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Phase I Environmental Site Assessment (ESA)

Clemson Complex

500 West Cherry Road
Clemson, South Carolina

March 2005

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Table of Contents

List of Figures

List of Appendices

Executive Summary

RMT, Inc. (RMT), acting at the request of WestPoint Stevens (Client), conducted a Phase I Environmental Site Assessment (ESA) of the Clemson Complex, located in Oconee County at 500 West Cherry Road, Clemson, South Carolina (subject property). The Client retained RMT to perform the Phase I ESA to satisfy requirements of the bankruptcy court in establishing the value of these company assets.

The Clemson Complex is an integrated textile manufacturing facility that produces finished textile fabric, including flat and fitted sheets, and pillowcases. The subject property encompasses approximately 384 acres and maintains 1,202,565-square foot of building space and is located along West Cherry Road on the shores of Lake Hartwell southwest of Clemson. Current operations include making cloth from cotton and polyester, dyeing and printing the cloth, finishing the cloth, and fabricating bedding from the cloth. Supporting operations including warehousing, maintenance, water treatment plant, steam boilers, air compressors, fire protection system, air conditioning systems, wastewater collection and pumping facilities, a wastewater treatment plant (WWTP), and sludge handling are also conducted at the site.

The site reconnaissance, interviews, records review, and historical review conducted as part of the Phase I ESA were performed to identify potential and actual recognized environmental conditions at the Clemson Complex site. On the basis of this assessment, the following major findings and conclusions have been drawn. The reader is advised to review these in conjunction with the remainder of the report.

Recognized Environmental Conditions

A recognized environmental condition is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

Recognized environmental conditions identified at the facility are listed below:

- ***Evidence of Recognized Environmental Condition:*** Landfill No. 4 is described in the South Carolina Department of Health and Environmental Control (SC DHEC) Screening Site Investigation (SSI) report as an area of about 1.5 acres that was used for trash disposal for

10 to 15 years. An explosion involving propane-fueled textile equipment occurred at the plant in 1967. Information about what was disposed of and where it was disposed is scarce and contradictory, but Landfill No. 4 may have received rubble from the cleanup, possibly including paste and print pigments and transformer oil. Two soil/waste samples were collected from the Landfill No. 4 area in 1990. Some organic constituents and heavy metals were detected in the sample. The detected concentrations were below United States Environmental Protection Agency (USEPA) Region 9 preliminary remediation goals (PRGs) for residential exposure and below potential migration to groundwater concentrations at a dilution/attenuation factor of 20.

Opinion of Impact: Based on limited available information about the history of Landfill No. 4 and the limited amount of sampling data, there is a potential for impact to soil beneath the landfill or to underlying groundwater from this unit.

- ***Evidence of Recognized Environmental Condition:*** Landfill No. 5 is described in the 1991 SC DHEC SSI report as an area of approximately 3 acres. Construction debris was observed on the ground surface during the SSI field reconnaissance. The area may have been used to dispose of debris generated during a 1967 explosion in the facility. Soil samples were not collected in this area during the SSI. However, the Law report states that eight soil samples were collected in 1981 and analyzed for polychlorinated biphenyls (PCBs) with no detections.

  Opinion of Impact: There is potential for impact to soil and groundwater on the subject property based upon historical use of the landfill.

- ***Evidence of Recognized Environmental Condition:*** Landfill No. 2 is a permitted landfill used to dewater and dispose of wastewater solids and fly ash. The landfill was closed and monitoring wells were installed in accordance with SC DHEC requirements. Elevated but decreasing concentrations of nitrates have reportedly been measured in the monitoring wells. During the ESA site visit, ponded water was noted on a portion of the landfill cover.

  Opinion of Impact: This unit has impacted groundwater on the subject property; however, the concentrations of nitrates observed in the groundwater have been steadily decreasing in concentration throughout this area.

- ***Evidence of Recognized Environmental Condition****:* Wastewater from the Clemson Complex was formerly treated in a lagoon. The location of the lagoon is known, but its manner of construction is not. No information was available about its construction or closure, and no information was available concerning any assessments of soil or groundwater near the old lagoon. The SC DHEC SSI states that the area is partially filled with construction debris.

  Opinion of Impact: There is potential for impact to soil and groundwater on the subject property based upon historical use of the former wastewater lagoon.

- ***Evidence of Recognized Environmental Condition:*** Sludge staging area No. 3 is used to dewater wastewater biosolids before they are applied to agricultural soil. The area was

formerly unlined. A concrete pad has now been constructed. A storm water basin is located down slope from the unit. Groundwater monitoring wells are also located downgradient of the unit. During the ESA site visit, evidence was noted that wastewater solids wash out of the concrete pad area into ditches, which generally flow into the storm water basin. Water from the storm water basin, which is unlined, is pumped to the wastewater treatment plant and sludge that collects in this basin is periodically cleaned out. Groundwater monitoring wells are located downgradient of this unit. Available monitoring data from November 2003 had no metals detections and had nitrate detections that were below the Maximum Contaminant Level (MCL).

Opinion of Impact: There is a potential for some impact to soil and groundwater on the subject property based upon current and historical use of the sludge staging area No. 3.

- ***Evidence of Recognized Environmental Condition:*** A septic tank was stated in the SC DHEC SSI to have been used at the facility for disposal of domestic sanitary sewage. The facility has provided a report of soil sampling beneath what was thought to be a septic tank (the 1992 correspondence refers to it as a septic tank), but is now believed to have been a waste oil tank, in which several organic constituents (methylene chloride [1.1 ppm], tetrachloroethene [5.5 ppm], ethylbenzene [10.0 ppm], toluene [8.8 ppm], and xylenes [49 ppm]) were detected. The detected concentrations for methylene chloride and tetrachloroethene in soil samples exceed potential migration to groundwater screening concentrations.

  The septic tank referred to in the SC DHEC SSI is most likely a different tank. No information was found concerning the tank or its associated leach field.

  Opinion of Impact: There is a potential for impact to soil and groundwater on the subject property based upon the historical use of these tanks.

- ***Evidence of Recognized Environmental Condition:*** The facility has provided information that the finishing plant had six underground storage tanks (USTs), all of which were closed before 1986. Some of the USTs were known to have contained petroleum products. No information is available as to the condition of the tanks upon removal or whether releases had been observed or remediated.

  Opinion of Impact: There is a potential for impact to soil and groundwater on the subject property based upon historical use of USTs at the site.

- ***Evidence of Recognized Environmental Condition:*** A coal storage pile was formerly located on the subject property. The facility stopped using the Fly Ash Landfill at the end of 1993, so it is assumed that coal was no longer used at that time. No information was available regarding the condition of underlying soils.

  Opinion of Impact: The coal storage pile has been removed from the property. There is potential for impact to soil and groundwater on the subject property based upon historical use of the former coal storage pile area.

- ***Evidence of Recognized Environmental Condition:*** Wastewater from the facility is directed through pipes and floor drains to the basement from which it is then directed to the facility's WWTP. While the wastewater was contained in pipes and trenches, splashing was observed, and the floor was wet (to some extent from condensation). The condition of the trenches and floor drains could not be readily observed.

  Opinion of Impact: Based on the long history of pipes, trenches, and floor drains in this basement in containing wastewater from the facility, there is a potential for leakage, which may have resulted in impact to soil and groundwater on the subject property.

- ***Evidence of Recognized Environmental Condition:*** An area south of the WWTP and west of Landfill No. 2 was used by the facility to dry solids removed from the equalization basins. The facility reports slightly elevated levels of nitrate in some wells monitoring groundwater in this area.

  Opinion of Impact: This unit has impacted groundwater on the subject property; however, the concentrations of nitrates observed in the groundwater are reportedly low.

- ***Evidence of Recognized Environmental Condition:*** Various chemicals including petroleum products and hazardous substances have been used at the site since textile operation began in 1951. These activities have included the use of USTs, aboveground storage tanks (ASTs), and drums for a variety of petroleum products and hazardous substances. Historical practices involving the handling and use of these materials have the potential to impact site soils and/or groundwater.

  Opinion of Impact: Current handling practices at the site appear to minimize the potential for impacts to site soils and/or groundwater. However, in the absence of site-wide assessment data addressing potential contaminants of concern, the impact to site soils and/or groundwater from historical practices cannot be ruled out.

Historical Recognized Environmental Conditions

A historical recognized environmental condition is defined as an environmental condition which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently.

Historical recognized environmental conditions identified at the facility are listed below. RMT's opinion of impact on the property is included for each issue.

- ***Historical Recognized Environmental Condition:*** A transformer exploded and released PCB-containing fluid in a small room of the facility in 1983. The facility responded immediately and removed the transformer carcass, transformer fluids, and cleanup derived materials from the site to a PCB disposal facility.

Opinion of Impact: Based on available documentation of the event, including facility statements that a contractor cleaned the affected surfaces, environmental impact to the subject property from this incident is unlikely.

- ***Historical Recognized Environmental Condition:*** In 1998, a release of wastewater solids occurred from the storm water basin at Landfill No. 2. Solids were observed to have entered a ditch and flowed to Lake Hartwell. SC DHEC and the Army Corp of Engineers (ACOE) (who have jurisdiction of Lake Hartwell and its shoreline) were notified immediately. Visible wastewater solids were removed from the ditch and shoreline. Improvements were made to Landfill No. 2 and its storm water basin to prevent recurrence of the incident.

  Opinion of Impact: Based on available documentation of the event, environmental impact to the subject property from this incident is unlikely.

de minimis Issues

A *de minimis* recognized issue is defined as a condition that generally does not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

de minimis issues identified at the facility are listed below. RMT's opinion of impact on the property is included for each issue.

- ***de minimis issue:*** The boneyard, or equipment laydown area, west of the main manufacturing facility, was observed during the ESA site visit to contain a wide variety of mechanical equipment and tanks. There is no specific information documenting a release or observation of releases in this area. No obvious visual evidence of surface staining was observed in the boneyard.

  Opinion of Impact: Potential releases of constituents to soil, if any, are expected to be minimal.

- ***de minimis issue:*** The floor of the print department had large areas wet with water and dyes. This portion of the plant is constructed on a concrete slab. The condition of the slab and of the floor drains could not be determined during the site visit.

  Opinion of Impact: Floor drains inside the plant drain to the on-site WWTP, and there was no evidence of staining or stressed vegetation indicating releases to the environment outside the buildings. Therefore, significant environmental impairment to the subject property from this potential source is not expected.

- ***de minimis issue:*** Landfill No. 1 was permitted to dispose of sludge and fly ash in 1976. Sludge disposal was soon discontinued because of odor complaints from nearby

homeowners. The landfill became a fly ash-only landfill, was later closed, and the closure was approved by SC DHEC. Groundwater monitoring results for metals and nitrates show that groundwater standards have not been exceeded.

Opinion of Impact: Groundwater monitoring has demonstrated that migration from the landfill has not occurred. Post-closure monitoring is continuing.

Section 1
Introduction

1.1 Background

RMT, acting at the request of the Client, conducted a Phase I ESA of the Clemson Complex, located in Oconee County at 500 West Cherry Road, Clemson, South Carolina (subject property). The Client retained RMT to perform the Phase I ESA to satisfy requirements of the bankruptcy court in establishing the value of these company assets.

1.2 Purpose

The purpose of a Phase I ESA is to identify recognized environmental conditions associated with a property. Recognized environmental conditions are defined as the presence or likely presence of any hazardous substances (as defined by the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA]) or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

1.3 Scope of Services

This Phase I ESA was conducted in accordance with the scope of work and the terms and conditions specified in RMT's proposal to Client dated February 3, 2005, for a Phase I ESA (Appendix A), and as such, meets the requirements of American Society for Testing and Materials (ASTM) Standard E 1527-00 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, except for the limitations discussed in Subsection 1.5, Limitations and Exceptions of Assessment.

The following activities were conducted as part of the Phase I ESA:

- Interviews with employees to assess current and historical property use or releases of hazardous substances or petroleum products at the property
- A visual inspection of readily accessible areas of the property
- A review of readily available documents identifying historical uses of the property and adjacent properties

- A review of available local, state, and federal environmental agency records within the minimum search distance for the property as specified by the ASTM standard

1.4 Methodology Used

This Phase I ESA included the visual inspection of readily accessible areas of the property and the review of reasonably ascertainable records information. The methodology used for the site reconnaissance consisted of a visual and physical assessment of the property building(s) and grounds in order to obtain information indicating the presence or likely presence of recognized environmental conditions. Lynn Watson and Joyce Peterson of RMT performed the site reconnaissance on February 17 and 18, 2005. During the site reconnaissance, Moe Hinson, Technical Manager, accompanied RMT. Boyd Paul, WWTP Manager, accompanied RMT through the WWTP and landfills. Sarah Burton of RMT provided quality assurance for this project. Appendix B contains qualifications of these environmental professionals.

1.5 Limitations and Exceptions of Assessment

The Client is advised that the "Phase I" ESA conducted at the site is a LIMITED INQUIRY into a property's environmental status and is not sufficient to discover every potential source of environmental liability, if any, at the site. ***Therefore, RMT cannot under any circumstances make a statement of warranty or guarantee, express or implied, that the site is free of recognized environmental conditions, environmental impairment, or that the site is "clean" or that impairments, if any, are limited to those that were discovered while RMT was performing the ESA.*** This limiting statement is not meant to compromise the findings of this report; rather it is meant as a statement of limitations within the intended scope of this assessment.

RMT's findings and opinions are based on information that was available and obtained at the time of the assessment through site reconnaissance, standard investigatory techniques used in the industry at the time, records review, and other related activities. It is possible that other information exists or may subsequently become known that may impact or change the site after RMT's observation.

ASTM Standard E 1527-00 requires identification of all obvious uses of the property back to the property's first obvious developed use, or back to 1940, whichever is earlier. Review of aerial photographs back to 1947 confirms that the property was undeveloped. While historical sources back to 1940 were not readily available, this omission is not expected to impact the findings and conclusions of this report.

In conducting the Phase I ESA and preparing this report, RMT reviewed, interpreted, and relied upon information provided by others, including but not limited to the Client, individuals,

government authorities, subcontractors, and other entities. RMT did not perform an independent evaluation of the accuracy or completeness of such information, and RMT will not be responsible for any errors or omissions contained in such information.

This report, along with the findings and conclusions, either in completed form, summary form or by extraction, was prepared for and intended for the sole use of the Client, and therefore may not contain sufficient information for other purposes or parties. The Client is the only intended beneficiary of this report. The contents of this report continue to be the property of RMT and are protected by copyright. This report may not be disclosed to, used by, or relied upon by any person or entity other than the Client without the express written consent of RMT.

Authorization for disclosure to a third party or authorization for third-party reliance upon this final report will be considered by RMT upon the written request of the Client. RMT reserves the right to deny authorization for the disclosure of or reliance upon this report to third parties.

Section 2
Site Description

2.1 Location and Description

The subject property, identified as the Clemson Complex, is located in Oconee County, South Carolina. The street address of the site is 500 West Cherry Road, Clemson, South Carolina 29631. The site is located on a peninsula of land on the western shore of Lake Hartwell just south of West Cherry Road, which crosses Lake Hartwell south of the city of Clemson.

Figure 1 shows the location of the site. Figure 1 was developed from the Clemson, South Carolina Quadrangle, United States Geological Survey (USGS) 7.5-minute quadrangle map dated 1980. Figure 2 depicts the layout of the subject property. Figure 2 was provided to RMT by Eddie Lanier at WestPoint Stevens. RMT did not verify that the property boundary shown on this map is correct or current. The site included in this assessment is defined by the area shown within the property line on this map.

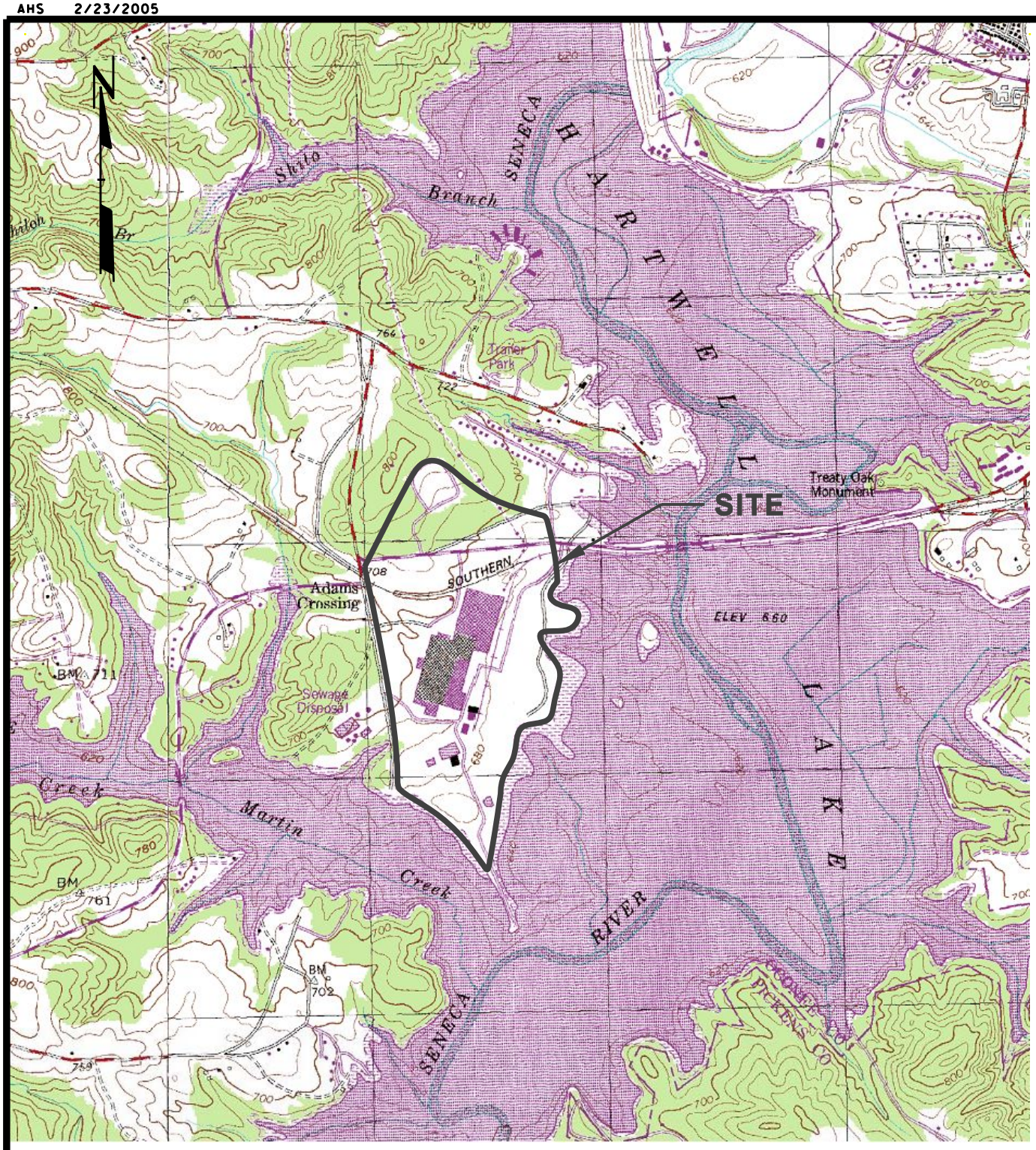
2.2 Site and Vicinity Characteristics

The Clemson Complex is a textile manufacturing facility located in a rural/wooded area surrounded on three sides (east, south, and west) by Lake Hartwell. Highway 37 (West Cherry Road) and the Northwestern Railroad bisect the property east/west. The subject property lies along both sides of Cherry Road; however, all manufacturing operations, except for the closed Fly Ash Landfill, are on the south side of Cherry Road. North of the closed Fly Ash Landfill is a residential area on the shore of Lake Hartwell. The lake on the west side of the plant site is a narrow inlet. Beyond the inlet is low-density residential development.

2.3 Current Uses of Property

The Clemson Complex is an integrated textile manufacturing facility that produces finished textile fabric, including flat and fitted sheets, and pillow cases. Current operations include making cloth from cotton and polyester, dyeing and printing the cloth, finishing the cloth, and fabricating bedding from the cloth. Greige fabric, fabric that has not been dyed or finished, is received from imported sources as well as the Clemson greige mill and other WestPoint Stevens plants.

J:\CAD\00-70583\ 86 \TASK03\SLG-00.70583.86.TSK3.DGN
AHS 2/23/2005



MAP DERIVED FROM DELORME'S
1980 CLEMSON (SC) 7.5' USGS
TOPOGRAPHIC QUADRANGLE

0 2000 4000

SCALE: 1"=2000'

RMT®

WESTPOINT STEVENS, INC.
CLEMSON, SOUTH CAROLINA

SITE LOCATION MAP

DRAWN BY:	AHS
APPROVED BY:	
PROJECT NO.	70583.86 TASK 03
FILE NO.	SLG-00.70583.86.TSK3.DGN
DATE:	FEBRUARY 23, 2005

FIGURE 1

LAKE HARTWELL

N14°28'54"W 309.66' (M)
N14°28'36"W 309.73' (R)
N15°35'04"E 1477.00' (R)
N15°34'52"E 1477.12' (M)
N46°04'58"E 236.34' (R)
N46°05'12"E 236.44' (M)
N85°40'34"W 729.62' (R)
N85°40'21"W 729.51' (M)
N26°40'28"W 150.01' (R)
N26°40'40"W 149.98' (M)
S88°13'10"W 318.20' (M)
S88°12'59"W 319.43' (R)
S26°33'00"E 50.01' (M)
S26°33'15"E 49.99' (R)
S60°09'00"W 701.40' (M)
S60°09'29"W 701.59' (R)
N30°40'54"W 373.10' (R)
N30°38'48"W 365.15' (M)
N40°56'36"E 490.39' (M)
N40°56'36"E 490.39' (R)
N10°10'44"W 257.52' (R)
N10°10'44"W 257.52' (M)
S60°37'54"W 695.75' (M)
S60°38'26"W 695.30' (R)
N54°05'18"E 246.74' (M)
N54°04'23"E 246.70' (R)
N29°04'17"W 152.90' (R)
N29°04'00"W 152.91' (M)
N58°23'41"W 535.90' (R)
N58°23'26"W 535.88' (M)
N37°48'34"W 363.01' (R)
N37°42'18"W 363.12' (M)
S27°04'05"W 251.66' (M)
S27°34'26"W 251.47' (R)
S02°48'16"W 849.18' (M)
S02°45'29"W 849.26' (R)
S34°08'11"W 305.26' (M)
S33°44'49"W 305.22' (R)
S45°05'16"W 669.05' (M)
S45°04'00"W 669.01' (R)
S68°10'07"W 69.34' (M)
S68°09'50"W 69.32' (R)
S45°00'31"W 242.92' (M)
S45°00'29"W 242.79' (R)
S29°05'34"E 93.57' (M)
S29°12'46"E 93.59' (R)
S06°43'16"E 218.78' (M)
S06°43'16"E 218.73' (R)
S22°14'35"E 167.39' (M)
S22°14'35"E 167.39' (R)
S06°42'37"E 142.75' (M)
S06°42'37"E 142.75' (R)
S16°20'39"W 725.41' (M)
S16°20'39"W 725.41' (R)
S72°53'37"E 386.57' (R)
S72°41'14"E 385.41' (M)
S15°09'00"W 239.31' (R)
S15°08'00"W 239.00' (M)
S27°28'00"W 289.89' (R)
S27°15'42"W 286.92' (M)
N39°07'21"W 379.80' (R)
N38°56'27"W 378.80' (M)
S05°15'45"E 878.73' (M)
S05°15'45"E 878.50' (R)
N46°04'58"E 236.34' (R)
N46°05'12"E 236.44' (M)
N77°42'28"E 684.49' (M)
N77°42'44"E 634.60' (R)
N89°02'33"E 585.87' (M)(R)
N09°58'32"E 689.49'(M)(R)
N39°32'55"E 134.45'(M)(R)
S68°41'17"E 1632.67' (M)
S68°17'25"E 1632.47' (R)
S75°22'41"E 271.36' (M)
S04°33'20"E 294.47' (M)
S04°55'12"E 295.08' (R)
S25°05'24"W 792.22' (M)
S24°56'04"E 791.58' (R)
N39°16'33"E 65.51' (M)(R)
N10°07'32"W 17.74' (M)(R)
(S)(M) 14°53'03"(M) R=4,10.10IN
N15°53'03"E (M) R=4,10.10IN
(S) 632.51IN R=4,10.10IN (M) 631.09IN R=00.04.03IN W

LANDFILL (ABANDONED)
LANDFILL
ASH/WOOD WASTE
TANK
TANK FARM
HAZARDOUS WASTE STORAGE
OHP
1 STORY MASONRY PLANT
OLD CHERRY ROAD
1,205,565 SQUARE FEET ±
45.8' HIGH
ASPHALT
CONC.
SOIL
FIELD
WOODED
WOODS
PROPANE TANKS
FIRE PUMP STORAGE
WATER RESERVOIR
TANK FARM
CONC. TRUCK PARKING
ASPHALT TRUCK PARKING
TRAILER STORAGE
ASH LANDFILL
FOUND IRON PIPE
FOUND IRON ROD
FOUND REBAR
FOUND CONCRETE MONUMENT
FIRE HYDRANT
POWER POLE
OVER HEAD POWER LINES
68' POWERLINE EASEMENT DUKE POWER 10-K/226
15' Soil Road
Fire Protection Unit 100' x 100' Quadrant Red Performance
(Existing Road) 20' Asphalt Shade Road

MARTIN CREEK ROAD (S37-65)
Asphalt
66' Public Right of Way

J.P. STEVENS ROAD (S-37-37)
ASPHALT-66' PUBLIC RIGHT OF WAY
SCHEDULE B ITEM #15

CLEMSON CROSSING SUBDIVISION
1130/284

737/167

Delta=20°06'09"
D=1°24'46"
R=4055.20
L=1422.79
T=718.78

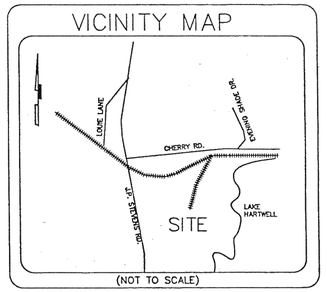
HENRY C. HARRISON
969/269

SCHEDULE B ITEM #22
NORTHWESTERN RAILROAD
100' RIGHT OF WAY

OLD CHERRY ROAD (S39-149)
Asphalt - 66' Public Right of Way

MORNINGSIDE HEIGHTS SUBDIVISION
PLAT BOOK N, PAGE 33

VICINITY MAP



(NOT TO SCALE)

200 0 100 300 400 800
1 inch = 200 ft.

WARNING!
ERRORS & OMISSIONS INSURANCE PROTECTION

CALL INTERNATIONAL LAND SERVICES, INC.

This survey is covered by International Land Services, Inc.'s Errors and Omissions Insurance policy. Contacting the surveying company performing this survey will void the E & O Insurance coverage.

FOR YOUR PROTECTION, PLEASE DIRECT ALL QUESTIONS REGARDING THIS SURVEY TO:

INTERNATIONAL LAND SERVICES, INC.
Phone (405) 701-9352 Fax (405) 701-1002

ALTA/ACSM Land Title Survey

This Work Coordinated By:

Land Services, Inc.
621 24th Avenue S.W.
Norman, Oklahoma 73069
(405) 364-9352 www.ils-alta.com

Dwn By: JB	Date:
Surveyor Ref.No:	Revision: Date:
Aprvd By: JWN	Revision: Date:
Field Date: 8/23/2001	Revision: Date:
Scale: 1"=200'	Revision:

Prepared For:
WESTPOINT STEVENS, INC.
Client Ref. No:

Project Address: OLD CHERRY ROAD
Project Location: CLEMSON, S.C.
Project Name:
Job Number: 01-08-009:003

Sheet 1 of 2

Process operations begin in the greige mill where both natural and synthetic fibers are converted into unfinished fabric. Primary operations in the greige mill include opening, carding, drawing, drafting, spinning, warping, slashing, and weaving. This process includes slashers, which coat the yarn with polyvinyl alcohol (PVA) to prevent damage during the weaving process. All fabric produced by the greige mill is processed in the finishing plant. PVA and small amounts of lubricating oils are used in the greige mill.

The finishing plant processes unfinished fabric into finished fabric. The four basic processes that occur in the finishing plant include bleaching, dyeing, finishing, and printing. Operations at the finishing plant use large amounts of chemicals and hazardous substances and are summarized below:

- ***Bleaching*** – The bleaching operation receives fabric from the griege mill and other suppliers and prepares it for dyeing and finishing. The fabric is processed through one of two bleach ranges. Chemicals used in this process include sodium hydroxide, hydrogen peroxide, detergents, and buffering agents. These chemicals are stored in totes and ASTs.
- ***Dyeing*** – The dyeing operation processes bleached fabric by applying dyes. Thermosol dyeing uses heat, supplied by steam, and chemicals to penetrate the fibers and dye the fabric. Chemicals used in the process include sodium hydrosulfite, hydrogen peroxide, and 60 to 70 various water-soluble anionic dyes.
- ***Finishing*** – The dyed fabric is processed through the finishing department where fabric is prepared for use by the application of different finishes. The dyed fabric is processed through one of five ranges. Chemicals used in this process include glycolated resins, formaldehyde-based resins, silicones and other softeners, and pigment dyes.
- ***Printing*** – The printing operation uses rotary screens to print the finished fabric. The process involves the application of pigments in a water-based adhesive in one of the five ranges. Chemicals used in this process include acrylic binders and primarily water-based concentrates.

After the finishing process, the fabric is sent to the fabricating plant, which cuts, sews, and packages the fabric into sheets and pillowcases. Only small quantities of lubricating oils are used in the fabricating plant. The warehouse and distribution center is located adjacent to the fabricating plant.

Supporting operations including warehousing, maintenance, water treatment plant, steam boilers, air compressors, fire protection system, air conditioning systems, wastewater collection and pumping facilities, a WWTP, and sludge handling are also conducted at the site.

The water treatment plant is located on the south side of the subject property. The plant process water supply is taken from Lake Hartwell. Process water is mixed with coagulant, filtered, and

stored in a reservoir prior to distribution to process areas by a central pumping system located in the Boiler House.

The WWTP, located on the west side of the subject property, receives wastewater from the following sources: wet processes in the bleach department, the dyeing and finishing departments, and the printing department; utility areas such as air washer blowdown, cooling water systems, steam condensate, and bearing seal waters; sanitary and cafeteria waste; boiler blowdown; and water treatment plant clarifier and filter backwash.

The WWTP is an activated sludge system with collection and handling of high strength textile wastewater, such as PVA wastewater from bleaching. The industrial basin and PVA basin were connected to make one basin a couple of years ago. The WWTP operates under National Pollutant Discharge Elimination System (NPDES) Permit No. SC0000591, which establishes permit conditions for the effluent discharge to Lake Hartwell and the land application of sludge. The sludge is dewatered in a press, mixed with lime, and transported by truck to the concrete storage area where it is then transported off site for land application at various permitted sites.

The facility maintains a large AST farm on the southwest side of the manufacturing building, and smaller tank farms on the west side of the manufacturing building and at the WWTP where the various bulk chemicals are stored. The facility also uses drum and tote quantities of some of the chemicals. Used oil is collected near the tank farm on the west side of the building and outside the greige mill and on the east side of the building. All ASTs are located within secondary containment.

PVA is reclaimed in the PVA reclaim system located in the finishing plant. The reclaim system uses ultrafiltration (UF) units to reclaim PVA generated from the bleaching operation. Detergents for cleaning the UF membranes are used in the process. The reclaimed PVA is used in this and other WestPoint Stevens greige mills.

The boiler house, located on the east side of the subject property, contains two natural gas fired boilers that supply process steam and heat for the entire plant. The boiler house maintains No. 2 fuel oil as back up for the boilers. No. 2 fuel oil is stored in a 110,000-gallon AST on the east side of the subject property. This AST is located within secondary containment.

The facility maintains air pollution control equipment for the finishing and printing operations. A wet electrostatic precipitator is used to control the particulate matter emissions from the plants five printing ranges and exhaust.

2.4 Description of Structures, Roads, and Other Site Improvements

The Clemson Complex comprises approximately 384 acres. The primary manufacturing building consists of a 1,202,565-square foot, mostly one-story, building, located on the north central side of the subject property.

West Cherry Road bisects the subject property north of the manufacturing building. All manufacturing operations are located south of West Cherry Road. The subject property can be accessed from West Cherry Road at two locations: on the northeast side of the manufacturing building and on the northwest side of the manufacturing building. Paved parking areas are located on the north, east, and west sides of the manufacturing building. The boiler house, parts storage building, and maintenance building are located on the southeast side of the manufacturing building. The water treatment plant and WWTP are located on the south and west sides of the subject property, respectively. The railroad track is located along the north side of the manufacturing building. A rail spur enters the subject property on the east side of the manufacturing building.

The plant receives potable water from the City of Seneca and discharges sanitary waste to the on-site WWTP. Substations are located at various locations around the plant. The plant receives electricity from Duke Power. Natural gas is purchased from Ft. Hill Natural Gas. Fuel oil is purchased from Lowry's Fuel. Propane, used as backup fuel and to fuel the forklifts, is stored in eighteen 18,000 to 30,000-gallon ASTs on the southwest side of the property.

2.5 Past Uses of Property

According to facility personnel, the site was believed to have been undeveloped at the time the mill was constructed. The subject property has been associated with textile manufacturing since the original development by JP Stevens in 1951. The facility was then acquired by WestPoint Pepperell in 1989 which later became WestPoint Stevens. The original building was constructed in approximately 1951 with several expansions occurring in 1955, 1959, 1962, 1974, and 1990.

The facility had previously operated a coal-fired boiler at the current location of the boiler plant. An outside coal storage area was located on the east side of the current boiler plant. This area is currently vegetated and partially used as a trailer parking area. The fly ash from the coal-fired boiler plant was placed in Landfill No. 1, located north of the manufacturing building and north of West Cherry Road. Additional information concerning the closure and monitoring of Landfill No. 1 is provided in Subsection 4.5.

Other portions of the property were used for various types of waste disposal. Four landfills are located on the subject property, south of West Cherry Road. Landfill No. 2 and Landfill No. 4

are located on the south side of the subject property. Landfill No. 3 and Landfill No. 5 are located on the west side of the subject property. According to information obtained from previous reports, rags, lint, and sludge from the WWTP were disposed of in Landfill No. 2 and Landfill No. 3. These reports also state that rubble, consisting of broken concrete, scrap metal, and timber from a 1967 natural gas explosion were disposed of in Landfill No. 4 and Landfill No. 5. The rubble reportedly may have also included paste and print pigments, and transformer oil. The various documents reviewed provide conflicting information about these materials and where they may have been disposed of – Landfill No. 4, Landfill No. 5, or both. Additional information concerning the investigations conducted in these areas is provided in Subsection 4.5.

2.6 Current and Past Uses of Adjoining Properties

Current uses of the properties adjoining the site are as follows:

North: Wooded; low density residential

South: Lake Hartwell

East: Lake Hartwell

West: Lake Hartwell, low density residential beyond inlet and toward northwest

According to facility personnel, the surrounding property was believed to have been undeveloped or in agricultural use prior to approximately 1963 when Lake Hartwell was created by damming the Seneca River.

Section 3
User-Provided Information

3.1 Title Records

Information regarding title records was not provide to RMT for the subject property.

3.2 Information Reported by User Regarding Environmental Liens or Specialized Knowledge or Experience

According to the Client, no known environmental liens or activity and use limitations exist on the property.

3.3 Specialized Knowledge

The following reports and documents were provided by the Client to RMT:

- Documents regarding construction and closure of on-site landfills:
  - Proposed Development of Landfills for Disposal of Boiler Plant Fly Ash and Wastewater Treatment Plant Sludge, submittal to SC DHEC from Piedmont Engineers, Architects & Planners, July 2, 1976.
  - Engineering Report South Landfill Site Sludge and Ash Disposal Area, submittal to SC DHEC from Piedmont Engineers, Architects & Planners, February 22, 1978
  - Engineering Report South Sludge Landfill No. 2 Closure Plan, submittal to SC DHEC from Piedmont Engineers, Architects & Planners, September 20, 1982. (including map)
  - August 1, 1983, letter from SC DHEC to JP Stevens regarding partial closure (western portion) of Landfill IWP 104 (Landfill No. 2)
  - May 25, 1993, letter from Atlanta Environmental Management to SC DHEC notifying intent to close the Fly Ash Landfill (IWP-135) starting January 1, 1994.
  - April 6, 1994, letter from SC DHEC to Atlanta Environmental Management regarding the cover material for closure of the Fly Ash Landfill.
  - April 27, 1995, letter from Piedmont Olsen Hensley to SC DHEC regarding corrective measures for nitrate and pH levels in groundwater in the vicinity of the sludge storage area.

- July 31, 1996, letter from SC DHEC to WestPoint Stevens approving closure if ISWLF #373317-1601 and requiring post-closure maintenance.
- March 10, 1999 letter from SC DHEC to WestPoint Stevens disapproving an alternate MCL for nitrate in groundwater in the vicinity of the closed landfill and requiring a corrective action plan.
- Excerpts from *Groundwater Monitoring Report*, Atlanta Environmental Management, Inc., January 14, 2005

- Documents regarding the CERCLA 103(c) form, SSI, and Expanded Site Investigations (ESI)
  - USEPA Notification of Hazardous Waste Site, May 1981 (including map)
  - *Site Screening Investigation* - JP Stevens & Company, SC DHEC, January 8, 1991
  - *Report of Soil and Ground Water Sampling* – West Point Pepperell, Law Engineering, November 1990 (regarding split samples collected during the SSI)
  - February 22 1991, letter from WestPoint Pepperell to SC DHEC commenting on the SSI
  - *Site Inspection Prioritization* – JP Stevens & Company, Dynamac Corporation on contract to USEPA, November 29, 1993
  - November 22, 1994, letter from RMT, Inc., to WestPoint Stevens, (regarding split samples collected during the Expanded Site Assessment)
  - Expanded Site Inspection – JP Stevens & Company, SC DHEC, December 29, 1995
- Documents regarding the power transformer release incident
  - Press Release, May 20, 1983 regarding transformer incident
  - JP Stevens & Company Technical Center – Material Evaluation Department Reports, May 24, 1983, results of polychlorinated biphenyl (PCB) analyses
  - JP Stevens & Company, May 26, 1983, letter to SC DHEC regarding cleanup in food service area
  - SC DHEC, June 13, 1983, letter to JP Stevens results of PCB analyses at the Fabrication Cafeteria
  - Stevens Interoffice Correspondence, Minutes from Transformer Incident Meeting, May 22, 1983
  - Shipping Orders and Hazardous Waste Manifests for disposal of the empty transformer carcass, PCB Transformer oil, and other regulated material

- Documents regarding spills and releases
  - May 11, 1998, letter from WestPoint Stevens to SC DHEC regarding sludge runoff at Lower Landfill
  - Consent Order 99-026-W regarding an unauthorized release of sludge which entered Lake Hartwell, March 1999
  - *Corrective Action Plan – Sludge Staging Area*, WestPoint Stevens Engineering and Environmental Department, April 1999
  - Miscellaneous release reports from December 1995 through January 2003
- Information regarding USTs
  - July 28, 1992, letter from Four Seasons Industrial Services to WestPoint Pepperell regarding soil sampling around and beneath the septic tank.
  - Internal information indicates six former USTs at Clemson Finishing in 1984. Location information was not provided and may be unknown.

3.4 Valuation Reduction for Environmental Issues

The Client did not provide information on potential value reduction of the subject property.

3.5 Owner, Property Manager, and Occupant Information

The Client is the owner, manager, and occupant of the subject property.

3.6 Reason for Performing Phase I Environmental Site Assessment

The Client retained RMT to perform the Phase I ESA to satisfy requirements of the bankruptcy court in establishing the value of these company assets.

Section 4
Records Review

4.1 Standard State and Federal Environmental Record Sources

RMT reviewed various state and federal record sources to assess the environmental status of the subject property and properties surrounding the site. These sources list properties with identified or possible contamination, facilities that generate hazardous waste, sites with USTs, and properties involved in state and federal enforcement actions. The following information is based on information provided by Environmental Data Resources, Inc. (EDR), a computerized database service.

The database and the radiuses reviewed for the property conform to ASTM Standard E 1527-00 for Phase I ESAs. The database search is included in Appendix C.

The Client was not identified on any of the databases reviewed by EDR. The previous owner, JP Stevens & Co., Inc., is listed on the State Hazardous Waste Sites (SHWS) database. The SHWS records are the states' equivalent to Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). According to the EDR report, JP Stevens is identified on the SHWS database because of textile-related waste that have been placed in on-site landfills. Additional information related to the on-site landfills is provided in Subsection 4.6. The site is not listed on the National Priority List (NPL).

One site, listed as Hartwell Lake, located less than 1/8 mile from the subject property, is identified on the Department of Defense (DOD) database. This database consists of federally owned or administered lands, administered by the DOD, that have an area equal to or greater than 640 acres. Listing on the DOD database does not indicate environmental impairment.

