	ng/Kg dw	98.22	74.88	35.31	23.71	11.62	9.48	28.18	14.50	13.43	15.65	12.36	13.46	NC
Dioxin-TEQ	Dioxin-TEQ(avian)-Half DL	ng/Kg dw	98.55	76.80	35.74	27.46	11.74	16.23	28.18	18.25	13.50	21.02	12.36	18.06	NC
Metals	Aluminum	mg/Kg dw													
Metals	Antimony	mg/Kg dw													
Metals	Arsenic	mg/Kg dw													

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

		Sample ID	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)	SW-052-SD	SW-052-SD (NCDENR)	SW-053-SD
		Station ID	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	SW-052-SD	SW-052-SD	SW-053-SD
		Date Collected	7/10/2008	11/8/1996	7/10/2008	11/8/1996	7/10/2008	11/8/1996	7/10/2008	11/8/1996	7/10/2008	11/8/1996	7/10/2008	11/8/1996	7/17/2008
		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	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"	0 - 5"
ChemClass	Analyte Name	Conc Unit													
Metals	Barium	mg/Kg dw													
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	%	0.6		6.2		0.8		18.8		38		21.5		
General Parameters	Percent Gravel	%	8.1		38		16.1		0 U		0 U		0 U		
General Parameters	Percent Sand	%	83.7		47.1		81		47.6		3.9		12		
General Parameters	Percent Silt	%	7.4		8.7		2.1		33.1		58.1		66.5		
General Parameters	Total Organic Carbon	mg/Kg dw	1830		16100		623		44200		7450		7220		
General Parameters	Total Solids	%													
General Parameters	Percent Moisture (metals)	%													
General Parameters	Percent Moisture (PCDD/F)	%		25		30		25		44		33		40	
General Parameters	Percent Moisture (SVOC)	%		16		22		8		25		20		23	
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	2,4,6-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	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-002-SD	SW-003-SD	SW-004-SD	SW-005-SD	SW-006-SD	SW-007-SD	SW-008-SD	SW-139-SD (NCDENR)	SW-140-SD	SW-143-SD (NCDENR)	SW-182-SD	SW-182-SD (NCDENR)	SW-186-SD	SW-187-SD	SWP-001
		Station ID			SW-004-SD		SW-006-SD	SW-007-SD		SW-139-SD Dup		SW-143-SD Dup		SW-182-SD Dup			SWP-001
		Date Collected	7/17/2002	7/17/2002	7/16/2002	7/17/2002	7/16/2002	7/16/2002	7/16/2002	11/13/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	7/17/2002	7/17/2002	8/21/1993
		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	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 18"	0 - 4"	0 - 4"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	Surface
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								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
VOCs	1,2-Dichlorobenzene	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 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								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
VOCs	1,4-Dichlorobenzene	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
VOCs	2-Butanone	mg/Kg dw								0.013 U							
VOCs	4-Bromophenyl phenyl ether	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 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				
VOCs	Bis(2-chloroethoxy) methane	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
VOCs	Bis(2-Chloroethyl) ether	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