Cherry Crossing Convenience Store, located ¼ to ½ mile north northwest of the subject property, is listed on the UST database. A 15,000-gallon UST containing petroleum products and a 6,000-gallon UST containing diesel fuel are listed in the UST database as currently in use. No additional information concerning these USTs is provided in the EDR report. This site is also listed on the Facilities Index System (FINDS) database, which contains both facility information and references to other government databases.

Swaneys Landing, located ½ to 1 mile south southwest from the subject property, is listed on the Leaking Underground Storage Tank (LUST) database. A release from a UST was reported on April 3, 1998, and a No Further Action date is listed as May 28, 1998.

The EDR database review also identified certain regulated activities in the vicinity of the subject property that could not be plotted on the overview map due to the lack of address information. These facilities were identified in the "Orphan Summary" of the EDR report. Based upon RMT's reconnaissance of the area and the nature of the regulated activities, these sites were judged to not represent a significant risk of environmental impairment to the subject property. Review list of orphan sites on EDR report.

4.2 Freedom of Information Request and Results

A Freedom of Information Act (FOIA) request was filed with SC DHEC on February 10, 2005. As of the date of this report, the FOIA information has not been received or reviewed by RMT.

4.3 Physical Setting Source

Information on the physical setting of the subject property was obtained from USGS topographic 7.5-minute quadrangle maps for Clemson, South Carolina dated 1951 and 1980 (photorevised from 1951), and from a physical setting source summary provided by EDR. These topographic maps indicate that the subject property is located within a relatively flat area at an elevation of 700 feet above sea level (msl) that slopes to the south, east, and west towards Lake Hartwell.

The physical setting source summary provided by EDR indicates that the subject property is located in an area with soil defined as Cecil soil. This soil complex is composed of sandy clay loam. The soil is moderately well to well drained. The soil has an intermediate water holding capacity, with the seasonal water table measuring a depth of greater than 6 feet below the surface. The depth to bedrock is greater than 60 inches below the surface. These soils do not meet the requirements for a hydric soil.

GeoCheck only reported one state database well, located ½ to 1 mile west southwest of the subject property. No groundwater monitoring wells or public water supply wells are reported within the vicinity of the subject property.

4.4 Historical Use Information

Review of aerial photographs, topographic maps, and city directories, along with discussions with facility personnel, provided information on historical uses of the property.

Copies of all reproducible, available historical documentation are presented in Appendix E.

4.4.1 Aerial Photographs

RMT obtained aerial photographs from USGS for the years 1947, 1951, 1977, 1982, and 1999. The photographs are provided in Appendix E, along with copies of the same photographs zoomed in to better show the immediate area of the facility. The scale listed on the table below is the scale of the photograph as provided by USGS. A review of the aerial photographs listed below provided the following observations regarding the subject property and the surrounding land uses.

DATE	SCALE	COMMENT
1947	1:24,000	The site location is undeveloped in the 1947 photograph. Portions of the site are open fields and other portions are wooded. Several farm houses and farm roads can be seen on the subject property. The Seneca River can be seen passing to the east of the subject property. Highway and railroad bridges can be seen crossing the river near the site.
1951	1:59,000	Industrial development of the site appears to have started in this photograph. Some buildings and roads are visible, but construction appears to be ongoing. The Seneca River, railroad, and adjacent roads appear the same as in the 1947 photograph. Adjacent property appears largely the same as in the 1947 photograph (open fields and woods).

DATE	SCALE	COMMENT
1977	1:80,000	The Seneca River has now been replaced by Lake Hartwell, which is seen to the east and south of the subject property. A narrow finger of the lake is also present to the west of the property. Residential property and a marina can be seen to the north of the subject property. A single causeway with both a highway and a railroad bridge crosses Lake Hartwell near the location of the previous railroad bridge across the river. On the subject property, the plant buildings can be seen. Other visible site features include the WWTP, Landfill No. 5, Landfill No. 1, the fire pond near Landfill No. 1, the coal pile, the wastewater lagoon, the water treatment reservoir, the water treatment backwash basin, and the propane tank farm. The Landfill No. 2 area appears to be active.
1982	1:58,000	The lake and property surrounding the subject property appear largely the same in this photograph as in the 1977 photograph. The sludge staging area north of the WWTP is now present, and the Landfill No. 5 area still appears to be active. Both the lagoon and the coal pile are still present. Landfill No. 2 and the wastewater solids area northwest of Landfill No. 2 can also be seen.
1999	1:40,000	The lake and property surrounding the subject property appear largely the same in this photograph as in the 1982 photograph. The Landfill No. 5 area now appears to be covered in trees, although the access road can still be seen. The Landfill No. 1 area appears to be vegetated. A formerly wooded area between the highway and the railroad track on the northwest side of the site is now largely open with some trees still scattered in the area. The coal pile is gone, replaced by a parking area. The old wastewater lagoon in the southeast corner of the site no longer appears as a water surface. A portion of Landfill No. 2 still appears to be active. The wastewater solids area northwest of Landfill No. 2 still appears to be active.

4.4.2 Fire Insurance Maps

RMT requested fire insurance maps of the subject property and immediate vicinity of the subject property from EDR. However, fire insurance maps of the subject property and immediate vicinity of the subject property were not available. Documentation of this search is provided in Appendix E.

4.4.3 City Directories

Business directories provided by EDR including city, cross reference, and telephone directories were reviewed by RMT to evaluate land uses at the subject property. The directories were reviewed at 5-year intervals, if available, for the years spanning 1996 to 2004. West Cherry Road and the Clemson Complex were not listed in the Polk City Directory until 1999. Various residences on West Cherry Road are listed in the Polk City Directory beginning in 1999.

4.4.4 Historical Topographic Maps

Information on the physical setting of the property was obtained from USGS topographic 7.5-minute quadrangle maps provided by EDR and dated 1951 and 1980 (photorevised from 1951).

DATE	SCALE	COMMENT
1951	1:24,000	The subject property is predominantly cleared with one large building located on the north central portion of the property. A road is present that runs along the perimeter of the subject property. Another road is present to the north of the building that circles the current location of the Fly Ash Landfill. The Blue Ridge Railroad borders the site to the north with a rail spur entering the subject property on the east. The Seneca River borders the site to the south and east while Martin Creek borders the site to the west and south.

DATE	SCALE	COMMENT
1980	1:24,000	The building has been expanded to reflect the size of the building observed during the site visit. The sewage disposal area is apparent in the current location of the WWTP. A circular road and a fire suppression pond are present on the subject property north of West Cherry Road in the current location of the Fly Ash Landfill. Lake Hartwell is built up on three sides of the facility (west, south, and east). The Blue Ridge Railroad in the 1951 map is now called the Southern Railroad in the 1980 map. An extension was added to include a railroad section that runs to the facility, parallel to the east side of the building.

4.5 Previous Reports

The Client provided various reports of assessments that were conducted of the subject property. The reports and associated correspondence are listed in Section 3.3 of this report. A review of these assessments provided, in part, the following information regarding the subject property.

- The following information was derived from documents regarding the CERCLA 103(c) form, SSI, and ESI. The SSI was conducted by SC DHEC in response to the facility's self-reporting of landfilled waste at the site. USEPA contractor Dynamac Corporation reviewed the SSI and prepared a Site Inspection Prioritization. The ESI was conducted by SC DHEC to better define potential environmental issues at the site. The facility hired consultants to observe SC DHEC and split samples that were collected during their investigations.
  - SC DHEC's SSI lists six waste areas observed during the visual inspection: Old Trash Disposal Site and Landfill, Old Wastewater Treatment Pond, Sludge Staging Area, Sludge Drying Area near WWTP, Old Trash Disposal Site and Ravine, Active Fly Ash Disposal Area.
  - The map associated with the CERCLA 103(c) form includes handwritten notations that appear to be annotations for use in the SSI. The map shows locations for sample collection. Included on the map (provided in Appendix F) are Site No. 1 - Landfill, which is also called the Fly Ash Landfill No. 1; Site No. 2 - Landfarm, which is also called Landfill No. 2 and South Landfill No. 2; Site No. 3 - Sludge, which is also called the Sludge Landfill No. 3 or sludge staging area; Site No. 4 – Existing Trash Fill ("Explosion residue" is hand-written next to Site No. 4 on the map); and Site No. 5 – Existing Trash Fill Area. The map shows a coal pile located

east of the boiler building. It also shows the location of the former wastewater lagoon in the southeastern corner of the subject property.

- The regulatory history section of the SSI mentions the existence of a domestic septic tank on site circa 1960. The regulatory history also states that the facility submitted a "Notification of Hazardous Waste Activity" on December 20, 1979, for storing scrap metal drums containing chemical residuals, screenings containing ignitable waste, and sludge landfill activity. RCRA Interim Status was received, then withdrawn in September 1982.
- An explosion involving propane-fueled textile equipment occurred at the plant in 1967. According to the Law report, rubble from the cleanup was disposed of in ravines located on the plant property. The rubble reportedly may have included paste and print pigments, and transformer oil. The various documents provide conflicting information about these materials and where they may have been disposed of – Landfill No. 4, Landfill No. 5, or both. The Law report states that eight samples were collected at Landfill No. 5 in 1981 and analyzed for PCBs with no detections.
- SC DHEC collected samples of soil, ash, groundwater, and surface water during their site visit on June 5, 1990. Law split the samples with SC DHEC. Law reports that some of the analytical results between the split samples had variances greater than 40 percent. Of particular concern to the facility was the detection of 0.00539 mg/L of 1,1,1-trichloroethane in sample MW-2 by SC DHEC (sample collected from monitoring well LF2-2 downgradient of Landfill No. 2; the MCL for this compound is 0.2 mg/L). The Law split sample did not have detections of 1,1,1-trichloroethane in the groundwater. Likewise the sludge sample SS-13, collected in Landfill No. 3, was reported by SC DHEC to have 1,1,1-trichloroethane concentration of 8.46 mg/kg, while the Law split sample did not have detections of 1,1,1-trichloroethane.
- Although the SSI concluded that the site should have a high priority for Listing Site Inspection, the Site Inspection Prioritization recommended Low Priority for the ESI. The ESI recommended that a low priority be assigned for the site.

- The following information was derived from documents regarding construction and closure of on-site Landfills (Landfills No. 1 and 2):
  - In 1976, two areas were proposed for development of landfills to dispose of sludge and fly ash generated at the site.
  - The 1978 engineering report (Landfill No. 2) states that the landfill areas (two portions of Landfill No. 2) would be diked to contain surface runoff. Sludge and fly ash would be spread in thin, alternating layers to stabilize and dewater. The

landfill would not be lined. No cover material would be placed on the landfill until final closure.

- Major sludge components include: print pigment from wastewater (28.4%), digested activated sludge (47.4%), calcium and other insoluble salts (9.5%), and iron from coagulant (8.1%). Potentially hazardous constituents detected in sludge solids include chromium (40 ppm), cadmium (<6.4 ppm), lead (510 ppm), manganese (250 ppm), and zinc (3,450 ppm).
- At closure in 1982, Landfill No. 2 sludge did not exceed hazardous waste criteria by the EP Toxicity test. The pH of fresh sludge ranged from 10 to 12 standard units.
- SC DHEC approved a mix of aerobically digested sludge (20%), ash (40%), and soil (40%) for the cover material for Landfill No. 1 in 1994. According to WestPoint Stevens' personnel, after some odor complaints by nearby residents, the disposal of sludge in Landfill No. 1 was discontinued and it became a fly ash-only landfill until it was closed in 1996.
- SC DHEC inspected Landfill No. 1 in July 1996 and verified that the landfill had been closed appropriately, but requires post-closure maintenance of the cover and groundwater monitoring.
- Post-closure groundwater monitoring results has shown concentrations of nitrate exceeding the groundwater standard at Landfill No. 2. Groundwater monitoring at Landfill No. 1 indicates that the groundwater at the Fly Ash Landfill meets groundwater standards as of 2004.

- Information regarding underground tanks
  - In 1992, Four Seasons collected samples from beneath what was thought to be a septic tank using a hand auger. The samples were analyzed for volatile organic compounds (VOCs) by Method 8240. Methylene chloride (1.1 ppm), tetrachloroethene (5.5 ppm), ethylbenzene (10.0 ppm), toluene (8.8 ppm), and xylenes (49 ppm) were detected in the soil samples.

    According to WestPoint Stevens' personnel, the "septic tank" was a 1,500-gallon concrete tank that appeared more likely to be a waste holding tank. At the time of its removal, it contained 500-gallons of water, 100-gallons of oil, and 500-gallons of dirt and grit. WestPoint Stevens reported that there had been no evidence of a leach field associated with this UST.
  - Six finishing plant USTs were reported by plant personnel as follows, all are believed to have been removed by 1986, but no written documentation could be located. The contents of two of the tanks were reported to be petroleum products. The contents of the others were not reported. The locations of these former tanks

are not known. According to WestPoint Stevens' personnel, these were all of the USTs that were removed from the facility.

SIZE (gallons)	DATE INSTALLED
550	1964
550	1959
1,000	1959
550	1973
12,000	1974
12,000	1971

- The following information was derived from documents regarding spills and releases:
  - On April 24, 1998, following a significant rainfall event, sludge was observed to have overflowed the runoff basin at Landfill No. 2. The sludge had run down a ditch to the shore of Lake Hartwell. Observed sludge solids were returned to the landfill as soon as the incident was discovered. SC DHEC and the ACOE were notified of the incident. According to internal WestPoint Stevens' memoranda, the recommended cleanup efforts were conducted. SC DHEC issued a consent order requiring a corrective action plan to prevent future sludge releases. In response, improvements were made to the drainage basin by August 1, 1998.
  - Numerous spills occurred in the main plant area during the years with available records (December 1995 through January 2003). Most of the spills were contained within the plant or within containment areas. Two of the incidents resulted in some material reaching a storm sewer. In these cases, efforts were made to recover released material from the storm sewer discharge.
- The following information was derived from documents regarding the May 1983 power transformer incident:
  - A short circuit in a transformer caused the transformer to release 30 to 40 gallons of transformer fluid inside a small room. GE, the supplier of the transformer, completed cleanup of apparatus room No. 21 within about 30 hours of the incident. Sampling and cleanup of potentially affected nearby areas was conducted over the following several days. According to internal JP Stevens' memoranda, samples were collected of fabric, dust, and surfaces within the facility near apparatus room No. 21. Surfaces and areas found to contain detectable concentrations of PCBs were cleaned.

- The transformer carcass, transformer oil, and four 55-gallon drums of cleanup related materials were disposed of off the site. The available incident documents do not mention any on-site disposal of material from the incident.

In summary, available documentation indicates the presence of five landfills, of which three received permits. Landfill No. 3 is still in use as a sludge staging area. According to WestPoint Stevens personnel, Landfill No. 3 was never used as a formal landfill but only as a sludge staging area – all staged material has been removed from this site except what is currently staged on the concrete pad. The remaining areas are closed. Groundwater monitoring results at Landfill No. 1 are reported to be below regulatory limits. Groundwater monitoring results at Landfill No. 2 are reported to be decreasing but above regulatory limits for nitrate. What little information is available concerning Landfill No. 4 and Landfill No. 5 is inconsistent.

It is likely that the septic tank mentioned in the SC DHEC SSI report is not the same as the UST under which soil samples were collected in 1992. The location of the septic tank is not known from available documents.

Reports of recent (post 1995) spills and releases suggest that environmental impact was minimal. However, the facility has been in operation since the early 1950s. During the earlier years of facility operation, although no records are available, it is possible that other incidents have occurred.

Copies of the reproducible portions of these reports are presented in Appendix F.

Section 5
Site Reconnaissance

5.1 Methodology and Limiting Conditions

On Thursday, February 17 and Friday, February 18, 2005, Lynn Watson and Joyce Peterson of RMT conducted a walk-through of the Clemson Complex property and facility located at 500 West Cherry Road, Clemson, South Carolina. During the walk-through, RMT was accompanied by Moe Hinson, Technical Manager at the finishing plant. Boyd Paul, WWTP manager, also participated in the walk-through of the WWTP, Landfill No. 1, Landfill No. 2, and the wastewater solids staging area (marked on some maps as part of Landfill No. 2). The purpose of the walk-through was to inspect the subject property, including the buildings on the site, for potential environmental concerns, including, but not limited to, the following:

- Hazardous substance and waste management activities
- Evidence of potential hazardous substance spills or releases (*e.g.,* stressed vegetation, discolored soil, etc.)
- USTs (*e.g.,* protruding fill or vent pipes)
- Equipment potentially containing PCBs
- Potential property or adjacent property activities that could affect the environmental condition of the subject property

Due to the 384 acre size of the Clemson Complex, RMT did not completely access all densely forested and undeveloped portions of the subject property; however, the accessible perimeters of these portions and accessible roadways were inspected.

Photographs taken during the site visit are included in Appendix G.

5.2 General Site Setting and Observations

Observations at the plant related to the general setting are described in this section.

5.2.1 Exterior Observations

The following observations pertain to the general site setting during the site reconnaissance.

- The main plant site is surrounded by a fence, with security guards at the entrance. Open spaces within the fenced area are generally mowed and well maintained. Large portions of the site and the boundary between the property line and the shoreline of Lake Hartwell (ACOE jurisdiction) were wooded.
- Areas exterior to the main production facility include parking lots, tank farms, a boiler building, a water treatment building and reservoir, a wastewater treatment plant, several equalization basins, and five landfill areas. No obvious visual evidence of surface staining or distressed vegetation was observed in these areas.
- The equipment boneyard, west of the main manufacturing facility, contains a wide variety of mechanical equipment and tanks. No obvious visual evidence of surface staining or distressed vegetation was observed in the boneyard.
- Comparing the outlines of the landfill areas to field observations, Landfill No. 1 and Landfill No. 2 appear to have low lying (wet) and overgrown portions within the cover of the closed landfills.
- The sludge staging area (Landfill No. 3) had evidence of sludge runoff from the paved area to the surrounding unpaved areas. Most of the surface runoff in the area adjacent to the concrete staging pad appeared to be directed to the surface runoff basin.
- Most of the groundwater monitoring wells observed during the site reconnaissance were not locked.
- Good housekeeping on the exterior of the manufacturing building was observed at the time the site visit was conducted.

5.2.2 Interior Observations

The following observations pertain to conditions noted inside the buildings during the site reconnaissance.

- The production facility encompasses four distinct plant areas (greige mill, finishing plant, fabricating plant, and warehouse area). Floors within the greige mill, fabricating plan, and warehouse area appeared to be clean and generally stain-free.
- Floors within the finishing plant were generally dry and stain-free. Some areas in the vicinity of wet processes were wet. A small vacuum truck routinely removed puddles from the wet areas of the floor. The condition of the floor, where observed, was good.

- Floors within the printing department had numerous areas of spilled dyes. The general condition of the floor and floor drains in those areas could not be discerned, but no obvious cracks were noted.
- The basement covers an area of approximately 50 feet by 100 feet beneath a portion of the finishing and dyeing sections of the plant. Wastewater generated at the plant is directed to collection basins and trenches in the basement area before discharging to the on-site WWTP. The floor of the basement was wet and heavily stained. The condition of the floor could not be discerned, but no obvious cracks were noted.
- Floors in the maintenance shop areas and around the parts cleaners were generally dry and stain-free.
- Totes, tanks, and drums of process related chemicals were located throughout the facility. With the exception of the printing department, there were no indications of releases to the floor. In the printing department, spilled dyes are directed to floor drains that lead to the wastewater treatment plant.

5.3 Hazardous Substances and Petroleum Products in Connection with Identified Uses

This section provides a discussion of storage, handling, and disposal of hazardous substances and petroleum products.

The facility uses petroleum products for equipment at the facility. Fuel oil is used as a backup fuel for the boilers. Propane is used to power forklift trucks and as a backup fuel. Lubricating oils are also used in equipment maintenance at the facility.

Used oil is accumulated in two areas outside the building. Both areas are curbed and covered. The areas appeared to be in good condition. The used oil is recycled.

PVA is used as sizing to strengthen the warp yarn prior to weaving. The PVA is removed from the cloth during the bleaching operation. PVA is recovered from the wash water and reclaimed using UF. The reclaimed PVA is used at this and other greige mills.

Dyes are received in totes and particular color mixes are made in drums from the original dyes. This process was observed to result in releases to the floor of the printing department.

A variety of chemicals are used in the finishing plant. These chemicals are received in totes, which are located near their point of use. Computers meter out various mixes as needed. Quality control stations were located near some of the finishing machines where operators performed titrations with iodine, hydrochloric acid and permanganate.

5.4 Storage Tanks

Sixty-four ASTs are located at the plant, of which four are inactive. Eighteen of the tanks are propane tanks located southwest of the main plant building. Ten of the tanks contain petroleum products. The tanks that contain liquid and are located outdoors are within containment. The containment areas were observed to be in good condition. The table of AST inventory provided by the facility is included in Appendix F.

According to the Client, the facility has no active USTs. No visual evidence, such as vent pipes, fill pipes, or other indications of USTs were observed during the site visit.

5.5 Indication of Polychlorinated Biphenyls

Based on the information provided by the Client, interviews with site personnel, and the site visit, there are no PCBs used in manufacturing activities at this facility. According to the Client's personnel, PCB transformers were formerly present at the facility but have all been changed over to non-PCB dielectric fluid.

There were no previous leaks according to site personnel from PCB-containing transformers, with the exception of a transformer that vented PCB-containing oil in a small equipment room in 1983. The transformer carcass, transformer oil, and PCB-affected cleanup materials were removed and disposed of off the site. Confirmation samples were collected to confirm completeness of the cleanup. This incident is further summarized in Subsection 4.5.

5.6 Indication of Solid Waste Generation and Disposal

The plant produces several solid waste streams. However, production materials are recycled to the extent feasible.

5.6.1 Nonhazardous Waste Generation and Disposal

The plant generates nonhazardous waste including used oil, used batteries, scrap metal, scrap fabric, scrap metal, general office trash, wood pallets, cardboard, and wastewater treatment sludge. Most of the facility's nonhazardous waste is either recycled or sold.

The WWTP sludge is transported off the site for land application at various permitted sites.

The facility is considered a small quantity handler (SQH) of universal waste (batteries, mercury thermostats, lamps, and CRTs). Universal wastes are taken to approved handling facilities.

5.6.2 Hazardous Waste Generation and Disposal

The facility is a Conditionally Exempt Small Quantity Generator (CESQG) of hazardous waste. Hazardous wastes are not routinely generated at the facility. The last shipment of hazardous waste, consisting of chemical oxygen demand (COD) vials and broken lamps, occurred in 2003. Hazardous waste was shipped to MKC Enterprises in Doraville, Georgia (USEPA ID # GAD000616367).

Section 6
Interviews

As part of the Phase I ESA, select persons were interviewed to provide insight into conditions at the site. The individuals interviewed are listed below followed by a summary of the interview. Information obtained during these interviews and the site questionnaire completed during the site walk-through are included in Appendix H.

6.1 Interview with Owner

Eddie Lanier, Director – Environmental Department

Mr. Lanier provided information regarding on-site operations, previous on-site activities and operations, and historical information on the subject property. Information obtained from Mr. Lanier is contained throughout this report.

Moe Hinson, Clemson Facility Technical Department Manager

Mr. Hinson provided a site tour, which included the plant as well as the perimeter. He provided information regarding on-site operations, previous on-site activities and operations, and some historical information on the subject property. Information obtained from Mr. Hinson is contained throughout this report.

Boyd Paul, Clemson Facility Wastewater Treatment Manager

Mr. Paul provided information regarding wastewater treatment procedures, discharges, past wastewater treatment information, and present wastewater treatment information. He provided a site tour of the landfills including the Fly Ash Landfill located across the street from the facility.

6.2 Interview with Local Government Officials

Chuck Hightower, SC DHEC UST Department, 803/896-6944

RMT contacted Mr. Hightower to inquire about USTs at the subject property. Mr. Hightower stated that he had no information on the Clemson Facility USTs and that the facility would not have been required to register the USTs until 1986.

Central Fire & Rescue, 864/654-7074

RMT contacted the Central Fire & Rescue department to inquire about any emergency responses at the Clemson Facility or in the general facility. RMT has not received a response from this department.

William Daniels, Clemson Fire Chief (Clemson University), 864/656-2242

RMT contacted Mr. Daniels to inquire about spills, releases, or other emergencies that have occurred at the Clemson Facility or in the general vicinity. Mr. Daniels stated that they have responded to a couple of fires at the Clemson Facility. The last reported fire was a small fire that occurred in 2002 on the roof. Mr. Daniels has been with the fire department for 24 years.

Henry Gordon, Director of Oconee County Emergency Management, 864/638-4200

RMT contacted Mr. Gordon to inquire about spills, releases, or other emergencies that have occurred at the Clemson Facility or in the general vicinity. Mr. Gordon stated that the facility had a sludge leak that occurred in 1998. Mr. Gordon stated that the area was contained and the spill was properly cleaned up. Additional information related to the sludge leak is provided in Subsection 4.5. He did not recall any fires at the facility. Mr. Gordon has been with Oconee County Emergency Management for almost 10 years.

Section 7
Findings and Conclusions

The findings of this assessment have been categorized into recognized environmental conditions, historical recognized environmental conditions, and *de minimis* conditions. For each of these issues, RMT's opinion of impact on the property is included.

7.1 Recognized Environmental Conditions

A recognized environmental condition is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

Recognized environmental conditions identified at the facility are listed below:

- ***Evidence of Recognized Environmental Condition:*** Landfill No. 4 is described in the SC DHEC SSI report as an area of about 1.5 acres that was used for trash disposal for 10 to 15 years. An explosion involving propane-fueled textile equipment occurred at the plant in 1967. Information about what was disposed of and where it was disposed is scarce and contradictory, but Landfill No. 4 may have received rubble from the cleanup, possibly including paste and print pigments and transformer oil. Two soil/waste samples were collected from the Landfill No. 4 area in 1990. Some organic constituents and heavy metals were detected in the sample. The detected concentrations were below USEPA Region 9 PRGs for residential exposure and below potential migration to groundwater concentrations at a dilution/attenuation factor of 20.

  Opinion of Impact: Based on limited available information about the history of Landfill No. 4 and the limited amount of sampling data, there is a potential for impact to soil beneath the landfill or to underlying groundwater from this unit.

- ***Evidence of Recognized Environmental Condition:*** Landfill No. 5 is described in the 1991 SC DHEC SSI report as an area of approximately 3 acres. Construction debris was observed on the ground surface during the SSI field reconnaissance. The area may have been used to dispose of debris generated during a 1967 explosion in the facility. Soil samples were not collected in this area during the SSI. However, the Law report states that eight soil samples were collected in 1981 and analyzed for PCBs with no detections.

  Opinion of Impact: There is potential for impact to soil and groundwater on the subject property based upon historical use of the landfill.

- ***Evidence of Recognized Environmental Condition:*** Landfill No. 2 is a permitted landfill used to dewater and dispose of wastewater solids and fly ash. The landfill was closed and monitoring wells were installed in accordance with SC DHEC requirements. Elevated but decreasing concentrations of nitrates have reportedly been measured in the monitoring wells. During the ESA site visit, ponded water was noted on a portion of the landfill cover.

  Opinion of Impact: This unit has impacted groundwater on the subject property; however, the concentrations of nitrates observed in the groundwater have been steadily decreasing in concentration throughout this area.

- ***Evidence of Recognized Environmental Condition:*** Wastewater from the Clemson Complex was formerly treated in a lagoon. The location of the lagoon is known, but its manner of construction is not. No information was available about its construction or closure, and no information was available concerning any assessments of soil or groundwater near the old lagoon. The SC DHEC SSI states that the area is partially filled with construction debris.

  Opinion of Impact: There is potential for impact to soil and groundwater on the subject property based upon historical use of the former wastewater lagoon.

- ***Evidence of Recognized Environmental Condition:*** Sludge staging area No. 3 is used to dewater wastewater biosolids before they are applied to agricultural soil. The area was formerly unlined. A concrete pad has now been constructed. A storm water basin is located down slope from the unit. Groundwater monitoring wells are also located downgradient of the unit. During the ESA site visit, evidence was noted that wastewater solids wash out of the concrete pad area into ditches, which generally flow into the storm water basin. Water from the storm water basin, which is unlined, is pumped to the wastewater treatment plant and sludge that collects in this basin is periodically cleaned out. Groundwater monitoring wells are located downgradient of this unit. Available monitoring data from November 2003 had no metals detections and had nitrate detections that were below the MCL.

  Opinion of Impact: There is a potential for some impact to soil and groundwater on the subject property based upon current and historical use of the sludge staging area No. 3.

- ***Evidence of Recognized Environmental Condition:*** A septic tank was stated in the SC DHEC SSI to have been used at the facility for disposal of domestic sanitary sewage. The facility has provided a report of soil sampling beneath what was thought to be a septic tank (the 1992 correspondence refers to it as a septic tank), but is now believed to have been a waste oil tank, in which several organic constituents (methylene chloride [1.1 ppm], tetrachloroethene [5.5 ppm], ethylbenzene [10.0 ppm], toluene [8.8 ppm], and xylenes [49 ppm]) were detected. The detected concentrations for methylene chloride and tetrachloroethene in soil samples exceed potential migration to groundwater screening concentrations.

The septic tank referred to in the SC DHEC SSI is most likely a different tank. No information was found concerning the tank or its associated leach field.

Opinion of Impact: There is a potential for impact to soil and groundwater on the subject property based upon the historical use of these tanks.

- ***Evidence of Recognized Environmental Condition:*** The facility has provided information that the finishing plant had six USTs, all of which were closed before 1986. Some of the USTs were known to have contained petroleum products. No information is available as to the condition of the tanks upon removal or whether releases had been observed or remediated.

  Opinion of Impact: There is a potential for impact to soil and groundwater on the subject property based upon historical use of USTs at the site.

- ***Evidence of Recognized Environmental Condition:*** A coal storage pile was formerly located on the subject property. The facility stopped using the Fly Ash Landfill at the end of 1993, so it is assumed that coal was no longer used at that time. No information was available regarding the condition of underlying soils.

  Opinion of Impact: The coal storage pile has been removed from the property. There is potential for impact to soil and groundwater on the subject property based upon historical use of the former coal storage pile area.

- ***Evidence of Recognized Environmental Condition:*** Wastewater from the facility is directed through pipes and floor drains to the basement from which it is then directed to the facility's WWTP. While the wastewater was contained in pipes and trenches, splashing was observed, and the floor was wet (to some extent from condensation). The condition of the trenches and floor drains could not be readily observed.

  Opinion of Impact: Based on the long history of pipes, trenches, and floor drains in this basement in containing wastewater from the facility, there is a potential for leakage, which may have resulted in impact to soil and groundwater on the subject property.

- ***Evidence of Recognized Environmental Condition:*** An area south of the WWTP and west of Landfill No. 2 was used by the facility to dry solids removed from the equalization basins. The facility reports slightly elevated levels of nitrate in some wells monitoring groundwater in this area.

  Opinion of Impact: This unit has impacted groundwater on the subject property; however, the concentrations of nitrates observed in the groundwater are reportedly low.

- ***Evidence of Recognized Environmental Condition:*** Various chemicals including petroleum products and hazardous substances have been used at the site since textile operation began in 1951. These activities have included the use of USTs, ASTs, and drums for a variety of petroleum products and hazardous substances. Historical practices involving the handling and use of these materials have the potential to impact site soils and/or groundwater.

Opinion of Impact: Current handling practices at the site appear to minimize the potential for impacts to site soils and/or groundwater. However, in the absence of site-wide assessment data addressing potential contaminants of concern, the impact to site soils and/or groundwater from historical practices cannot be ruled out.

7.2 Historical Recognized Environmental Conditions

A historical recognized environmental condition is defined as an environmental condition which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently.

Historical recognized environmental conditions identified at the facility are listed below. RMT's opinion of impact on the property is included for each issue.

- ***Historical Recognized Environmental Condition:*** A transformer exploded and released PCB-containing fluid in a small room of the facility in 1983. The facility responded immediately and removed the transformer carcass, transformer fluids, and cleanup derived materials from the site to a PCB disposal facility.

  Opinion of Impact: Based on available documentation of the event, including facility statements that a contractor cleaned the affected surfaces, environmental impact to the subject property from this incident is unlikely.

- ***Historical Recognized Environmental Condition:*** In 1998, a release of wastewater solids occurred from the storm water basin at Landfill No. 2. Solids were observed to have entered a ditch and flowed to Lake Hartwell. SC DHEC and the ACOE (who have jurisdiction of Lake Hartwell and its shoreline) were notified immediately. Visible wastewater solids were removed from the ditch and shoreline. Improvements were made to Landfill No. 2 and its storm water basin to prevent recurrence of the incident.

  Opinion of Impact: Based on available documentation of the event, environmental impact to the subject property from this incident is unlikely.

7.3 *de minimis* Issues

A *de minimis* recognized issue is defined as a condition that generally does not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

de minimis issues identified at the facility are listed below. RMT's opinion of impact on the property is included for each issue.

- ***de minimis issue:*** The boneyard, or equipment laydown area, west of the main manufacturing facility, was observed during the ESA site visit to contain a wide variety of mechanical equipment and tanks. There is no specific information documenting a release or observation of releases in this area. No obvious visual evidence of surface staining was observed in the boneyard.

  Opinion of Impact: Potential releases of constituents to soil, if any, are expected to be minimal.

- ***de minimis issue:*** The floor of the print department had large areas wet with water and dyes. This portion of the plant is constructed on a concrete slab. The condition of the slab and of the floor drains could not be determined during the site visit.

  Opinion of Impact: Floor drains inside the plant drain to the on-site WWTP, and there was no evidence of staining or stressed vegetation indicating releases to the environment outside the buildings. Therefore, significant environmental impairment to the subject property from this potential source is not expected.

- ***de minimis issue:*** Landfill No. 1 was permitted to dispose of sludge and fly ash in 1976. Sludge disposal was soon discontinued because of odor complaints from nearby homeowners. The landfill became a fly ash-only landfill, was later closed, and the closure was approved by SC DHEC. Groundwater monitoring results for metals and nitrates show that groundwater standards have not been exceeded.

  Opinion of Impact: Groundwater monitoring has demonstrated that migration from the landfill has not occurred. Post-closure monitoring is continuing.

Appendix A
Scope of Services

RMT
Integrated
Environmental
Solutions

30 Patewood Drive, Suite 100
Patewood Plaza One
Greenville, SC 29615-3535
Telephone: 864-281-0030
Fax: 864-281-0288

www.rmtinc.com

February 2, 2005

Mr. Eddie Lanier
Manager of Environmental Engineering
WestPoint Stevens, Inc.
507 West 10th Street
West Point, Georgia 31833

Subject: Proposal for Phase I Environmental Site Assessments (ESAs) at 12 Sites in Alabama, Indiana, Maine, Nevada, New York, North Carolina, South Carolina, and Virginia
RMT Proposal No. 90-99244.90

Dear Eddie:

RMT, Inc. (RMT), is pleased to submit this proposal to WestPoint Stevens, Inc. (WPS) to conduct Phase I ESAs of 12 WPS facilities located in Alabama, Indiana, Maine, Nevada, New York, North Carolina, South Carolina, and Virginia. This proposal has been prepared in response to numerous telephone discussions and electronic correspondence exchanged between you and me on January 31 and February 1, 2005.

RMT is prepared to conduct these Phase I ESAs in accordance with the terms and conditions of the attached Agreement. This Agreement consists of the Proposal, the General Terms and Conditions, and the Work Authorization Form. If this Agreement is satisfactory to WPS, please sign in the required space on the Work Authorization Form. Please retain one signed copy of the Agreement for your files and return the second signed copy to RMT.

We appreciate the opportunity to provide this proposal to WPS. Please contact me at if you have questions concerning this proposal.

Sincerely,

RMT, Inc.

Steve W. Webb, Ph.D., P.E.
Senior Client Service Manager

Attachments: Proposal
Work Authorization
General Terms and Conditions

cc: Sarah Burton, Lynn Watson, Steve Schroeder (RMT)
Central Files

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Proposal for Phase I ESAs at 12 Sites in Alabama, Indiana, Maine, Nevada, New York, North Carolina, South Carolina, and Virginia

Background

The objective of this project is to perform Phase I ESAs of 12 facilities ("sites") for WPS ("Client"). The Phase I ESAs are being conducted to satisfy requirements of the bankruptcy court in establishing the value of these company assets. The facilities are identified in Table 1:

Table 1

LOCATION	BUILDING SIZE	COMPLEXITY[1]	MANUFACTURING ACTIVITY; OTHER SITE INFORMATION
Opelika, Alabama	Large site	High	Large manufacturing complex.
Clemson Complex; South Carolina	1,205,565 sq. ft. on 384 acres	High	Large manufacturing complex.
Biddeford, Maine	235,000 sq. ft. on 11.6 acres	High	Large manufacturing complex that formerly consisted of 8-12 manufacturing buildings. Originally built in the 1830's, facility represented "old time" textile complex. Plant located along Saco River and consists of 4-5 5-story buildings mostly used for storage. Dye and finishing operations previously conducted on the site. Underground tunnels link buildings.
Wagram, North Carolina	1,580,984 sq. ft. on 974.1 acres	High	Characterized by Client as another of WPS' more complex facilities. Several hundred acres of land and multiple buildings and operations. Large greige mill and carpet plant. Water filtration plant, large wastewater treatment plant (WWTP), and steam plant also on the site.
Alamance Trucking Center, Burlington, North Carolina	727,600 sq. ft on 119.53 acres	Moderate	Relatively new trucking center and comforter/sheeting operations. Underground tank management (UTM) activities in past.
Drakes Branch, Virginia	365,474 sq. ft. on 71.3 acres	Moderate	Manufacturing facility on large acreage surrounding towel weaving plant. Reported wool weaving operations in past, but no dye/finishing. Surface water and groundwater used for process. Water treatment plant and package WWTP.
Calhoun, South Carolina	297,916 sq. ft on 30 acres	Moderate	Greige mill constructed in early 1900s.
Chatham Plant, Elkin, North Carolina	193,000 sq. ft. on 9.2 acres	Low	Leased manufacturing facility. RMT recently sampled soils around transformer pad.
Lumberton, North Carolina	Retail space	Low	Mill store consists of retail space, wholly owned by WPS

Table 1

LOCATION	BUILDING SIZE	COMPLEXITY[1]	MANUFACTURING ACTIVITY; OTHER SITE INFORMATION
Sparks, Nevada	162,000 sq. ft.	Low	Leased manufacturing facility. New operations. No wet processes.
New York, New York	Not available	Low	Leased office space - several floors of a large office building.
Middletown, Indiana	Not available	Low	Small pillow manufacturing plant that uses few chemicals or wet processes.

(1) As described by Client.

The purpose of the Phase I ESAs is to identify the following:

- Recognized environmental conditions (RECs) as defined in *American Society for Testing and Materials (ASTM) Designation E 1527-00 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process,"* **and** that are determined to represent potential material liabilities. The definition of materiality will be determined by the Client and stated in the final report.

For those sites whose operations are located on acreage in excess of 120 acres, the scope of the Phase I ESA for the portions of the site that consist of either undeveloped forested or rural land or agricultural development will be consistent with the *American Society for Testing and Materials (ASTM) Designation E 22477-02 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property.*

Scope of Services

The Scope of Services will, to the extent possible and in line with the objectives, conform to ASTM Standard Practice E 1527-00 or E2247-02, as appropriate. Anything not specifically identified in the Scope of Services will not be performed. The Scope of Services will consist of the following tasks:

1. Review available reports (to be provided by Client) that document previous environmental investigations conducted at each site.
2. Review reasonably ascertainable standard historical sources to identify obvious uses of each site. Historical sources, if available, may include one or more of the following:
   - Aerial photographs
   - Fire insurance maps
   - City directories
   - Historical topographic maps

3. Review the following environmental record sources:

	MINIMUM SEARCH DISTANCE (MILES)
– Federal National Priorities List (NPL) site list	1.0
– Federal Comprehensive Environmental Response, Compensation, and Liability Index System (CERCLIS) list	0.5
– Federal CERCLIS No Further Remedial Action Planned (NFRAP)	property and adjoining properties
– Federal Resource Conservation and Recovery Act (RCRA) Corrective Action Report (CORRACTS) facilities list	1.0
– Federal RCRA Non-CORRACTS treatment, storage, and disposal (TSD) facilities list	0.5
– Federal RCRA generators list	property and adjoining properties
– Federal Emergency Response Notification System (ERNS) list	property only
– State lists of hazardous waste sites identified for investigation or remediation (NPL and CERCLIS equivalents)	1.0
– State landfill and/or solid waste disposal sites list	0.5
– State registered leaking underground storage tank (LUST) list	0.5
– State registered underground storage tank (UST) list	property and adjoining properties

4. Obtain and review current United States Geological Survey (USGS) 7.5-minute topographic maps showing the areas in which the site is located, or another source for physical site setting if USGS maps are not available.

5. Conduct a single site reconnaissance visit to collect information on recognized environmental conditions in connection with each site and to visually observe the facility and structure(s) located on the property. The status of the site on the day(s) of the reconnaissance visit will be documented through photographs of on-site facilities. RMT will perform a visual observation of adjoining properties (from a distance, without entry onto adjoining properties), but such visual observation will focus only on obvious evidence of

problems. No detailed investigation of adjoining properties is included within this Scope of Services.

6. Interview a person, if available, designated by the property owner and/or occupant, who possesses a good knowledge of the history and physical characteristics of the site.
7. Contact state or local agencies, as necessary, in person, by telephone, or in writing to obtain reasonably available information regarding environmental issues at the site.
8. Prepare a Phase I ESA report summarizing our findings and opinions with respect to the potential for environmental impairment and/or liability that may be associated with material recognized environmental conditions identified at the site.

Limitations

- The Client is advised that the Scope of Services described herein is for a "Phase I" ESA, which is a LIMITED INQUIRY into a property's environmental status and is not sufficient to discover every potential source of environmental liability, if any, of the property to be evaluated. ***Therefore, RMT, cannot, under any circumstances, make a statement of warranty or guarantee, expressed or implied, that the site is free of recognized environmental conditions, environmental impairment, or that the site is "clean" or that impairments, if any, are limited to those that are discovered while we are performing the Phase I ESA.*** This limiting statement is not meant to compromise the findings of our report; rather, it is meant as a statement of limitations within the intended scope of this Phase I ESA.
- RMT's findings and opinions will be based on information that is available and obtained at the time of the assessment through site reconnaissance, standard investigatory techniques used in the industry at this time, records review, and other related activities. It is possible that other information exists or may subsequently become known that may impact or change the site after RMT's observations.
- In conducting this Phase I ESA and preparing the ESA report, RMT will review, interpret, and rely upon information provided by others, including, but not limited to, Client, individuals, government authorities, subcontractors, and other entities. RMT will not perform an independent evaluation of the accuracy or completeness of such information, and RMT will not be responsible for any errors or omissions contained in such information.
- ***RMT's Phase I report, along with the findings and conclusions contained in the report, either in completed form, summary form, or by extraction, is prepared, and intended, for the sole use of Client and therefore may not contain sufficient information for other purposes or parties. Client is the only intended beneficiary of this report.*** The contents of RMT's report will continue to be the property of RMT and are protected by copyright. RMT's report may not be disclosed to, used by, or relied upon by, any person or entity other than the Client without the express written consent of RMT.

- Authorization for disclosure to a third party or authorization for third-party reliance on a final report of any ESA will be considered by RMT upon the written request of Client. RMT reserves the right to deny authorization to allow disclosure or reliance of RMT's report to third parties.

Client's Responsibilities

- Client shall obtain the necessary authorizations to allow RMT, its agents, subcontractors, or representatives, to have access to the site and buildings thereon at reasonable times throughout performance of these services by RMT.
- Client shall furnish all reports, data, studies, plans, specifications, documents, and/or other information in its possession, custody, or control that relate to the site, its present and prior uses, or to activities at the site that may bear upon the services of RMT.
- Client shall furnish a site plan that identifies the physical boundaries of the site to be examined.
- Client shall identify and make available a site contact person familiar with the nature of the activities that are being or have been conducted at the site.
- Client shall check reasonably ascertainable recorded land title records for environmental liens or activity and land use limitations. RMT will note in the Phase I ESA report whether or not the client has identified any environmental liens encumbering the property or any specialized knowledge or experience of the Client that would provide important information about previous ownership or uses of the property that may be material to identifying recognized environmental conditions.

Release for Pre-existing Conditions

Client **releases** RMT from liability resulting from any pre-existing environmental condition at the site that is not directly or indirectly caused by, or did not result from, in whole or in part, any act or omission of RMT, its employees, agents, representatives, or invitees or of RMT's subcontractors or their representatives, agents, employees, or invitees.

Terms and Conditions

RMT is prepared to conduct this Phase I ESA in accordance with the terms and conditions of the enclosed Agreement. This Agreement consists of the Proposal, the General Terms and Conditions, the Work Authorization Form, and a Schedule of Charges. If this Agreement is satisfactory to the Client, please sign in the required spaces on the Work Authorization Form. Please retain one signed copy of the Agreement for your files and return the second signed copy to RMT.

Cost Estimate and Schedule

The Lump-sum cost to complete the Scope of Services outlined above for the identified 12 sites is $000,000. A breakdown of this cost is presented in Table 2.

Table 2

SITE COMPLEXITY	NO. OF SITES	ALLOCATED COST /SITE	ALLOCATED COST
High	4		
Moderate	3		
Low	5		
Subtotal			
Project coordination and travel			
Total			

We are prepared to begin work on these Phase I ESAs once we receive a signed Work Authorization Form from you. We expect to provide draft reports of the results within 3 weeks after beginning the project. Current expectations are to complete the final reports on or before February 28, 2005, provided the work is authorized on or before February 4, 2005.

Basis for Cost Estimate and Schedule

- RMT can count on the timely cooperation of local, state, and federal agencies.
- RMT will perform a visual observation of adjoining properties (from a distance, without entry onto adjoining properties), but such visual observation will focus only on obvious evidence of problems. No detailed review of adjoining properties is included within the Scope of Services.
- The property boundaries can be located with reasonable effort without the use of surveying equipment.
- Changes in the schedule, at the request of the client, may result in additional travel expenses. Client will be advised at the time these charges are incurred.
- RMT will provide two hard copies of the final Phase I ESA report.

Other Considerations

The following items are not included as part of a Phase I ESA conducted in accordance with ASTM Standard E1527-00:

- Asbestos-containing materials assessment
- Radon assessment
- Lead-based paint assessment
- Lead in drinking water assessment
- Wetlands assessment
- A chain of title search

- Regulatory compliance
- Industrial hygiene
- Ecological resources
- Indoor air quality
- Cultural and historic resources
- Health and safety
- Endangered species
- High voltage power lines

No implication is intended as to the relative importance of these items, and this list of items is not intended to be all-inclusive. Client may want to consider adding items to the Scope of Services for this Phase I ESA. If requested, RMT can provide an amended Scope of Services and cost estimate to include these additional items not already included in the Scope of Services.

Essential Terms of Agreement

This Proposal and all of the terms and conditions contained within it comprise an essential part of the Agreement to perform these services. To the extent that any provisions in this Proposal are inconsistent with, or contrary to, the General Terms and Conditions, this Proposal shall be treated as an amendment that expressly revises and takes precedence over the General Terms and Conditions.

Project Team

We offer Steve Webb as the project manager for the proposed Scope of Services. Lynn Watson will coordinate the technical review of all sites, and Sarah Burton will serve as the lead quality assurance/quality control (QA/QC) reviewer. Key members of the project team will include experienced environmental professionals, based on availability when the project is scheduled.

GENERAL TERMS AND CONDITIONS
RMT, INC.

1. SERVICES TO BE PERFORMED

1.1 Generally

The Agreement ("Agreement") consists of the documents identified in the Work Authorization. The services to be performed by RMT are set forth in the Scope of Services ("Services") as defined in the Work Authorization Form. A project for which Services are to be performed is referred to as the "Project."

Client recognizes that RMT has subsidiary and affiliate companies in various U.S. states and other countries. If Services are performed by an RMT affiliate or subsidiary, they will be performed under the terms of this agreement by RMT through the RMT affiliate in a contractor/subcontractor relationship. Invoicing may be by the RMT subsidiary or affiliate.

1.2 Estimates

Unless the Agreement provides otherwise, the estimated costs required to complete the Services to be performed are made by RMT on the basis of its experience, qualifications, and professional judgment, but are not guaranteed. If the costs appear likely to exceed the estimate, RMT will notify Client before proceeding. If Client does not object to additional costs within at least five (5) days of notification, the increased costs are approved.

1.3 Changes in the Scope of Services

If Client requests and RMT agrees to changes in the Services, RMT and Client, shall execute a written change order. Client may orally authorize changes in the Services, providing such changes are confirmed in writing.

2. TIME FOR PERFORMANCE

2.1 Generally

The schedule for performance of the Services shall be as agreed by the parties and reflected in the Agreement.

2.2 Effect of Delay

If the Services to be performed by RMT are interrupted, suspended, or delayed for any reason beyond the reasonable control of RMT, the schedule of work and date for completion shall be adjusted accordingly and RMT shall be compensated for all reasonable increased costs resulting from such interruption, suspension, or delay.

3. COMPENSATION AND PAYMENT

3.1 Method for Compensation

3.1.1 Client agrees that time is of the essence as to payment of RMT's invoices, and that timely payment is a material consideration for this Agreement.

3.1.2 Payment for Services rendered hereunder shall be on a time and expense basis in accordance with RMT's Schedule of Charges current when the Services are performed, unless otherwise specified in the Agreement. All charges are net of any applicable taxes (except income and payroll taxes). Any additional costs due to such applicable taxes shall be charged to Client.

3.1.3 Invoices will be submitted monthly by RMT, and shall be due and payable thirty (30) calendar days after the invoice date. These payment terms are subject to RMT credit approval and may be changed by RMT upon changes in Client's credit status.

3.1.4 Client shall pay an additional charge of one (1) percent per month, or the maximum percentage allowed by law, whichever is lower, of the overdue amount for any payment received by RMT more than thirty (30) calendar days from the date of the invoice, excepting any portion of the invoiced amount in dispute and resolved in favor of Client.

3.1.5 If any amount is not paid within thirty (30) calendar days after the date of the invoice, RMT shall have the right, after giving seven (7) days written notice, to suspend all Services on the project until all accounts (including charges and accrued interest) have been paid. If any overdue amount is not paid within forty-five (45) calendar days after the date of the invoice, RMT shall have the right to terminate this Agreement. Any attorney fees, court costs, collection fees, or other costs incurred in collecting any delinquent amounts shall be paid by Client.

3.2 Dispute Support Services

Client will pay RMT in accordance with RMT's then current Schedule of Charges for dispute support services for any RMT employee who appears, testifies, or performs any services in connection with any court, administrative, arbitral, or other legal proceeding arising out of work related to this Agreement. This includes work and expenses incurred responding to subpoenas and other discovery procedures related to RMT's Services whether initiated by Client, Client's adversary, or third parties. This does not apply to proceedings against RMT alleging negligence, breach of professional standards, or breach of contract by RMT, unless RMT is otherwise entitled to reimbursement under this Agreement.

4. RMT RESPONSIBILITIES

4.1 Standard of Care

4.1.1 RMT will perform the Services in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions.

4.1.2 RMT makes no other representation, express or implied, and no warranty is included or intended in any report, opinion, or document regarding the results to be achieved upon completion of this Agreement.

4.2 Cooperation with Client

RMT will advise Client of the status of the Project and will make reasonable efforts to coordinate its activities with Client, and to accommodate other activities of Client at the Project site. RMT shall designate an authorized representative to be available for consultation, assistance, and coordination of activities.

4.3 Safety

RMT is responsible for the safety on site of its own employees. This provision shall not be construed to relieve Client or any of its officers, directors, employees, agents, vendors, or contractors from their responsibility for maintaining a safe worksite. Neither the professional services of RMT, nor the presence of RMT's employees or subcontractors shall be construed to imply RMT has any responsibility for any activities on site performed by personnel other than RMT's employees or subcontractors.

4.4 Responsibility for Uncompleted Services

If any of the Services are eliminated, or if RMT is not retained to perform subsequent phases, RMT's responsibility shall extend only to the Services it completes.

5. CLIENT RESPONSIBILITIES

5.1 Information

Client shall provide all pertinent, available information regarding its requirements, objectives, and criteria for the Project, including, but not limited to, surveys, studies, available descriptive information regarding historical use and existing environmental conditions, investigations, compliance and enforcement actions, records concerning the subject matter of the Project, and communications with governmental regulatory agencies relating to the Project.

5.2 Cooperation with RMT

Client will cooperate with RMT, so that the Project can be completed in a timely, efficient, and cost-effective manner. Client shall designate an authorized representative familiar with the Project who shall be available to RMT and who shall have the authority to make all decisions necessary for RMT to perform its Services. Client shall also identify others who may have information pertinent to the Project, and who may be contacted or consulted by RMT. Client will provide RMT access to the Project site, except that Client may impose reasonable rules and restrictions to prevent avoidable interference with other activities on the Project site and to promote safety and security.

5.3 Utilities

Unless otherwise required by law or set forth in this Agreement, Client shall be responsible for accurately locating, horizontally and vertically, and prominently marking any buried or concealed pipes, tanks, cables, utilities, or other manmade obstructions that may affect or

may be affected by RMT's Services. RMT may rely on such locations and markings in planning and performing intrusive Services, such as drilling or excavating.

6. PERMITS, CERTIFICATIONS, AND OTHER APPROVALS

6.1 Responsibility

RMT shall be responsible for obtaining and maintaining all permits, and other approvals required to be in RMT's name.

7. CONFIDENTIALITY

7.1 Nondisclosure

7.1.1 For the purpose of this provision, confidential information shall be proprietary business information or trade secrets designated in writing to be confidential.

7.1.2 RMT and Client shall maintain as confidential any confidential information provided by the other party, as defined in 7.1.1. This provision shall not apply to information that

1. is already known to the recipient as shown by written records in its possession at the time such information is received;
2. is already part of the public domain at the time of disclosure, or subsequently becomes part of the public domain through no fault of the recipient;
3. becomes available to the recipient from a third party who is not under obligation to the recipient with respect thereto; or
4. is independently developed by an employee or consultant of the recipient who had no knowledge of or access to the information.

7.1.3 Each party may disclose confidential information if the confidential information

1. is required to be disclosed by law, subpoena, order of a court or governmental regulatory agency, or other legal process provided that the disclosing party gives the other party reasonable notice and opportunity to challenge the requirement to disclose;
2. is disclosed to a party's contractor, subcontractor, consultant, agent, or employee who has signed a nondisclosure agreement;
3. is disclosed to a third party who has signed a nondisclosure agreement, but only if both RMT and Client agree to such disclosure;
4. is disclosed to avoid a risk of imminent harm to persons, property, or the environment; or
5. is disclosed to protect either party from criminal or civil liability under applicable law.

7.2 Use of Project Information

Client agrees that RMT may use Client's name and a general description of the Project as a reference for other prospective clients.

8. OWNERSHIP OF DOCUMENTS AND MATERIALS

8.1 Documents

8.1.1 Original survey data, field notes, maps, computations, studies, reports, drawings, specifications, and other documents generated by RMT are instruments of Service and shall remain the property of RMT. RMT shall provide a copy of those deliverables specified in the Services.

8.1.2 Any documents generated by RMT are for the exclusive use of Client and any use by third parties or use beyond the intended purpose of the document, shall be at the sole risk of Client, unless otherwise agreed upon by RMT in writing. To the fullest extent permitted by law, Client shall indemnify, defend, and hold harmless RMT, its subcontractors, consultants, officers, directors, employees, and agents for any loss or damage arising out of the unauthorized use of such documents.

8.2 Samples and Other Materials

8.2.1 All materials at or removed from the Project site, including, but not limited to, samples, soil, drill cuttings, excavation spoils, and solid, liquid, or hazardous wastes, shall remain the property of Client at all times. Client recognizes and agrees that RMT is acting as a bailee and at no time assumes title to said materials or samples.

8.2.2 Client shall indemnify and hold harmless RMT and its subcontractors, consultants, agents, officers, directors, and employees from and against any and all liability which arises out of the treatment, storage, transport, or disposal of hazardous materials.

8.3 Investigative, Remedial, and Treatment Technologies

Any investigative, remedial, treatment, or other environmental or pollution control process, technology, or method used by RMT in performing the Services, or that arise out of, or are developed or improved during the course of, the Services, shall remain the property of RMT. RMT retains the exclusive right to patent or copyright any technology-related concept or document arising out of the Services that may be patentable or copyrightable.

9. ALLOCATION OF RISK

RMT and Client acknowledge that, prior to the start of this Agreement, RMT has not generated, handled, stored, treated, transported, disposed of, or in any way whatsoever taken responsibility for any toxic or hazardous substance or other material found, identified, or as yet unknown at the Project premises. RMT and Client further acknowledge and understand that the evaluation, management, and other actions involving toxic or hazardous substances that may be undertaken as part of the Services to be performed by RMT, including subsurface excavation or sampling, entails uncertainty and risk of injury or damage. RMT and Client further acknowledge and understand that RMT has not been retained to serve as an insurer of the safety of the Project to the Client, third parties, or the public.

Client acknowledges that the discovery of certain conditions and/or taking of preventative measures relative to these conditions may result in a reduction of the property's value. Accordingly, Client waives any claim against RMT and agrees to indemnify, defend, and hold harmless RMT and its subcontractors, consultants, agents, officers, directors, and employees from any claim or liability for injury or loss allegedly arising from the discovery of actual or suspected hazardous materials or conditions and/or the taking of preventative measures.

Client releases RMT from any claim for damages resulting from or arising out of any pre-existing environmental conditions at the site where the work is being performed which were not directly or indirectly caused by and did not result from, in whole or in part, any act or omission of RMT or its subcontractor, their representatives, agents, employees, and invitees.

If, while performing the Services set forth in any Scope of Services, pollutants are discovered that pose unanticipated or extraordinary risks, it is hereby agreed that the Scope of Services, schedule, and costs will be reconsidered and that this Agreement shall immediately become subject to renegotiation or termination. Client further agrees that such discovery of unanticipated hazardous risks may require RMT to take immediate measures to protect health and safety or report such discovery as may be required by law or regulation. RMT shall promptly notify Client upon discovery of such risks. Client, however, hereby authorizes RMT to take all measures RMT believes necessary to protect RMT and Client personnel and the public. Furthermore, Client agrees to compensate RMT for any additional costs associated with such measures.

RMT and Client agree that the apportionment of the risk of loss and other limitations set forth in the Allocation of Risk provisions of this Agreement are essential terms of this Agreement and a condition of RMT's willingness to perform the Services.

10. INSURANCE

RMT will maintain insurance coverages in the following amounts, to the extent that they are commercially available at reasonable cost:

	INSURANCE	LIMITS
1.	Worker's Compensation/Coverage A Employer's Liability/Coverage B	Statutory $500,000 each accident
2.	Commercial General Liability (including Contractual Liability, Bodily Injury and Property Damage Combined, and Personal Injury)	$1,000,000 each occurrence $2,000,000 in aggregate
3.	Comprehensive Automobile Liability (Bodily Injury and Property Damage Limit Combined)	$1,000,000 combined single
4.	Contractors Operations and Professional Services Environmental Insurance (COPS)	$1,000,000 each claim $1,000,000 in aggregate

11. INDEMNIFICATION

11.1 RMT agrees to indemnify, defend, and hold harmless Client and its agents, officers, directors, and employees from and against those claims, suits, damages, or losses incurred by Client, to the extent that such damages or losses are directly caused by the negligent acts or willful misconduct of RMT or its agents, officers, directors, or employees. This Agreement to indemnify, defend, and hold harmless shall not extend to any suits, claims, damages, or losses caused by the acts, omissions, or conduct of Client or any other person.

11.2 Client agrees to indemnify, defend, and hold harmless RMT and its subcontractors, consultants, agents, officers, directors, and employees from and against all claims, suits, damages, and losses, including, but not limited to, those claims, suits, damages, or losses arising out of, relating to, or based upon the following: (1) the acts, omissions, or other conduct of Client and other parties in contract to Client or under Client's control; (2) the actual or threatened dispersal, discharge, escape, release, or saturation of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids, gases, or any other materials, irritants, contaminants, or pollutants in or into the atmosphere or on, onto, upon, in, or into the surface or subsurface of soil, water or water course, objects, or any tangible or intangible matter, abated or not; or (3) RMT's status as a generator, storer, treater, arranger, transporter, operator, or disposal facility as defined in any federal, state, or local statute, regulation, or rule governing treatment, storage, transport, and/or disposal of hazardous materials; except to the extent that such damage or loss is directly caused by the negligent acts or willful misconduct of RMT or its agents, officers, directors, or employees.

12. LIMITATION OF LIABILITY

12.1 To the fullest extent permitted by law, RMT's total liability under this Agreement shall not exceed the greater of

1. RMT's charges for the Services under this Agreement; or
2. Fifty thousand dollars ($50,000).

12.2 Neither party to this Agreement shall be liable to the other party for any special, indirect, punitive, or consequential damages.

13. TERMINATION

This Agreement may be terminated by either party upon ten (10) days written notice for (1) failure of the other party to substantially perform its responsibilities under this Agreement, (2) substantial violation of any provision of this Agreement, or (3) discovery of conditions that differ materially from those ordinarily found to exist in, or generally recognized as inherent in, the work contemplated to be performed under this Agreement. In the event of termination, RMT shall be paid on a time and expenses basis at RMT's standard rates for services performed prior to the termination notice date plus reasonable termination expenses, including the cost of completing analyses, records, and reports necessary to document job status at the time of termination. RMT shall also be reimbursed for reasonable costs associated with untimely demobilization and reassignment of personnel and equipment.

14. DISPUTE RESOLUTION

14.1 Mediation

Except where provisional or temporary remedies are sought, no action may be commenced concerning any claim arising out of or connected with this Agreement or the Services unless it has first been submitted to non-binding mediation at the written request of either party. Such requests shall include the grounds of the dispute and the nature of the relief sought. The mediation shall be conducted under American Arbitration Association Mediation Rules.

Where provisional or temporary remedies are sought, the parties shall engage in mediation before a mediator within ninety (90) days after institution of such suit. The prevailing party in any mediation or court action shall be entitled to recover its dispute resolution expenses, including, but not limited to, reasonable attorney's fees, costs, expenses, and damages incurred in connection with any dispute arising out of this Agreement. RMT shall have the right to suspend all or a portion of the Services during the pendency of any dispute regarding compensation for Services.

14.2 Limitations on Actions

No claim may be asserted by either party against the other party unless an action on the claim is commenced within two (2) years after the date of RMT's final invoice to Client.

15. MISCELLANEOUS

15.1 Third Parties

15.1.1 This Agreement shall be binding on RMT and Client, and their successors, trustees, legal representatives, and assigns. Neither party shall assign or transfer any rights, responsibilities, or interest in this Agreement without the written consent of the other party and any attempt to do so without such consent shall be void.

15.1.2 Nothing in this section shall prevent RMT from employing any subcontractor or consultant to assist in the performance of Services under this Agreement.

15.1.3 All duties, responsibilities, rights, and interests created by this Agreement are for the sole and exclusive benefit of RMT and Client, and not for the benefit of any third party.

15.2 Notices

Any written notice required or authorized to be given may be personally delivered, or sent by courier service or facsimile to the authorized representative designated under this Agreement.

15.3 Survival of Sections

Provisions 3, 4, 7, 8, 9, 11, 12, 14, and 16 of this Agreement shall survive completion of performance or termination under this Agreement.

15.4 Substance Abuse

RMT has a vital interest in maintaining a safe, healthful, and efficient working environment for our employees, customers, suppliers, contractors, subcontractors, vendors, visitors, and the general public. The presence of illegal or improperly used drugs or other mood-altering substances is unacceptable. RMT strictly prohibits using, possessing, manufacturing, selling, transporting, distributing, storing, concealing, or dispensing of any controlled or illegal substances, as defined by federal or state law, other than pursuant to a valid prescription, while on the premises of RMT (including parking lots), while conducting RMT business (including travel), or during RMT-sponsored activities. Client is hereby notified that all Client's employees will be required to abide by this policy whenever on RMT's premises and agree that such employees are subject to a search, testing, or removal from the project in accordance with RMT's substance abuse policy.

16. INTERPRETATION

16.1 Severability

If any provision of this Agreement is determined to be void or unenforceable by a court, all remaining provisions shall continue to be valid and enforceable. The court shall reform or replace any void or unenforceable provision with a valid and enforceable provision that comes as close as possible to expressing the intention of the void or unenforceable provision.

16.2 Governing Law and Venue

This Agreement shall be governed by the laws of the State of Wisconsin. Any administrative, judicial, or other proceedings brought by or against any of the parties under this Agreement shall be brought in a state or federal court located in Dane County, Wisconsin.

16.3 Paragraph Headings

The paragraph headings in these General Terms and Conditions are included solely for convenient reference, and shall not define, limit, or affect the construction or interpretation of this Agreement.

16.4 Waiver

Failure or delay by either party to insist on the strict performance of any covenant, term, provision or condition hereunder, or to exercise any option herein contained, or to pursue any claim or right arising herefrom, will not constitute or be construed as a waiver of such covenant, term, provision, condition, option, claim, or right. Any waiver by either party will not constitute or be construed a continuing waiver of any subsequent default.

16.5 Whole Agreement

The Agreement, including these General Terms and Conditions, constitutes the complete and final contract between RMT and Client. This contract supersedes all prior or contemporaneous agreements, communications, representations, undertakings, or understandings between the parties, whether oral or written, including but not limited to, purchase orders relating to the Project, except as expressly incorporated into this Agreement.

Modifications to this Agreement shall not be binding unless made in writing and signed by authorized representatives of RMT and Client.

16.5.1 If Client's Purchase Order form or acknowledgment or similar form is issued to identify the Agreement, authorize work, open accounts for invoicing, provide notices, or document change orders, the preprinted terms and conditions of said Purchase Order shall be void and of no effect.

16.5.2 To the extent that they are inconsistent or contradictory, the express provisions of these General Terms and Conditions shall take precedence over all other documents, except amendments expressly revising these General Terms and Conditions.

16.5.3 Any term and/or condition set forth in a change order executed after the date of this Agreement that is inconsistent with or contradictory to this Agreement shall take precedence over the inconsistent or contradictory term in this Agreement.

Appendix B
Environmental Professionals' Qualifications

Sarah Burton

- M.S., Chemistry, University of Michigan, 1986
- B.A., Magna Cum Laude, Randolph-Macon Woman's College, 1985

Experience

Sarah is currently RMT's director of environmental, health, and safety (EH&S) management services. In this role, Sarah provides strategic leadership on RMT's offerings in the areas of compliance auditing, information management, management system implementation, due diligence, and business planning. As a senior consultant specializing in EH&S management, she has over 17 years of assessment, regulatory compliance, and management system experience built on a solid technical background. In addition to extensive regulatory auditing and due diligence experience, she has also developed and facilitated the implementation and improvement of ISO 9001 and 14001 management systems at numerous facilities.

Joyce E. Peterson

- M.S., Civil Engineering, Purdue University, 1985
- B.S., Civil Engineering, University of Michigan, 1979

Experience

Joyce has more than 21 years of experience in civil and environmental engineering, including human health risk assessments, waste management planning, hazardous waste management and compliance, hazardous waste permitting, environmental process design, and environmental auditing.

Joyce has had lead involvement in all aspects of the Resource Conservation and Recovery Act (RCRA) and CERCLA program areas, including hazardous and solid waste permitting activities; RCRA corrective actions (description of current conditions through corrective measures implementation), remedial investigation/feasibility study (RI/FS) field investigations; closure activities for a variety of hazardous waste and solid waste management units; groundwater assessment activities; and development of hazardous waste contingency and training plans.

Lynn H. Watson

- B.S., biology, Wofford College, 1992

Experience

Lynn has over 12 years of continuous experience in the environmental sciences. Her areas of expertise include regulatory compliance and due diligence services, environmental management system (general and ISO 14000) services, and compliance auditing. Lynn has also prepared regulatory permit applications, performed remedial investigations and health-based and ecological risk assessments, and participated in all phases of RCRA and CERCLA projects. Lynn is currently working in the Applied Sciences Group and serving as ESA coordinator for RMT's Southern Region. In this role, she coordinates technical staff who perform Phase I ESAs at sites ranging from undeveloped, forested areas to operating industrial facilities.

Appendix C
Database Search

The EDR Radius Map
with GeoCheck®

WestPoint Stevens - Clemson Complex
500 West Cherry Road
Clemson, SC 29678

Inquiry Number: 01364264.2r

February 18, 2005

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

500 WEST CHERRY ROAD
CLEMSON, SC 29678

COORDINATES

Latitude (North):	34.647200 - 34° 38' 49.9''
Longitude (West):	82.862200 - 82° 51' 43.9''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	329330.4
UTM Y (Meters):	3835300.8
Elevation:	686 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	34082-F7 CLEMSON, SC
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL ---- National Priority List
Proposed NPL ---- Proposed National Priority List Sites
CERCLIS ---- Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP ---- CERCLIS No Further Remedial Action Planned
CORRACTS ---- Corrective Action Report
RCRA-TSDF ---- Resource Conservation and Recovery Act Information
RCRA-LQG ---- Resource Conservation and Recovery Act Information
RCRA-SQG ---- Resource Conservation and Recovery Act Information
ERNS ---- Emergency Response Notification System

STATE ASTM STANDARD

SHWS ---- Site Assessment Section Project List

SWF/LF Permitted Landfills List
VCP Voluntary Cleanup Sites

FEDERAL ASTM SUPPLEMENTAL

CONSENT Superfund (CERCLA) Consent Decrees
ROD Records Of Decision
Delisted NPL National Priority List Deletions
HMIRS Hazardous Materials Information Reporting System
MLTS Material Licensing Tracking System
MINES Mines Master Index File
NPL Liens Federal Superfund Liens
PADS PCB Activity Database System
INDIAN RESERV Indian Reservations
UMTRA Uranium Mill Tailings Sites
ODI Open Dump Inventory
FUDS Formerly Used Defense Sites
RAATS RCRA Administrative Action Tracking System
TRIS Toxic Chemical Release Inventory System
TSCA Toxic Substances Control Act
SSTS Section 7 Tracking Systems
FTTS INSP FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

AST Aboveground Storage Tank List
SC Spills Spill List
GWCI Groundwater Contamination Inventory
DRYCLEANERS Drycleaner Database

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas Former Manufactured Gas (Coal Gas) Sites

BROWNFIELDS DATABASES

US BROWNFIELDS A Listing of Brownfields Sites
VCP Voluntary Cleanup Sites
BROWNFIELDS Brownfields Sites Listing
AUL Land Use Controls

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STATE ASTM STANDARD

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Health & Environmental Control's Leaking UST list.

A review of the LUST list, as provided by EDR, and dated 12/10/2004 has revealed that there is 1 LUST site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SWANEYS LANDING	568 SWANEYS LANDING RD	1/2 - 1 SSW	3	7

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Health & Environmental Control's list: Comprehensive Underground Storage Tanks.

A review of the UST list, as provided by EDR, and dated 12/10/2004 has revealed that there is 1 UST site within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CHERRY CROSSING CONVENIENCE ST	590 J P STEVENS RD	1/4 - 1/2 NNW	A1	6

FEDERAL ASTM SUPPLEMENTAL

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 09/09/2004 has revealed that there is 1 FINDS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CHERRY CROSSING CONVENIENCE ST	590 J P STEVENS RD	1/4 - 1/2 NNW	A2	7

Federal Lands: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 10/01/2003 has revealed that there is 1 DOD site within approximately 1.5 miles of the target property.

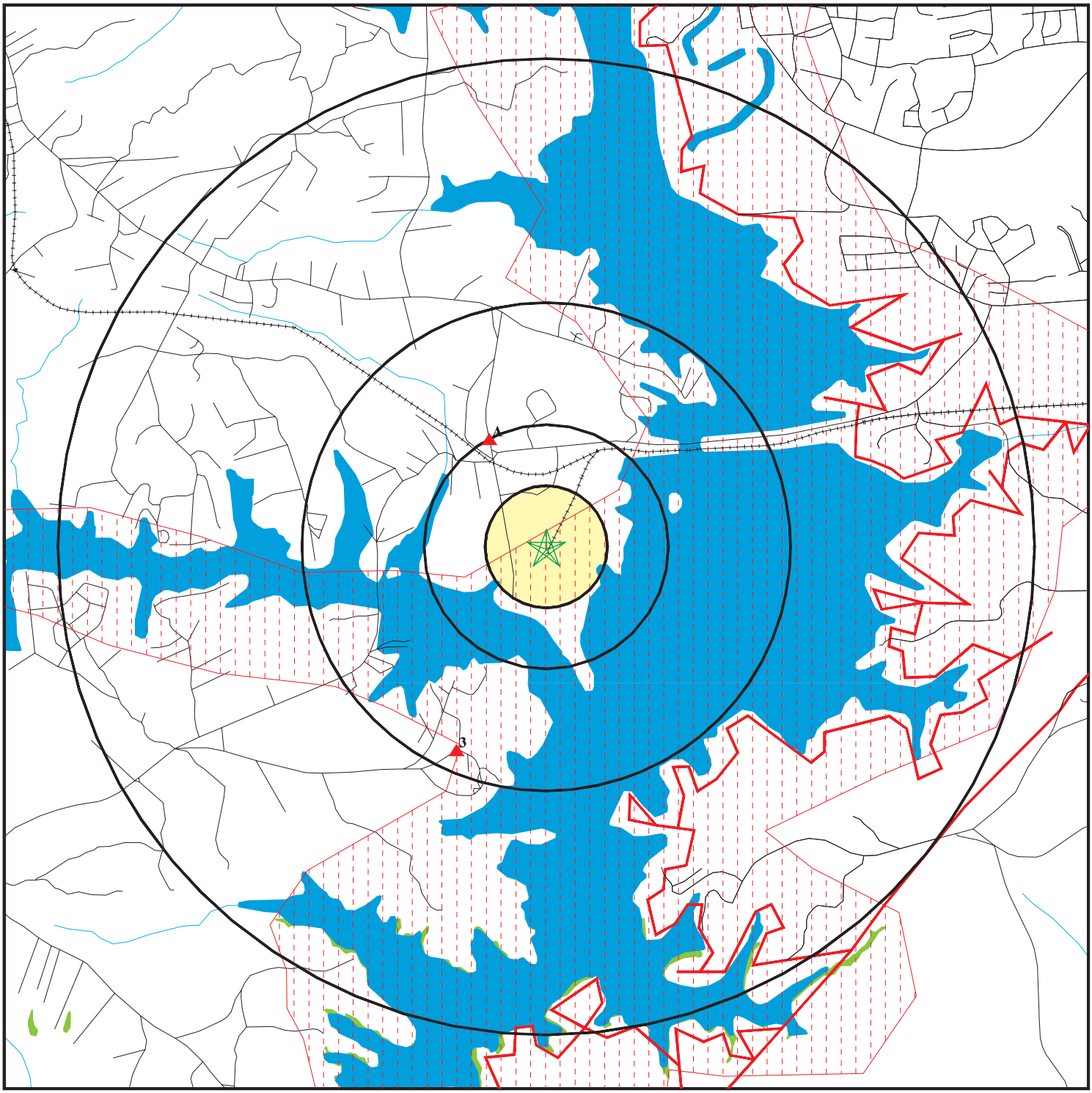
Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
HARTWELL LAKE		0 - 1/8	0	6

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CLEMSON UNIVERSITY LANDFILL-IWP-129	SHWS
ROBINSON STREET DUMP	SHWS
STEVENS, J.P. & CO INC	SHWS
SUBURBAN SANITATION	SHWS, CERC-NFRAP
OCONEE COUNTY LANDFILL	SHWS
PHILLIPS FIBER CORP	CERC-NFRAP
GATE STORE INC	FINDS, LUST
HASTY MART 3	FINDS, LUST
GALLANT BELK	LUST, UST
MARTIN CREEK LANDING	LUST, UST
METROMONT MATERIALS CORP	UST
REPUBLIC DRAINAGE PRODUCTS	UST
TUGALOO WOOD CO	UST
JENNINGS STOP N GO	UST
OCONEE CONCRETE CO	UST
GATE STORE INC	UST
HAWKINS GROCERY	UST
GROCERY STORE	UST
BOUNTYLAND QUICK STOP	UST
KENDALL CO	UST
P&J COUNTRY STORE	UST
OCONEE COUNTY SEWER COMMISSION	UST
OCONEE COUNTY SEWER COMMISSION	UST
OCONEE COUNTY SEWER COMMISSION	UST
OCONEE COUNTY AIRPORT	UST
TERRYS GROCERY	UST
HOMERVILLE QUIK STOP	UST
J M GOLDEN	UST
J P STEVENS & CO INC	UST
TRI COUNTY BUILDERS SUPPLY	UST
RALPHS STORE	UST
OCONEE COUNTY SEWER COMMISSION	RCRA-SQG, FINDS
CLEMSON UNIVERSITY MAINTANENCE AND OPS BLDG.	ERNS
CLEMSON PUMPING STATION	ERNS
J P STEVENS & CO INC	FINDS
WESTPOINT STEVENS SENECA PLANT-CLOSED	FINDS
UST - UNKNOWN 14324	FINDS

OVERVIEW MAP - 01364264.2r - RMT, Inc.



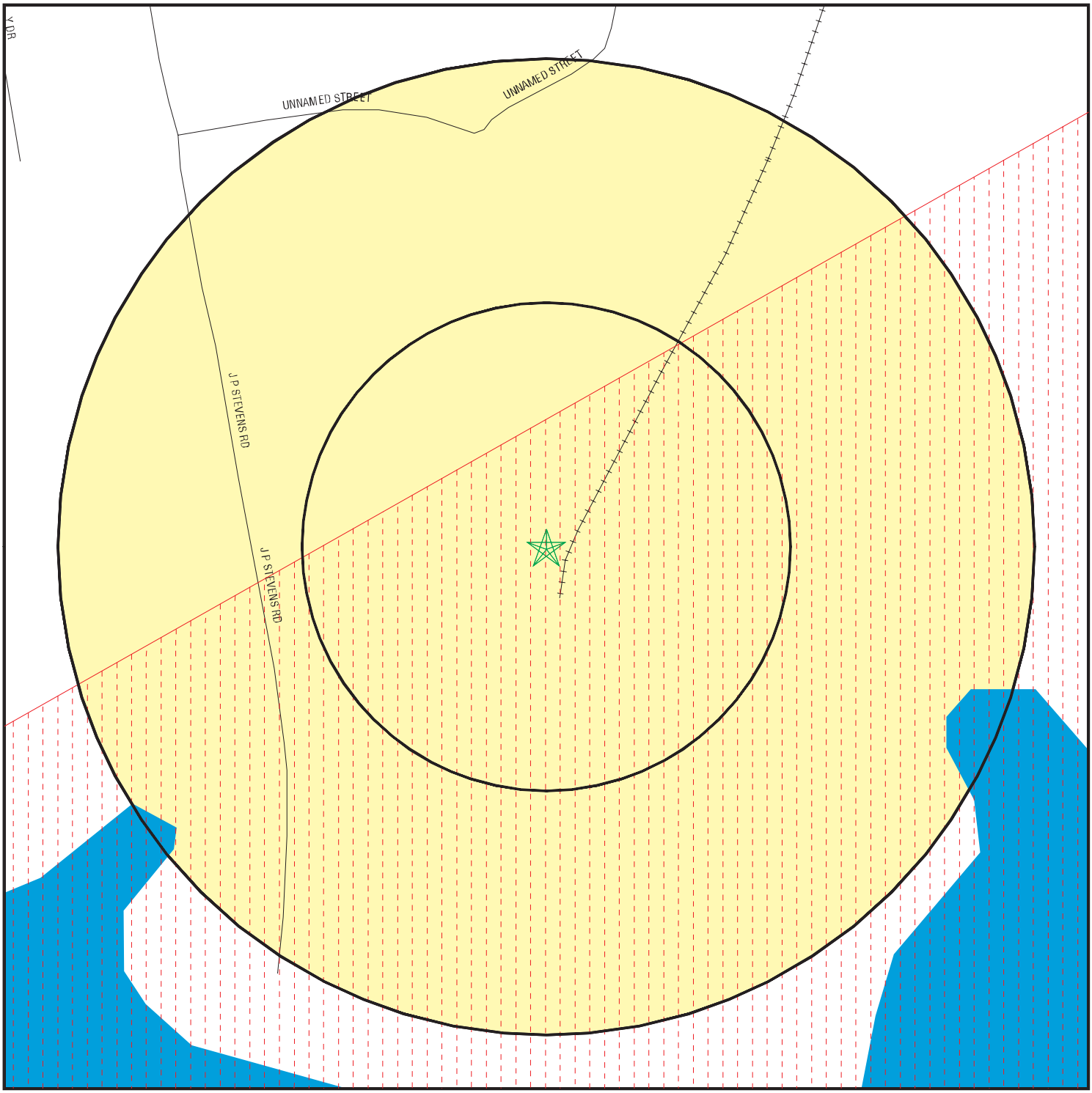
0 1/2 1 2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Oil & Gas pipelines
- Federal Wetlands

N

TARGET PROPERTY:	WestPoint Stevens - Clemson Complex	CUSTOMER:	RMT, Inc.
ADDRESS:	500 West Cherry Road	CONTACT:	Lynn Watson
CITY/STATE/ZIP:	Clemson SC 29678	INQUIRY #:	01364264.2r
LAT/LONG:	34.6472 / 82.8622	DATE:	February 18, 2005 7:00 pm

DETAIL MAP - 01364264.2r - RMT, Inc.