VOCs	Bis(2-Chloroisopropyl) ether	mg/Kg dw								0.41 U		0.39 U		0.52 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								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	2,6-Dinitrotoluene	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	2-Chloronaphthalene	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	2-Methylphenol	mg/Kg dw	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	0.52 U	0.33 U		2 U
SVOCs	2-Nitroaniline	mg/Kg dw								1 U	1.7 U	0.99 U	1.7 U	1.3 U			
SVOCs	3,3'-Dichlorobenzidine	mg/Kg dw								0.41 U	0.66 U	0.39 U	0.66 U	0.52 U			
SVOCs	3-Nitroaniline	mg/Kg dw								10 U	1.7 U	0.99 U	1.7 U	1.3 U			
SVOCs	4-Chloroaniline	mg/Kg dw								0.41 U		0.39 U		0.52 U			
SVOCs	4-Chlorophenyl Phenyl Ether	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	4-Nitroaniline	mg/Kg dw								1 U	1.7 U	0.99 U	1.7 U	1.3 U			
SVOCs	Aniline	mg/Kg dw	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.7 U							0.091 J		2 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															2 U
SVOCs	Bis(2-ethylhexyl) phthalate	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	Butyl benzyl phthalate	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	Diethylphthalate	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	Dimethylphthalate	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	Di-n-butylphthalate	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	Di-n-octylphthalate	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	Hexachlorobenzene	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	Hexachlorobutadiene	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	Hexachlorocyclopentadiene	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	Hexachloroethane	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	Isophorone	mg/Kg dw	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	0.52 U	0.33 U		2 U
SVOCs	Nitrobenzene	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	N-Nitrosodimethylamine	mg/Kg dw									0.33 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-082-SD	SW-083-SD	SW-084-SD	SW-085-SD	SW-086-SD	SW-087-SD	SW-088-SD	SW-139-SD (NCDENR)	SW-143-SD	SW-143-SD (NCDENR)	SW-152-SD	SW-152-SD (NCDENR)	SW-166-SD	SW-167-SD	SWP-001
		Station ID			SW-084-SD		SW-086-SD	SW-087-SD		SW-139-SD Dup		SW-143-SD Dup		SW-152-SD Dup			SWP-001
		Date Collected	7/17/2002	7/17/2002	7/18/2002	7/17/2002	7/18/2002	7/18/2002	7/18/2002	11/13/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	7/17/2002	7/17/2002	9/21/1993
		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	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 15"	0 - 4"	0 - 4"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	Surface
Chem Class	Analyte Name	Conc Unit															
SVOCs	N-nitrosodi-n-propylamine	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
SVOCs	N-nitrosodiphenylamine	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 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	0.41 U	0.7 U							0.33 U		