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Oil & Gas pipelines

TARGET PROPERTY:	WestPoint Stevens - Clemson Complex	CUSTOMER:	RMT, Inc.
ADDRESS:	500 West Cherry Road	CONTACT:	Lynn Watson
CITY/STATE/ZIP:	Clemson SC 29678	INQUIRY #:	01364264.2r
LAT/LONG:	34.6472 / 82.8622	DATE:	February 18, 2005 7:00 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.500	0	0	0	0	0	0
Proposed NPL		1.500	0	0	0	0	0	0
CERCLIS		1.000	0	0	0	0	NR	0
CERC-NFRAP		0.750	0	0	0	0	NR	0
CORRACTS		1.500	0	0	0	0	0	0
RCRA TSD		1.000	0	0	0	0	NR	0
RCRA Lg. Quan. Gen.		0.750	0	0	0	0	NR	0
RCRA Sm. Quan. Gen.		0.750	0	0	0	0	NR	0
ERNS		0.500	0	0	0	NR	NR	0
STATE ASTM STANDARD								
State Haz. Waste		1.500	0	0	0	0	0	0
State Landfill		1.000	0	0	0	0	NR	0
LUST		1.000	0	0	0	1	NR	1
UST		0.750	0	0	1	0	NR	1
VCP		1.000	0	0	0	0	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.500	0	0	0	0	0	0
ROD		1.500	0	0	0	0	0	0
Delisted NPL		1.500	0	0	0	0	0	0
FINDS		0.500	0	0	1	NR	NR	1
HMIRS		0.500	0	0	0	NR	NR	0
MLTS		0.500	0	0	0	NR	NR	0
MINES		0.750	0	0	0	0	NR	0
NPL Liens		0.500	0	0	0	NR	NR	0
PADS		0.500	0	0	0	NR	NR	0
INDIAN RESERV		1.500	0	0	0	0	0	0
UMTRA		1.000	0	0	0	0	NR	0
ODI		1.000	0	0	0	0	NR	0
FUDS		1.500	0	0	0	0	0	0
DOD		1.500	1	0	0	0	0	1
RAATS		0.500	0	0	0	NR	NR	0
TRIS		0.500	0	0	0	NR	NR	0
TSCA		0.500	0	0	0	NR	NR	0
SSTS		0.500	0	0	0	NR	NR	0
FTTS		0.500	0	0	0	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST		0.500	0	0	0	NR	NR	0
SC Spills		0.500	0	0	0	NR	NR	0
GWCI		1.000	0	0	0	0	NR	0
DRYCLEANERS		0.750	0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.500	0	0	0	0	0	0
BROWNFIELDS DATABASES								
US BROWNFIELDS		1.000	0	0	0	0	NR	0
VCP		1.000	0	0	0	0	NR	0
BROWNFIELDS		1.000	0	0	0	0	NR	0
AUL		1.000	0	0	0	0	NR	0

NOTES:

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

DOD Region | **HARTWELL LAKE** | **DOD** | **CDOD041945** | **N/A**

ANDERSON (County), GA

< 1/8
1 ft.

FEDERAL LANDS:

Feature 1:	Army Corps of Engineers DOD
Feature 2:	Not reported
Feature 3:	Not reported
Agency:	DOD
URL:	Not reported
Name 1:	Hartwell Lake
Name 2:	Not reported
Name 3:	Not reported
State:	GA-SC

A1 | **CHERRY CROSSING CONVENIENCE STORE** | **UST** | **U003868951**
NNW | **590 J P STEVENS RD** | | **N/A**
1/4-1/2 | **SENECA, SC 29678**
2634 ft.

Site 1 of 2 in cluster A

Relative: Higher

Actual: 764 ft.

UST:

Facility ID:	18836	Tank ID:	1
Contact:	Not reported	Contact Tel:	864-653-5100
Capacity:	15000	Calcage:	0
Product:	Multiple Petroleum Products		
Status:	Currently in use		
Owner:	COLLINS		
Owner Contact:	Not reported		
Owner Address:	PO BOX 842		
	SENECA, SC 29679		
Owner Phone:	864-882-0185		

Facility ID:	18836	Tank ID:	2
Contact:	Not reported	Contact Tel:	864-653-5100
Capacity:	6000	Calcage:	0
Product:	Diesel		
Status:	Currently in use		
Owner:	COLLINS		
Owner Contact:	Not reported		
Owner Address:	PO BOX 842		
	SENECA, SC 29679		
Owner Phone:	864-882-0185		

A2
NNW
1/4-1/2
2634 ft.

CHERRY CROSSING CONVENIENCE STORE — **FINDS** — **1007235191**
590 J P STEVENS RD — **110017066011**
SENECA, SC 29678

Site 2 of 2 in cluster A

Relative:
Higher

FINDS:
Other Pertinent Environmental Activity Identified at Site:
SC-EFIS

Actual:
764 ft.

3
SSW
1/2-1
4804 ft.

SWANEYS LANDING — **LUST** — **S106666029**
568 SWANEYS LANDING RD — **N/A**
SENECA, SC 29678

Relative:
Higher

LUST:

Facility ID:	17132	Proj Manager:	PASLEYDC
Report Date:	04/03/98	Num Of Releases	1
Owner:	CECIL GIBSON		
NFA Date:	5/28/1998		
Date Confirmed:	04/09/98	Rank:	Not reported
Facility Status:	0		
Substance:	PETRO		

Actual:
710 ft.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CLEMSON	91240781	CLEMSON UNIVERSITY MAINTANENCE AND OPS BLDG.	CLEMSON UNIVERSITY MAINTANENCE AND OPS BLDG.		ERNS
CLEMSON	91205375	CLEMSON PUMPING STATION	CLEMSON PUMPING STATION		ERNS
CLEMSON	S105528016	CLEMSON UNIVERSITY LANDFILL-IWP-129	GROUNDS DEPARTMENT, PHYSICAL P	29631	SHWS
CLEMSON	U003523582	METROMONT MATERIALS CORP	OLD SENECA RD		UST
CLEMSON	S104872898	ROBINSON STREET DUMP	ROBINSON STREET	29631	SHWS
CLEMSON	S103920980	STEVENS, J.P. & CO INC	SC SECONDARY ROAD 37-37	29631	SHWS
SENECA	U003524601	REPUBLIC DRAINAGE PRODUCTS	RT 1 HWY 188	29678	UST
SENECA	U003526112	TUGALOO WOOD CO	RT 1 BOX 558	29678	UST
SENECA	1007231007	GATE STORE INC	918 HWY 123	29678	FINDS, LUST
SENECA	1007238996	HASTY MART 3	202 HWY 123 BYPASS	29678	FINDS, LUST
SENECA	U003521636	GALLANT BELK	1581 HWY 123	29678	LUST, UST
SENECA	U003558136	JENNINGS STOP N GO	HWY 123	29678	UST
SENECA	U003558296	OCONEE CONCRETE CO	HWY 123	29678	UST
SENECA	U003630399	GATE STORE INC	918 HWY 123	29678	UST
SENECA	U003522171	HAWKINS GROCERY	RT 2	29678	UST
SENECA	U003525868	GROCERY STORE	RT 2	29678	UST
SENECA	U001539228	BOUNTYLAND QUICK STOP	HWY 28 RT 4 BOX 23A	29678	UST
SENECA	U003522908	KENDALL CO	HWY 28 NORTH	29678	UST
SENECA	U003524064	P&J COUNTRY STORE	RT 3	29678	UST
SENECA	U003523960	OCONEE COUNTY SEWER COMMISSION	RD 37 417 OFF HWY 488	29678	UST
SENECA	U003970296	OCONEE COUNTY SEWER COMMISSION	HWY 488 AT HWY 123 SENECA CREEK	29678	UST
SENECA	U003975481	OCONEE COUNTY SEWER COMMISSION	HWY 488 AT HWY 123 SENECA CREEK	29678	UST
SENECA	U003523425	MARTIN CREEK LANDING	RT 5	29678	LUST, UST
SENECA	U003523953	OCONEE COUNTY AIRPORT	RT 5 OFF SHILOH RD	29678	UST
SENECA	U003525821	TERRYS GROCERY	RT 5 BOX 482	29678	UST
SENECA	1004779942	OCONEE COUNTY SEWER COMMISSION	RT 6 BOX 525	29678	RCRA-SQG, FINDS
SENECA	U003522325	HOMERVILLE QUIK STOP	RT 6 BOX 130	29678	UST
SENECA	U003522607	J M GOLDEN	RT 6 BOX 431	29678	UST
SENECA	U003522624	J P STEVENS & CO INC	S 6TH ST & MAIN ST	29678	UST
SENECA	1007231027	J P STEVENS & CO INC	S 6TH ST & MAIN ST	29678	FINDS
SENECA	1003868503	SUBURBAN SANITATION	1 MI E ON CNTY RD 65	29678	SHWS, CERC-NFRAP
SENECA	S105528175	OCONEE COUNTY LANDFILL	S INTERSECTION OF SEC #87 / 136	29678	SHWS
SENECA	1007455767	WESTPOINT STEVENS SENECA PLANT-CLOSED	6TH & MAIN STREET	29678	FINDS
SENECA	1007241526	UST - UNKNOWN 14324	519 E N 1ST ST	29678	FINDS
SENECA	U003526076	TRI COUNTY BUILDERS SUPPLY	1645 SANDIFER BLVD HWY 123	29678	UST
SENECA	1003868417	PHILLIPS FIBER CORP	SHILOH RD	29678	CERC-NFRAP
SENECA	U003975660	RALPHS STORE	490 TOKEENA RD HWY 59	29678	UST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/14/04
Date Made Active at EDR: 02/03/05
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 02/01/05
Elapsed ASTM days: 2
Date of Last EDR Contact: 02/01/05

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 12/14/04
Date Made Active at EDR: 02/03/05
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 02/01/05
Elapsed ASTM days: 2
Date of Last EDR Contact: 02/01/05

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/14/04
Date Made Active at EDR: 02/08/05
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 12/21/04
Elapsed ASTM days: 49
Date of Last EDR Contact: 12/21/04

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 12/14/04
Date Made Active at EDR: 02/08/05
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 12/21/04
Elapsed ASTM days: 49
Date of Last EDR Contact: 12/21/04

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/23/04
Date Made Active at EDR: 11/18/04
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 10/07/04
Elapsed ASTM days: 42
Date of Last EDR Contact: 12/07/04

RCRA: Resource Conservation and Recovery Act Information
Source: EPA
Telephone: 800-424-9346
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 11/23/04
Date Made Active at EDR: 01/18/05
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 11/24/04
Elapsed ASTM days: 55
Date of Last EDR Contact: 11/24/04

ERNS: Emergency Response Notification System
Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/03
Date Made Active at EDR: 03/12/04
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/26/04
Elapsed ASTM days: 46
Date of Last EDR Contact: 10/25/04

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/01/01
Database Release Frequency: Biennially
Date of Last EDR Contact: 12/13/04
Date of Next Scheduled EDR Contact: 03/14/05

CONSENT: Superfund (CERCLA) Consent Decrees
Source: Department of Justice, Consent Decree Library
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 03/05/04
Database Release Frequency: Varies
Date of Last EDR Contact: 10/25/04
Date of Next Scheduled EDR Contact: 01/24/05

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/09/04
Database Release Frequency: Annually
Date of Last EDR Contact: 01/05/05
Date of Next Scheduled EDR Contact: 04/04/05

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/14/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 02/01/05
Date of Next Scheduled EDR Contact: 05/02/05

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 09/09/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 01/03/05
Date of Next Scheduled EDR Contact: 04/04/05

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/08/04
Database Release Frequency: Annually
Date of Last EDR Contact: 10/28/04
Date of Next Scheduled EDR Contact: 01/17/05

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 11/30/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 01/03/05
Date of Next Scheduled EDR Contact: 04/04/05

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 09/13/04
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 12/28/04
Date of Next Scheduled EDR Contact: 03/28/05

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 202-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/22/04
Date of Next Scheduled EDR Contact: 02/21/05

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/30/04
Database Release Frequency: Annually
Date of Last EDR Contact: 11/12/04
Date of Next Scheduled EDR Contact: 02/07/05

DOD: Department of Defense Sites
Source: USGS
Telephone: 703-692-8801
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 10/01/03
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 11/12/04
Date of Next Scheduled EDR Contact: 02/07/05

UMTRA: Uranium Mill Tailings Sites
Source: Department of Energy
Telephone: 505-845-0011
Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized. In 1978, 24 inactive uranium mill tailings sites in Oregon, Idaho, Wyoming, Utah, Colorado, New Mexico, Texas, North Dakota, South Dakota, Pennsylvania, and on Navajo and Hopi tribal lands, were targeted for cleanup by the Department of Energy.

Date of Government Version: 04/22/04
Database Release Frequency: Varies
Date of Last EDR Contact: 12/21/04
Date of Next Scheduled EDR Contact: 03/21/05

ODI: Open Dump Inventory
Source: Environmental Protection Agency
Telephone: 800-424-9346
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/85
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 05/23/95
Date of Next Scheduled EDR Contact: N/A

FUDS: Formerly Used Defense Sites
Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/03
Database Release Frequency: Varies
Date of Last EDR Contact: 01/03/05
Date of Next Scheduled EDR Contact: 04/04/05

INDIAN RESERV: Indian Reservations
Source: USGS
Telephone: 202-208-3710
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 10/01/03
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 11/12/04
Date of Next Scheduled EDR Contact: 02/07/05

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 12/06/04
Date of Next Scheduled EDR Contact: 03/07/05

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-566-0250
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/02
Database Release Frequency: Annually
Date of Last EDR Contact: 12/20/04
Date of Next Scheduled EDR Contact: 03/21/05

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/02
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 12/06/04
Date of Next Scheduled EDR Contact: 03/07/05

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 04/13/04
Database Release Frequency: Quarterly
Date of Last EDR Contact: 12/01/04
Date of Next Scheduled EDR Contact: 03/21/05

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/03
Database Release Frequency: Annually
Date of Last EDR Contact: 11/29/04
Date of Next Scheduled EDR Contact: 04/18/05

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 09/13/04
Database Release Frequency: Quarterly

Date of Last EDR Contact: 12/01/04
Date of Next Scheduled EDR Contact: 03/21/05

STATE OF SOUTH CAROLINA ASTM STANDARD RECORDS

SHWS: Site Assessment Section Project List
Source: Department of Health and Environmental Control
Telephone: 803-734-5376
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 10/29/04
Date Made Active at EDR: 12/10/04
Database Release Frequency: Annually

Date of Data Arrival at EDR: 11/15/04
Elapsed ASTM days: 25
Date of Last EDR Contact: 01/10/05

SWF/LF: Permitted Landfills List
Source: Department of Health and Environmental Control
Telephone: 803-734-5165
Source: Department of Health and Environmental Control, GIS Section
Telephone: 803-896-4084
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/25/04
Date Made Active at EDR: 10/06/04
Database Release Frequency: Varies

Date of Data Arrival at EDR: 08/30/04
Elapsed ASTM days: 37
Date of Last EDR Contact: 01/10/05

LUST: Leaking Underground Storage Tank List
Source: Department of Health and Environmental Control
Telephone: 803-898-4350
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 12/10/04
Date Made Active at EDR: 02/02/05
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 12/20/04
Elapsed ASTM days: 44
Date of Last EDR Contact: 11/22/04

UST: Comprehensive Underground Storage Tanks
Source: Department of Health and Environmental Control
Telephone: 803-898-4350
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 12/10/04
Date Made Active at EDR: 02/02/05
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 12/20/04
Elapsed ASTM days: 44
Date of Last EDR Contact: 11/22/04

VCP: Voluntary Cleanup Sites
Source: Department of Health and Environmental Control
Telephone: 803-896-4049

Date of Government Version: 07/14/04
Date Made Active at EDR: 08/09/04
Database Release Frequency: Varies

Date of Data Arrival at EDR: 07/14/04
Elapsed ASTM days: 26
Date of Last EDR Contact: 01/10/05

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE OF SOUTH CAROLINA ASTM SUPPLEMENTAL RECORDS

AST: Aboveground Storage Tank List
Source: Department of Health and Environmental Control
Telephone: 803-898-4350
Registered Aboveground Storage Tanks.

Date of Government Version: 03/25/04
Database Release Frequency: Varies

Date of Last EDR Contact: 12/27/04
Date of Next Scheduled EDR Contact: 03/28/05

SPILLS: Spill List
Source: Department of Health and Environmental Control
Telephone: 803-898-4111

Date of Government Version: 11/22/04
Database Release Frequency: Varies

Date of Last EDR Contact: 12/27/04
Date of Next Scheduled EDR Contact: 03/28/05

GWCI: Groundwater Contamination Inventory
Source: Department of Health and Environmental Control
Telephone: 803-898-3798
An inventory of all groundwater contamination cases in the state.

Date of Government Version: 07/01/04
Database Release Frequency: Annually

Date of Last EDR Contact: 10/25/04
Date of Next Scheduled EDR Contact: 01/24/05

DRYCLEANERS: Drycleaner Database
Source: Department of Health & Environmental Control
Telephone: 803-898-3882
The Drycleaning Facility Restoration Trust Fund database is used to access, prioritze and cleanup contaminated registered drycleaning sites.

Date of Government Version: 12/14/04
Database Release Frequency: Varies

Date of Last EDR Contact: 11/29/04
Date of Next Scheduled EDR Contact: 02/28/05

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

BROWNFIELDS DATABASES

VCP: Voluntary Cleanup Sites
Source: Department of Health and Environmental Control
Telephone: N/A

Date of Government Version: 07/14/04
Database Release Frequency: Varies

Date of Last EDR Contact: 01/10/05
Date of Next Scheduled EDR Contact: 04/11/05

US BROWNFIELDS: A Listing of Brownfields Sites
Source: Environmental Protection Agency
Telephone: 202-566-2777
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: N/A
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

AUL: Land Use Controls
Source: Department of Health & Environmental Control
Telephone: 803-896-4049
The term Land Use Controls or "LUCs" encompass institutional controls, such as those involved in real estate interests, governmental permitting, zoning, public advisories, deed notices, and other legal restrictions. The term also includes restrictions on access, whether achieved by means of engineered barriers (e.g., fence or concrete pad) or by human means (e.g., the presence of security guards). Additionally, the term includes both affirmative measures to achieve the desired restrictions (e.g., night lighting of an area) and prohibitive directives (e.g., restrictions on certain types of wells for the duration of the corrective action). Considered altogether, the LUCs for a facility will provide a tool for how the property should be used in order to maintain the level of protectiveness that one or more corrective actions were designed to achieve.

Date of Government Version: 01/11/05
Database Release Frequency: Varies
Date of Last EDR Contact: 01/10/05
Date of Next Scheduled EDR Contact: 04/11/05

BROWNFIELDS: Brownfields Sites Listing
Source: Department of Health & Environmental Control
Telephone: 803-896-4069
The Brownfields component of the Voluntary Cleanup Program allows a non-responsible party to acquire a contaminated property with State Superfund liability protection for existing contamination by agreeing to perform an environmental assessment and/or remediation.

Date of Government Version: 01/11/05
Database Release Frequency: Varies
Date of Last EDR Contact: 01/10/05
Date of Next Scheduled EDR Contact: 04/11/05

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Day Care List
Source: Department of Social Services
Telephone: 803-898-7345

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

WESTPOINT STEVENS - CLEMSON COMPLEX
500 WEST CHERRY ROAD
CLEMSON, SC 29678

TARGET PROPERTY COORDINATES

Latitude (North):	34.647202 - 34° 38' 49.9''
Longitude (West):	82.862198 - 82° 51' 43.9''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	329330.4
UTM Y (Meters):	3835300.8
Elevation:	686 ft. above sea level

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

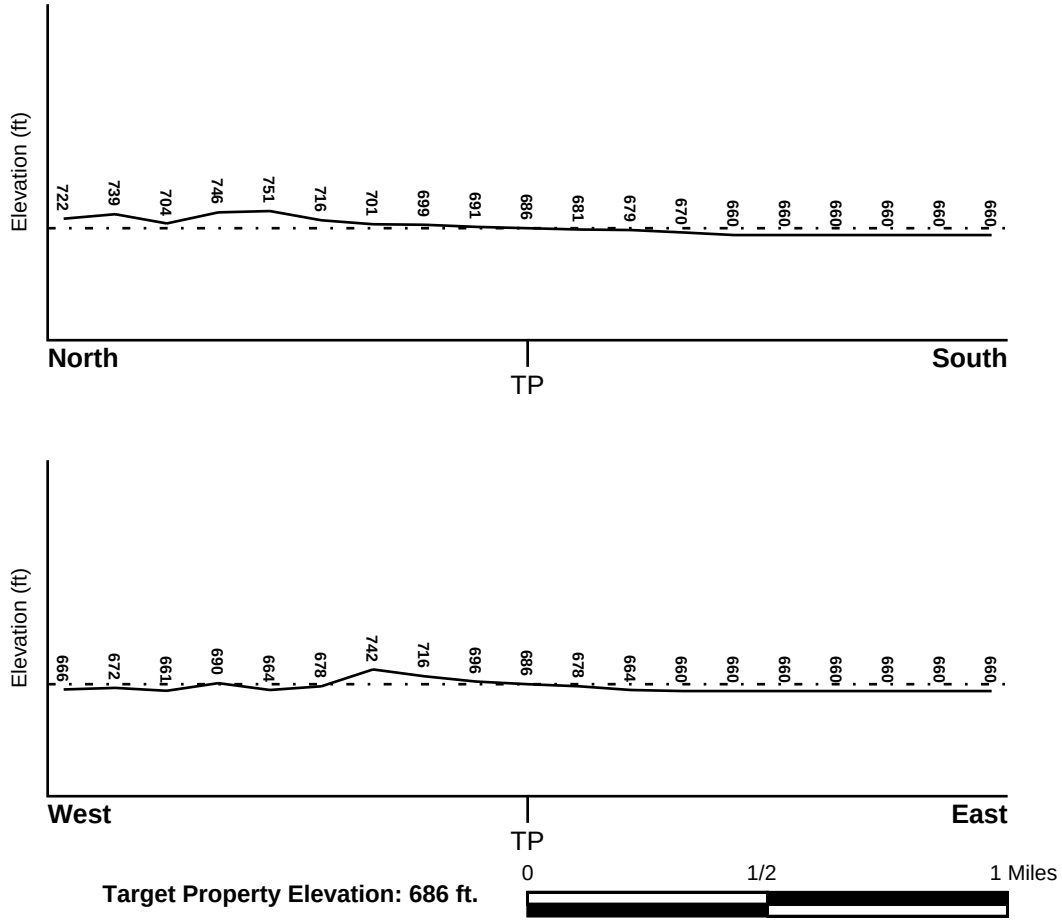
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

USGS Topographic Map:	34082-F7 CLEMSON, SC
General Topographic Gradient:	General ESE
Source:	USGS 7.5 min quad index

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
OCONEE, SC	Not Available

Flood Plain Panel at Target Property: Not Reported

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CLEMSON	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Paleozoic
System:	Pennsylvanian
Series:	Felsic paragneiss and schist
Code:	mm1 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Metamorphic Rocks

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	CECIL
Soil Surface Texture:	sandy clay loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	7 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 2.00 Min: 0.60	Max: 6.50 Min: 4.50
2	7 inches	11 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 2.00 Min: 0.60	Max: 5.50 Min: 4.50
3	11 inches	50 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 2.00 Min: 0.60	Max: 5.50 Min: 4.50
4	50 inches	75 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: sandy loam
loam
clay loam
silt loam
very channery - silt loam
gravelly - sandy loam

Surficial Soil Types: sandy loam
loam
clay loam
silt loam
very channery - silt loam
gravelly - sandy loam

Shallow Soil Types: silt loam
sandy clay
clay
silty clay loam
very channery - silt loam
loam

Deeper Soil Types: weathered bedrock
fine sandy loam
silty clay loam
unweathered bedrock
sandy clay loam

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

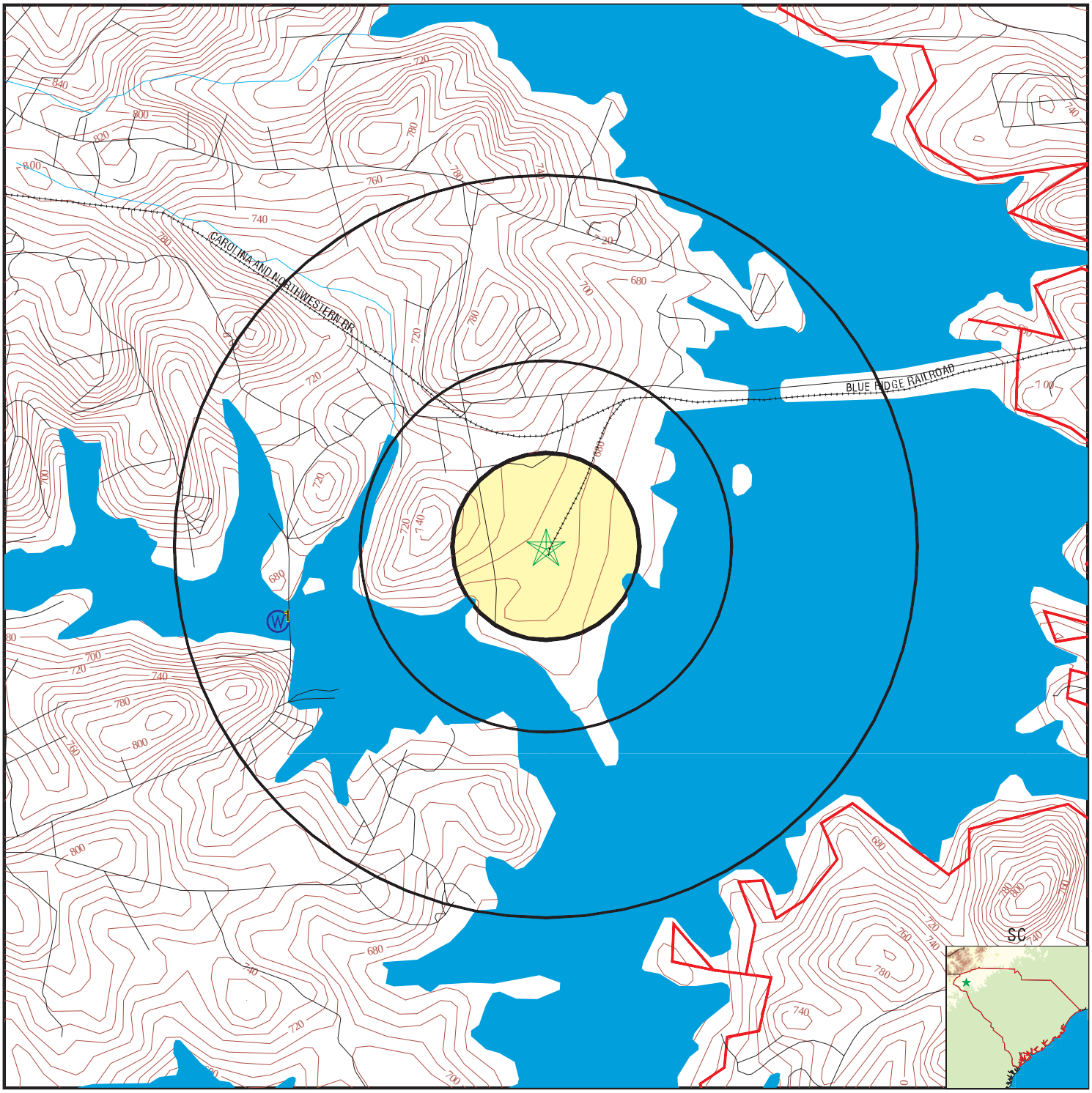
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	53H--H04	1/2 - 1 Mile WSW

PHYSICAL SETTING SOURCE MAP - 01364264.2r



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location

N

TARGET PROPERTY:	WestPoint Stevens - Clemson Complex	CUSTOMER:	RMT, Inc.
ADDRESS:	500 West Cherry Road	CONTACT:	Lynn Watson
CITY/STATE/ZIP:	Clemson SC 29678	INQUIRY #:	01364264.2r
LAT/LONG:	34.6472 / 82.8622	DATE:	February 18, 2005 7:00 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
SC WELLS	**53H--H04**

1
WSW
1/2 - 1 Mile
Lower

SCWRC #:	53H--H04	Owner ID:	Not Reported
SCWRC User ID:	Not Reported	Location:	SE of Seneca
County #:	OCO-0088	Topography:	HSID
Quad Name:	Clemson	Quad #:	089
Latitude:	343839	Longitude:	825230
UTME:	0	UTMN:	0
Depth Drilled (Ft.):	-1	Depth Completed (Ft.):	-1
Elevation:	615.00	Elev. Method:	Topographic Map
Contact:	Not Reported	Owner:	Bet Wilson
Address:	Wilson's Landing Seneca, SC 29678		
Telephone:	Not Reported		
Aquifer:	Not Reported	Basin:	Not Reported
Water Use:	Not Reported	Source:	Well
Yield (in GPM):	-1	Last Update:	12/29/1992
Remarks:	WRRI Report 93, well located in zone of silicified breccia		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: SC Radon

Radon Test Results

Zip	City	Total Sites	Max pCi/L	Avg pCi/L	% of sites>4 pCi/L
29678	SENECA	5	2.1	1.3	0

Federal EPA Radon Zone for OCONEE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 29678

Number of sites tested: 8

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.838 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	4.760 pCi/L	60%	40%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002. 7.5-Minute DEMs correspond to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

South Carolina Water Well Database
Source: Department of Natural Resources
Telephone: 803-737-0800

RADON

State Database: SC Radon
Source: Department of Health & Environmental Control
Telephone: 864-241-1090
Radon Test Results by Zip Code

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Appendix D
Freedom of Information Act Documentation

A FOIA request was submitted to SC DHEC but this information had not be received at the time of this report's submittal.

Appendix E
Historical Documentation

EDR® Environmental
Data Resources Inc

The EDR-Historical Topographic Map Report

WestPoint Stevens - Clemson Co
500 West Cherry Road
Clemson, SC 29631

February 21, 2005

Inquiry Number: 1364264-4

The Standard In Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

Environmental Data Resources, Inc.
Historical Topographic Map Report

Environmental Data Resources, Inc.'s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property, and its surrounding area, resulting from past activities. ASTM E 1527-00, Section 7.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. The ASTM standard requires a review of *reasonably ascertainable standard historical sources. Reasonably ascertainable is defined as information that is publicly available, obtainable from a source with reasonable time and cost constraints, and practically reviewable.*

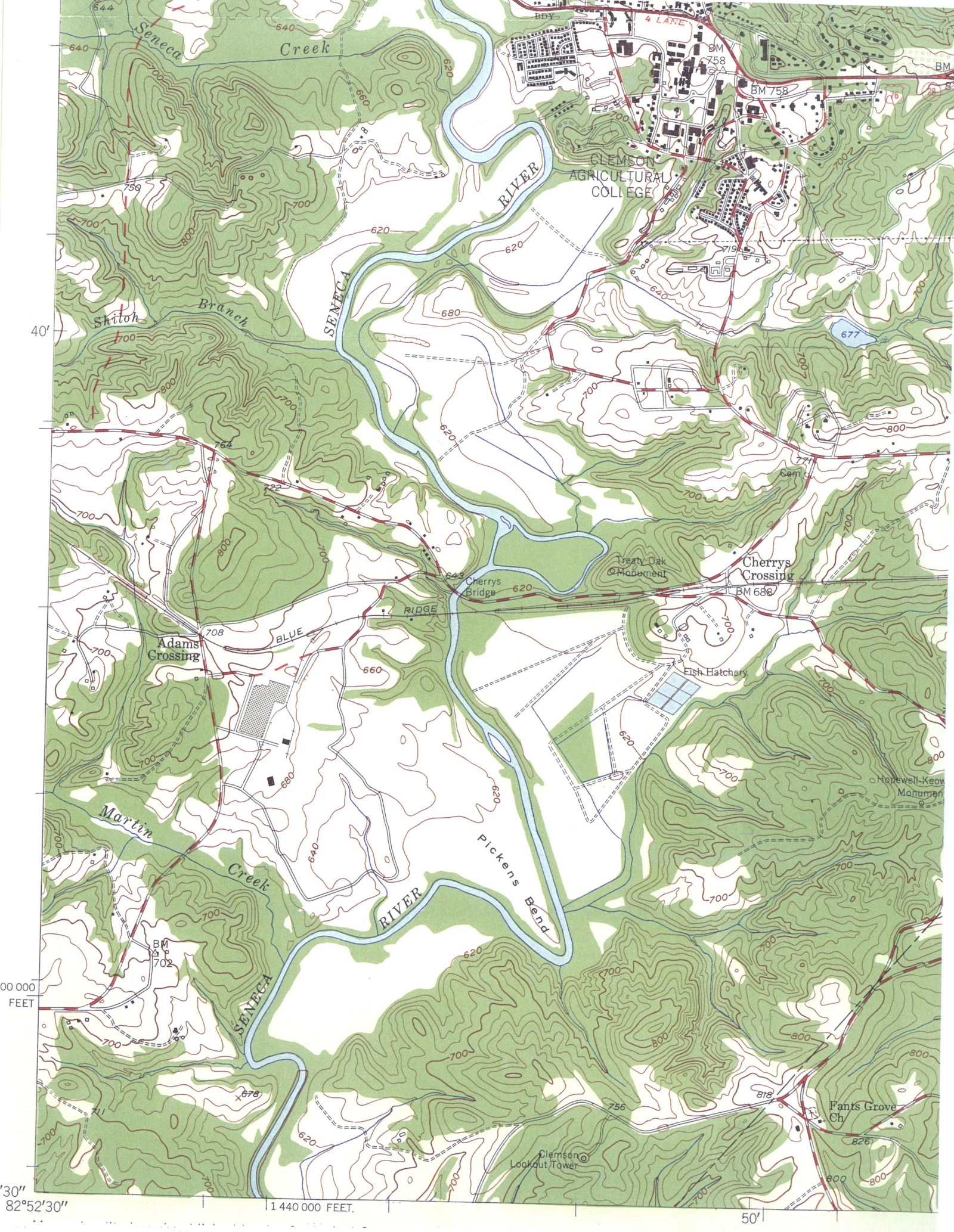
To meet the prior use requirements of ASTM E 1527-00, Section 7.3.4, the following *standard historical sources* may be used: aerial photographs, city directories, fire insurance maps, topographic maps, property tax files, land title records (although these cannot be the sole historical source consulted), building department records, or zoning/and use records. ASTM E 1527-00 requires *"All obvious uses of the property shall be identified from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historical sources as are necessary, and that are reasonably ascertainable and likely to be useful."* (ASTM E 1527-00, Section 7.3.2 page 12.)

EDR's Historical Topographic Map Report includes a search of available public and private color historical topographic map collections.

Topographic Maps

A topographic map (topo) is a color coded line-and-symbol representation of natural and selected artificial features plotted to a scale. Topos show the shape, elevation, and development of the terrain in precise detail by using contour lines and color coded symbols. Many features are shown by lines that may be straight, curved, solid, dashed, dotted, or in any combination. The colors of the lines usually indicate similar classes of information. For example, topographic contours (brown); lakes, streams, irrigation ditches, etc. (blue); land grids and important roads (red); secondary roads and trails, railroads, boundaries, etc. (black); and features that have been updated using aerial photography, but not field verified, such as disturbed land areas (e.g., gravel pits) and newly developed water bodies (purple).

For more than a century, the USGS has been creating and revising topographic maps for the entire country at a variety of scales. There are about 60,000 U.S. Geological Survey (USGS) produced topo maps covering the United States. Each map covers a specific quadrangle (quad) defined as a four-sided area bounded by latitude and longitude. Historical topographic maps are a valuable historical resource for documenting the prior use of a property and its surrounding area, and due to their frequent availability can be particularly helpful when other standard historical sources (such as city directories, fire insurance maps, or aerial photographs) are not reasonably ascertainable.


Seneca Creek
SENECA RIVER
CLEMSON AGRICULTURAL COLLEGE
4 LANE
BDY
BM 758
Shiloh Branch
Cherrys Bridge
Treaty Oak Monument
Cherrys Crossing
BM 688
RIDGE
BLUE
Adams Crossing
Fish Hatchery
Hopewell-Keowee Monument
Martin Creek
Pickens Bend
SENECA RIVER
BM 702
Fants Grove Ch
Clemson Lookout Tower
40'
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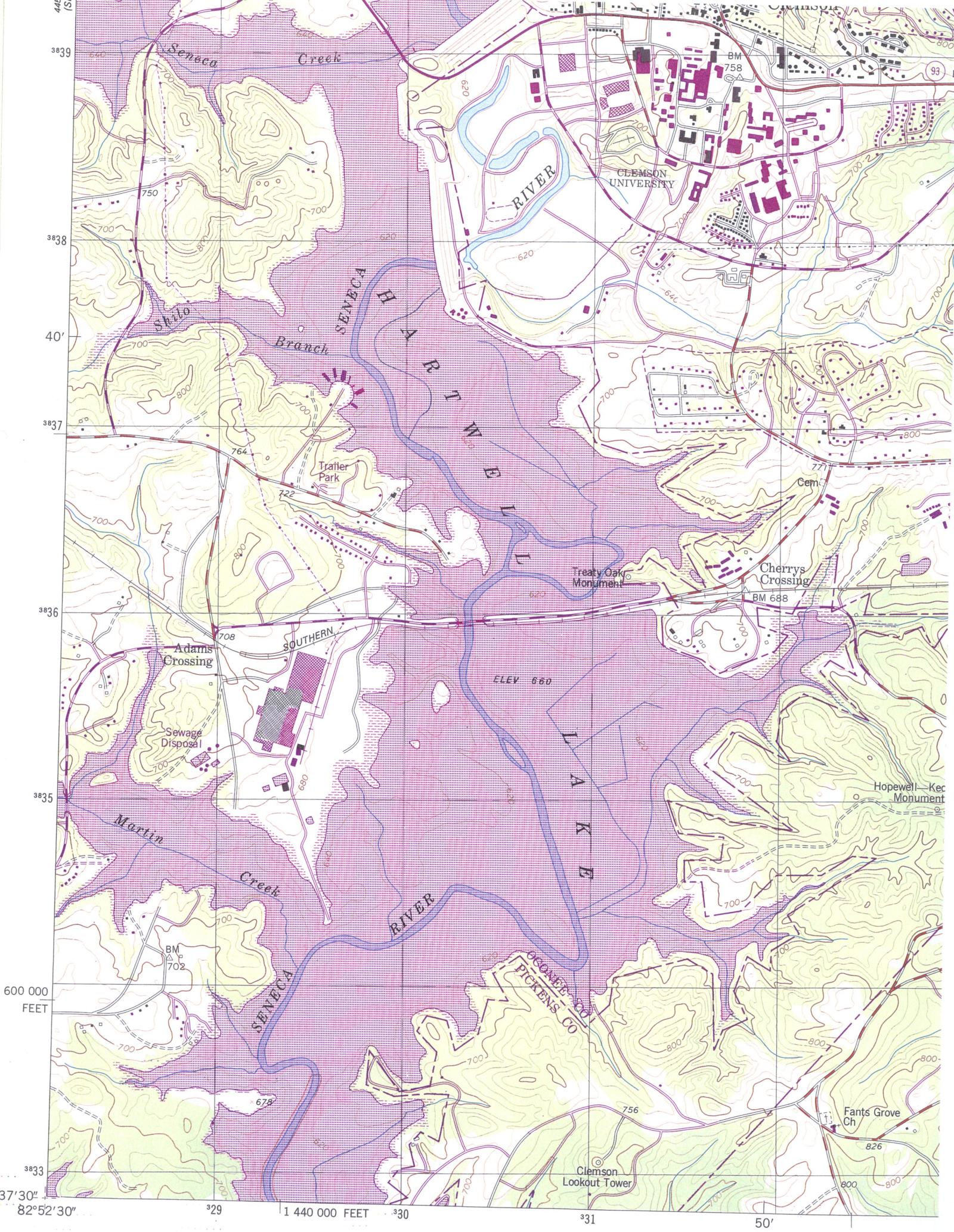
Seneca Creek
CLEMSON UNIVERSITY
BM 758
RIVER
SENECA
HARTWELL
LAKE
Shilo Branch
Trailer Park
764
722
771
Cem
Cherrys Crossing
Treaty Oak Monument
BM 688
SOUTHERN
708
Adams Crossing
ELEV 660
Sewage Disposal
Martin Creek
SENECA RIVER
BM 702
OCONEE CO
PICKENS CO
Hopewell—Kec Monument
Fants Grove Ch
Clemson Lookout Tower
756
826
678
3839
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40′
3837
3836
3835
3833
600 000 FEET
37′30″
82°52′30″
3829
1 440 000 FEET
3830
3831
50′

The EDR Aerial Photo Decade Package

WestPoint Stevens - Clemson Complex
500 West Cherry Road
Clemson, SC 29631

Inquiry Number: 1364264.5

February 18, 2005

EDR™ Environmental Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Rd
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

THE EDR AERIAL PHOTO DECADE PACKAGE

Environmental Data Resources, Inc.'s (EDR) Aerial Photo Decade Package is a screening tool designed to assist professionals in evaluating potential liability on a target property resulting from past activities.

ASTM E 1527-00, Section 7.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. The ASTM Standard requires a review of *reasonably ascertainable standard historical sources. Reasonably ascertainable means information that is publicly available, obtainable from a source within reasonable time and cost constraints, and practically reviewable.* To meet the prior use requirements of ASTM E 1527-00, Section 7.3.4, the following *standard historical sources* may be used: aerial photographs, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, city directories, building department records, or zoning/land use records. ASTM E 1527-00 requires *"All obvious uses of the property shall be identified from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historcal sources as are necessary, and that are reasonably ascertainable and likely to be useful."* (ASTM E 1527-00, Section 7.3.4, page 12).