Phenolics	2,4,5-Trichlorophenol	mg/Kg dw								1 U	0.33 U	0.99 U	0.33 U	1.3 U			
Phenolics	2,4,6-Trichlorophenol	mg/Kg dw	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	0.52 U	0.33 U		2 U
Phenolics	2,4-Dichlorophenol	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
Phenolics	2,4-Dimethylphenol	mg/Kg dw	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	0.52 U	0.33 U		2 U
Phenolics	2,4-Dinitrophenol	mg/Kg dw								1 U	1.7 U	0.99 U	1.7 U	1.3 U			
Phenolics	2-Chlorophenol	mg/Kg dw	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	0.52 U	0.33 U		2 U
Phenolics	2-Methyl-4,6-dinitrophenol	mg/Kg dw								1 U		0.99 U		1.3 U			
Phenolics	2-Nitrophenol	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			
Phenolics	3&4-Methylphenol	mg/Kg dw								0.41 U	0.33 U	0.39 U	0.33 U	0.52 U			2 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	0.33 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	0.52 U	0.33 U		2 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 U	1.7 U	0.99 U	1.7 U	1.3 U			
Phenolics	Pentachlorophenol	mg/Kg dw	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	1.3 U	1.7 U		2 U
Phenolics	Phenol	mg/Kg dw	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	0.52 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	0.33 U	0.41 U	0.7 U		42	0.33 U	0.39 U	0.33 U	0.52 U	0.33 U		2 U
PAHs	Acenaphthene	mg/Kg dw	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	0.52 U	0.33 U		2 U
PAHs	Acenaphthylene	mg/Kg dw	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	0.52 U	0.33 U		2 U
PAHs	Anthracene	mg/Kg dw	0.063 J	0.16 J	0.58 J	0.052 J	0.41 U	0.7 U		2.6	0.33 U	0.39 U	0.33 U	0.52 U	0.19 J		3.6
PAHs	Benzo(a)anthracene	mg/Kg dw	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	0.52 U	0.057 J		2 U
PAHs	Benzo(a)pyrene	mg/Kg dw	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	0.52 U	0.064 J		2 U
PAHs	Benzo(b&k)fluoranthene	mg/Kg dw	0.033 J	0.54	0.72 J	0.18 J				2.5		0.39 U		0.52 U	0.19 J		
PAHs	Benzo(b)fluoranthene	mg/Kg dw	0.33 U	0.25 J	0.72 J	0.33 U	78 U	130 U			0.33 U		0.33 U		0.33 U		2 J
PAHs	Benzo(g,h,i)perylene	mg/Kg dw	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	0.52 U	0.33 U		2 U
PAHs	Benzo(k)fluoranthene	mg/Kg dw	0.33 U	0.26 J	0.33 U	0.33 U	80 U	140 U			0.33 U		0.33 U		0.33 U		
PAHs	Carbazole	mg/Kg dw	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.7 U		5.4 J		0.39 U		0.52 U	0.33 U		
PAHs	Chrysene	mg/Kg dw	0.07 J	0.26 J	0.52 J	0.13 J	0.41 U	0.12 J		2	0.33 U	0.39 U	0.33 U	0.52 U	0.17 J		2.6
PAHs	Dibenzo(a,h)anthracene	mg/Kg dw	0.33 U	0.33 U	0.33 U	0.33 U				0.057 J	0.33 U	0.39 U	0.33 U	0.52 U	0.33 U		0.9 J
PAHs	Dibenzo(a,h)pyrene	mg/Kg dw					0.41 U	0.7 U									
PAHs	Dibenzofuran	mg/Kg dw	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	0.52 U	0.33 U		2 U
PAHs	Fluoranthene	mg/Kg dw	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	0.52 U	0.33 U		3
PAHs	Fluorene	mg/Kg dw	0.065 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	0.52 U	0.33 U		0.7 J
PAHs	Indeno(1,2,3-cd)pyrene	mg/Kg dw	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	0.52 U	0.33 U		2 U
PAHs	Naphthalene	mg/Kg dw	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	0.52 U	0.33 U		2 U
PAHs	Phenanthrene	mg/Kg dw	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	0.52 U	0.33 U		1.3 J
PAHs	Pyrene	mg/Kg dw	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	0.52 U	0.33 U		2.2
PCDD/Fs	1,2,3,4,6,7,8-HpCDD	ng/Kg dw			9560		1250	1020	79	36000 J	76.5	100	480	540		974	
PCDD/Fs	1,2,3,4,6,7,8-HpCDF	ng/Kg dw			1010		167	133	9.29	6800	12.8	11	72.3	67		132 Q	
PCDD/Fs	1,2,3,4,7,8,9-HpCDF	ng/Kg dw			61.9		9.02	9.3	5 U	310	0.85	5 U	4.9	4.7 J		8.53	
PCDD/Fs	1,2,3,4,7,8-HxCDD	ng/Kg dw			19.3		5 U	5 U	5 U	43	0.38 EMPC	5 U	2.2	5 U		5 U	
PCDD/Fs	1,2,3,4,7,8-HxCDF	ng/Kg dw			33.7		5 U	5 U	5 U	1200 U	0.65	5 U	2.6	5 U		5 U	
PCDD/Fs	1,2,3,6,7,8-HxCDD	ng/Kg dw			174		30.6	24.9	5 U	820	1.6	2.1 J	11.6	11		23.4	
PCDD/Fs	1,2,3,6,7,8-HxCDF	ng/Kg dw			11		5 U	5 U	5 U	31 J	0.22 EMPC	5 U	1.3	5 U		5 U	
PCDD/Fs	1,2,3,7,8,9-HxCDD	ng/Kg dw			40.6		5.76	5 U	5 U	130	0.76 EMPC	1.1 J	5.1	3.6 J		5.58	
PCDD/Fs	1,2,3,7,8,9-HxCDF	ng/Kg dw			5 U		5 U	5 U	5 U	14 U	0.2 U	5 U	0.8 U	5 U		5 U	
PCDD/Fs	1,2,3,7,8-PeCDD	ng/Kg dw								5.1 J		5 U		5 U			
PCDD/Fs	1,2,3,7,8-PeCDF	ng/Kg dw			5 U		5 U	5 U	5 U	14 U	0.2 U	5 R	0.76 EMPC	5 R		5 U	
PCDD/Fs	2,3,4,6,7,8-HxCDF	ng/Kg dw			25.3		5 U	5 U	5 U	14 U	0.46	5 U	2	5 U		5 U	
PCDD/Fs	2,3,4,7,8-PeCDF	ng/Kg dw			17.5		5 U	5 U	5 U	9.1 J	0.2 U	5 U	0.4 U	5 U		5 U	
PCDD/Fs	2,3,7,8-TeCDD	ng/Kg dw			1 U		1 U	1 U	1 U	6 U	0.1 U	2 U	0.3 U	2 U		1 U	
PCDD/Fs	2,3,7,8-TeCDF	ng/Kg dw			1 U		1 U	1 U	1 U	6 U	0.21	2 U	1.2	0.3 J		1 U	
PCDD/Fs	OCDD	ng/Kg dw			75700		13800 E	11600 E	2530	340000 J	1550	3800	9220	5200		11000 E	
PCDD/Fs	OCDF	ng/Kg dw			4490		766	620	25.4	37000	33.3	70	295	43		617	
PCDD/F homologs	TeCDDs (total)	ng/Kg dw			11.4		1 U	1 U	1 U	17 J	0.1 U	2 UJ	2.2	2 UJ		1 U	
PCDD/F homologs	TeCDFs (total)	ng/Kg dw			43.4		1.7	1 U	1 U	11 J	0.21 EMPC	2 UJ	7.3	4.1 J		1.01	
PCDD/F homologs	PeCDDs (total)	ng/Kg dw			32.4		5 U	5 U	5 U	36 J	0.2 U	5 UJ	3.6	4.2 J		5 U	
PCDD/F homologs	PeCDFs (total)	ng/Kg dw			236		20.9	8.72	5 U	190 J	0.53 EMPC	5 UJ	14.3	6.4 J		8.51	
PCDD/F homologs	HxCDD (total)	ng/Kg dw			1220		205	160	17.2	5400 J	10.5	14 J	97.5	69 J		163	
PCDD/F homologs	HxCDF (total)	ng/Kg dw			858		155	113	5 U	5000 J	10.2	8.4 J	67.9	59 J		110	
PCDD/F homologs	HpCDD (total)	ng/Kg dw			26300		3320	2820	215	120000 J	205	240 J	1260	1400 J		2710	
PCDD/F homologs	HpCDF (total)	ng/Kg dw			5470		802	634	28.6	8200 J	49.1	46 J	272	340 J		615	
Dioxin-TEQ	Dioxin-TEQ(mammal) - Zero DL	ng/Kg dw	NC	NC	166.02	NC	22.27	17.78	1.65	654.43	1.79	2.59	11.16	9.18	NC	17.53	NC
Dioxin-TEQ	Dioxin-TEQ(mammal) - Half DL	ng/Kg dw	NC	NC	166.97	NC	24.97	20.73	4.87	719.34	1.80	6.22	11.42	14.68	NC	20.23	NC
Dioxin-TEQ	Dioxin-TEQ(avian)-Zero DL	ng/Kg dw	NC	NC	127.69	NC	17.77	14.35	2.70	491.45	2.21	4.15	13.11	7.23	NC	14.23	NC
Dioxin-TEQ	Dioxin-TEQ(avian)-Half DL	ng/Kg dw	NC	NC	129.44	NC	22.89	19.73	8.13	559.55	2.39	12.30	13.52	14.38	NC	19.36	NC
Metals	Aluminum	mg/Kg dw								12000							9700
Metals	Antimony	mg/Kg dw								3.2 UR							1 U
Metals	Arsenic	mg/Kg dw								4 J							7.8