EDR has one of the nation's largest collections of historical aerial photography. EDR's Aerial Photo Decade Package provides digitally reproduced historical aerial photographs and includes one photo per decade, where available.

This document reports that EDR searched its own collection or select outside repository collections of aerial photography, and, based on client-supplied Target Property information, aerial photography including the Target Property was not deemed *reasonably ascertainable* (refer to ASTM E1527-00, Section 3.3.30) by Environmental Data Resources, Inc. (EDR). This **No Coverage** determination reflects a search only of aerial photography repository collections which EDR accessed. It cannot be concluded from this search that no coverage for the Target Property exists anywhere, in any collection.

NO COVERAGE

Please call EDR Nationwide Customer Service at
1-800-352-0050 (8am-8pm EST)
with questions or comments about this report.
Thank you for your business!

"Linking Technology with Tradition"®

Sanborn® Map Report

Ship To: Lynn Watson
RMT, Inc.
30 Patewood Drive
Greenville, SC 29615

Order Date: 2/18/2005 **Completion Date:** 2/18/2005
Inquiry #: 1364264.3
P.O. #: 70583.86 Task 00003
Site Name: WestPoint Stevens - Clemson Complex
Address: 500 West Cherry Road
City/State: Clemson, SC 29631
Cross Streets:

Customer Project: NA
1072017ERN 864-281-0030

This document reports that the largest and most complete collection of Sanborn fire insurance maps has been reviewed based on client supplied information, and fire insurance maps depicting the target property at the specified address were not identified.

NO COVERAGE

The EDR-City Directory
Abstract

WestPoint Stevens - Clemson Complex
500 West Cherry Road
Clemson, SC 29631

February 23, 2005

Inquiry Number: 1364264-7

The Standard In Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

Environmental Data Resources, Inc.
City Directory Abstract

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist professionals in evaluating potential liability on a target property resulting from past activities. ASTM E 1527-00, Section 7.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. The ASTM standard requires a review of *reasonably ascertainable standard historical sources. Reasonably ascertainable means information that is publicly available, obtainable from a source with reasonable time and cost constraints, and practically reviewable.*

To meet the prior use requirements of ASTM E 1527-00, Section 7.3.4, the following *standard historical sources* may be used: aerial photographs, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, city directories, building department records, or zoning/land use records. ASTM E 1527-00 requires *"All obvious uses of the property shall be identified from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historical sources as are necessary, and that are reasonably ascertainable and likely to be useful."* (ASTM E 1527-00, Section 7.3.2, page 12.)

EDR's City Directory Abstract includes a search and abstract of available city directory data.

City Directories
City directories have been published for cities and towns across the U.S. since the 1700s. Originally a list of residents, the city directory developed into a sophisticated tool for locating individuals and businesses in a particular urban or suburban area. Twentieth century directories are generally divided into three sections: a business index, a list of resident names and addresses, and a street index. With each address, the directory lists the name of the resident or, if a business is operated from this address, the name and type of business (if unclear from the name). While city directory coverage is comprehensive for major cities, it may be spotty for rural areas and small towns. ASTM E 1527-00 specifies that a *"review of city directories (standard historical sources) at less than approximately five year intervals is not required by this practice." (ASTM E 1527-00, Section 7.3.2.1, page 12.)*

NAICS (North American Industry Classification System) Codes
NAICS is a unique, all-new system for classifying business establishments. Adopted in 1997 to replace the prior Standard Industry Classification (SIC) system, it is the system used by the statistical agencies of the United States. It is the first economic classification system to be constructed based on a single economic concept. To learn more about the background, the development and difference between NAICS and SIC, visit the following Census website: http://www.census.gov/epcd/www/naicsdev.htm.

Please call EDR Nationwide Customer Service at
1-800-352-0050 (8am-8pm EST)
with questions or comments about your report.
Thank you for your business!

4. SUMMARY

- ***City Directories:***

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1996 through 2004. (These years are not necessarily inclusive.) A summary of the information obtained is provided in the text of this report.

Date EDR Searched Historical Sources:
City Directories Feb 23, 2005

Target Property:
500 West Cherry Road
Clemson, SC 29631

PUR ID *Year*	*Uses*	*NAICS*	*Source*
-- 1996	Address not Listed in Research Source	N/A	Polk City Directory
-- 1999	Clemson Complex		Polk City Directory
-- 2004	Diversco		Polk City Directory
	West Point Stevens		

Adjoining Properties

SURROUNDING
Multiple Addresses
Clemson, SC 29631

PUR ID *Year*	*Uses*	*NAICS*	*Source*
1996	Address not Listed in Research Source	N/A	Polk City Directory
1999	****W CHERRY RD****		Polk City Directory
	Not Verified (509)		
	Residence (601)		
	Residence (603)		
	-No other addresses within range		
2004	****W CHERRY RD****		Polk City Directory
	Residence (509)		
	Residence (601)		
	No Current Listing (603)		
	-No other addresses within range		

Appendix F
Other Reports

P. CURRENT INVENTORY OF 64 ABOVE-GROUND BULK TANKS

NO.	SIZE (GAL)	CONTENTS	STATUS	CONTAINMENT CAPACITY	TANK AGE YRS	TANK CONSTR
1	550	Diesel Fuel	Active		N/A	S
2	550	Diesel Fuel	Active	1,088 gallons	N/A	S
3	172	Diesel Fuel (Fire Pump Front)	Active	268 gallons	N/A	S
4	264	Diesel Fuel (Fire Pump Rear)	Active	270 gallons	N/A	S
5	350	Kerosene (CDC)	Active	374 gallons	24	S
6	2,000	Gasoline (Fab)	Active	3,446 gallons	17	S
7	1,000	Lubricating Oil (Greige)	Active		N/A	S
8	500	Lubricating Oil (Greige)	Active	2,522 gallons	N/A	S
9	18,000	Reductone	Active	18,390 gallons	9	S
10	12,000	Brine (Salt)	Active	4449 gallons	15	FG
11	6,000	Empty	Inactive	3582 gallons	N/A	FG
64	12,000	Brine (Salt)	Active	4250 gallons	2	FG
12	6,440	Acetic Acid 56%	Active	6,989 gallons	41	SS
13	6,000	Griffrez CPD	Active		29	FG
14	6,000	Griffrez CPD	Active	5,288 gallons	28	FG
15	6,000	SoftTouch NS	Active	6,586 gallons	24	FG
16	6,000	Griffrez CPD	Active	7,032 gallons	24	FG
17	10,000	Empty	Inactive		21	S
18	12,500	Acrymal S-1450	Active	6,301 gallons	N/A	S
19	7,000	Hydrogen Peroxide 50%	Active		N/A	A
20	5,000	Hydrogen Peroxide 50%	Active	7,282 gallons	N/A	A
21	12,000	Liquid Caustic 50%	Active		N/A	S
22	12,000	Liquid Caustic 50%	Active		N/A	S
23	12,000	Liquid Caustic 50%	Active	34,127 gallons	N/A	S
24	8,600	Paranol AC-7015	Active		13	SS
25	6,600	Printrite 594	Active	5,922 gallons	23	FG
26	6,600	Alcoprint PTN (inside)	Active	No containment	24	S
27	3,000	PVA (Greige)	Active		28	SS
28	3,000	PVA (Greige)	Active	4,043 gallons	28	SS
29	20,000	PVA	Active	15,094 gallons	25	SS
30	20,000	PVA	Active	15,076 gallons	9	SS
31	8,000	PVA	Active	14,458 gallons	30	SS
32	9,000	Desize Water	Active	13,970 gallons	23	S
33	9,000	Desize Water	Active	13,979 gallons	22	S
34	12,000	Empty	Inactive	9,474 gallons	21	FG
35	2,500	Sodium Bisulfite	Active	5,951 gallons	2	FG
36	4,000	Sodium Hypochlorite 12.5%	Active	9,467 gallons	3	FG
37	35 Dry Tons	Empty	Inactive		21	FG
38-55	18000-30000	Propane	Active	No containment	23 - 27	S
56	1,000	Used Oil (Greige Area)	Active	1,458 gallons	9	S
57	12,000	Liquid Carbon Dioxide	Active	No containment	8	S
58	110,000	#2 Fuel Oil	Active	112,496 gallons	7	S
59	6,600	Print Clear Solution (inside)	Active	No containment	23	S
60	6,000	Brine Salt Solution	Active	6,507 gallons	N/A	FG
61	900	Nitrogen	Active	No Containment	7	SS/S
62	45,000 lbs.	Lime (Calcium Hydroxide)	Active	No Containment	5	S
63	4,300	Reclaim Permeate (<1% PVA)	Active	No Containment	2	SS

Tank Construction Codes: S - Steel, SS - Stainless Steel, A - Aluminum, FG - Fiberglass
ALL DIKES ARE OF CONCRETE CONSTRUCTION

Former Bulk Chemicals

Ferric Chloride
Ammonia
Hydrosoft LNC
Sodium Silicate
JPS Lo Crock 268
ULF Resin
Patbind ACB

FOUR SEASONS

Four Seasons Industrial Services, Inc.
3107 South Elm-Eugene Street • P.O. Box 16590
Greensboro, North Carolina 27416-0590
(919) 273-2718 • Fax Number (919) 274-5798

July 28, 1992

Mr. Eddie Lanier
West Point Pepperell
P.O. Box 71
West Point, GA 31833

Ref: Analytical Results From Soil Borings (hand augur)
Septic Tank - Clemson, SC

Dear Mr. Lanier:

Four Seasons Industrial Services, Inc. is pleased to provide your firm with the analytical report received following the sampling conducted on June 2, 1992. Per West Point Pepperell's request, Four Seasons removed a soil sample from beneath the tank in question using a hand auger. This soil was tested for volatile organic compounds (method 8240) similar to those found in the tank to confirm no release occurred.

Results appear to confirm that in fact no release has occurred; however, there is inconclusive evidence of hazardous constituents in the soil in rather low quantities. The testing performed evaluated total quantities of these constituents and due to the variety of chemicals detected, the laboratory detection levels were elevated above regulatory limits for TCLP quantities allowed. As we discussed in earlier conversations this leaves the decision on further testing up to West Point Pepperell.

Please contact Joyce Dishmon or myself with any questions regarding this project or analytical findings. Thank you for continuing to consider Four Seasons for your environmental needs.

Sincerely,

Kenneth Webb
Regional Manager, Remedial Operations

c: J. Dishmon

wppclem/kw/al

AnalytiKEM An American NuKEM Company

AnalytiKEM Inc.
454 S. Anderson Road, BTC 532
Rock Hill, SC 29730
803/329-9690

TEST REPORT NO. A82333

June 29, 1992

Prepared for:

Four Seasons
P.O. Box 16590
3107 South Elm-Eugene Street
Greensboro, NC 27416-0590

Attention: Joe Humble

Project: West Point Pepperell
GP 92-09304

Reviewed &
Approved by: _____

Name: Carmine M. Fioriglio

Title: QA/QC Manager

AnalytiKEM

TABLE OF CONTENTS

Test Report No. A82333
Page 1

I. Certification

AnalytiKEM

AnalytiKEM, Inc.
Current Certifications/Regulatory Approvals

Tabulated below are the current laboratory certifications that are held by each AnalytiKEM Laboratory. Analyses performed at multiple AnalytiKEM locations will be noted in the test report.

Cherry Hill, NJ		Rock Hill, SC		Houston Analytical, Tx	
State	Cert #	State	Cert #	State	Cert #
Arkansas	*	S. Carolina	46067	N. Dakota	R-006
Connecticut	PH-0715	N. Carolina	316	Oklahoma	8403
Florida	880985G	New Jersey	79795	Texas Water Commission	*
Massachusetts	NJ117			Louisiana	*
New Jersey	04012				
New York	10815				
N. Carolina	258				
N. Dakota	R-038				
Pennsylvania	68366				
S. Carolina	94004				
Tennessee	02908				
Vermont	*				

* No certification numbers are issued for these states.

III. Sample Designations

AnalytiKEM

AnalytiKEM Designation	Client Designation	Matrix	Date Sampled
A82333-1	A-Front	Nonaqueous	06/02/92
A82333-2	B-Back	Nonaqueous	06/02/92

Note: Samples will be held for 30 days beyond the test report date unless otherwise requested.

IV. Methodology

Volatiles

AnalytiKEM

Method 5030, Purge and Trap, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, Second Edition, USEPA.

Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, Second Edition, USEPA.

Test Report No. A82333
Page 5

V. Analytical Results

AnalytiKEM

Volatile Organics

Parameter	Method Blank 1	A82333-1 A-Front	Method Blank 2	A82333-2 B-Back
	Sample Designation			
Chloromethane	< 500	< 1,000	< 10	< 2,000
Bromomethane	< 500	< 1,000	< 10	< 2,000
Vinyl Chloride	< 500	< 1,000	< 10	< 2,000
Chloroethane	< 500	< 1,000	< 10	< 2,000
Methylene Chloride	250	750	6.6	1,100
2-Propanone (Acetone)	< 5,000	< 10,000	< 100	< 20,000
Carbon Disulfide	< 5,000	< 500	< 5.0	< 1,000
1,1-Dichloroethene	< 250	< 500	< 5.0	< 1,000
1,1-Dichloroethane	< 250	< 500	< 5.0	< 1,000
trans-1,2-Dichloroethene	< 250	< 500	< 5.0	< 1,000
Chloroform	< 250	< 500	< 5.0	< 1,000
1,2-Dichloroethane	< 250	< 500	< 5.0	< 1,000
2-Butanone (MEK)	< 5,000	< 10,000	< 100	< 100,000
1,1,1-Trichloroethane	< 250	< 500	< 5.0	< 1,000
Carbon Tetrachloride	< 250	< 500	< 5.0	< 1,000
Vinyl Acetate	< 2,500	< 5,000	< 50	< 10,000
Bromodichloromethane	< 250	< 500	< 5.0	< 1,000
1,2-Dichloropropane	< 250	< 500	< 5.0	< 1,000
trans-1,3-Dichloropropene	< 250	< 500	< 5.0	< 1,000
Trichloroethene	< 250	< 500	< 5.0	< 1,000
Dibromochloromethane	< 250	< 500	< 5.0	< 1,000
1,1,2-Trichloroethane	< 250	< 500	< 5.0	< 1,000
Benzene	< 250	< 500	< 5.0	< 1,000
cis-1,3-Dichloropropene	< 250	< 500	< 5.0	< 1,000
2-Chloroethyl Vinyl Ether	< 500	< 1,000	< 10	< 2,000
Bromoform	< 250	< 500	< 5.0	< 1,000
4-Methyl-2-Pentanone (MIBK)	< 2,500	< 5,000	< 50	< 5,000
2-Hexanone	< 2,500	< 5,000	< 50	< 5,000
Tetrachloroethene	< 250	1,000	< 5.0	5,500
1,1,2,2-Tetrachloroethane	< 250	< 500	< 5.0	< 1,000
Toluene	< 250	1,700	< 5.0	8,800
Chlorobenzene	< 250	< 500	< 5.0	< 1,000
Ethylbenzene	< 250	2,800	< 5.0	10,000
Styrene	< 250	< 500	< 5.0	< 1,000
m-Xylene	< 250	12,000	< 5.0	49,000
o,p-Xylene	< 250	10,000	< 5.0	36,000
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)

Test Report No. A82333
Page 6

VI. Quality Control Data

AnalytiKEM

Volatile Organics

Nonaqueous Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked A73549-PC

Parameter	Amount of Spike	Recovery MS	Recovery MSD	RPD	Control Limits Recovery
1,1-Dichloroethene	0.25	101	119	16	D-234
Trichloroethene (TCE)	0.25	102	96	6	71-157
Benzene	0.25	101	97	4	37-151
Toluene	0.25	104	103	1	47-150
Chlorobenzene	0.25	103	102	1	37-160
Units	(ug)	(%)	(%)	(%)	(%)

Recovery: 0 out of 10 outside control limits

RPD: 0 out of 5 outside control limits

AnalytiKEM An American NuKEM Company

AK 82333

09528

Chain-of-Custody Record

Program Area: Drinking Water Wastewater Groundwater Solid and Hazardous Waste

Client: West Point Pepperell **Sample Collector:** Joe Humble

Project: GP-9209304 **AnalytiKEM Contact:** Gregg Whitman

Laboratory
2324 Vamsdale Road
Rock Hill, South Carolina 29731
(803) 324-5310
Fax: (803) 324-6378

Sales Office
454 South Anderson Road BTC 532
Rock Hill, South Carolina 29730
(803) 329-9690
Fax: (803) 329-9689

ITEM NUMBER	SAMPLE DESIGNATION	DATE	TIME	MATRIX	Grab or Composite	40 ml Vials	950 ml Org. Pres.	1 x 1 ml Unpres.	ml HNO_3	ml H_2SO_4	ml NaOH	ml HCL	PARAMETERS
1	A-Front	6/24	2:00pm	Soil	G			1*					*SAMPLES should be IN 250 ml W/septa PW Pope 6/8/9
2	B-Back	6/24	2:00pm	Soil	G			1*					8240 8240
3													
4													
5													
6													
7													
8													
9													
10													

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-2	Joe Humble	Grady Lane	6-8-92	1255
2	1-2	Grady Lane	Patsy Pope	6-8-92	1515
3					
4					

REMARKS
Hand Auger soil borings to a depth of 6'

Joe Humble
SAMPLER'S SIGNATURE

Reorder: PJ Associates 803-329-2300 White Laboratory Copy Yellow Client Copy AKEM #1 12/89

SECTION 1.0
INTRODUCTION

This *Annual 2004 Groundwater Detection Monitoring Report for the Fly Ash Landfill* at the WestPoint Stevens, Inc., facility in Clemson, South Carolina, has been prepared on behalf of WestPoint Stevens by Atlanta Environmental Management, Inc. (AEM) of Atlanta, Georgia. The results of the annual, November 2004 groundwater monitoring event, including a statistical analysis of the metals data plus an evaluation and comparison of these results with the site's historic groundwater monitoring data (1994–2003), are provided.

Groundwater monitoring has been conducted at the landfill since 1996. Thus, this monitoring event was conducted in year 9 of the post-closure care period.

Background. Industrial Solid Waste Landfill Permit IWP-135-092(D) (the permit) was issued on July 14, 1993, to WestPoint Stevens, Inc., for the Clemson Finishing Plant (Facility ID # 373317-1601) in Clemson, South Carolina (see Figure 1). The South Carolina Department of Health and Environmental Control (SCDHEC) Bureau of Land and Waste Management issued the permit for the 30-year (1996–2026) post-closure care of an industrial fly ash landfill at the facility.

The landfill was closed in place (capped) in July 1996, pursuant to the facility's SCDHEC-approved closure plan (AEM, 1994, revised). Post-closure care requires groundwater monitoring at the landfill in order to evaluate groundwater quality and the potential impact from the landfill on a periodic basis.

Over the years, various modifications to the landfill's groundwater monitoring requirements have been approved by SCDHEC. The most recent modification was approved effective February 25, 2003. Currently, the facility is required to conduct annual groundwater monitoring for a modified list of metals and groundwater quality parameters (see Table 1, from Attachment 1 of the revised permit). Monitoring is conducted during the fourth quarter of the calendar year.

Annual Groundwater Monitoring. The annual 2004 monitoring event for the fly ash landfill was conducted on November 23, 2004, in accordance with the procedures outlined in the facility's *Fly Ash Landfill Sampling and Analysis Plan* (SAP) (AEM, November 26, 1993) and the permit conditions. Groundwater level measurements and groundwater samples were collected on November 23 for select metals laboratory analyses and for field pH and specific conductance (see Table 1).

Laboratory pH samples were not collected on November 23, 2004, because of an omission in the laboratory bottle request. In order to address this deficiency, the groundwater monitoring network was subsequently resampled on December 5, 2004, with groundwater samples collected for off-site laboratory pH analysis. Groundwater elevation data plus field pH and specific conductance data were also recorded at this time.

Data Analyses and Conclusions. An annual statistical evaluation of the groundwater metals analytical results is conducted, in accordance with the facility's SCDHEC-approved *Statistical Analysis Plan* dated February 3, 1994. Per SCDHEC's recent approval (February 2, 2004), statistical analysis of the groundwater pH and specific conductance data is no longer required.

There is no indication of adverse impact to groundwater quality from the Fly Ash Landfill, based on the findings of the annual 2004 groundwater monitoring event, which are consistent with the site's historic data.

Proposal

Developement of Landfills For Disposal of Boiler Plant Fly Ash and Wastewater Treatment Plant Sludge

J. P. Stevens & Co., Inc.
Clemson Plant Complex

Prepared for : South Carolina Department of
Health and Environmental Control

July 2, 1976

PIEDMONT ENGINEERS, ARCHITECTS & PLANNERS

PROPOSAL

DEVELOPMENT OF LANDFILLS FOR DISPOSAL OF BOILER PLANT FLY ASH AND WASTEWATER TREATMENT PLANT SLUDGE FOR J. P. STEVENS & CO., INC. CLEMSON PLANT COMPLEX

The finishing plant complex operated by J. P. Stevens & Co., Inc. at Clemson, South Carolina, generates waste fly ash from the burning coal in boilers. The estimated ash volume is 64 cubic yards per week. The ash is currently landfilled on the company property.

A new facility to treat wastewaters from the manufacturing facility will be put in operation in July, 1976. Waste sludge will be generated from this plant. The sludge will consist of the insoluble reaction productions from lime and ferric chloride coagulation of printing wastewaters, and excess aerobically digested activated sludge. The sludge will be dewatered on rotary vacuum filters to a solids concentration of approximately 20%.

Landfill Concept

It is proposed that one or two landfill areas be developed on the plant property to serve as repositories for the non-degradable residues from these waste materials. The landfills will be developed by clearing and grading selected areas to smooth sloped surfaces. Excavated material will be piled for future use as final cover. Filling will be done in shallow layers. Dry ash will be spread over the area first. Dewatered sludge will be stockpiled and spread over the ash in thin layers, exposing the sludge to the atmosphere. The sludge will be allowed to dry and degrade, thus reducing its mass and volume. Successive layers of ash and sludge will be applied to reach a planned contour, after which the area will be covered with stockpiled soil graded and seeded.

The relative quantities of ash and dewatered sludge are such that several layers of sludge will be applied for each layer of ash. The sludge and ash will be mixed as a consequence of spreading successive layers.

The practice of shallow surface spreading of the organic bearing sludge with exposure to the atmosphere, is a reversal of practices for landfilling garbage and refuse. However, the proposed procedure should produce rapid drying and degradation of the sludge, good land utilization, stable fill, and little pollution potential. No odor or nuisance problems are anticipated.

Proposed Landfills

Two areas have been outlined for development as landfills. These are designated as the North and South Landfills on attached Drawings 1 and 2.

The North Landfill area is located on an undeveloped wooded hillside on the north side of the plant property. This area was selected as being the most desirable areaavailable on the plant property, because of its size, slope, and location away from Lake Hartwell and screened from roadways. The subsoil in the area is a heavy red clay, which is common to the plant property. Drawing 1 illustrates the existing contour, proposed development and finished grading plan.

The South Landfill area is a part of an area that has been used for ash fill, some excavated earth from construction activities has been stockpiled near the area. Because of the visibility of this area from Lake Hartwell it would be desirable to finish this area to a uniform grade and to seed to grass and plant some trees.

In order to bring the area to a uniform grade, approximately 13,000 cubic yards of fill will be required. It is proposed that this area be used as the initial landfill site. The development and final plan for the area are illustrated on Drawing 2.

The South Landfill is less than ideal. It is close to the lake and it is small in area. A dike is proposed to prevent ash and sludge from entering the lake. The small area allows marginal drying time between sludge applications. The significance of this may be judged from appended data and calculations relating to the operation of the system. Despite the drawbacks it is proposed that the South Landfill be developed first, because the proposed landfill method is untried. The practice appears feasible but the practical aspects remain to be demonstrated. Therefore, it seems reasonable to utilize the South Landfill which is convenient, inexpensive to develop and which should be filled and graded in any case. The South Landfill offers several years of landfill volume and should demonstrate the practicality of the landfill concept and aid in better development of a longer term operation on the North site.

Mobile Equipment

Sludge and fly ash will be loaded from overhead hoppers at the wastewater treatment plant and boiler plant respectively.

It is proposed to use a 6 to 8 cubic yard, tight sealing dump truck to haul both sludge and ash to the landfill site and dump the material in separate piles. A larger tracked front loader will be used to distribute and level the materials on the sludge site.

APPENDIX I

SLUDGE CHARACTERISTICS

Calculations of the makeup of the sludge were made on the basis of waste analyses and pilot plant sludge analyses to arrive at the following estimated composition.

Sludge Component	% of Dry Weight
Print pigment from wastewater	28.4
Digested activated sludge	47.4
Calcium and other insoluble salts	9.5
Clay from Lake Hartwell	3.8
Iron from coagulant	8.1
Aluminum from water plant	0.9
Zinc from wastewater	1.8
Cadmium (background)	0.006
Chromium	0.006
Total Dry Weight	100%

The design basis for the system is a sludge production of 15,000 lb/day as dry solids. At 80% moisture this represents 70,000 lb of dewatered sludge cake. It is anticipated that the actual quantity of dry sludge will be 2/3 of the design values. However for purposes of landfill calculations the design value of 15,000 lb/day dry sludge solids has been used. The sludge components have been grouped into three types: 1) Inorganics including salts, metals and clay and activated sludge ash; 2) Raw waste orgainics (principally print pigments); 3) Biological sludge (organic fraction only).

Appendix I Continued

The estimated design quantities are:

Inorganics	3,000 lb/day
Raw waste organics	5,000 lb/day
Biological Sludge	7,000 lb/day
Total dry sludge solids	15,000 lb/day

APPENDIX 2

CALCULATIONS RELATING TO SLUDGE AND ASH LANDFILLS

The following calculations are based on assumptions of sludge quantities, treatment plant performance and sludge stabilization characteristics.

ASH VOLUME

Current forecast - 64 cu yds/week

= 250 cu ft/day

= 90,000 cu ft/year

SLUDGE VOLUME

	Raw	Stabilized
Inorganics	3,000	3,000
Raw Waste Organics	5,000	1,500 (30% remaining)
Biological Sludge	7,000	1,000 (14.3% remaining)
Total	15,000 lb/day	5,500 lb/day

Dewatered sludge weight - 70,000 lb/day (wet)

Volume at 65 lb/cu ft. = 1077 cu ft/day ≈ 40 yd³/day

Dry sludge weight - 15,000 lb/day (dry)

Volume at 65 lb/cu ft. = 236 cu ft/day

Stabilized sludge weight - 5,500 lb/day

Volume at 75 lb/cu ft.. = 73 cu ft/day

= 30,000 cu ft/year

SOUTH LANDFILL

Volume - 13,000 cu yards

Area - 250' x 200' = 50,000 ft^2

Long Term Storage = $\frac{13,000 \times 27}{120,000}$ = 3 years

Operations

(a) Spread ash 6" deep = $\frac{50,000 \times 0.5}{250}$ = 100 days

(b) Spread sludge 6" deep = $\frac{50,000 \times 0.5}{1077}$ = 25 days

NORTH LANDFILL

Volume - 35,000 cu yards

Area - 400' x 400' = 160,000 ft^2

Long Term Storage = $\frac{35,000 \times 27}{120,000}$ = 8 years

Operations

(a) Spread ash 6" deep = $\frac{160,000 \times 0.5}{250}$ = 320 days

(b) Spread sludge 6" deep = $\frac{160,000 \times 0.5}{1077}$ = 80 days

Notes:

1) Ratio sludge volume to ash volume = 4/1 for dewatered sludge
= 1/1 for dry sludge
= 1/4 for stabilized sludge

2) Sludge drying time South Landfill (25 days) is marginal.
Sludge drying time North Landfill (80 days) is adequate.

ENGINEERING REPORT
SOUTH LANDFILL SITE
SLUDGE AND ASH DISPOSAL AREA
J.P. STEVENS & CO., INC.
CLEMSON, SOUTH CAROLINA

February 22, 1978

PIEDMONT ENGINEERS · ARCHITECTS · PLANNERS
420 PARK AVENUE · P.O. BOX 1717 · GREENVILLE, SOUTH CAROLINA 29602 · 803-242-1717

ENGINEERING REPORT

This is a report, accompanying the plans and site drawings for the landfill used to dispose of wastewater treatment plant sludge and flyash from J.P. Stevens & Co., Inc., Utica-Mohawk Mill at Clemson, South Carolina. The following drawings accompany this report to describe and locate the landfill:

Drawing	No. 1	Landfill Location Map
	No. 2	South Land Disposal Area (1976)
	No. 3	South Land Disposal Area (1978)
	No. 4	South Land Disposal Area (Future)

LANDFILL PURPOSE AND CONCEPT

The purpose of the landfill is to serve as a depository for the flyash generated from burning coal in the boiler at the Utica-Mohawk Mill and for the sludge generated at the wastewater treatment facility serving the mill. The landfill is to be used as a short term site for solids disposal with minimal environmental impact and adequate monitoring of operation and site conditions.

The landfill is located on plant property where ash solids have been spread in the past. The ash and sludge are applied in layers and allowed to stabilize and dewater on the surface. No ground cover or earth is to be used until the completion of operation and finishing of the landfill site.

LANDFILL SITE

The landfill is located on the Utica Mohawk Plant property near the Lake Hartwell shoreline as shown on Drawing No. 1. The site contains two areas diked to contain surface runoff and are shown on Drawing # 2. The surface water is retained and will be removed to the waste collection system for treatment if necessary. The surrounding property is owned by the J.P. Stevens & Co., Inc or Corp of Engineers lake boundary with no surface wells within a quarter mile radius.

A series of six soil borings around the landfill site were made by Law Engineering & Testing Co. to examine soil characteristics, locate the water table and install monitoring wells for the examination of ground water quality.

LANDFILL OPERATIONS

Sludge and ash will be hauled to the site in trucks and piled inside access lanes. At frequent intervals the sludge will be spread over the area using a wheeled tractor and cultivator to expose the sludge, allowing drying , decomposition, and stabilization.

Ash, by its nature, will not change in volume with time. The sludge from the treatment plant will reduce in volume due to loss of water and degradation of refractory and cellular organic material; therefore, it is projected that the volume of material will be reduced over the life of the landfill.

The time to fill the landfill has been calculated for two conditions. The first assumes that the sludge will not receive adequate time to dewater and decompose fully prior to a subsequent application of sludge. This is called a semi-dry sludge (short-term) which will fill the area in 2.5 years. The second calculation assumes adequate time before reapplying sludge, giving the area time to dewater fully and stabilize more completely. The time to fill the site under this condition is 4.3 years. The actual life will depend upon the plant use of the site, the availability of alternate sites, the physical condition of the surface as the depth of fill increases and the time between applications and rainfall. The life can be extended by applying material on a rotating basis using an alternate site and allowing the solids to stabilize fully.

At the end of this time or on attainment of the proposed final grades, the surface will be covered with two feet of soil. The dikes will be leveled and smoothed over to present a more pleasant area profile (Drawing # 4). Grass and shrubs will be placed as cover if there are no plans to use the site.

SLUDGE AND ASH CHARACTERISTICS

a. Ash

The ash produced from the boiler house is a dry material with particle sizes from very fine material to 1/4 inch. Leachate from the ash is neutral in pH. The material is dampened at the boiler room plant to avoid dusting during loading and transport. The ash is used for traction on roads in the site area and spread in alternate layers with the organic material. No significant

dusting problems have been encountered in the past.

b. Sludge

Waste treatment plant sludge originates from two operations within the treatment system when the plant is in full operation. Wastewaters from fabric printing operations are coagulated with lime and ferric chloride to remove colored print pigments. Water Treatment Plant sludges containing clay and silt removed from the raw water are also treated in the print waste system. The physical-chemical sludge generated contains calcium salts, hydrous iron oxides, print pigments and clay. A second sludge originates as excess biological solids wasted from activated sludge systems which treat the combined textile finishing wastes for the mill. The activated sludge is aerobically digested to stabilize the organic content and reduce volume and combined with the physical-chemical sludge. After thickening and dewatering on vacuum filters to a concentration of 20% or more, the dewatered sludge is hauled to the disposal area in a water tight dump truck.

The chemical characteristics of the sludge have been analysed and the results averaged as shown in Appendix II.

MONITORING PROGRAM

A program for monitoring sludge handling and disposal operations has been established. The program includes analyses of sludge, records of opeations, and sampling and analyses of the ground water from the six monitoring wells located on the site (See Drawing No. 2).

Records of the volume and concentration of sludge produced,along with the records of the frequency and extent of sludge spreading,will be kept. Associated observations will be recorded as a part of operating

records. Sludge will be sampled and analysed quarterly for the parameters listed in Appendix IV.

The ground water pollution potential of the sludge disposal operation will be monitored by sampling and analyses of surface water and ground water at the landfill site. Sets of ground water samples will be taken at 3 month intervals. Grab samples of surface water will be taken at the low side in the diked areas in wet weather. The analyses to be performed on water samples are listed in Appendix IV.

Monitoring reports will be submitted to South Carolina Department of Health at quarterly intervals. Reports of problems associated with the landfill operation or water quality will be made as quickly as possible, if and when, these problems are observed.

GENERAL DISCUSSION OF ENVIRONMENTAL IMPACT

The effects of landfill operations on the local environment are judged to be minimal. The site is well contained on screened plant property and access is limited. Dewatered sludge should have no strong odor; sludge spread over the area and exposed to the air has no septic odors. Sludge piled for extended length of time could develop septic conditions in the center of the piles and create odors. Adjusting the spreading schedule will eliminate this problem.

Rainfall leaching through the sludge and ash is a potential ground water pollution problem. Leachate may appear during or after heavy rainfall. The amount of leachate reaching the groundwater through the soil will be small because of the permeability characteristics of the soil.

It is estimated that these materials will not cause measureable environmental impact beyond the immediate area because of the treatment afforded in the soil and the dilution with surface water at times of heavy rainfall.

The foregoing considerations are based on judgement; the monitoring program will verify this judgement. Should the judgement be seriously in error and groundwater present a problem, a site with less permeable subsurface would be located or alternative disposal methods used.

APPENDIX I

LANDFILL CAPACITY, ASH AND WASTE TREATMENT SLUDGE VOLUMES

LANDFILL DATA	AREA I	AREA II	TOTAL
Area - $ft.^2$	120,000	60,000	180,000
Volume - $ft.^3$	250,000	280,000	530,000
Average Depth - ft.	3	5	4
Surface Slope - %	5	5	5
Cover Soil Required - Cu. Yds.	10,000	6,000	16,000

ASH DATA

Current and future ash volume= 250 cu. ft/day
Final Volume = 90,000 cu. ft/yr.

WASTE TREATMENT SLUDGE DATA

SLUDGE = 20% Solids; 80% water
DRY WEIGHT = 15,000 lbs/day
WET WEIGHT = 75,000 lbs/day
WET VOLUME = 1,000 cu. ft./day @ 75 lbs/cu. ft.

SLUDGE STABILIZATION CHARACTERISTICS

	FRESH SLUDGE	SEMI-DRY SLUDGE (Short Term)	STABILIZED SLUDGE (Long Term)
Inorganics-lbs/day	3000	3000	3000
Print Pigments-lbs/day	5000	4000	1500
Biological Solids-lbs/day	7000	5000	2000
TOTAL DRY SOLIDS-LBS/DAY	15,000	12,000	6500
Percent Water	80	50	<20
TOTAL WEIGHT-LBS/DAY	75,000	24,000	-
TOTAL VOLUME-CU.FT/DAY	1,000	320	86

LANDFILL OPERATING LIFE IN YEARS OF APPLICATION

	AREA I	AREA II	TOTAL
Semi-Dry Sludge (Short Term)	1.2	1.3	2.5 years
Stabilized Sludge (Long Term)	2	2.3	4.3 years

The above calculations assume that the organic sludge will stabilize after exposure to microbes and air. The fresh sludge volumes were calculated from the total weight of sludge and water. The semi-dry sludge (short-term) was calculated on the basis of dry solids weight with the assumption

of about a 50% retainage of water caused by inadequate surface area to complete drying between applications. Long term stabilization volume is calculated assuming that the free and hydrated water will evaporate from the sludge along with more complete organic reduction.

SPREADING OPERATION

Assume spreading in 6" layers
Sludge drying time between applications

Area I	48 days
Area II	24 days
Total	72 days

Area covered each week ----------14,000 ft.^{2}

Actual Spreading Practices and Application Rates may differ from assumed based on operating and site conditions.

APPENDIX II

The characteristics of sludge from the Utica Mohawk Wastewater Treatment Plant have been analyzed. The constituents arise from waste materials removed from the wastewater and from inorganic chemicals used in treatment of the wastewater. The composition is as follows:

Sludge Component	Units	Quantity (AVG.)
Solids	% wet sludge	22
Volatile Solids (Organics)	% Dry Sludge	52
Ash (Inorganics)	% Dry Sludge	48
Calcium (coagulant)	mg/gr Dry Sludge	90
Iron (coagulant)	mg/gr Dry Sludge	53
Chromium	µg/gr Dry Sludge	40
Cadmium	µg/gr Dry Sludge	< 6.4
Lead	µg/gr Dry Sludge	510
Manganese	µg/gr Dry Sludge	250
Nickel	µg/gr Dry Sludge	*LDL
Zinc	µg/gr Dry Sludge	3450
Mercury	µg/gr Dry Sludge	*LDL

* LDL = Less than Detection Limit

APPENDIX III

Sludge Sampling and Analyses

The dewatered sludge from the vacuum filters will be sampled and analyzed at 3 month intervals. The nature of the sludge handling system is such that a grab sample from the middle of a daily run should be representative.

The control analyses are as follows:

Total Sludge Sample

Total Solids	% of sludge
Volatile Solids	% of dry solids
Ash Content	% of dry solids
Zinc	µg/gm dry solids
Chromium	µg/gm dry solids
Iron	µg/gm dry solids
Calcium	µg/gm dry solids

Sludge Leachate

(from washing 100 grams sludge with ten volumes of distilled water)

pH - units

BOD - mg/l

COD - mg/l

The following analyses will be run on one or more representative samples to meet regulations of the South Carolina Department of Health & Environmental Control : Phenols, Flashpoint, Oil and Grease Copper, Mercury, Cadmium, Lead, Nickel, Arsenic, Cyanide. If insignificant results are obtained, the analyses will not be routinely performed.

APPENDIX IV

SAMPLING AND ANALYSES OF SURFACE RUNOFF AND GROUND WATER

Ground water samples will be taken at 3 month intervals. Grab samples of surface water from the sludge site will be taken when available during wet weather at the low side of the diked areas. The control analyses for gound water are as follows:

Total Solids	mg/l
Volatile Solids	mg/l
Suspended Solids	mg/l
BOD	mg/l
COD	mg/l
Calcium	mg/l
Ammonia	mg/l
Nitrate	mg/l
Iron	µg/l
Zinc	µg/l
pH	--

The following analyses will be performed at least once to satisfy regulations of the South Carolina Department of Health & Environmental Control. Phenols, oil and grease, magnesium, manganese, mercury, chromium, cadmium, lead, nickel, arsenic, cyanide. These analyses will not be routinely repeated if insignificant results are obtained.

Surface water will be analyzed for pH, total and dissolved solids, BOD, and COD.

MONITORING WELL INSTALLATIONS

Date: 1-10-78

Job No.: GV-075

By: Simonds

Monitoring Well Nos. W-1 (F2-1)

Test Boring Nos. -

PVC ID 1.7"

PVC OD 1.9"

Top of Riser Elev. 681.7 ft.

Length of Riser 29 ft.

Length of Well Screen 2.5 ft.

Bottom Elevation of Well 650.2

Depth to Bentonite Seal at ground level

Thickness of Seal 2 ft. ±

Backfill Around Screen sand (ASTM C-33)

Soil Description at Well Screen: Firm, brown, fine to coarse sandy micaceous silt.

Ground Surface Elevation 679.23 ft.

Water Level at Time of Installation: -19 ft., Elev. 660.2 ft.

24 Hour Water Level: -18.5 ft., Elev. 660.7 ft.

Water Level at _____ = _____

Remarks: Elevations taken by Piedmont Engineers.

MONITORING WELL INSTALLATIONS

Date: 1-10-78

Job No.: GV-075

By: Simonds

LF 2-2

Monitoring Well Nos. W-2

Test Boring Nos. -

PVC ID 1.7"

PVC OD 1.9"

Top of Riser Elev. 675.4 ft.

Length of Riser 29 ft.

Length of Well Screen 2.5 ft.

Bottom Elevation of Well Elev. 643.9

Depth to Bentonite Seal at ground surface

Thickness of Seal 2 ft. ±

Backfill Around Screen sand (ASTM C-33)

Soil Description at Well Screen: Brown fine sandy micaceous silt.

Ground Surface Elevation 672.9 .

Water Level at Time of Installation: 16 ft., Elev. 656.9 ft.