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

		Sample ID	SW-083-SD	SW-083-SD	SW-084-SD	SW-085-SD	SW-086-SD	SW-087-SD	SW-088-SD	SW-139-SD (NCDENR)	SW-143-SD	SW-143-SD (NCDENR)	SW-182-SD	SW-183-SD (NCDENR)	SW-166-SD	SW-167-SD	SWP-001
		Station ID			SW-084-SD		SW-086-SD	SW-087-SD		SW-139-SD Dup		SW-143-SD Dup		SW-183-SD Dup			SWP-001
		Date Collected	7/17/2002	7/17/2002	7/18/2002	7/17/2002	7/18/2002	7/18/2002	7/18/2002	11/13/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	7/17/2002	7/17/2002	9/21/1983
		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	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 12"	0 - 4"	0 - 4"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	Surface
ChemClass	Analyte Name	Case Unit															
Metals	Barium	mg/Kg dw								160							81
Metals	Beryllium	mg/Kg dw								0.99 J							0.25 U
Metals	Cadmium	mg/Kg dw								0.32 U							0.05 U
Metals	Calcium	mg/Kg dw								2100							0
Metals	Chromium	mg/Kg dw								28							22
Metals	Cobalt	mg/Kg dw								27							10
Metals	Copper	mg/Kg dw								20							17
Metals	Iron	mg/Kg dw								26000							16000
Metals	Lead	mg/Kg dw								9.2 J							20
Metals	Magnesium	mg/Kg dw								4000							0
Metals	Manganese	mg/Kg dw								900 J							290
Metals	Mercury	mg/Kg dw								0.06 U							0.1 U
Metals	Nickel	mg/Kg dw								37							29
Metals	Potassium	mg/Kg dw								310							0
Metals	Selenium	mg/Kg dw								1 U							1 U
Metals	Silver	mg/Kg dw								0.87 U							2.5
Metals	Sodium	mg/Kg dw								190 U							0
Metals	Thallium	mg/Kg dw								0.58 U							0.05 U
Metals	Tin	mg/Kg dw															19 X
Metals	Vanadium	mg/Kg dw								46							23
Metals	Zinc	mg/Kg dw								40 UJ							22
General Parameters	Percent Clay	%			9.3		3.5	11.5									
General Parameters	Percent Gravel	%			0 U		0 U	2.8									
General Parameters	Percent Sand	%			46.9		77.5	83									
General Parameters	Percent Silt	%			43.8		19	2.7									
General Parameters	Total Organic Carbon	mg/Kg dw			20400		5900	917									
General Parameters	Total Solids	%															
General Parameters	Percent Moisture (metals)	%								25							0
General Parameters	Percent Moisture (PCDD/F)	%								26		19		37			
General Parameters	Percent Moisture (SVOC)	%										16		36			
General Parameters	Percent Moisture (SVOCs)	%								21							34
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			0.008 U		0.008 U										
TCLP-PAHs	Carbazole in TCLP Extract	mg/L			0.0065 U		0.0065 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			0.0065 U		0.0065 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			0.008 U		0.008 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	Extract	mg/L			0.0065 U		0.0065 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
NC: Not collected
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 34.050	W79 14.702	39
2	N35 34.077	W79 14.757	35
3	N35 34.098	W79 14.846	37
4	N35 34.042	W79 14.919	33
5	N35 34.057	W79 14.987	23
6	N35 33.988	W79 14.955	24
7	N35 33.922	W79 14.957	23
8	N35 33.858	W79 14.979	28
9	N35 33.927	W79 15.004	22
10	N35 33.941	W79 15.055	27
11	N35 33.912	W79 15.121	30
12	N35 33.944	W79 15.152	27
13	N35 33.970	W79 15.255	21
14	N35 33.929	W79 15.339	28
15	N35 33.893	W79 15.419	31
16	N35 33.858	W79 15.482	27
17	N35 33.839	W79 15.557	23
18	N35 33.854	W79 15.627	25
19	N35 33.885	W79 15.723	32
20	N35 33.930	W79 15.787	22
21	N35 33.928	W79 15.872	23
22	N35 33.920	W79 15.954	22
23	N35 33.927	W79 16.010	20
24	N35 33.900	W79 16.055	7
25	N35 33.882	W79 16.047	20
26	N35 33.924	W79 16.140	30
27	N35 34.008	W79 16.167	26
28	N35 34.045	W79 16.245	22
29	N35 34.025	W79 16.319	28
30	N35 34.058	W79 16.380	26
31	N35 34.079	W79 16.455	18
32	N35 34.035	W79 16.499	17
33	N35 34.008	W79 16.528	16
34	N35 33.964	W79 16.574	13
35	N35 33.973	W79 16.534	27
36	N35 33.932	W79 16.673	5
37	N35 33.905	W79 16.688	5
38	N35 33.847	W79 16.656	3
39	N35 33.777	W79 16.625	3
40	N35 33.723	W79 16.593	2

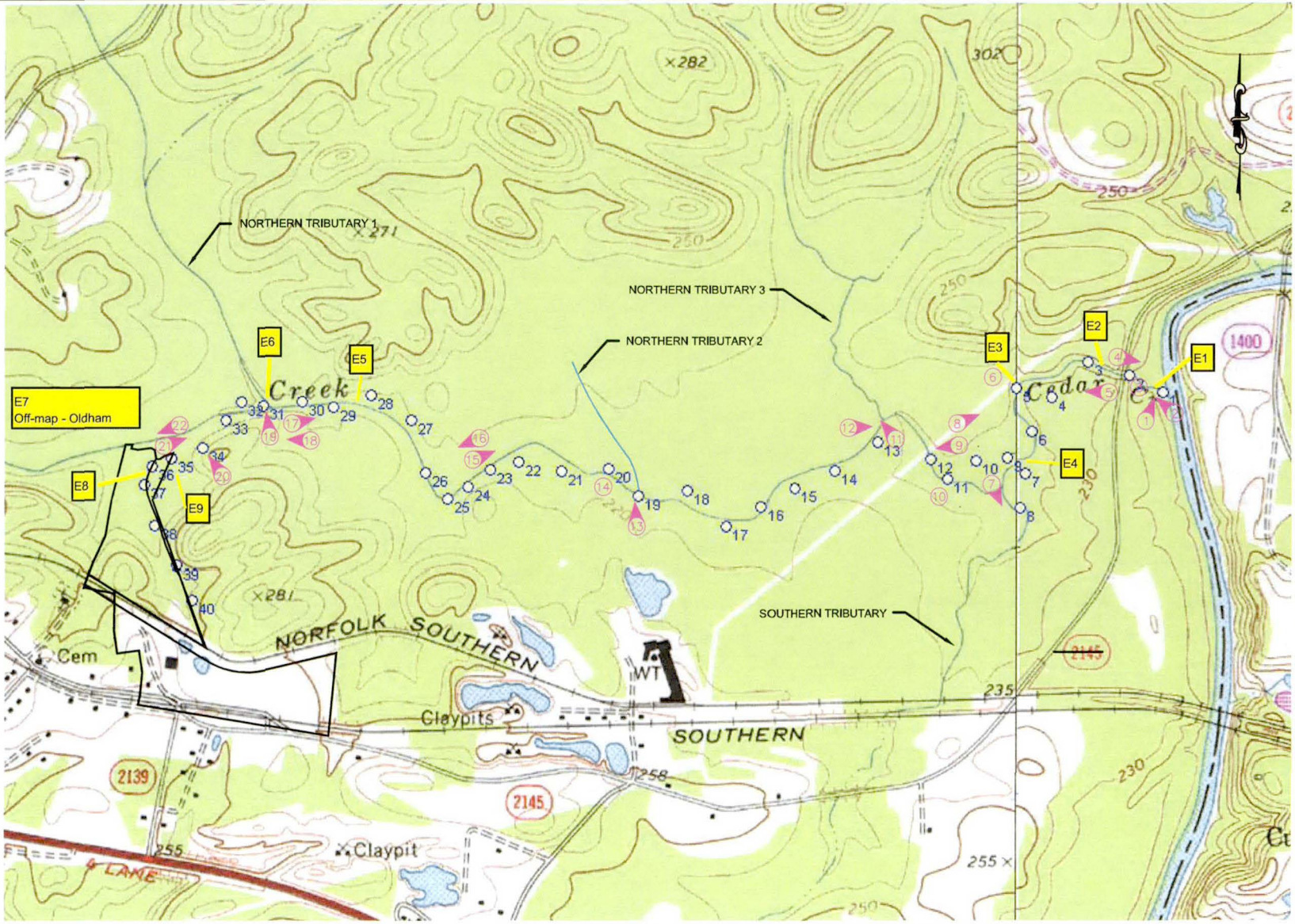


PHOTO POSITION AND ORIENTATION

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

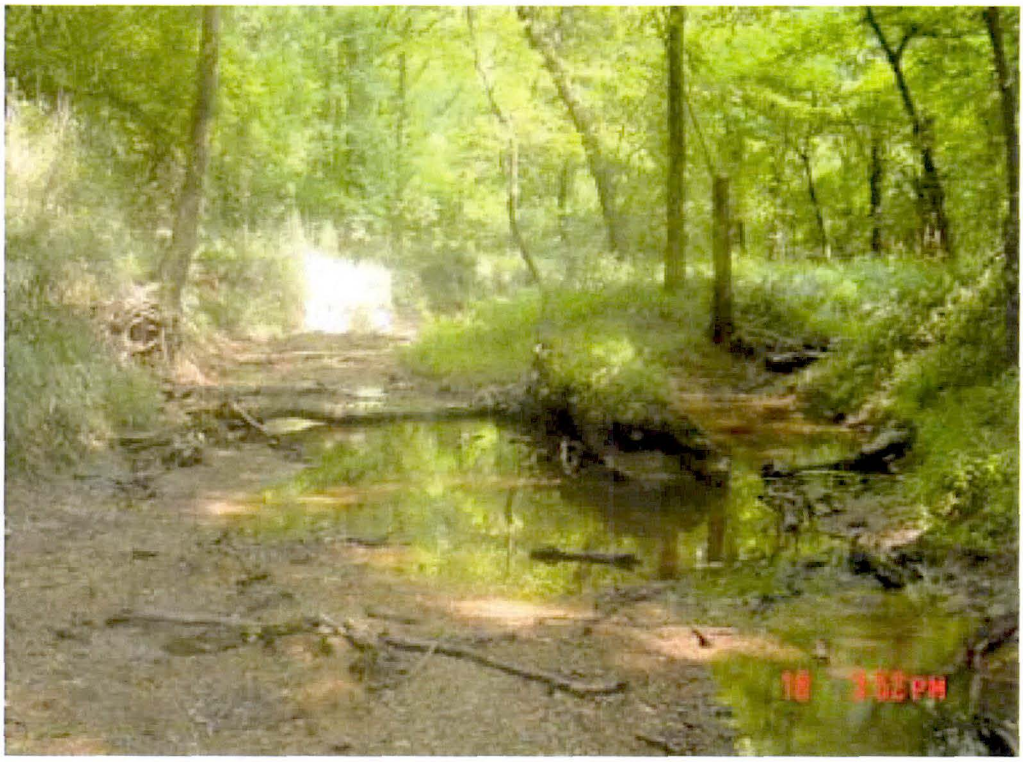
Photo Taken: 07-18-06

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)