24 Hour Water Level: 14 ft., Elev. 658.9 ft.

Water Level at _____ = _____

Remarks: Elevations taken by Piedmont Engineers.

MONITORING WELL INSTALLATIONS

Date: 1-11-78

Job No.: GV-075

By: Simonds

LF-2-3

Monitoring Well Nos. W-3

Test Boring Nos. -

PVC ID 1.7"

PVC OD 1.9"

Top of Riser Elev. 680.7 ft.

Length of Riser 29.0 ft.

Length of Well Screen 2.5 ft.

Bottom Elevation of Well Elev. 649.2

Depth to Bentonite Seal at ground surface

Thickness of Seal 2 ft. ±

Backfill Around Screen sand (ASTM C-33)

Soil Description at Well Screen: Very stiff, brown, fine to coarse sandy micaceous silt.

Ground Surface Elevation 677.2

Water Level at Time of Installation: -18 ft., Elev. 659.2 ft.

24 Hour Water Level: _____

Water Level at _____ = _____

Remarks: Elevations taken by Piedmont Engineers.

MONITORING WELL INSTALLATIONS

Date: 1-11-78

Job No.: GV-075

By: Simonds

LF 2-4

Monitoring Well Nos. W-4

Test Boring Nos. -

PVC ID 1.7"

PVC OD 1.9"

Top of Riser Elev. 675.7 ft.

Length of Riser 29 ft.

Length of Well Screen 2.5 ft.

Bottom Elevation of Well Elev. 644.2 ft.

Depth to Bentonite Seal at ground surface

Thickness of Seal ~~2 ft. +~~

Backfill Around Screen sand (ASTM C-33)

Soil Description at Well Screen: Stiff, brown, fine to coarse sandy micaceous silt.

Ground Surface Elevation 672.5 .

Water Level at Time of Installation: 14 ft., Elev. 658.5 ft.

24 Hour Water Level: _____

Water Level at _____ = _____

Remarks: Elevations taken by Piedmont Engineers.

MONITORING WELL INSTALLATIONS

Date: 1-11-78

Job No.: GV-075

By: Simonds

LF 2-5

Monitoring Well Nos. W-5

Test Boring Nos. -

PVC ID 1.7"

PVC OD 1.9"

Top of Riser Elev. 677.2 ft.

Length of Riser 29 ft.

Length of Well Screen 2.5 ft.

Bottom Elevation of Well 647.7

Depth to Bentonite Seal at ground surface

Thickness of Seal 2 ft. ±

Backfill Around Screen sand (ASTM C-33)

Soil Description at Well Screen: Stiff, brown, fine to coarse sandy micaceous silt.

Ground Surface Elevation 675.0 .

Water Level at Time of Installation: -15.0 ft. Elev 660.0 ft.

24 Hour Water Level: _____

Water Level at _____ = _____

Remarks: Elevations taken by Piedmont Engineers.

MONITORING WELL INSTALLATIONS

Date: 1-11-78

Job No.: GV-075

By: Simonds

LF2-6

Monitoring Well Nos. W-6

Test Boring Nos. -

PVC ID 1.7"

PVC OD 1.9"

Top of Riser Elev 680.4 ft.

Length of Riser 28 ft.

Length of Well Screen 2.5 ft.

Bottom Elevation of Well 649.9

Depth to Bentonite Seal at ground surface

Thickness of Seal 2 ft. ±

Backfill Around Screen sand (ASTM C-33)

Soil Description at Well Screen: Firm, multicolored, fine to coarse sandy micaceous silt.

Ground Surface Elevation 678.4

Water Level at Time of Installation: -19 ft., Elev. 659.4 ft.

24 Hour Water Level: _____

Water Level at _____ = _____

Remarks: Elevations taken by Piedmont Engineers

ENGINEERING REPORT

SOUTH SLUDGE LANDFILL #2
CLOSURE PLAN
J. P. STEVENS & CO., INC.
CLEMSON PLANTS

September 30, 1982

PREPARED BY: Piedmont Engineers, Architects
& Planners
420 Park Avenue
Post Office Box 1717
Greenville, South Carolina 29602

PEAP JOB NO. 83-009

CONTENTS

APPROVAL DRAWING LIST, SOUTH LANDFILL

No.	Title
1/3 Rev. B	Location Map
2/3 Rev. B	Partial Closure Plan (1982)
3/3 Rev. B	Final Closure Plan (Future)

SCOPE AND PURPOSE

J. P. Stevens & Co., Inc. has used a land-spreading area designated as the South Landfill (Landfill No. 2) to provide for the disposal of the power plant fly ash and waste treatment plant sludges for a period of years. The site has been used with the knowledge and approval of the South Carolina Department of Health and Environmental Control Permit #IWP-104. The site is now scheduled to be closed because of limited capacity in the future and the construction of a new area, Landfill No. 3. J. P. Stevens has commissioned Piedmont Engineers, Architects & Planners to make a series of topographical maps detailing the plans for the closure of the areas in two stages. The report presents background data from other previous reports in regard to sludge characteristics and volume, and proposes new monitoring requirements for the site after closure.

LANDFILL SITE LOCATION

The South Landfill is located below the existing water treatment backwash basin. It extends from the lower end of the old treatment plant roadway south to the fenced area below the water treatment plant. A location map is included in the submitted set of drawings, No. 1 of 3. The site is surrounded with runoff control dikes and surface groundwater monitoring wells.

LANDFILL USE AND DEVELOPMENT

The South Landfill is used as an alternate site for the surface spreading, drying and stabilization of dewatered waste treatment sludges, and the final burial area for the sludge. Fly ash which has been placed on the area in the past, will not be applied except in areas which might become inaccessible due to soft spots. The fly ash is being applied to Landfill No. 1.

Phase 1 - Closure of the West Side

The west side of the landfill has several areas which are depressed and must be filled before the final cover is applied. It is calculated that the depressed areas on the west side will require 3,140 cubic yards of material to bring it up to grade before applying the two (2) feet of clean cover material. It is proposed that this fill material be removed from the east side of the site and provide a future capacity of 2700 cubic yards for new sludge of the east side. An average of one (1) foot will be removed from the east side to provide 3111 cubic yards to fill the west area. The sections shown on Drawing No. 2 of 3 indicates the cut area, the three fill areas and the final cover (9,500 cubic yards) for the east side. The drawing plan indicates the final grade contour (solid lines) which will slope (1%) to shed most of the runoff from the burial area. The covered area, dikes and ditches will be graded and grassed to prevent erosion and washing of the cover material. The west side will be flattened and sloped to the southeast corner (1-2%) and diked to contain the runoff until the area is closed.

Phase II

The east side of the site will receive freshly dewatered sludge which will be spread in 6" layers to dry and decompose. The sludge volume is reduced significantly as it stabilizes, if it is given time to decompose. When the site is filled (2700 cubic yards) to the level indicated on the sections shown on Drawing No. 3 of 3, this area will also be covered with two (2) feet of clean clay cover soil (10,500 cubic yards), sloped one percent each way from the center of the site to reduce water infiltration through the area and grassed when the site is closed.

Material Summary:

Cut material from east side to west side	= 3,100 cubic yards
Cover for west side	= 9,500 cubic yards
Cover for east side	= 10,500 cubic yards

SLUDGE QUALITY & QUANTITY

Sludge originates from two sources in the wastewater treatment plant, coagulation of printing wastewater, and excess activated sludge from the combined wastewater treatment system. Activated sludge is aerobically digested, mixed with coagulation sludge and the mixture is dewatered on two vacuum filters. Operating records indicated that 180 cubic yards per week of sludge dewatered to 28% solids are produced.

Table I indicates a typical sludge composition. The relatively high calcium and iron contents are resultant from the lime and ferric chloride used for coagulation of printing wastewater.

The sludge has been tested by J. P. Stevens & Co., Inc. by the E. P. Toxcity method and found to qualify as nonhazardous by SCDHEC and EPA hazardous waste criteria. Results of analyses of the sludge and the leachate extract are shown in Table II.

TABLE 1

TYPICAL ANALYSES FRESH DEWATERED SLUDGE
CLEMSON WASTEWATER TREATMENT PLANT

Total Solids	- 28%
Water	- 72%
Ash	- 56.9% of solids
Volatile Solids	- 43.1% of solids
Ammonia	- 0.4 mg/gm solids
TKN	- 8.7 mg/gm solids
Total Phosphorus	- 0.4 mg/gm solids
Cations	(ppm or ug/gm solids)

Table 1 - Cont'd

Cadmum	- 5.773
Calcium	- 30,442
Chromium	- 29.98
Copper	- 531.24
Iron	- 15,515
Lead	- 70.86
Maganese	- 212
Magnesium	- 14,800
Mercury	- <1
Nickel	- 20.77
Potassium	- 486.44
Zinc	- 7962

TABLE 2

ANALYSES OF DEWATERED SLUDGE, SAMPLE 55546, MAR. 4, 1981

Parameter	Sludge Analyses Dry Weight Basis (ug/gm)		E. P. Toxicity Wet Weight Basis (ug/l)
	Acid Digestion	Parr Bomb	
Arsenic	30	27	< 20
Barium	NR	< 500	< 1000
Cadmium	2.8	15	< 30
Chromium	83	83	< 50
Lead	9.2	< 250	< 500
Mercury	0.7	NR	3.2
Selenium	11	9	40
Silver	4	< 25	< 50

SLUDGE SPREADING OPERATIONS & LANDFILL LIFE (Phase II)

The area will be utilized as a backup or alternate site when the primary site becomes unmanageable during winter or rainy periods.

The calculated rate of accumulation of sludge on the site cannot be accurately determined because of the unknown quantity being applied but the east area can contain approximately 2,700 cubic yards of stabilized material. The volume of fresh sludge is approximately six times the stabilized sludge due to water and organic material reduction. The estimated volume of fresh sludge applied over the life of the site, will be approximately 15,000 cubic yards.

If the site is used for 3 months/year, the life of the site will be approximately six years. If the sludge was continuously applied, the site would be used in approximately 1.6 years.

SITE MONITORING

The major pollution potential of the landfill operation is from rainfall runoff and infiltration.

Runoff will shed from the closed portion of the site, and collected on the east side. Runoff has been pumped to the water or waste treatment plant from the collection areas for treatment prior to discharge. This practice will be continued if significant runoff is encountered.

Potential effects of infiltration of rainwater into ground water will be continued to be monitored by sampling the six perimeter wells. Wells will be sampled by bailing with a weighted bottle on a cord. Prior to sampling well water level will be measured and the wells will be bailed out as thoroughly as possible. Fresh ground water will be allowed to flow into the wells for a period of 24 hours, or more if required for well recharge, then samples will be taken for analyses.

Samples have been taken from the six wells on quarter year intervals since their installation, to determine ground water quality records. It is proposed that after the site is closed that the interval be reduced to once a year for at least 5 years. If no evidence of groundwater contamination is indicated, the monitoring will be discontinued.

ENGINEERS ASSESSMENT

Sludge Landfill No. 2 has been used over a long period of time without any significant evidence of detrimental environmental impact.

The site has not been a nuisance to the public or threatened public well water quality because it is isolated on the plant property and separated from neighboring properties by Lake Hartwell.

Ground water under the area apparently collects from the immediate area of plant property. The water table is small in extent and exfiltrates to the lake, thus representing no major long term or large scale risk such as might be encountered in a large moving water table in a recharge area.

The surface spreading of the dewatering sludge represents a good engineering practice in that the sludge will air dry, dehydrate, and the organic fraction will decompose rapidly by exposure to air, avoiding septic conditions, acid conditions and leaching, while at the same time rapidly reducing the weight and volume of sludge solids accumulated.

Metal content of the sludge is low and the sludge meets non-hazardous waste criteria. The sludge is dewatered using lime as a conditioner. Fresh sludge has a pH value of 10-12. Sludge at the landfill will be neutralized by conversion of lime to calcium bicarbonate and carbonate by carbon dioxide. Metals in the sludge will have little tendency to dissolve in rainfall leachate because of the buffered condition of the soil and sludge. A large percentage of rainfall will be removed as runoff. An insignificant amount of rainfall is expected as leachate. Such infiltration as does occur is expected to come principally from the runoff holding area after a heavy rainfall. The proportion of metals penetrating 20 feet of soil to ground water should be less than the infiltration due to soil attenuation of metals. The quantity of water and any of its constituents which enter the lake from landfill leaching should be many orders of magnitude beyond detection or significance in the lake.

It is therefore the opinion of Piedmont Engineers that Sludge Landfill can continue to be operated without undue risk to public health or the quality of the environment.

W. G. Cousins, P. E.
Registration No. 5926

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201-1708

File

CERTIFIED MAIL

cc) LANIER, B
LANIER, E
ZEDROW, C
ROSAND, T
FILE ASH CLOSURE PROJECT
BLACKWELL, B

July 31, 1996

Ms. Christie Covington
Westpoint Stevens
500 West Cherry Road
Clemson, South Carolina 29631

RE: Westpoint Stevens ISWLF - #373317-1601
Oconee County

Dear Ms. Covington:

The Department conducted a July 25, 1996 inspection at the referenced landfill. During this inspection, the Department verified that the landfill had been closed appropriately. Therefore, the Department considers this landfill to be officially closed.

Be aware that Westpoint Stevens is responsible for the post closure maintenance of the landfill cap and of the surrounding area.

If you have any questions with regard to this matter, please telephone me at (803) 896-4218.

Sincerely,

Melissa J King

Melissa J. King, EIT
Division of Mining and Solid Waste Permitting

MJK/mjk

cc: Mr. Mike Simpson, App I - EQC
Mr. Ken Acker, SW Compliance
Ms. Kim Tappa, SW Hydrogeology

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

Christie - Tour → Lets discuss C.A.P. ASAP. Involvement of P.O.H. Ltr.

Bobby - Assigned

Billy 3/16/99

March 10, 1999

Ms. Christie A. Covington, Environmental Manager
WestPoint Stevens
Post Office Box 1800
Clemson, SC 29633-1800

cc Eddie Lanier - FYI

Re: WestPoint Stevens Clemson Plant
Site ID # 00453
Request for Alternate Nitrate MCL received July 2, 1998
Oconee County

Dear Ms. Covington:

The Groundwater Quality Section of the Bureau of Water has reviewed your request for an alternate nitrate MCL and has determined that R. 61-58.5 B. (3) is not applicable to groundwater. Therefore, the request to apply an alternate MCL of 20 mg/l for dissolved nitrates is denied.

Per the data submitted January 29, 1999, the following wells exceeded the standard for nitrate:

Well series LF2, monitoring wells 2,3,5, and 8;
Well series LF3, monitoring wells 2 and 3.

The Department lauds the improvements to the runoff catch basins. However, additional measures are necessary to prevent further impact of nitrates to the aquifer. Please submit a corrective action plan to address the nitrate issue to my attention by May 10, 1999. Please feel free to contact me prior to submittal of the corrective action plan to discuss possible alternatives.

On all correspondence, please reference Site ID # 00453. If you have any questions, please call me at 803-898-4248.

Sincerely,

Jan T. Cooke

Jan T. Cooke, Hydrogeologist
Groundwater Quality Section
Water Monitoring, Assessment, and Protection Division
Bureau of Water

cc: Appalachia I EQC District

DHEC/BOW/JTC/990304/00453

Author: Covington Christie at Clemson
Date: 3/13/99 9:55 AM
Priority: Normal
Receipt Requested
TO: Harris Billy
Subject: Groundwater plan requested by DHEC

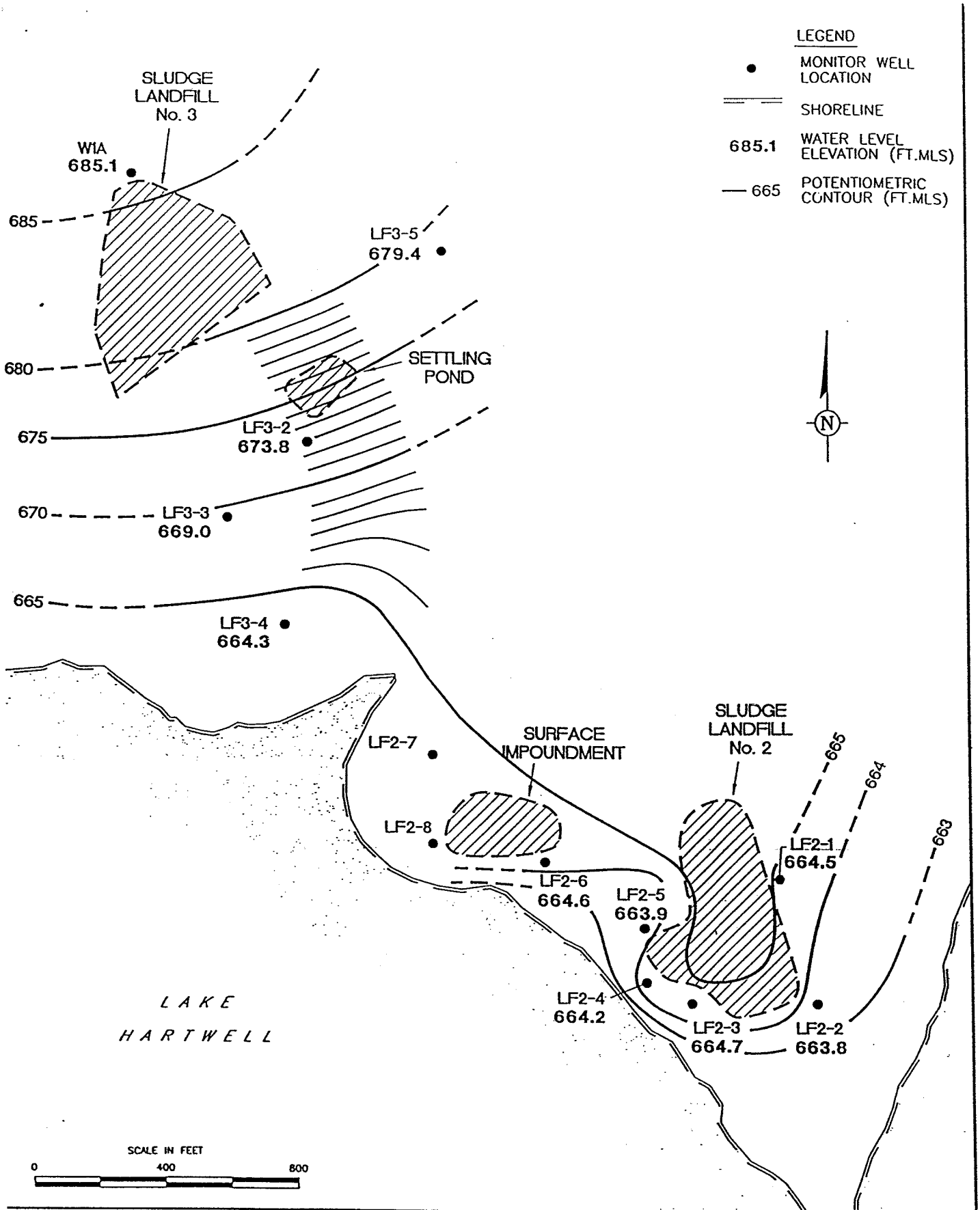
Billy-

As you know, Jan Cooke is our new DHEC Hydrogeologist. Jim Ellis, previously of DHEC, had been working with us on our groundwater nitrite levels. He had not taken any action toward requiring a mandated correction even though we have several wells over the accepted levels since 1995 or before.

Based on a study done by Dave Willis of Arcadis, we requested the alternate Nitrite level of 20 ppm. The request was submitted last July but we have just now received denial of this request.

Jan is requesting a formal corrective action plan to reduce the impact of nitrites on the aquifer by May 10th. I will reconnect Dave Willis to begin preparation for a response. Please advise.

TOM D.



RCADIS GERAGHTY & MILLER

330 Colony Parkway
AIKEN, SC 29803
Tel: 803/649-3981 Fax: 803/649-3120

PRJT MANAGER: D. VILLIS	CHECKED BY:
DRAWING: SITE	
PRJT NO: GS023096.0000	
DWG DATE: 17JUN98	DRAFTER: A. NORTON

WATER LEVEL ELEVATIONS OF THE SHALLOW AQUIFER MEASURED 3-24-98

WESTPOINT STEVENS
CLEMSON PLANT

FIGURE NO. 1

TABLES

Billy - When can we discuss this? - ME, YOU, BIG MARK

Offices:
Greenville, SC
Raleigh, NC
Greenville, NC
Atlanta, GA
Chattanooga, TN

PiedmontOlsenHensley

Engineers/Architects/Surveyors

P.O. Box 1717, Greenville, SC 29602
420 Park Avenue
(803) 242-1717 Fax: (803) 235-9062

April 27, 1995

4761

South Carolina Department of Health
and Environmental Control
Geohydrologic Section
Bureau of Water Pollution Control
2600 Bull Street
Columbia SC 29201

cc MARK R. CANESTIE) PS. NOTE WHAT WE MUST DO. PS. ADJUST SCHEDULE

Attn: Mr. Jim Ellis

cc Bobby - AS INFO.

Billy 1 MAY 95

Re: WestPoint Stevens (WPS); formerly WestPoint Pepperell
Clemson Plants, Clemson SC
Sludge Storage Area Groundwater Nitrate/pH Levels
Oconee County
POH Project Number 22196.16

cc B/U 2 WKS

Gentlemen:

At the request of Mr. Billy Harris, we are responding to your letter of March 23, 1995 to WestPoint Pepperell, regarding your review of the fourth quarter 1994 groundwater monitoring well data, site visit on March 21 and the request for a proposal to address the sludge storage areas and the runoff basins. Please consider the following comments as a proposal.

Nitrate Levels:

We are recommending that WPS proceed with the cleanout and restoration of the runoff holding areas to minimize standing water and accumulated silt/biosolids/sludge which should reduce the possibility of nitrogen leaching to the groundwater monitoring wells.

Groundwater data has been collected for these areas for over 10 years. We have made a brief review of the recent groundwater data and find that the nitrate levels in the three wells noted in your letter will need to reviewed in more detail so we can understand for the historical trends and document background levels. The possibility of modifications to the staging areas or the runoff collection basins will require a more detailed evaluation and risk assessment before additional recommendations can be made.

Low pH Levels:

We are recommending to WPS the application of limestone by surface spreading at an agricultural rate based on soil samples taken from various locations and depths below the sludge storage and runoff basins. We will arrange to collect the samples and have them analyzed by the Clemson Extension Service. The limestone application rate will be based on their recommendations and be applied in areas that indicate soil pH levels less than 6.0. Limestone application in the runoff holding areas would be made after the cleaning and restoration recommended above.

Long Term Response/Recommendations:

Because we expect to have a period of time between corrective actions and changes in the groundwater monitoring results, we propose to review the groundwater monitoring results for trends over the next year and make appropriate responses to WPS and SCDHEC based on whether the corrective actions recommended herein are having a positive effect. The response at the end of the 12 month period would indicate if additional corrective measures are justified or necessary and we would provide a detailed plan of action to implement any additional modifications recommended at that time.

We thank you for your assistance in developing this proposal and if you have any questions please contact me at (803) 242-1717.

Sincerely,

David L. Holland
Environmental Division
Industrial Section Head

cc: Billy Harris

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

May 12, 1995

Ms. Lori P. Lamberth
Atlanta Environmental Management, Inc.
The Environmental Centre
2580 Northeast Expressway
Atlanta, Georgia 30345

RE: WestPoint Stevens, Inc.
Fly Ash Landfill
Oconee County

Dear. Ms. Lamberth:

The Department has received your letter of April 14, 1995, requesting an extension for completion of closure at the referenced landfill. The Department grants this extension. Therefore, the landfill must be closed completely no later than July 14, 1995.

If you have any questions, please telephone me at (803) 896-4218.

Sincerely,

Melissa J. King

Melissa J. King, EIT
Division of Solid Waste Management
BSHWM

MJK/mjk

cc: Mr. Mike Simpson, App I - EQC
Ms. Melinda Mathias, Compliance
Mr. Eddie Lanier, WestPoint Stevens, P.O. Box 71,
West Point, GA 31833

AEM Atlanta Environmental Management, Inc.
Environmental Consulting, Engineering, Hydrogeologic Services

MEMORANDUM

TO: Billy Harris, WestPoint Stevens

FROM: Lori Lamberth, Atlanta Environmental Management, Inc.

DATE: April 13, 1994

RE: Fly Ash Landfill

Attached is DHEC's written acceptance of Atlanta Environmental Management, Inc. (AEM)'s proposal regarding construction of the cover for the closure of the fly ash landfill. The first letter, dated February 16, 1994, was an acceptance to use a combination of native soil, fly ash, and lime-stabilized sludge. The latest letter, dated April 6, 1994, is an approval for our request to use the "unstabilized" sludge since it has undergone extended aeration and classifies as a Class B sludge under 40 CFR 503.32.

This is a major accomplishment that will yield significant savings for WestPoint Stevens. AEM is currently finalizing the closure and post-closure care plans for the landfill. As you requested, we will call you in the next few days to schedule a meeting to discuss closure costs.

Please do not hesitate to call me with any questions or comments you may have.

cc: Mr. Eddie Lanier, WestPoint Stevens

3562

The Environmental Centre
2580 Northeast Expressway • Atlanta, Georgia 30345
Telephone: (404) 329-9006 • Fax (404) 329-2057

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

April 6, 1994

Ms. Lori Lamberth
Atlanta Environmental Management, Inc.
The Environmental Centre
2580 Northeast Expressway
Atlanta, GA 30345

RE: J. P. Stevens, Clemson, South Carolina
Oconee County

Dear Ms. Lamberth:

We acknowledge receipt of your letters dated March 2, 1994 and March 18, 1994.

By this letter the Department approves the alternate cap material which contains sludge stabilized by an extended aeration process instead of lime stabilized sludge that was discussed in your letter dated December 22, 1993.

The name on the permit for this facility is currently J.P. Stevens Landfill, we request that all correspondence reference this name unless a formal name change request is processed.

Please contact Veronica Gorman at 734-5117, if you have any questions.

Sincerely,

Robert L. Gill, P.E., Manager
Facility Engineering Section
Division of Solid Waste Management
Bureau of Solid and Hazardous Waste Management

RLG\VMG/pej

cc: Michael Drake, App I, EQC
Kim Tappa, BSHWM

RECEIVED APR 1 2 1994

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

February 16, 1994

Ms. Lori Lamberth
Atlanta Environmental Management, Inc.
The Environmental Centre
2580 Northeast Expressway
Atlanta, GA 30345

RE: J. P. Stevens Fly Ash Landfill, Clemson, SC
Oconee County

Dear Ms. Lamberth:

This letter is in response to your most recent letter dated February 4, 1994.

DHEC acknowledges that AEM, Inc. proposed to incorporate fly ash and non-stabilized sludge in the cover material for the fly ash landfill cap at the J.P. Stevens plant.

In your letter dated December 22, 1993 it was stated that the proposed mix for the cover material consisted of:

40% native clay soil
40% fly ash
20% non-stabilized sludge

After receipt of your February 4, 1994 letter which addressed the concerns related to the polynuclear aromatic compounds, and the decision to use only lime stabilized sludge, the Department approves AEM's proposal to use the three (3) part mix as an alternate final cover material for the landfill cap which will have a maximum permeability of 2.1×10^{-6} cm/sec at the J.P. Stevens landfill.

In addition, our office requests an operations plan which explains how the cover material will be mixed and handled.

We would like a statement of the ratio of soil to lime stabilized sludge that will be used for the topsoil.

Sincerely,

Robert L. Gill, P.E., Manager
Facility Engineering Section
Division of Solid Waste Management
Bureau of Solid and Hazardous Waste Management

RLG\VMG/pej

cc: Michael Drake, App I, EQC
Kim Tappa, BSHWM

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

February 3, 1994

Mr. Eddie Lanier, P.E.
West Point Pepperell
P.O. Box 71
West Point, Georgia 31833

RE: Sampling and Analysis Plan for the Fly Ash Landfill Groundwater Monitoring System; Modifications to Fly Ash Landfill Groundwater Detection Monitoring System (Dated November 26, 1993)
IWP-135, Oconee County

Dear Mr. Lanier:

The Department appreciates the submittal of the above-referenced reports on December 15, 1993, for the Fly Ash landfill at the West Point Pepperell facility in Clemson, South Carolina (IWP-135). The general procedures for groundwater sampling and analysis and monitor well installation that are provided in the Plans comply with the permit conditions specified by the Department. However, the Department requests that a laboratory trip blank be included with each sampling event and also analyzed for the parameters requested in the Modified Industrial Waste Permit. This trip blank shall be prepared by the laboratory before entering the field and handled along with the collected samples in order to act as a control sample to determine potential contamination from the containers themselves or the atmosphere. This blank is not to be opened in the field.

Attached is a monitoring well approval letter for proposed wells MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6. Please note that in order to be used as a sampling point, monitoring well MW-1 should be installed no more than 150 feet from the waste management boundary.

As discussed in a telephone conversation with Mr. Chuck Lee of Atlanta Environmental Management, Inc. on January 3, 1994, the requested statistical analysis plan will be prepared and sent to the Department as soon as possible.

sw940100.kdt

If you have any questions or require additional information, please call me at (803) 734-5471.

Sincerely,

Kim D. Tappa

Kim D. Tappa, Hydrogeologist
Division of Hydrogeology
Bureau of Solid and Hazardous
Waste Management

cc: Veronica Gorman, Permitting
Eddie Clements, Appalachia I
Tony L. Gordon, Atlanta Environmental Management, Inc.

sw940100.kdt

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Monitoring Well Installation Approval Form

Date of Issue: February 3, 1994

Approval No.: SW94-006

Approval is hereby granted to: West Point Pepperell
(on behalf of): Fly Ash Landfill, West Point Pepperell Facility

Permit or SCD #: IWP-135
County: Oconee

This approval is for the construction of monitoring wells designated MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6 in accordance with the technical specifications submitted to the Department on December 15, 1993 by Atlanta Environmental Management, Inc.. The wells are to be constructed within the shallow aquifer as specified in the Modification to Fly Ash Landfill Groundwater Detection Monitoring System Plan for the intended purpose of monitoring ground-water quality and/or water levels at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well be submitted to Kim Tappa, Bureau of Solid and Hazardous Waste Management, within thirty (30) days of completion (of last well(s) installed).

2. Each well shall be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate shall provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.

3. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.

4. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Eddie Clements, Appalachia I District, EQC Office (803-260-5569).

5. Monitoring wells shall be installed by a well driller certified by the State of South Carolina.

This approval is pursuant to the provisions of Section 4-5540 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71.

Approved by: Kim D. Tappa

Kim D. Tappa, Hydrogeologist
Solid Waste Section
Division of Hydrogeology
Bureau of Solid and Hazardous
Waste Management

sw940100.kdt

South Carolina
DHEC
Department of Health and Environmental Control

RECEIVED
JAN 2 8 1994
S. C. DEPT. OF HEALTH & ENVIRONMENTAL CONTROL
Bureau of Solid & Hazardous Waste Management

MEMORANDUM

TO: Veronica Gorman
Facility Engineering Section
Division of Solid Waste Management
Bureau of Solid and Hazardous Waste Management

THRU: Harold Seabrook, Manager
Waste Assessment Section
Division of Waste Assessment and Emergency Response
Bureau of Solid and Hazardous Waste Management

FROM: Howard Moseley
Waste Assessment Section
Division of Waste Assessment and Emergency Response
Bureau of Solid and Hazardous Waste Management

DATE: January 27, 1994

SUBJECT: J. P. Stevens Fly Ash Landfill
Clemson, SC

RE: Review of the Smith (Atlanta Environmental Management, Inc.) to Gorman December 22, 1993 Letter Pertaining to "Incorporation of Non-Stabilized Sludge, Fly Ash and Clay as a Final Cap Material at the J. P. Stevens Plant, Clemson, SC"

After review of this request, use of this material (40% native clay soil, 40% fly ash and 20% non-stabilized sludge) generally requires the sludge to first be stabilized. Then, after stabilization, use as a final daily cover is suggested in lieu of a cap on the landfill. This suggestion is based upon the unnatural composition of the soil/sludge. This soil/sludge contains considerable poly nuclear aromatic compounds; some of which are carcinogens. Please refer to paragraph three for the Waste Assessment Section's conclusions regarding this matter.

The proposal to mix lime stabilized sludge with native soil for top soil development and the use of the resultant top soil, as daily cover, is also not disagreeable with this Section. However, please refer to paragraph three for a conclusion pertaining to these J. P. Stevens requests as presented in paragraphs one (1) and two (2) above.

In summary, based upon our concerns presented in paragraph one (1) and two (2) above, the Waste Assessment Section recommends that the generator present proposals to the Facility Engineering Section. These proposals should ideally address these "carcinogens/stabilized sludge" concerns while, at the same time proving the validity of the process(es) employed.

These process(es) must minimize this potential leaching problem while, one in the same, specifically addressing how this stabilization will occur. Analytical data, resultant from the appropriate representative sampling, will document the validity of this process and stabilization efficiency.

The positive aspects of this proposal is that an increase of the normal pH of the leachate would occur in this landfill, resulting from an interaction of the ash/sludge/soil with the acid rain, thus decreasing the solubility of metals present in the landfill.

Veronica, hopefully this letter will address your concerns regarding the above referenced subject.

BHM/tch

cc: Harold Seabrook, Manager, Waste Assessment Section
Bob Gill, Manager, Manager, Facility Engineering Section

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

REC'd 10-11-93

September 29, 1993

Attn: Corporate Engineering Department
Eddie Lanier, P.E.
West Point Pepperell
P.O. Box 71
West Point, Georgia 31833

PLEASE MAKE 2 COPIES
ONE TO CHRIS ZODROW
ONE TO ENV. FILE
ORIG. BACK TO MG
EDDIE

Re: West Point Peperell
Flyash Landfill Permit, IWP-135
Oconee County

Dear Mr. Lanier:

Enclosed is a Modified Industrial Waste Permit for the West Point Pepperell Landfill, IWP-135 per your request dated July 29, 1993.

The Department acknowledges receipt of Atlanta Environmental Management's comments dated July 29, 1993 on the draft permit dated July 14, 1993. Below each comment is listed with the Department's response immediately following the comment.

Comment Number 1:

The facility's name should be changed from J.P. Stevens and Co., Inc. to West Point Pepperell. Any reference to J.P. Stevens in this permit should be amended accordingly.

Response Number 1:

The Facility Name Change has been noted and changed as requested.

Comment Number 2 and 3:

The supervisor responsible for the administration of this permit is Mr. Billy Harris. The phone number for Mr. Harris is (803) 653-2643.

Response Number 2 and 3:

The information has been noted and changed as requested.

Comment Number 4:

Item 4 of the General IWP Permit Condition (page 1) requires the Permittee to cover those portions of the landfill which are not utilized for thirty (30) days.

In AEM's March 2, 1993 response to the draft permit, AEM indicated that there is no technical basis for requiring cover at this Fly Ash Landfill. This conclusion is based on the fact that the Fly Ash is an inert material which exhibits no biological activity which would attract vectors. This conclusion may be further supported by respirometer testing of representative portions of the Fly Ash, if required by DHEC. In conclusion, AEM contends that cover is not necessary for any portion of the landfill.

Respones Number 4:

Because this landfill had previously received sludge, intermediate cover should be placed to minimize leachate generation and infiltration. Also, Regulation 61-70 requires intermediate cover on areas that are exposed for more than thirty (30) days. Therefore, the Department has not modified permit condition number four (4).

However should the Permittee decide to start placing final cover over the completed areas of the landfill within thirty (30) days from receipt of this permit, it would be acceptable to the Department because it would meet the intermediate cover requirement.

Comment Number 5:

Item 2) a) of the Routine Groundwater Monitoring requirements (Page 3) requires sampling of monitoring wells H53-B1 and H53-B2 on the date of issuance of this permit. While this requirement was not included in the draft permit issued by DHEC, AEM agrees to this provision.

Response Number 5:

West Point Pepperell should continue to monitor wells H53-B1 and H53-B2 unless the Department approves the abandonment and replacement of these two wells as part of a monitoring well upgrade.

The Department requested that West Point Pepperell submit a plan to upgrade the monitoring well network for the facility no later than August 30, 1993. However, an extension was granted to West Point Pepperell pending modification of the permit. The Department requests that West Point Pepperell submit a plan to upgrade the Monitoring Well Network no later than November 27, 1993.

Comment Number 6:

Item 2) a) of the Routine Groundwater Monitoring requirements (page 3) and Item 6) a) and b) of the Reporting requirements (page 6) require clarification and are in conflict with one another as presently worded in the permit. Pursuant to a meeting held this date with Mr. Jim Bowman of DHEC, these two sections of the permit are being amended by Mr. Bowman to reflect a revised sequencing of groundwater testing and annual reporting which is consistent with the August 13, 1993 groundwater testing start date and the subsequent August 30 and November 13, groundwater submittal as required under the permit.

Response Number 6:

The Division of Hydrogeology has revised Conditions 2a, 6a, and 6b to provide clarification of the reporting dates for groundwater data and the annual groundwater monitoring report.

Many changes are anticipated in State landfill requirements and at such time as the Department accomplishes the necessary regulatory changes, the Permittee will be required to comply with the applicable portions of such revisions.

If you have any questions concerning the permit, contact Veronica Gorman at 734-5117 or Jim Bowman, Hydrogeologist at 734-4928.

Sincerely,

Robert L. Gill, P.E., Manager
Facility Engineering Section
Division of Solid Waste Management
Bureau of Solid and Hazardous Waste Management

RLG/VMG/kbc

cc: Eddie Clements, Appalachia I, EQC
Jim Bowman, BSHWM
Bill Harris, AEM
Veronica Gorman, BSHWM
Michael Drake, Appalachia I, EQC

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

OFFICE OF ENVIRONMENTAL QUALITY CONTROL
BUREAU OF SOLID AND HAZARDOUS WASTE MANAGEMENT
INDUSTRIAL WASTE PERMIT - IWP-135

Date of Issue: July 14, 1993 Effective Date: October 28, 1993
Date of Modification September 28, 1993

Permission is hereby granted to:

Name of Facility: West Point Pepperell
Address: Clemson Plant
Cherry Road
Clemson, S.C. 29631
Supervisor: Mr. Billy Harris
Phone: (803) 653-2643

for the operation of a Fly Ash disposal site located across Hwy 37 from West Point Pepperell Utica Mohawk Plant on plant property.

This permit is issued pursuant to Sections 44-96-10 et seq., 48-1-10 et seq. and 44-1-140 (11) of the 1976 South Carolina Code of Laws, as amended, and South Carolina Rule(s) and Regulation(s) R.61-70, including the Permitting Protocol approved by the SC DHEC Board on March 11, 1993. The authority granted hereunder is subject to the requirements of the aforementioned laws and regulations and the attached conditions.

William W. Culler

William W. Culler, P.E., Director
Division of Solid Waste Management
Bureau of Solid and Hazardous Waste Management

This permit is non-transferable and is the property of the Bureau of Solid and Hazardous Waste Management and must be surrendered on demand.

If the permit is appealed, the effective date of the permit will be revised as necessary. Any request for review or appeal of this permit must be served in person or by mail within fifteen (15) days of the date of issuance, on:

The Board of Health and Environmental Control
Office of the Commissioner
2600 Bull Street
Columbia, South Carolina 29201
(803) 734-4880

West Point Pepperell Landfill
IWP-135

A. GENERAL IWP PERMIT CONDITIONS

1. The Permittee shall adhere to the approved design plans and specifications and operational plan, dated September 29, 1976, with a revision dated May 7, 1988 unless permit conditions state otherwise.

2. This permit is limited to the disposal of the following waste(s): Fly Ash only

3. It is the Permittee's responsibility to ensure that no other waste is disposed at this site. If the Permittee determines the need to dispose of any waste other than that listed in permit condition two (2), prior written approval must be obtained from the Bureau of Solid and Hazardous Waste Management. Each request shall be made in writing to the attention of: Director of Division of Solid Waste.

4. If an area is not worked and not utilized for a period of thirty (30) days, the unworked area must be covered with an intermediate soil cover of one (1) foot.

5. The dust that may be generated at times during the landfill operation must be controlled by spraying water on the dusting area as needed.

6. A minimum buffer zone of two (2) feet must be maintained between the seasonal high water table and/or bedrock and the lowest elevation of the liner system (protective clay layer). Should a disposal area become inundated or have measurable water contained, steps must be taken to remove this water.

7. This permit will be subject to an environmental compliance review at least once every 5 years.

B. GROUNDWATER PERMIT CONDITIONS

1) GROUNDWATER DETECTION MONITORING SYSTEM

The Permittee shall maintain a groundwater detection monitoring system consisting of a sufficient number of wells, installed at appropriate locations and depths to yield representative groundwater samples from the hydrologic units underlying the site.

a) Monitoring wells shall be installed hydraulically upgradient from the waste management area with numbers, locations, and depths sufficient to yield groundwater samples that are representative of background groundwater quality in the uppermost aquifer, and not affected by the facility.

b) Monitoring wells shall be installed hydraulically downgradient from the waste management area with numbers, locations, and depths sufficient to promptly detect any statistically significant degradation of groundwater quality in the uppermost aquifer.

c) The monitoring system shall be continuously maintained in such a manner as to yield samples representative of the quality of groundwater immediately upgradient and downgradient of the waste management area.

d) The Permittee shall construct monitoring wells and maintain monitoring well integrity in accordance with R.61-71 and the well construction specifications in the permit application. In addition, each monitoring well shall be properly labeled with a permanent identification plate constructed of a durable material secured to the well casing or surface pad where it is readily visible.

e) The Permittee shall submit to the Department in writing a complete proposal to upgrade the monitoring well network no later than November 27, 1993.

f) If the Permittee determines or is notified by the Department that the groundwater monitoring system no longer satisfies the minimum requirements for the number, location, construction, or integrity of wells, pursuant to groundwater permit condition 1, (e.g., structurally damaged wells, dry wells, wells no longer upgradient or downgradient, etc.) the Permittee shall:

i) Notify the Department in writing within seven (7) days of evaluating data, but no later than sixty 60 days after collecting groundwater monitoring data, that the monitoring system no longer satisfies permit conditions;

ii) Submit to the Department in writing a complete proposal to upgrade the monitoring well network within thirty (30) days of notification from the Department, but no later than ninety (90) days after collecting groundwater monitoring data; and

iii) Complete installation of additional well(s) necessary to achieve compliance with permit conditions within sixty (60) days of receiving approval from the Department.

2) ROUTINE GROUNDWATER MONITORING

The Permittee shall perform routine monitoring of groundwater quality and elevation conditions to determine if waste disposal activities are affecting groundwater quality at the waste management area.

a) The Permittee shall perform groundwater monitoring according to the constituent list and schedule specified in Attachment 1 for wells H53-B1 and H53-B2 and any well(s) deemed necessary by the facility or the Department to uphold the intent of this permit. The permittee shall ensure that groundwater monitoring is conducted on a quarterly basis in accordance with the schedule presented in section 6a of these permit conditions.

b) The Permittee must determine during each sampling event the elevation of the groundwater surface in each well relative to mean sea level (MSL) to the nearest tenth of a foot. All elevations should be determined on the same day.

c) The Permittee shall determine the Total Depth (TD) of each well on an annual basis.

d) The Permittee shall collect, preserve, and analyze groundwater samples pursuant to the procedures specified in (or, an approvable Sampling and Analysis plan to be submitted within 90 days of issuance of the permit. If no Sampling and Analysis Plan is currently in Departmental files, then sampling for the constituents outlined in Attachment 1 shall proceed employing methods previously utilized at the facility, until an approvable Sampling and Analysis Plan can be submitted.

3) DATA EVALUATION

The Permittee shall evaluate all groundwater quality and water level elevation data to determine if the waste management area is impacting groundwater.

a) The Permittee must submit a plan for statistically evaluating groundwater quality data generated by the facility. In addition, the plan should be capable of determining if a statistically significant impact to groundwater has already occurred. This plan must be submitted within ninety (90) days of issuance of this permit.

b) The Permittee should ensure that the groundwater flow rate and direction are evaluated by a qualified professional each time samples are collected. This evaluation should be used to determine whether the groundwater monitoring requirements under groundwater permit condition 1 continue to be met. A summation of the results of this quarterly evaluation must be supplied in the annual report specified in groundwater permit condition 6b.

4) ASSESSMENT OF GROUNDWATER IMPACT

a) If statistical evaluation of the monitoring data indicates that a statistically significant change in groundwater quality has occurred, and said significant change has not been or currently is not being addressed through a condition of this permit, the Permittee shall,

i) Notify the Department within seven (7) days of making the initial determination that a significant trend or significant difference over background exists.

ii) Submit to the Department within thirty (30) days of notification, a preliminary report which addresses the potential for detrimental impact to human health and the environment as a result of the statistically significant change. The report should indicate whether additional assessment and\or corrective actions are warranted.

b) If routine monitoring indicates that a constituent exceeds the standards established in R.61-68 (Water Classifications and Standards System) and said exceedance is not currently being addressed through a condition of this permit, the Permittee shall:

i) Notify the Department in writing within seven (7) days of making that determination.

ii) Immediately resample the monitoring well(s) in question to determine the validity of the data, and submit results no later than sixty (60) days after the date of the resampling event.

c) If a statistically significant change indicates that further assessment is warranted, as outlined in section a) of this permit condition, or an exceedance of a standard as outlined in section b) of this permit condition, the Permittee shall,

i) Submit to the Department within ninety (90) days of verification of possible groundwater impact, a plan prepared by a qualified registered professional geologist or geotechnical engineer, to conduct a groundwater quality assessment.

ii) Within ninety (90) days of approval of the assessment plan, initiate the first phase of the plan; submit a preliminary report identifying the source, migration rate, extent, and severity of the contaminant plume; and submit a plan for any additional assessment work required.

iii) Upon completion of the approved groundwater quality assessment, submit a report which details the findings of the groundwater quality assessment and makes recommendations toward further assessment and\or corrective action.

5) CORRECTIVE ACTION

Upon completion of the groundwater quality assessment and verification of groundwater contamination, the Permittee must submit a corrective action plan to address groundwater quality.

a) The Permittee must submit a plan for corrective action based on the findings of the groundwater quality assessment.

b) The Permittee must implement the corrective action plan within ninety (90) days of approval by the Department. Additionally, the Permittee must establish and implement a groundwater monitoring program to demonstrate the effectiveness of the corrective action program.

c) The Permittee must continue corrective action measures to the extent necessary to ensure that the groundwater standards are not exceeded for a period of at least three consecutive years.

d) The Permittee must submit semi-annually to the Department a report which discusses the effectiveness of the corrective action program.

e) If the Permittee or the SCDHEC determines that the corrective action program no longer satisfies the requirements of groundwater permit condition 5, the Permittee shall within ninety (90) days of that determination submit a proposal to make appropriate changes to the program.

6) REPORTING

a) The Permittee shall submit results of the groundwater monitoring program as specified by Attachment 1 in accordance with the following schedule:

Sampling Period	Submittal	Results Due
January-March	groundwater data	April 15
April-June	groundwater data	July 15
July-September	groundwater data	October 15
October-December	annual report with groundwater data	January 15

b) The Permittee shall submit an annual report signed by a qualified professional geologist or geotechnical engineer summarizing the quarterly determinations of groundwater flow direction and rate as required by groundwater permit condition 3b. The annual report shall be submitted in accordance with the submittal schedule presented in Permit Condition 6a. The annual report shall also include the quarterly or annual statistical analysis that has been performed on the monitoring well data. In addition, the report shall also make a determination as to whether the monitoring well network continues to meet requirements of groundwater permit condition 1.

c) The established background values and the data collected by the implementation of the groundwater monitoring program as specified by this Permit shall be submitted to the SCDHEC, Bureau of Solid and Hazardous Waste Management, Division of Hydrogeology, Superfund and Solid Waste Section and to the Regional Hydrologist in the Appalachia I District Environmental Quality Control Office in Anderson.

C. CLOSURE/POST CLOSURE CARE PERMIT CONDITIONS

1. The Permittee is responsible for submitting a closure plan within ninety (90) days of issuance of this permit, which outlines the activities necessary to close the landfill in a manner that minimizes the release of contaminants.

Final cover must be applied during the closure period to any surface which represents the final grade of the landfill. This final cover must consist of, at a minimum, twelve (12) inches of clayey material with permeability no greater than $1x10^{-5}$ cm/sec underlying twelve (12) inches of soil suitable for vegetation. Testing of the in-place compacted clayey cover material is required and a South Carolina Professional Engineer must certify that the required permeability has been achieved. The type of vegetation selected to be placed on the closed out areas needs to be documented for its erosion control properties. Final cover shall be placed over any completed section of the fill within one hundred eighty (180) days following the final placement of solid waste within that portion.

2. The Permittee is responsible for submitting a detailed Post Closure Care Plan, within ninety (90) days of issuance of this permit, which outlines the activities necessary to maintain a properly closed out landfill.

   The Permittee is responsible for inspecting and maintaining an adequate cap, gas monitoring and drainage system for the Post Closure Care Period. This plan shall provide a schedule indicating when the cap, gas monitoring and drainage system will be inspected, a discussion about how each will be inspected, and a contingency plan that discusses what action will be taken if failure occurs at any one system.

3. The Permittee is responsible for submitting a detailed Post Closure Care Plan within ninety (90) days of issuance of this permit, which outlines the activities to be performed to ensure that an adequate groundwater monitoring system is in place at the time of closure for post closure monitoring of the waste management area.

   The Permittee is responsible for inspecting and maintaining an adequate groundwater monitoring system for the Post Closure Care Period. This plan needs to describe in detail the activities to be performed to ensure that an adequate groundwater monitoring system is in place at the time of closure for post-closure monitoring of the waste management area. This plan shall specify the wells to be monitored, and the parameters to be monitored.

D. Special Permit Conditions

None

ATTACHMENT 1

GROUNDWATER DETECTION MONITORING REQUIREMENT

FREQUENCY	PARAMETER
Quarterly	pH (field & lab) Specific Conductance (field) Water level in M.S.L. (tenth/feet) Chloride Nitrate TOC - Total Organic Carbon
Fourth Quarterly Only	pH (field & lab) Specific Conductance (field) Water level in M.S.L. (tenth/feet) Chloride Nitrate TOC - Total Organic Carbon Sulfate Arsenic Barium Cadmium Chromium Lead Mercury Selenium Silver Total Kjeldahl Nitrogen Copper Nickel Zinc

Analyses of the metals should be performed on filtered and unfiltered groundwater samples.

AEM Atlanta Environmental Management, Inc.
Environmental Consulting, Engineering, Hydrogeologic Services

May 25, 1993

Ms. Veronica Gorman
Division of Solid Waste Management
Bureau of Solid and Hazardous Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RE: J.P. Stevens and Company, Inc.
Fly Ash Landfill
Landfill Permit IWP-135
Oconee County

Dear Ms. Gorman:

On behalf of WestPoint Pepperell and the J.P. Stevens and Company facility, this letter is to notify SCDHEC that the above-referenced facility plans on ceasing the placement of waste in the above-referenced fly ash landfill by December 31, 1993, concurrent with the anticipated completion of the facility's boiler conversion to natural gas.

The following compliance schedule is provided for SCDHEC approval which details the anticipated efforts and proposed time frames to perform the closure effort.

Proposed Compliance Schedule

Activity	Date
• Develop Closure and Post/Closure Plan for Fly Ash Landfill; Submit to SCDHEC	Aug. 1, 1993
• Install Monitoring Wells At Landfill for Post Closure Care	60 days following SCDHEC Approval
• Cease Placement of Fly Ash in Landfill; Boiler Conversion Complete	Dec. 31, 1993
• Begin Closure of Fly Ash Landfill Per SCDHEC Approved Plan	Jan 1, 1994

The Environmental Centre
2580 Northeast Expressway • Atlanta, Georgia 30345
Telephone: (404) 329-9006 • Fax (404) 329-2057

Since the landfill will be closed within the next several months, J.P. Stevens is also requesting of SCDHEC that the facility remain under its current permit until closure occurs. This request seems reasonable in light of the remaining brief period of time the unit will be operational. If the above is acceptable, J.P. Stevens will also agree to the closure and post-closure requirements of SCDHEC as referenced in your proposed landfill permit.

Please do not hesitate to contact me if you have questions or comments. Thank you for your cooperation.

Sincerely,

William E. Harris

William E. Harris
Project Manager

WEH/lm

cc: Mr. Billy Harris, J.P. Stevens
Mr. Matt Birdsong, WestPoint Pepperell

Mike-
File

South Carolina Department of Health and Environmental Control

Environmental Quality Control Office
P. O. Box 1906, 220 McGee Road
Anderson, S. C. 29622

August 1, 1983

Mr. Wayne Glenn
J.P. Stevens and Company
Cherry Road
Clemson, S. C. 29631

Re: IWP 104 Closure

Dear Mr. Glenn:

On Thursday July 28, 1983, I visited the above J.P. Stevens sludge landfill for the purpose of inspecting the closure of a portion on the west side of the access road. Closure appears to be in accordance with the Engineering Report prepared by Piedmont Engineers, September 30, 1982 with one exception.

The report specifies a 1-2% slope to the southeast corner (page 2, Piedmont Engineers Report). Sections 1 and 2 as shown by drawing 2 of 3, Piedmont Engineers, does not slope accordingly. The area has a concave appearance, and thus would allow water to collect in the middle. I discussed this with Perry Ashmore, of your wastewater plant, the day of the inspection.

Please notify this office when the slope has been corrected so a final inspection may be conducted. If you have any questions or wish to discuss this further please call me. Thank you very much for your cooperation.

Sincerely,

John E. Huey

John E. Huey
Environmental Quality Manager
Appalachia I District

JEH:bd

cc: Mr. Samuel H. Griggs, J.P. Stevens and Company
Ms. Janet Hurley, Facility Engineering Section

EPA Notification of Hazardous Waste Site

United States Environmental Protection Agency
Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name: J. P. Stevens & Co., Inc.
Street: Clemson Plant
City: Clemson State: SC Zip Code: 29631

Site Location:

Enter the common name (if known) and actual location of the site.

Name of Site: J. P. Stevens & Co., Inc.
Street: Clemson Plant
City: Clemson County: Oconee State: SC Zip Code: 29631

Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title): Foster, C. E. Executive V.P. of Manufacturing
Phone: 803-654-3030

Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year): 1952 To (Year): Present

Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. [X] Organics
2. [X] Inorganics
3. [X] Solvents
4. [ ] Pesticides
5. [X] Heavy metals
6. [X] Acids
7. [X] Bases
8. [ ] PCBs
9. [ ] Mixed Municipal Waste
10. [ ] Unknown
11. [X] Other (Specify)

other textile related wastes

Source of Waste:
Place an X in the appropriate boxes.

1. [ ] Mining
2. [ ] Construction
3. [X] Textiles
4. [ ] Fertilizer
5. [ ] Paper/Printing
6. [ ] Leather Tanning
7. [ ] Iron/Steel Foundry
8. [ ] Chemical, General
9. [ ] Plating/Polishing
10. [ ] Military/Ammunition
11. [ ] Electrical Conductors
12. [ ] Transformers
13. [ ] Utility Companies
14. [ ] Sanitary/Refuse
15. [ ] Photofinish
16. [ ] Lab/Hospital
17. [ ] Unknown
18. [ ] Other (Specify)

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261).

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

Notification of Hazardous Waste Site Side Two

F Waste Quantity:

Place an X in the appropriate boxes to indicate the facility types found at the site.

In the "total facility waste amount" space give the estimated combined quantity (volume) of hazardous wastes at the site using cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres.

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☒ Landfill
4. ☐ Tanks
5. ☐ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☒ Drums, Below Ground
9. ☐ Other (Specify) _____

Total Facility Waste Amount

cubic feet unknown

gallons

Total Facility Area

square feet

acres 18

G Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment.

☐ Known ☐ Suspected ☒ Likely ☐ None

Note: Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and assessing hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

H Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publishing map showing the site location.

I Description of Site: (Optional)

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

J Signature and Title:

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys-at-law) required to notify must sign the form and provide a mailing address (if different than address in item [illegible])

Name C. E. Foster

C. P. Stevens x Co., Inc.

Plant Clemson Plant

[illegible] [illegible] SC [illegible]

☒ Owner, Present
☐ Owner, Past
☐ Transporter
☐ Generator, Present
☐ [illegible]

P & C

cc Bobby Lanier
Eddie Lanier
Mark Radcliffe
Charlie Covington

} As info

Billy
11/28/94

22 November 1994

Mr. Billy Harris
Plant Engineer
WestPoint Stevens, Inc.
P.O. Box 1800
Clemson, South Carolina 29633

Subject: Sampling and Analysis Project
Results of Analysis

Dear Billy:

Enclosed, for your review, is a working copy of the tabulated analytical results of the recent sampling episode. We have not prepared a map yet. However, since the "Locations" on the table correspond with SC DHEC's sample numbers, their preliminary map from the sampling episode can be used.

I have a few questions:

- Have you received results of SC DHEC's analysis? If you have, we would like to obtain copies for use in preparing our report. If you have not, I'll be glad to call and nudge them a bit.
- Do you have a site map on an electronic file? We need this for plotting and evaluating the data, as well as for our report.
- Should I sent the analytical data to anyone else? If so, who?

Billy, I hope you had a good Thanksgiving. I'll be out of the office from Monday afternoon, Nov. 28th, until Friday Dec. 2nd. If you need anything while I'm out, please call Charles Jeter.

Sincerely,

RMT, Inc.

William F. Goforth, P.G.
Project Manager

enc

cc: CRJ
file 70276.01

RMT, Inc. — Greenville, SC
100 Verdae Boulevard - 29607-3825
P.O. Box 16778 - 29606-6778
803/281-0030 - 803/281-0288 FAX

WESTPOINT STEVENS, INC.
SUMMARY OF ANALYTICAL RESULTS
OCTOBER 1994

LOCATION/PARAMETER[a]	JP-01-SS	JP-02-SS	JP-03-SS	JP-04-SS	JP-05-SS	JP-06-SS	JP-07-SS
VOLATILE ORGANICS							
Acetone	0.014(0.009)	<0.012	0.009 QB(0.008)	0.012 QB(0.009)	0.025 B(0.012)	0.002 QB(0.009)	<0.014
2-Butanone	0.001 Q	<0.012	<0.012	<0.012	<0.018	<0.012	<0.014
Chloroform	<0.013	<0.012	<0.012	<0.012	<0.018	<0.012	<0.014
2-Hexanone	<0.013	<0.012	<0.012	0.0007 QB(0.0008)	<0.018	<0.012	<0.014
Styrene	<0.013	<0.012	<0.012	<0.012	<0.018	<0.012	<0.014
Toluene	<0.013	<0.012	<0.012	0.0007 QB(0.0006)	0.001 QB(0.0008)	<0.012	<0.014
1,1,1-Trichloroethane	<0.013	<0.012	<0.012	<0.012	<0.018	<0.012	<0.014
Trichloroethene	<0.013	<0.012	<0.012	0.0004 Q	<0.018	<0.012	<0.014
Xylenes (total)	<0.013	<0.012	0.0005 Q	<0.012	<0.018	<0.012	<0.014
TICs (no. detected)	1	0	0	2	1	0	0
SEMI-VOLATILE ORGANICS							
Acenaphthene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Acenaphthylene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Anthracene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Benzo(a)anthracene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Benzo(b)fluoranthene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Benzo(k)fluoranthene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Benzo(a)pyrene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Benzo(g,h,i)perylene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Butylbenzylphthalate	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Carbazole	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Chrysene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Dibenzofuran	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Di-n-butylphthalate	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Fluoranthene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Fluorene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Indeno(1,2,3-cd)pyrene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
2-Methylnaphthalene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Naphthalene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Phenanthrene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
Pyrene	<0.43	<0.50	<0.56	<0.42	<0.55	<0.42	<2.2
TICs (no. detected)	16	15	6	10	14	8	2
PCBs							
Aroclor 1260	<0.043	<0.050	<0.056	<0.042	<0.055	<0.042	<0.045

[a] - Analytical results are reported in parts per million unless otherwise noted.

B (organic) - Present in analytical method blank.

Q - Qualitative mass spectral evidence of analyte present; concentration is less than reporting limit.

( ) - The number indicates the value found in the method blank.

< - Concentration less than the Quantitation Limit or not validated if accompanied by "u" qualifier.

NA - Not analyzed.

G:\DATA\HYDRO\7027\$\LOTUS\JPSUM.WK3

WESTPOINT STEVENS, INC.
SUMMARY OF ANALYTICAL RESULTS
OCTOBER 1994

LOCATION/PARAMETER[a]	JP-01-SS	JP-02-SS	JP-03-SS	JP-04-SS	JP-05-SS	JP-06-SS	JP-07-SS
INORGANICS							
Aluminum	26000	18000	2600	14000	28000 *	25000	23000
Antimony	<0.96	<1.2 P	<0.99	<0.77	<1.1	<1.2 P*	<0.96
Arsenic	1.2	1.3	4.1	0.77 P	<0.65	<0.49	2.3 P*
Barium	180	70	71	17	160	130	20
Beryllium	<0.63	<0.37	1.0	<0.41	<0.72	<0.56	<0.39
Cadmium	<1.3	<0.74	<1.1	<0.82	<1.4	<1.1	<0.078
Calcium	390	1200	1300	140	2300	1800	8200
Chromium	42 *	17	3.0	20	17	9.0	25
Cobalt	11	5.1	<5.3	<4.1	8.3	8.0	<3.9
Copper	21	10	10	15	30	39	35
Iron	29000 *	23000	4200	37000	34000	31000	24000
Lead	13	120	1.9	8.4	21	11	13
Magnesium	4000	510	140	130	3700	3500	250
Manganese	330 P	1000	25	150	630 P	310	120
Mercury	<0.13	<0.12	<0.13	<0.13	<0.14	<0.12	<0.12
Nickel	13	3.7	6.0	<3.3	<5.8	<4.5	6.4
Potassium	2500	180	120	99	760	2800	140
Selenium	<0.59	<0.48	<0.75	<0.77 P*	<0.65	<0.49	<0.75 P*
Silver	<0.96	<1.2	<0.99	<0.77	<1.1	<1.2	<1.9
Sodium	67	<37	69	<41	<72	320	58
Vanadium	76	60	14	87	85	57	49
Zinc	65	67	2.9	10	65 I*	63	18
Total Suspended Solids (TSS)	79.7	83.5	79.7	78	69.3	81	80.4

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P - Digested spike recovery fails due to severe matrix interference.

Q - Qualitative mass spectral evidence of analyte present; concentration is less than reporting limit.

S - Value was determined by the Method of Standard Additions (MSA).

( ) - The number indicates the value found in the method blank.

* - Duplicated analysis not within control limits.

< - Concentration less than the Quantitation Limit or not validated if accompanied by "u" qualifier.

NA - Not analyzed.

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WESTPOINT STEVENS, INC.
SUMMARY OF ANALYTICAL RESULTS
OCTOBER 1994

LOCATION/PARAMETER[a]	JP-08-SS	JP-09-SS	JP-10-SS	JP-31-SS
VOLATILE ORGANICS				
Acetone	0.005 QB(0.009)	<0.015	0.006 QB(0.008)	0.008 QB(0.008)
2-Butanone	<0.013	<0.015	0.0009 Q	0.002 Q
Chloroform	<0.013	<0.015	<0.012	<0.013
2-Hexanone	<0.013	<0.015	<0.012	<0.013
Styrene	<0.013	<0.015	<0.012	0.0003 QB(0.0002)
Toluene	<0.013	<0.015	0.0005 QB(0.0005)	<0.013
1,1,1-Trichloroethane	<0.013	<0.015	<0.012	<0.013
Trichloroethene	<0.013	<0.015	<0.012	<0.013
Xylenes (total)	<0.013	<0.015	<0.012	0.001 Q
TICs (no. detected)	0	0	0	0
SEMI-VOLATILE ORGANICS				
Acenaphthene	<0.43	<2.5	<0.39	<0.48
Acenaphthylene	<0.43	<2.5	<0.39	<0.48
Anthracene	<0.43	<2.5	<0.39	<0.48
Benzo(a)anthracene	<0.43	0.20 Q	<0.39	<0.48
Benzo(b)fluoranthene	<0.43	0.30 Q	<0.39	<0.48
Benzo(k)fluoranthene	<0.43	<2.5	<0.39	<0.48
Benzo(a)pyrene	<0.43	<2.5	<0.39	<0.48
Benzo(g,h,i)perylene	<0.43	<2.5	<0.39	<0.48
Butylbenzylphthalate	<0.43	<2.5	<0.39	<0.48
Carbazole	<0.43	<2.5	<0.39	<0.48
Chrysene	<0.43	0.21 Q	<0.39	<0.48
Dibenzofuran	<0.43	<2.5	<0.39	<0.48
Di-n-butylphthalate	<0.43	<2.5	<0.39	0.054 Q
Fluoranthene	<0.43	0.30 Q	<0.39	<0.48
Fluorene	<0.43	<2.5	<0.39	<0.48
Indeno(1,2,3-cd)pyrene	<0.43	<2.5	<0.39	<0.48
2-Methylnaphthalene	<0.43	<2.5	<0.39	<0.48
Naphthalene	<0.43	<2.5	<0.39	<0.48
Phenanthrene	<0.43	0.14 Q	<0.39	<0.48
Pyrene	<0.43	0.34 Q	<0.39	<0.48
TICs (no. detected)	9	2	5	17
PCBs				
Aroclor 1260	<0.043	<0.050	<0.039	<0.048

[a] - Analytical results are reported in parts per million unless otherwise noted.

B (organic) - Present in analytical method blank.

Q - Qualitative mass spectral evidence of analyte present; concentration is less than reporting limit.

( ) - The number indicates the value found in the method blank.

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NA - Not analyzed.

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WESTPOINT STEVENS, INC.
SUMMARY OF ANALYTICAL RESULTS
OCTOBER 1994

LOCATION/PARAMETER[a]	JP-08-SS	JP-09-SS	JP-10-SS	JP-31-SS
INORGANICS				
Aluminum	23000	6600	16000	31000
Antimony	<0.92	3.9	<0.90	<0.70
Arsenic	1.4	7.9	2.1	6.9
Barium	9.9	7.2	16	190
Beryllium	<0.50	<0.55	<0.59	<0.47
Cadmium	<1.0	<1.1	<1.2	<0.94
Calcium	420	74000	87	390
Chromium	42	32	17	58
Cobalt	<5.0	<5.5	<5.9	12
Copper	8.0	210	6.3	24
Iron	45000	38000	16000	34000
Lead	6.7	18	7.3	36
Magnesium	260	960	130	4300
Manganese	59	280	140	340
Mercury	<0.13	0.19	<0.12	<0.13
Nickel	<4.0	12	<4.7	14
Potassium	450	230	100	2500
Selenium	<0.51	<0.67	<0.51	<0.61
Silver	<0.92	6.5	<0.90	<0.70
Sodium	<50	210	<59	53
Vanadium	83	36	39	86
Zinc	12	630	11	65
Total Suspended Solids (TSS)	78.7	67.4	84.6	78.5

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B (organic) - Present in analytical method blank.
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WESTPOINT STEVENS, INC.
SUMMARY OF ANALYTICAL RESULTS
OCTOBER 1994

LOCATION/PARAMETER[a]	JP-11-SD	JP-12-SD	JP-13-SD	JP-14-SD	JP-15-SD	JP-16-SD
VOLATILE ORGANICS						
Acetone	0.007 QB(0.006)	0.019 B(0.007)	0.012 QB(0.006)	0.002 QB(0.006)	0.014 QB(0.010)	0.010 QB(0.007)
2-Butanone	<0.013	0.019	0.002 Q	<0.012	<0.015	<0.013
Chloroform	<0.013	<0.013	<0.013	<0.012	<0.015	<0.013
2-Hexanone	<0.013	<0.013	<0.013	<0.012	<0.015	<0.013
Styrene	<0.013	<0.013	<0.013	<0.012	<0.015	<0.013
Toluene	<0.013	0.001 QB(0.0006)	0.005 QB(0.0006)	<0.012	0.002 QB(0.0007)	<0.013
1,1,1-Trichloroethane	<0.013	<0.013	<0.013	0.0007 Q	<0.015	<0.013
Trichloroethene	<0.013	<0.013	<0.013	<0.012	<0.015	<0.013
Xylenes (total)	<0.013	<0.013	<0.013	<0.012	<0.015	<0.013
TICs (no. detected)	0	0	0	0	0	0
SEMI-VOLATILE ORGANICS						
Acenaphthene	<0.41	<2.2	<2.1	<2.0	<0.48	<0.44
Acenaphthylene	<0.41	<2.2	<2.1	<2.0	<0.48	0.053 Q
Anthracene	<0.41	<2.2	<2.1	0.86 Q	<0.48	0.13 Q
Benzo(a)anthracene	<0.41	<2.2	<2.1	4.0	<0.48	0.42 Q
Benzo(b)fluoranthene	<0.41	<2.2	<2.1	4.2	<0.48	0.33 Q
Benzo(k)fluoranthene	<0.41	<2.2	<2.1	3.0	<0.48	0.34 Q
Benzo(a)pyrene	<0.41	<2.2	<2.1	3.2	<0.48	0.28 Q
Benzo(g,h,i)perylene	<0.41	<2.2	<2.1	1.4	<0.48	0.015 Q
Butylbenzylphthalate	<0.41	<2.2	<2.1	<2.0	<0.48	<0.44
Carbazole	<0.41	<2.2	<2.1	0.65 Q	<0.48	<0.44
Chrysene	<0.41	<2.2	<2.1	4.6	<0.48	0.45
Dibenzofuran	<0.41	<2.2	<2.1	<2.0	<0.48	<0.44
Di-n-butylphthalate	<0.41	<2.2	<2.1	<2.0	<0.48	<0.44
Fluoranthene	<0.41	<2.2	<2.1	8.4	<0.48	0.78
Fluorene	<0.41	<2.2	<2.1	<2.0	<0.48	<0.44
Indeno(1,2,3-cd)pyrene	<0.41	<2.2	<2.1	1.4	<0.48	0.14 Q
2-Methylnaphthalene	<0.41	<2.2	<2.1	<2.0	<0.48	<0.44
Naphthalene	<0.41	<2.2	<2.1	<2.0	<0.48	<0.44
Phenanthrene	<0.41	<2.2	<2.1	4.3	<0.48	0.32 Q
Pyrene	<0.41	<2.2	<2.1	7.0	<0.48	0.61
TICs (no. detected)	5	1	1	8	6	4
PCBs						
Aroclor 1260	<0.041	<0.043	<0.042	<0.072	<0.048	0.075

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WESTPOINT STEVENS, INC.
SUMMARY OF ANALYTICAL RESULTS
OCTOBER 1994

LOCATION/PARAMETER[a]	JP-11-SD	JP-12-SD	JP-13-SD	JP-14-SD	JP-15-SD	JP-16-SD
INORGANICS						
Aluminum	11000	19000	16000	8300	30000	21000
Antimony	<0.79	<0.71	<0.76	<0.82	<0.80	<0.84
Arsenic	0.64	1.2	<0.52	2.2	2.4	1.8
Barium	20	16	8.3	20	41	16
Beryllium	<0.39	<0.41	<0.41	<0.35	<0.41	<0.44
Cadmium	<0.77	<0.83	<0.82	<0.71	<0.87	<0.88
Calcium	<38	160	160	980	400	380
Chromium	39	17	15	10	16	14
Cobalt	21	<4.1	<4.1	<3.5	<4.1	<4.4
Copper	5.1	9.5	4.9	22	8.0	8.9
Iron	18000	23000	17000	8900	16000	24000
Lead	11	7.9	2.5	16	14	6.9
Magnesium	68	180	160	260	350	230
Manganese	730	33	25	26	88	88
Mercury	<0.13	<0.13	<0.14	<0.13	<0.15	<0.15
Nickel	<3.1	<3.3	<3.3	<2.8	6.3	<3.5
Potassium	62	81	120	250	190	310
Selenium	<0.62	<0.51	<0.52	<0.45	<0.48	<0.49
Silver	<0.79	<0.51	<0.76	<0.82	<0.80	<0.84
Sodium	<38	<0.71	<41	44	<41	<44
Vanadium	35	51	36	24	43	44
Zinc	7.0	15	9.1	110	30	61
Total Suspended Solids (TSS)	75.1	75.3	73.2	76.2	65.0	66.9

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WESTPOINT STEVENS, INC.
SUMMARY OF ANALYTICAL RESULTS
OCTOBER 1994

LOCATION/PARAMETER[a]	JP-17-SD	JP-18-SD	JP-19-SD	JP-20-SD	JP-21-SD	JP-22-SD
VOLATILE ORGANICS						
Acetone	0.005 QB (0.006)	0.043 B(0.011)	0.007 QB(0.007)	0.039 B(0.009)	<0.014	0.010QB(0.008)
2-Butanone	<0.012	0.008 Q	0.001 Q	0.010 Q	<0.014	0.002 Q
Chloroform	<0.012	<0.017	<0.014	<0.017	<0.014	<0.015
2-Hexanone	<0.012	<0.017	<0.014	<0.017	<0.014	<0.015
Styrene	<0.012	<0.017	<0.014	<0.017	<0.014	<0.015
Toluene	0.0006 QB(0.0006)	0.001 QB(0.0008)	<0.014	0.004QB(0.0008)	<0.014	<0.015
1,1,1-Trichloroethane	<0.012	<0.017	<0.014	<0.017	<0.014	<0.015
Trichloroethene	<0.012	<0.017	<0.014	<0.017	<0.014	<0.015
Xylenes (total)	<0.012	<0.017	<0.014	0.001 Q	<0.014	<0.015
TICs (no. detected)	0	0	0	4	0	0
SEMI-VOLATILE ORGANICS						
Acenaphthene	0.6 Q	<0.47	0.58 Q	0.17 Q	<2.3	<0.47
Acenaphthylene	<2.0	<0.47	0.18 Q	0.22 Q	<2.3	<0.47
Anthracene	2.1	<0.47	1.9 Q	0.92 Q	<2.3	<0.47
Benzo(a)anthracene	4.9	<0.47	5.7	3.4	<2.3	<0.47
Benzo(b)fluoranthene	3.7	<0.47	3.9	2.6 Q	0.49 Q	<0.47
Benzo(k)fluoranthene	3.4	<0.47	4.3	2.8	<2.3	<0.47
Benzo(a)pyrene	3.0	<0.47	3.8	2.2 Q	<2.3	<0.47
Benzo(g,h,i)perylene	0.86 Q	<0.47	1.7 Q	<2.7	<2.3	<0.47
Butylbenzylphthalate	<2.0	<0.47	0.23 Q	<2.7	<2.3	<0.47
Carbazole	<2.0	<0.47	1.4 Q	0.36 Q	<2.3	<0.47
Chrysene	4.8	<0.47	6.1	3.6	0.34 Q	<0.47
Dibenzofuran	<2.0	<0.47	0.39 Q	<2.7	<2.3	<0.47
Di-n-butylphthalate	0.48 Q	<0.47	<2.3	<2.7	<2.3	<0.47
Fluoranthene	9.2	<0.47	11.0	7.1	0.57 Q	<0.47
Fluorene	0.85 Q	<0.47	0.80 Q	0.23 Q	<2.3	<0.47
Indeno(1,2,3-cd)pyrene	0.94 Q	<0.47	1.7 Q	0.64 Q	<2.3	<0.47
2-Methylnaphthalene	0.20 Q	<0.47	<2.3	<2.7	<2.3	<0.47
Naphthalene	0.52 Q	<0.47	0.38 Q	<2.7	<2.3	<0.47
Phenanthrene	7.3	<0.47	8.2	2.9	0.30 Q	<0.47
Pyrene	7.8	<0.47	10.0	6.2	0.49 Q	<0.47
TICs (no. detected)	11	6	6	10	2	6
PCBs						
Aroclor 1260	<0.041	<0.047	<0.047	<0.055	<0.047	<0.047

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WESTPOINT STEVENS, INC.
SUMMARY OF ANALYTICAL RESULTS
OCTOBER 1994

LOCATION/PARAMETER[a]	JP-17-SD	JP-18-SD	JP-19-SD	JP-20-SD	JP-21-SD	JP-22-SD
INORGANICS						
Aluminum	5400	20000	19000	17000	21000	42000
Antimony	1.9	<0.89	<0.75	2.1	<0.7	<0.87
Arsenic	0.93	1.5	9.7	8.3	4.1	3.2
Barium	23	58	39	37	25	44
Beryllium	<0.36	<0.45	<0.41	<0.43	<0.38	<0.40
Cadmium	<0.72	<0.90	<0.82	<0.87	<0.77	<0.80
Calcium	710	340	19000	58000	1300	240
Chromium	13	12	13	29	16	30
Cobalt	<3.6	<4.5	<4.1	<4.3	<3.8	<4.0
Copper	7.8	8.1	10	170	13	9.7
Iron	11000	10000	18000	37000	18000	32000
Lead	5.1	13	12	14	8.1	9.0
Magnesium	340	250	1200	600	370	360
Manganese	64	55	150	190	87	43
Mercury	<0.13	<0.14	<0.15	<0.17	<0.12	<0.14
Nickel	<2.9	<3.6	3.5	11	4.5	5.4
Potassium	360	210	920	230	470	280
Selenium	<0.45	<0.44	<0.55	<0.57	<0.46	<0.54
Silver	<0.71	<0.89	<0.75	5.8	<0.7	<0.87
Sodium	<36	<45	290	190	<38	<40
Vanadium	19	36	37	41	39	68
Zinc	220	39	57	110	36	22
Total Suspended Solids (TSS)	75.8	71.1	67.8	60.5	83.0	70.0

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WESTPOINT STEVENS, INC.
SUMMARY OF ANALYTICAL RESULTS
OCTOBER 1994

LOCATION/PARAMETER[a]	JP-23-SD	JP-24-SD	JP-25-SD	JP-26-SD	JP-27-SD	JP-28-SD
VOLATILE ORGANICS						
Acetone	0.007QB(0.008)	0.006 QB(0.006)	0.012 QB(0.006)	0.011 QB(0.007)	0.008 QB(0.010)	0.008 QB(0.009)
2-Butanone	<0.015	<0.012	<0.013	0.003 Q	0.001 Q	<0.013
Chloroform	<0.015	<0.012	<0.013	<0.013	<0.015	<0.013
2-Hexanone	<0.015	<0.012	<0.013	<0.013	<0.015	<0.013
Styrene	<0.015	<0.012	<0.013	<0.013	0.0004 QB(0.0007)	<0.013
Toluene	<0.015	0.002 QB(0.0006)	<0.013	<0.013	0.0009 QB(0.0007)	<0.013
1,1,1-Trichloroethane	<0.015	<0.012	<0.013	<0.013	<0.015	<0.013
Trichloroethene	<0.015	<0.012	<0.013	<0.013	<0.015	<0.013
Xylenes (total)	0.0006 Q	<0.012	<0.013	<0.013	0.0004 Q	<0.013
TICs (no. detected)	0	0	0	0	2	0
SEMI-VOLATILE ORGANICS						
Acenaphthene	<4.9	<4.1	<2.2	<2.1	<0.52	<0.48
Acenaphthylene	<4.9	<4.1	<2.2	<2.1	<0.52	<0.48
Anthracene	<4.9	<4.1	0.15 Q	<2.1	<0.52	<0.48
Benzo(a)anthracene	<4.9	<4.1	0.53 Q	<2.1	<0.52	<0.48
Benzo(b)fluoranthene	<4.9	<4.1	0.39 Q	<2.1	<0.52	<0.48
Benzo(k)fluoranthene	<4.9	<4.1	0.42 Q	<2.1	<0.52	<0.48
Benzo(a)pyrene	<4.9	<4.1	<2.2	<2.1	<0.52	<0.48
Benzo(g,h,i)perylene	<4.9	<4.1	<2.2	<2.1	<0.52	<0.48
Butylbenzylphthalate	<4.9	<4.1	0.4 Q	<2.1	<0.52	<0.48
Carbazole	<4.9	<4.1	<2.2	<2.1	<0.52	<0.48
Chrysene	<4.9	<4.1	0.62 Q	<2.1	<0.52	<0.48
Dibenzofuran	<4.9	<4.1	<2.2	<2.1	<0.52	<0.48
Di-n-butylphthalate	<4.9	<4.1	<2.2	<2.1	<0.52	<0.48
Fluoranthene	<4.9	<4.1	1.1 Q	<2.1	<0.52	<0.48
Fluorene	<4.9	<4.1	<2.2	<2.1	<0.52	<0.48
Indeno(1,2,3-cd)pyrene	<4.9	<4.1	<2.2	<2.1	<0.52	<0.48
2-Methylnaphthalene	<4.9	<4.1	<2.2	<2.1	<0.52	<0.48
Naphthalene	<4.9	<4.1	<2.2	<2.1	<0.52	<0.48
Phenanthrene	<4.9	<4.1	0.72 Q	<2.1	<0.52	<0.48
Pyrene	<4.9	<4.1	1.0 Q	<2.1	<0.52	<0.48
TICs (no. detected)	2	1	1	1	8	9
PCBs						
Aroclor 1260	<0.049	<0.041	0.17	<0.042	<0.052	<0.048

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NA - Not analyzed.