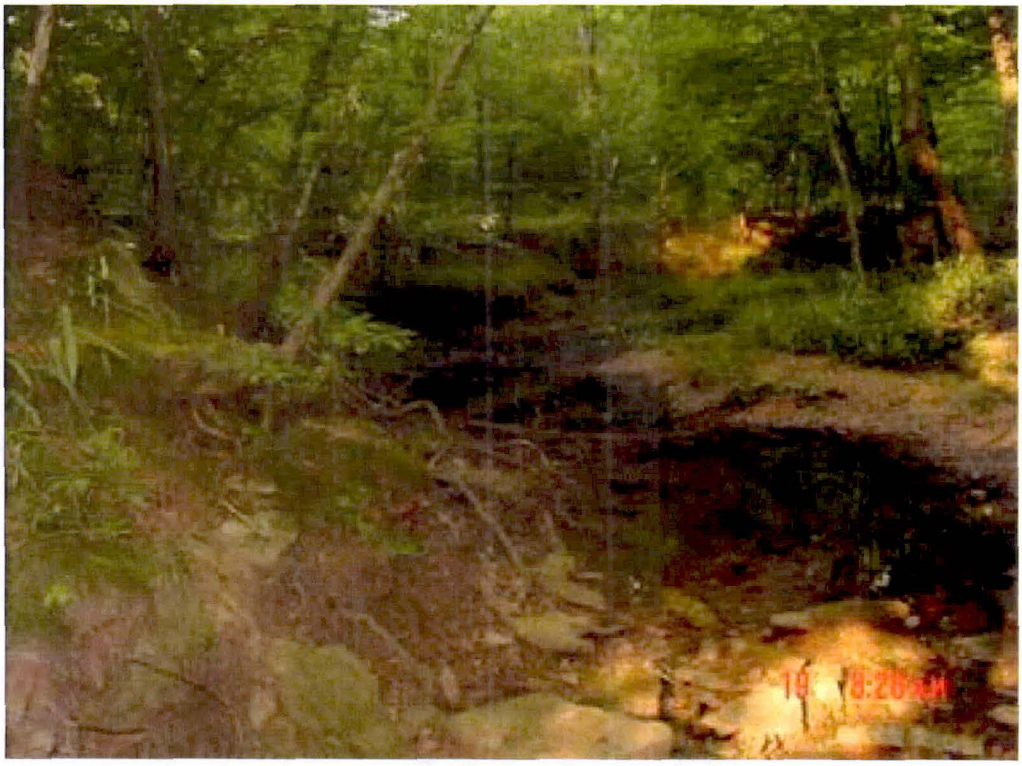
PHOTOGRAPH No.: 13

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

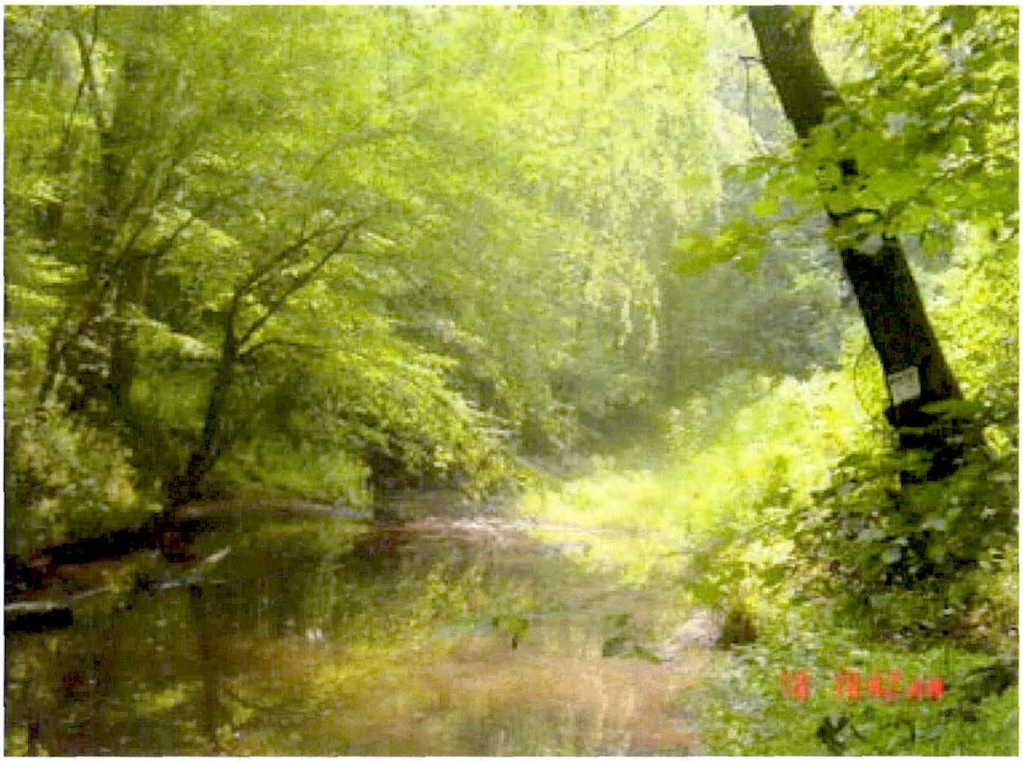
Photo Taken: 07-19-06