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WESTPOINT STEVENS, INC.
SUMMARY OF ANALYTICAL RESULTS
OCTOBER 1994

LOCATION/PARAMETER[a]	JP-23-SD	JP-24-SD	JP-25-SD	JP-26-SD	JP-27-SD	JP-28-SD
INORGANICS						
Aluminum	13000	1300	3000	8000	36000	20000
Antimony	<0.96	<0.71	<0.75	<0.76	<0.99	<1.0
Arsenic	2.2	<0.41	2.0	0.91	0.62	<0.47
Barium	16	<3.8	25	27	39	48
Beryllium	<0.48	<0.38	<0.41	<0.39	<0.48	<0.45
Cadmium	<0.97	<0.77	<0.83	<0.79	<0.96	<0.90
Calcium	130	<38	1800	99	<48	220
Chromium	10	2.1	11	9.5	30	9.0
Cobalt	<4.8	<3.8	<4.1	<3.9	11	5.3
Copper	<1.9	<1.5	5.1	2.1	29	5.5
Iron	27000	9000	5100	9000	50000	21000
Lead	8.3	0.66	34	4.7	16	7.1
Magnesium	300	<38	610	100	1500	3200
Manganese	63	10	56	95	200	160
Mercury	<0.16	<0.13	<0.13	<0.13	<0.15	<0.13
Nickel	<3.9	<3.1	<3.3	<3.1	7.3	3.7
Potassium	360	<38	660	<39	1100	4100
Selenium	<0.61	1.3	<0.50	<0.49	<0.55	<0.49
Silver	<0.96	<0.71	<0.75	<0.76	<0.99	<1.0
Sodium	<48	<38	<41	<39	<48	<45
Vanadium	50	5.9	10	25	130	56
Zinc	7.3	3.1	110	4.9	28	22
Total Suspended Solids (TSS)	61.5	77.2	74.1	74.5	67.6	75.3

[a] - Analytical results are reported in parts per million unless otherwise noted.

B (organic) - Present in analytical method blank.

I - Estimated concentration due to severe matrix interference.

P - Digested spike recovery fails due to severe matrix interference.

Q - Qualitative mass spectral evidence of analyte present; concentration is less than reporting limit.

S - Value was determined by the Method of Standard Additions (MSA).

( ) - The number indicates the value found in the method blank.

* - Duplicated analysis not within control limits.

< - Concentration less than the Quantitation Limit or not validated if accompanied by "u" qualifier.

NA - Not analyzed.

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WESTPOINT STEVENS, INC.
SUMMARY OF ANALYTICAL RESULTS
OCTOBER 1994

LOCATION/PARAMETER[a]	JP-29-SD	JP-30-WW	JP-32-WW	TBLK-01	TBLK-02	TBLK-03
VOLATILE ORGANICS						
Acetone	0.026 B(0.008)	<0.010	<0.010	0.007 QB(0.005)	<0.010	0.009 QB(0.007)
2-Butanone	0.008 Q	<0.010	<0.010	<0.010	<0.010	<0.010
Chloroform	<0.016	<0.010	<0.010	0.005 Q	<0.010	0.005 Q
2-Hexanone	<0.016	<0.010	<0.010	<0.010	<0.010	<0.010
Styrene	<0.016	<0.010	<0.010	<0.010	<0.010	<0.010
Toluene	0.002 QB(0.0007)	<0.010	<0.010	0.0009 QB(0.0005)	<0.010	0.0006 QB(0.0004)
1,1,1-Trichloroethane	<0.016	<0.010	<0.010	<0.010	<0.010	<0.010
Trichloroethene	<0.016	<0.010	<0.010	<0.010	<0.010	<0.010
Xylenes (total)	<0.016	<0.010	<0.010	<0.010	<0.010	<0.010
TICs (no. detected)	0	0	0		0	
SEMI-VOLATILE ORGANICS						
Acenaphthene	<0.48	<0.010	<0.010	NA	NA	NA
Acenaphthylene	<0.48	<0.010	<0.010	NA	NA	NA
Anthracene	<0.48	<0.010	<0.010	NA	NA	NA
Benzo(a)anthracene	<0.48	<0.010	<0.010	NA	NA	NA
Benzo(b)fluoranthene	<0.48	<0.010	<0.010	NA	NA	NA
Benzo(k)fluoranthene	<0.48	<0.010	<0.010	NA	NA	NA
Benzo(a)pyrene	<0.48	<0.010	<0.010	NA	NA	NA
Benzo(g,h,i)perylene	<0.48	<0.010	<0.010	NA	NA	NA
Butylbenzylphthalate	<0.48	<0.010	<0.010	NA	NA	NA
Carbazole	<0.48	<0.010	<0.010	NA	NA	NA
Chrysene	<0.48	<0.010	<0.010	NA	NA	NA
Dibenzofuran	<0.48	<0.010	<0.010	NA	NA	NA
Di-n-butylphthalate	<0.48	<0.010	<0.010	NA	NA	NA
Fluoranthene	<0.48	<0.010	<0.010	NA	NA	NA
Fluorene	<0.48	<0.010	<0.010	NA	NA	NA
Indeno(1,2,3-cd)pyrene	<0.48	<0.010	<0.010	NA	NA	NA
2-Methylnaphthalene	<0.48	<0.010	<0.010	NA	NA	NA
Naphthalene	<0.48	<0.010	<0.010	NA	NA	NA
Phenanthrene	<0.48	<0.010	<0.010	NA	NA	NA
Pyrene	<0.48	<0.010	<0.010	NA	NA	NA
TICs (no. detected)	13	3	1	NA	NA	NA
PCBs						
Aroclor 1260	<0.048	<0.001	<0.001	NA	NA	NA

[a] - Analytical results are reported in parts per million unless otherwise noted.

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WESTPOINT STEVENS, INC.
SUMMARY OF ANALYTICAL RESULTS
OCTOBER 1994

LOCATION/PARAMETER[a]	JP-29-SD	JP-30-WW	JP-32-WW	TBLK-01	TBLK-02	TBLK-03
INORGANICS						
Aluminum	13000	<0.10	<0.10	NA	NA	NA
Antimony	<0.98	<0.020 S	<0.020 S	NA	NA	NA
Arsenic	<0.53	0.0076	<0.0088	NA	NA	NA
Barium	69	<0.050	<0.050	NA	NA	NA
Beryllium	<0.44	<0.005	<0.005	NA	NA	NA
Cadmium	<0.87	0.00036	0.00042	NA	NA	NA
Calcium	280	9.3	9.6	NA	NA	NA
Chromium	22	<0.010	<0.010	NA	NA	NA
Cobalt	6.1	<0.050	<0.050	NA	NA	NA
Copper	16	0.056	0.057	NA	NA	NA
Iron	13000	3.1	2.9	NA	NA	NA
Lead	17	<0.003	<0.003	NA	NA	NA
Magnesium	1900	5.2	5.1	NA	NA	NA
Manganese	45	0.024	0.022	NA	NA	NA
Mercury	<0.16	0.00021	<0.0002	NA	NA	NA
Nickel	5.8	<0.040	<0.040	NA	NA	NA
Potassium	660	39	38	NA	NA	NA
Selenium	<0.53	<0.006	<0.006	NA	NA	NA
Silver	<0.98	<0.01	<0.01	NA	NA	NA
Sodium	<43	1200	1200	NA	NA	NA
Vanadium	40	<0.050	<0.050	NA	NA	NA
Zinc	32	0.067	0.065	NA	NA	NA
Total Suspended Solids (TSS)	61.5	NA	NA	NA	NA	NA

[a] - Analytical results are reported in parts per million unless otherwise noted.
B (organic) - Present in analytical method blank.
I - Estimated concentration due to severe matrix interference.
P - Digested spike recovery fails due to severe matrix interference.
Q - Qualitative mass spectral evidence of analyte present; concentration is less than reporting limit.
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South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

January 23, 1991

Mr. Eddie Lainer
Westpoint Pepperell
Westpoint, Georgia 31833

Dear Mr. Lainer:

Please find enclosed a copy of the Screening Site Inspection (SSI) report for the J.P. Stevens & Company site in Oconee County, South Carolina. This copy of the report is provided for your information. The recommendation for further action (High, Medium, Low or No Further Action) is tentative and is subject to review by the US EPA before a final disposition is determined for the site.

If you have any questions about this report, please contact me.

Cordially,

Gerald Stewart
Site Screening Section
Bureau of Solid and Hazardous
Waste Management

GS/njw

Enclosure

ORIGINAL NOTIFICATION

U.S. EPA

EARL BOZEMAN
345 COURTLAND ST., N.E.
ATLANTA, GA. 30365

REFER TO EPA ID. NO.

SITE SCREENING INVESTIGATION
J.P. STEVENS & COMPANY
SCD 003 345 097
Oconee County

Completed by: Gerald Stewart
Site Screening Section
Bureau of Solid and Hazardous Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina

Draft Completed:	Reviewed:	Final Submitted:
December 31, 1990	January 6, 1991	January 8, 1991

TABLE OF CONTENTS

I. INTRODUCTION

J.P. Stevens & Company, Inc. - Clemson Plant (currently, Westpoint Pepperell) has manufactured textile products in Oconee County since 1951. Prior to constructing a wastewater treatment plant in 1976, J.P. Stevens discharged untreated wastewater directly into nearby surface water. The wastewater treatment plant (WWTP) is NPDES permitted to discharge into Hartwell Lake. The company utilized two on-site landfills to dispose of trash and other debris generated at the plant. The company operates an industrial waste permitted fly ash landfill (IWP #104), and two industrial waste permitted sludge landfill (IWP #135 and 186). The 103(c) notification submitted by the company indicates that drums containing organics, inorganics, heavy metals and other textile related waste are buried in a landfill owned by the company.

Laboratory analyses of samples collected during the Site Screening Investigation (SSI) indicates of groundwater and on-site soil contamination. 1,1,1-trichloroethane has been detected in groundwater and waste samples. An estimated 657 people within a three-mile radius of the site are dependent upon groundwater for their source of drinking water. Significant levels of heavy metals, volatile and semivolatile compounds have been detected in sludge and fly ash samples. No surface water samples were collected during the SSI; however, the potential for surface water contamination exist due to the close proximity of Hartwell Lake which is a source of recreational fishing and public water supply. The nearest public supply intake is approximately 2.8 miles north of the site, and is used by Clemson University to serve 15,000 people.

Based on observed contamination at the site and the number of targets potentially impacted, J.P. Stevens & Company is given a high priority for Listing Site Inspection (LSI-E).

II. SITE BACKGROUND AND HISTORY

A. Ownership History

Present Owner: Westpoint Pepperell
P.O. Box 71
Westpoint, Georgia 31833
(May 1988 - Present)

Present Operator: Westpoint Pepperell - Clemson Plant
Cherry Road
Clemson, South Carolina 29631
(Contact - Eddie Lainer (404)645-4515)

Previous Owners: J.P. Stevens & Company, Inc.
P.O. Box 2850
Greenville, South Carolina 29602
Utica and Mohawk Cotton Mills, Inc.
Utica, New York
(1951 - 1988)

Previous Operators: J.P. Stevens & Company, Inc.
Clemson Plant

J.P. Stevens & Co., Inc.
Utica Mohawk Division
Clemson, South Carolina

Utica Mohawk Mill
Clemson, South Carolina

(Ref. 1)

B. Site Location and Description

J.P. Stevens - Clemson Plant is located approximately 2.5 miles southwest of Clemson, South Carolina (off Cherry Road in Oconee County). Portions of the 900 acre property are bounded by Hartwell Lake (Ref.2). Geographic coordinates for the site are 34 degrees, 37 minutes, 37.3 seconds north latitude and 082 degrees, 52 minutes, 24.4 seconds west longitude (Ref.2).

The hazardous waste site reported in the company's CERCLA 103(c) notification consisted of a landfill used to dispose of drums containing textile waste. The 103(c) notification does not give the specific location of the landfill on the company's property (Ref.3). During the site reconnaissance inspection, company officials made available a site layout showing the location of monitoring wells and waste units on the company's property. The site reconnaissance team (SRT) observed the following waste areas during a visual inspection conducted on May 17, 1990:

Area #1: Old Trash disposal Site and Landfill

The old trash disposal site is located approximately 800 feet south-southeast of the plant. The old trash disposal site contained various types of debris including construction material, cardboard, and metal drums. The approximately 1.5 acre area was weedy and contained no trees.

The landfill area is directly adjacent the old trash disposal site. The landfill has a steep slope leading toward Hartwell Lake (southeast) and a dirt road (southwest). The slope is possibly due to fill dirt at the landfill. A drum was noticed on the landfill area. At the western edge of the landfill along the dirt road, there were a cut-opened drum and a green tank labeled sodium hydroxide. The SRT observed stained soil and stressed vegetation in this area. According to company officials, the landfill was closed prior to the opening of the permitted landfills. The landfill was in use for 10 to 15 years, but has not been used in the past 25 years. The landfill area encompasses approximately 1.5 acres. This landfill is possibly the landfill reported in the 103(c) notification.

Area #2: Old Wastewater Treatment Pond

The old wastewater treatment pond was used approximately 30 years ago. The area is partially filled with construction debris. No concrete lining was visible during the site reconnaissance visit.

Note: In areas #1 and 2, poor housekeeping was apparent. Drums and construction debris were spread throughout the area.

Area #3: Sludge Staging Area

The sludge staging area is located approximately 200-300 feet from Lake Hartwell on the southern peninsula (westside). The area consists of an approximately 3 acre sludge staging bed. Previously, this area was a permitted sludge landfill. The area has a slight slope toward the lake. Weeds have grown over the inactive portion of the staging area. Dark (black) sludge is visible on the surface.

Area #4: Sludge Drying Area near WWTP

This area is designated as Landfill #3 on map (blueprint) provided by the company. The area, approximately the size of a football field, has black/gray sludge spread over the surface. The sludge is spread-out to remove moisture and permit drying prior to disposal at the landfill. Moisture and runoff is collected in a pond area (unlined) located at the eastern edge of the staging

area. Runoff from the pond is pumped into the WWTP. Sludge has accumulated in the pond area.

Note: There are four above-ground storage tanks located near the WWTP. Stained soil in the tank farm area indicates spillage has occurred.

Area #5: Old Trash Disposal Site and Ravine

This area is located north-northwest of the active sludge area (#4). There is a locked gate to control access to the approximately 3 acre disposal area. The soil consists of orange clayey sands, and erosion is apparent in this area. The slope is predominately to the east to northeast. The SRT observed construction debris (bricks & blocks) on the surface. No drums or other waste were observed. A ravine area is located to the west of the landfill (fill area). This area is where explosion debris was discarded according to company officials. However, the area is overgrown with weeds to the point that the SRT was unable to enter the ravine.

Area #6: Active Fly Ash Disposal Area

Site #6 is located north of Hwy 37. This area, designated as site #1 on the blueprint, encompasses approximately 3 acres. The ash is a black/grey. The site is sloped southeast. A gate is used to prevent access to the site.

A site reconnaissance trip report is available in Appendix A.

C. Regulatory History/RCRA Summary

There has been regulatory involvement at J.P. Stevens & Co., since its construction in 1951. On March 14, 1951, the Utica and Mohawk Cotton Mills, Inc. requested permission from the South Carolina Water Pollution Control Authority (SCWPCA) to discharge industrial effluent from the plant into nearby surface water (Ref.4). The S.C. State Board of Health approved Utica Mills' discharge request on April 7, 1951, and issued construction permit #2 (Ref.5). On February 13, 1957, J.P. Stevens & Co., Inc. submitted an application for a permit to discharge 2.5 million gallons per day of industrial waste into the Seneca River (Ref.6). A July 29, 1959 letter from SCPCA to Lockwood Greene Engineering, Inc. indicated that there were waste discharge problems at J.P. Stevens & Co., Inc.. - Clemson facility (Ref.7). Afterward, Lockwood Greene Engineering Inc.(LGE) performed an investigation (June 1960) of Utica Mohawk's waste and proposed a scheme for disposal of industrial waste generated at the facility. The SCPCA rejects the original plan due to the high pH (12-12.5) and high BOD (Ref.8). In October 1960, Lockwood Greene Engineering updated the

proposed plan to include the collection of industrial waste and effluent from the existing domestic septic tank into a holding basin. Waste in the holding basin was aerated then pumped to a dilution chamber located in Hartwell Lake Reservoir. The waste was diluted with water then pumped through jet nozzles to the surrounding lake water. The South Carolina State Board of Health and Water Pollution Control Authority (currently SCDHEC) granted J.P. Stevens & Co. permission to construct the industrial and domestic waste disposal system in accordance with the LGE's proposal, permit # 313 in October 1960 (Ref.9). Laboratory results of samples collected from the waste facility (permit #313) in 1972 show that the waste disposal system was in use (Ref 10).

Based on information in Departmental files, there appeared to have been changes in State and Federal regulations between 1972 and 1974 regarding the discharge of untreated wastewater into surface waters. In March 1974, J.P. Stevens & Co. submitted plans for a wastewater treatment system as required by NPDES #SC0000591 (Ref.11). In March 1975, J.P. Stevens submitted an application for a permit to construct a waste treatment facility (Ref.12). On April 14, 1975, SCDHEC granted J.P. Stevens permission to constructed (#3397) the propose wastewater treatment facility. The waste treatment facility consisted of three equalization basins, two aeration basins, an effluent pond, and existing equalization basin and associated pumping, filtering and chemical treatment equipment (Ref.13). An October 13, 1976 letter from Piedmont Engineers to J.P. Stevens indicates that SCDHEC approved operation of the plant wastewater treatment facility on October 11, 1976 (Ref.14). The issuance of a permit to operate by SCDHEC could not be located in Departmental files. However, J.P. Stevens & Co. currently operates the aforementioned wastewater treatment facility under NPDES permit #SC0000591 (Ref.15).

J.P. Stevens & Co. operates three industrial waste permitted landfills (IWP-104, IWP-135 and IWP-186) located on the facility property. The IWP-104 landfill was permitted by SCDHEC - Solid Waste Management Division and in use for disposal of fired boiler fly ash prior to the wastewater treatment plant construction in 1976 (Ref.16). A 1974 memorandum from SCDHEC Solid Waste Division to Piedmont Engineers stated that it should be acceptable to dispose of sludge in the fly ash landfill, but approval should be obtained prior to disposal (Ref.17). IWP-135 landfill replaced IWP-104 and was constructed in conjunction with the wastewater treatment system in 1976. This landfill (IWP-135) was used for the treatment of plant sludge for a short period of time but was stopped due to objections raised by local residents (Ref.16). As a result of discontinued use of IWP-135 for sludge disposal, the IWP-104 landfill was then converted (in 1978) to an interim sludge and fly ash disposal area (Ref.16). SCDHEC issued IWP-186 in 1981 to J.P. Stevens & Co. permitting the landspreading of wastewater

treatment plant sludge (Ref.16). Groundwater monitoring is required as a part of the IWP process. Monitoring results are reported to SCDHEC-Groundwater Protection Division.

J.P. Stevens & Co. submitted SCDHEC - "Notification of Hazardous Waste Activity" on December 20, 1979. According to this state notification, the company generated and stored scrap metal drums containing traces of chemical, and screenings containing ignitable waste. Additionally, the notification listed the sludge landfill activity (Ref.18). SCDHEC records indicate J.P. Stevens & Co. received interim status, but the interim status was withdrawn in September 1982 (Ref. 19). However, documentation of a withdrawal request submitted by the company and SCDHEC action on such a request are not available in departmental files. Currently, J.P. Stevens & Co. is not classified as a RCRA facility.

J.P. Stevens & Co. operates several boilers, ranges and a print dryer that are permitted (# 1880-0008) by SCDHEC Bureau of Air Quality Control (BAQC). Compliance inspections conducted after the issuance of the 1985 permit indicate that JPSC has historically been in compliance with pollution control regulations (Ref. 37).

J.P. Stevens & Co. submitted CERCLA 103(c) "Notification of Hazardous Waste Site" for an on-site landfill utilized by the company between 1952 and 1981 to the USEPA on June 8, 1981 (Ref.3).

D. Process and Waste Disposal History

Since 1951, the J.P. Stevens & Co. - Clemson Plant has been involved in the manufacturing and finishing of textile products. The manufacturing of finished goods include bleaching, printing and fabrication of textile products (Ref.4). Prior to constructing a wastewater treatment system in 1976, the company discharged between 2.5 and 3.0 million gallons per day of untreated wastewater into nearby surface water (Ref.5,6). According to a 1957 permit application, J.P. Stevens discharged the following monthly quantities of industrial wastes:

	Pounds/Month
Caustic Soda	823,000
Hydrogen Peroxide	40,800
Sodium Silicate	43,900
Acetic Acid	45,000
Sodium Hypochlorite	9,300
Sodium Hydrosulphite	37,700
Starch Sizing	250,000

The industrial waste stream was characterized as having a pH of approximately 12.0 (Ref.20). J.P. Stevens & Co. constructed and operated a holding basin and dilution chamber in 1960. This system

was used to mix, dilute and lower the pH of the waste being discharged into Hartwell Lake (Ref.9). Wastewater is currently discharged through a network of collection treatment basins NPDES permitted in 1976 (Ref.12,13).

J.P. Stevens & Co. operated three permitted (IWP-104, 135 and 186) landfills and one unpermitted landfill. According the company's 103(c) notification, J.P. Stevens & Co, utilized a landfill from 1952 to 1981 to dispose of drums containing organic and inorganics compounds, solvents, heavy metals, acids, bases and other textile related wastes (Ref.3). The amount of waste disposed in the unpermitted landfill is unknown. The following characterizations of the industrial waste permitted landfill operated by J.P. Stevens & Co. are taken from an engineering report completed by the Piedmont Group in 1987 for the referenced facility:

IWP-104 (South #2) is an 180,000 square foot landfill utilized by J.P. Stevens to dispose of fly ash generated from the use of coal boilers, and sludge from the WWTP generated between 1978 and 1981. The landfill is used for drying and spreading of sludge during wet weather and during winter. The engineering report indicates that fly ash portion of the landfill is no longer in use. The combine capacity of this landfill is 580,000 cubic feet.

IWP-135 Landfill (North #1) was constructed in conjunction with the wastewater treatment system in 1976. The North #1 landfill was used for a short period of time for disposal of sludges generated by the wastewater treatment facility. The North #1 landfill is approximately 200,000 square feet and is used for fly ash disposal. North #1 has a capacity of 1,000,000 cubic feet.

IWP-186 Landfill (Sludge #3) was developed to provide dewatering, spreading, stabilization and disposal of wastewater treatment sludge. Sludge #3 landfill is approximately 225,000 square feet which was used to dispose of some fly ash in the winter time. This landfill has a capacity of 1,687,500 cubic feet, and is designed for an ultimate depth of 7.5 feet. Fly ash disposal on the surface is reported at 1 to 2 feet.

The total amount of waste disposed of in the industrial landfills is unknown. Based on the estimated landfilled solids disposed of in the ash and sludge landfills reported in Piedmont Group's report, J.P. Stevens and Co. disposed of approximately 40,750 cubic yards of waste in the referenced landfills (Ref. 16).

Extraction procedures performed on WWTP sludge showed 1,000 ppm of barium and 280 ppm of chromium. Extraction procedures performed on fly ash showed 1100 ppm of barium (Ref.12). These analyses provides an indication of the heavy metal constituents of

the waste disposed of in the fly ash and sludge landfill. The pH of the WWTP sludge analyzed in 1986 is approximately the same as the pH of industrial waste reported in 1960 (Ref.12,20).

J.P. Stevens & Co. stored scrap drums possibly containing traces of chemicals. The company estimated that is generated 3575 pounds per year of this waste which the company sold to J & B Smith Co. of Atlanta, Georgia. Additionally, the company estimated that it generated 19,000 pounds (dry weight) of screenings, paper and lint exhibiting ignitable characteristics. Waste Management of Spartanburg, South Carolina is reported as receiving the waste (Ref.18). According to Donnie Whitten of Westpoint Pepperell, all hazardous waste generated at the facility is transported offsite for disposal by Statewide Services and Alternative Energies (Ref. 21).

According to an updated preliminary assessment report completed by Craig Dukes, J.P. Stevens & Co. disposed of rubble from an explosion that occurred in 1967 that occurred at the plant in ravines located on the plant property. The rubble may have included paste and print pigments, and transformer oil (Ref.22).

E. Remedial and Removal Actions

Beyond the upgrading of the wastewater treatment facility at the J.P. Steven & Co. - Clemson plant, no regulatory required remedial or removal actions are known to have occurred at the site. However, Westpoint Pepperell conducted "housekeeping" activities, which involved removal of some drums from the existing trash fill area (Ref. 23).

F. Demography/Regional Setting

J.P. Steven - Clemson plant is located approximately 2.0 miles southwest of Clemson, South Carolina and 5.0 miles east of Seneca, South Carolina. The majority of the population within a four mile radius of the site reside in one of the two incorporated areas. All other areas surrounding the site are rural. Table 1 gives population estimates within a four mile radius of the site. These estimates are derived by multiplying the number of houses counted on a U.S.G.S. Topographic Map by 3.8 (Ref.2).

TABLE 1: ESTIMATED POPULATION DISTRIBUTION WITHIN A FOUR-MILE RADIUS

Radius	# Houses	Estimates	Cumulative Total
0.25	23	87	87
0.50	40	152	239
1.00	48	182	421
2.00	289	1098	1519
3.00	806	3063	4582
4.00	1422	5404	9986
	2628		

Clemson University has a population of approximately 15,000 people (Ref. 35).

Land use within a three-mile radius of the site include residential, commercial/industrial, agricultural and recreational usage. A 1983 USDA map of farmlands in Oconee County indicates that the site is located approximately 1100 feet south of prime agriculture land (Ref.24). The site is located adjacent to Hartwell Lake which is a major source of recreational activities (Ref.2,25).

III. FIELD INVESTIGATIONS

A. Inspections and Sampling Activities

The following personnel with the South Carolina Department of Health and Environmental Control (SCDHEC) conducted a site reconnaissance investigation at J.P. Stevens & Co. on May 17, 1990:

Gerald Stewart, Site Screening Section
Susan Snook, Site Screening Section
Gerald Shealy, Waste Assessment Section
Judy Canova, Division of Hydrogeology
Tommy Hyde, District Hydrogeologist

Site representatives present during the site reconnaissance included:

Donnie Whitten, West Point Pepperell
Eddie Lainer, West Point Pepperell
G. Todd, West Point Pepperell
Mr, James, West Point Pepperell

Upon arrival at the facility, the site reconnaissance team met with site representatives to explain the purpose of our visit. Gerald Stewart requested information concerning previous owners and

RCRA activities at the site. Company officials made available a site layout showing the location of monitoring wells and waste disposal and treatment and holding (wind drying) areas. Mr. Whitten, Lainer and James accompanied SCDHEC personnel during the site reconnaissance. The condition of the site was videotaped (Ref.21).

The following SCDHEC personnel conducted sampling activities at J.P. Steven & Co. (JPSC) on June 5, 1990:

Gerald Shealy, Waste Assessment Section
Pete Saussy, Emergency Response Section
Jacob Baker, Emergency Response Section
June Bristol, Waste Assessment Section
Pamela James, Waste Assessment Section

The sampling team conducted sampling activities in Level D protection. Weather conditions were sunny and hot with temperature in the 80's. Westpoint Pepperell elected to split samples. Law Environmental Inc. collected split samples on behalf of the company. No air measurements were taken during sampling activities (Ref.23). The sampling team was unable to collected a sample from monitoring well JPSC-MW-02 during the June 5, 1990 sampling trip because the well never sufficiently recharged. Therefore, the well was reinspected and sampled on June 19, 1990 by Pamela James, June Bristol and Gerald Stewart, SCDHEC personnel. Split samples were collected by Law Environmental, Inc, on behalf of the company. Weather conditions were sunny and hot with temperatures in the 90's (Ref.26).

B. Sample Types and Locations

During sampling activities conducted at J.P. Stevens & Company on June 5 and 19, 1990, the sampling team collected six surface soil samples (JPSC-SS-05, JPSC-SS-07, JPSC-SS-08, JPSC-SS-11 and JPSC-SS-12), one waste sample (JPSC-WA-06), and one surface water sample (JPSC-SW-09), three groundwater samples (JPSC-PW-01, JPSC-MW-02 and JPSC-MW-03) and associated equipment blanks (JPSC-MW-04 and JPSC-MW-16). A description of sample locations, and rationale for collecting each sample and explanation of variations from sampling plan are given in Table 2. Appendix A contains a sample location map, sampling trip reports and the sampling plan prepared for the site.

Table 2: Sample Locations and Descriptions

Sample Code	Sample Type	Locations/Rationale/Description
JPSC-PW-01	Groundwater	Location: This sample was collected from a domestic well located approximately 1/3 mile west-northwest of the site. Rationale: JPSC-PW-01 has been selected to serve as a background sample. Description: The sample appeared clear and had an approximate pH of 4.8 at the time of collection.
JPSC-MW-02	Groundwater	Location: JPSC-MW-02 was collected from the on-site monitoring well designated as LF-2-2 on a site layout provided by the company. LF-2-2 is located approximately 1600 feet south-southeast of the main plant. Rationale: JPSC-MW-02 is downgradient of portions of the site. Therefore, this sample has been collected to determine if contaminants from the site are impacting groundwater. Description: This sample appeared orangish-red (muddy) and had an approximate pH of 5.8 at the time of collection.
NOTE: JPSC-MW-02 was collected on June 19, 1990.		
JPSC-MW-03	Groundwater	Location: This sample was collected from the monitoring well LF 3-3 which is located approximately 1100 feet west-southwest of the plant. Rationale: LF-3-3 is considered downgradient of "Site #3" landfill, and has been selected to determine the concentration of constituents downgradient of the site. Description: The sample appeared orangish-red (Muddy) and had an approximate pH of 5.0 at the time of collection.

JPSC-MW-04	Blank	Equipment blank collected on June 5, 1990.
JPSC-MW-16	Blank	Equipment blank collected on June 19, 1990.
JPSC-SS-05	Surface Soil	Location: This sample was collected approximately 50 yards north of the fly ash landfill (Site #1 designated by company). Rationale: JPSC-SS-05 is designated as a background sample. Description: The sample consisted of reddish brown fine grained soil containing approximately 20% sand and 80% clay. Sampling depth was 4 inches.
JPSC-WA-06	Fly Ash	Location: This sample was taken from the approximate center of the fly ash landfill which is located north of Highway 37. Rationale: JPSC-WA-06 has been selected to determine the level of hazardous constituents within the fly ash. Description: The sample consisted of black powdery ash mixed with kliners. Sampling depth was 4 inches.
JPSC-SS-07	Surface Soil	Location: This sample was collected from the "existing trash fill area" (company's designation) which is located approximately 800 feet south-southeast of the plant. Rationale: To determine the contaminant levels within the disposal area. Description: JPSC-SS-07 consisted of fine grained dark brown to black clay mixed with some sand. Sampling depth was 4 inches.

JPSC-SS-08	Surface Soil	Location: JPSC-SS-08 was collected from the "toe" (southern end) of the "existing trash fill area". Rationale: This area contained stained soil and stressed vegetation during the recon. Therefore, it was selected to determine contaminants levels in the area. Description: The sample contained dark brown and black fine grained clay mixed with sand. Sampling depth was 2.5 feet.

NOTE: Based on Sampling depth of JPSC-SS-08, the sample is considered a subsurface soil sample. Additionally, waste containers, equipment and other debris observed during the site reconnaissance were removed prior to sampling activities by the company.

JPSC-SW-09	Surface/ Water	Location: This sample was collected from the former wastewater pond which is located approximately 300 feet south-southeast of the existing trash fill area. Rationale: To determine if the wastewater pond used approximately 30 years ago still contains hazardous substances. Description: JPSC-SW-09 consisted of green surface water with an algae-like odor.
JPSC-SS-10	Surface Soil	Note: This sample was to be collected from the area designated as Site #2 landfill by the company. However, this sample was eliminated in the field by the sampling team after determining that sample JPSC-SS-11 and SS-13 contained the same material.
JPSC-SS-11	Surface Soil	Location: This sample was collected from a small sludge drying area that is located approximately 550 feet northwest of Site #2 landfill. The sample was taken 150 feet from the entrance into the waste area. Rationale: To determine if sludge drying activities have released hazardous substances.

OK BASED ON INFO ON PAGE 6

		Description: JPSC-SS-11 contained black dried sludge collected from a depth of 4 inches.
JPSC-SS-12	Surface Soil	Location: JPSC-SS-12 was collected from the tank farm area near the wastewater treatment plant. Rationale: The tanks contain ammonia hydroxide, phosphoric acid and ferric chloride. Stains present within the tank farm area indicate spillage has occurred. Description: JPSC-SS-12 consisted of moist red clay and was collected from a depth of 6 inches.
JPSC-SS-13	Surface Soil/ Sludge	Location: JPSC-SS-13 was collected from the staging area designated as Site #3 landfill by the company. This area is located approximately 800 feet southwest of the plant. Rationale: Same as JPSC-SS-11. Description: JPSC-SS-13 contained moist black to dark brown sludge. Sampling depth 4 inches.

NOTE: Based on description reported for samples JPSC-SS-11 and JPSC-SS-13, these samples should be considered as sludge (SL) or waste (WA) samples.

JPSC-SS-14	Surface Soil	This sample was eliminated in the field by the sampling team due to the inaccessibility (briars head high) of the area. However, the sampling team misunderstood the proposed sampling location which was in the open field area with little-to-no vegetation.
JPSC-SW-15	Surface Water	This sample was eliminated by the sampling team due to misinterpretation of the sampling plan. The sampling plan called for the collection of a sample from an on-site stream or from the lake. The sampling team could not locate an on-site stream.

C. Analytical Results

All samples have been analyzed for total metals, volatile organics, base-neutral acid-extractable and PCBs by SCDHEC Bureau of Laboratory Services in Columbia, South Carolina. A summary of analytical results is given in Table 3.1-3.3. A complete copy of the results are given in Appendix B.

TABLE 3.1 - Summary of Groundwater Analyses

Contaminant Detected(ppm)	Background JPSC-PW-01	JPSC-MW-02*	JPSC-MW-03	JPSC-MW-04	JPSC-MW-16
Barium	<0.05	0.68	0.1	<0.05	<0.05
Chromium	0.01	0.12	0.02	<0.01	<0.01
Manganese	0.01	1.3	0.49	<0.01	<0.01
Nickel	<0.02	0.13	<0.02	<0.02	<0.02
Butylbenzl-phthalate	<0.004	0.197 N.D.	<0.004	0.0098	0.01
Di-N-butyl-phthalate	<0.004	0.118 N.D.	<0.004	<0.004	<0.004
1,1,1-Tri-chloroethane	<0.002	0.0054 N.D.	<0.002	<0.002	<0.002
Cyclohexene	ND	D	ND	ND	ND
4-hydroxy-3-methoxylben-zaldehyde	ND	D	ND	ND	ND
Cyclotetra-decane	ND	D	ND	ND	ND
Z-9-Octadecen-1-OL	ND	D	ND	ND	ND
2-4-Hexadiene	ND	D	ND	ND	ND
Cyclohexanane (ACN)	ND	D	ND	ND	ND
1-Hexadecene	ND	D	ND	ND	ND
1,2-Benzene dicarboxy-lic Acid, Butyl cyclohexyl ester	ND	D	ND	ND	ND
4,4'Butyldene-bis 2-(1,1-dimethyl-ethyl) 5-Methyl phenol	ND	D	ND	ND	ND

D = Detected
ND = Not Detected
< = Less than

***A metal pipe was used to loosen a bailer that wedged into MW-02. Dried paint was observed on the pipe. Therefore, the metal results reported for JPSC-MW-02 may have been influenced by the galvanized pipe. Volatile and BNA samples containers were filled prior to the bailer becoming wedged (Ref. 26).**

TABLE 3.2 - Summary of Soil Analyses

Contaminant Detected (ppm)	Background JPSC-SS-05	JPSC-SS-07	JPSC-SB-08	JPSC-SS-12
Arsenic	<0.5	49	<0.5	<0.5
Barium	24	50	22	18
Lead	11	42	14	6
Nickel	2	3.5	2.9	2
PCB 1260	<0.01	<0.01	0.3	<0.01
Phenol	<0.3	0.537	<0.3	<0.3

TABLE 3.3 - Summary of Waste Analyses

Contaminant Detected (ppm)	JPSC-WA-06 Fly Ash	JPSC-SS-11 Sludge	JPSC-SS-13 Sludge	JPSC-SW-09 Surface Water*
ARSENIC	170 220 IN OVRS	14 5.9 IN OVRS	19 11 in ovrs mg/kg	0.007
BUTYLBENZYL PHTHALATE	<0.3	<0.3	< 3	<0.004
ANTHRACENE	1.77	<0.3	< 3	<0.004
B(A)ANTHRACENE	4.48	<0.3	< 3	<0.004
B(B)FLUORANTHENE	3.76	<0.3	< 3	<0.004
B(K)FLUORANTHENE	3.72	<0.3	< 3	<0.004
B(K)PYRENE	3.52	<0.3	< 3	<0.004
BIS(2-ETHYLHEXYL) PHTHALATE	<0.3	4.49	< 3	<0.004
CHRYSENE	5.39	<0.3	< 3	<0.004
FLUORANTHENE	13.1	<0.3	< 3	<0.004
NAPTHALENE	0.649	<0.3	< 3	<0.004
PHENANTHRENE	8.09	<0.3	< 3	<0.004
PYRENE	9.93	<0.3	< 3	<0.004
2-METHYLNAPHTHALENE	0.745	<0.3	< 3 12.0 IN OVRS	<0.004
PHENOL	0.03	<0.3	84.7	<0.004
4-METHYLPHENOL	<0.3	<0.3	4.03 N.D. IN OVRS	<0.004
BENZOIC ACID	<0.3	0.842	< 3	<0.004
BARIUM	270	21	44	<0.004
CHROMIUM	26	56	26	<0.05
LEAD	30	25	19	<0.01
NICKEL	24	9.2	7.7	<0.05
TOLUENE	<0.02	<0.02	1.1 .32 IN OVRS	<0.002
1,1,1-TRICHLOROETHANE	<0.02	<0.02	8.46 N.D. IN OVRS	<0.002

* JPSC-SW-09 is listed with waste samples because the sample was collected from the former wastewater pond. However, the results show no significant contaminant levels.

< = Less than instrument detection limit.

IV. GROUNDWATER PATHWAY

A. Regional Hydrogeology

A hydrogeologic review of the J.P. Stevens & Company site completed on September 12, 1990 by SCDHEC - Division of Hydrogeology indicates the site is underlain by a saprolite and a bedrock geologic unit. The saprolite unit consists of a heterogenous mixture of sand, silt and clay that extends from the ground surface to a depth of forty (40) feet. The hydraulic conductivity of the saprolite unit is estimated to be 10-3 to 10-5 centimeters per second. The bedrock units occurs beneath the saprolite and consists of medium to coarse grained foliated bedrock. The permeability of bedrock is estimated to be greater than 10-3 centimeters per second where the bedrock is fractured. The aquifer of concern includes the interconnected saprolite and bedrock units. The depth to groundwater is estimated to be between five and thirty feet at the site. The groundwater flow direction appears to be toward the east, west and south in the surficial unconfined aquifer. The direction of groundwater flow in the fractured bedrock is unknown. Recharge and discharge of the aquifer of concern occurs on a local scale. The site is not located in a region of karst topography (Ref.27).

B. Groundwater Use

A well inventory within a four-mile radius of the site revealed that groundwater from the aquifer of concern is used for irrigation and domestic water supply. According to the well inventory conducted by SCDHEC Division of Hydrogeology, the nearest domestic well is located 0.3 miles east of the J.P. Steven's Plant. The only irrigation well reported is operated by Clemson University (PKS-198) experiment station and is located 1.65 miles northeast of the plant (Ref.27). An estimated 657 people are dependent upon groundwater wells located within three miles of the site, and an estimated 1136 people utilize groundwater wells within a four mile radius for their source of drinking water (Ref.2). These estimates are based on assuming 3.8 persons per house counted from U.S.G.S. topographic maps in area not served by public water lines (Ref.2).

C. Groundwater Impact

The significance of the groundwater results for samples analyzed during the Site Screening Investigation is uncertain. The greater than three times background concentration of barium, chromium, manganese and nickel may have been influenced by the previously mentioned galvanized pipe. According to Judy Canova of SCDHEC Division of Hydrogeology, the numerous tentatively identified compounds and two phthalates detected may have been contributed by a "Waterra" pump used as MW-02 prior to collecting

the sample on June 19, 1990 (Ref.28). The detection of 1,1,1-trichloroethane in on-site sludge and groundwater samples indicates that waste handling practices at the site may be contributing to groundwater contamination (See Table 3.1,3.3). However, this contaminant was not detected in split samples analyzed by Law Environmental National Laboratories (Ref. 29). Additional groundwater sampling is necessary to appropriately evaluate the site's impact on groundwater.

V. SURFACE WATER PATHWAY

A. Regional Characteristics

The property boundary of the J.P. Stevens & Company - Clemson plant is located adjacent to Hartwell Lake in Oconee County. Hartwell Lake has a surface area of approximately 56,000 acres. The lake is ranked fourth in surface area and first in volume (2,549,000 acre-feet) among lakes in South Carolina (Ref.30). Hartwell Lake is located approximately 250 feet south to southwest of the landfill designated as "Site No. 2 Landfill" (Appendix A). Using the on-site waste units, the slopes of the "Site No. 2 Landfill" and existing trash fill area are estimated to be approximately 4.0% (Ref.2). However, the dilution chamber used prior to constructing the wastewater treatment facility in 1976 was located in Hartwell Lake. Engineering drawings prepared by Piedmont Engineers indicates that the sludge landfill #3 has a slope of 5% (Ref.31). Runoff from sludge landfill #3 is collected in a retention pond that discharges into the WWTP (Ref.16,21). The intervening terrain slope from the existing trash landfill is estimated to be 7% to the south and southeast (Ref.2