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)

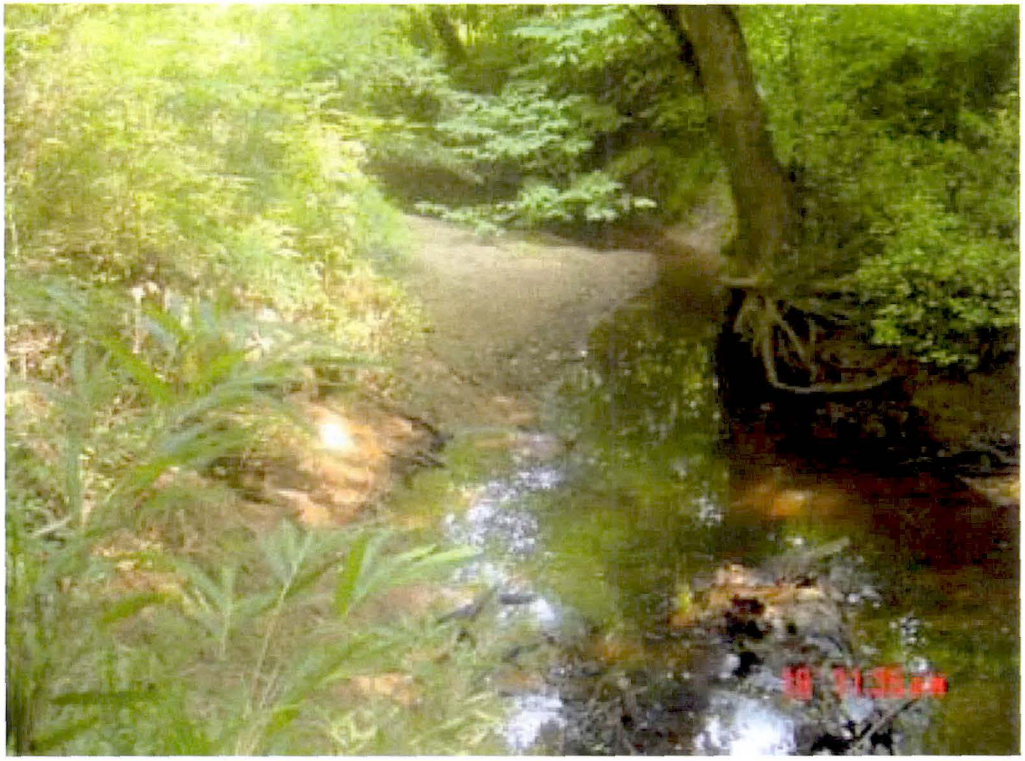
PHOTOGRAPH No.: 21

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: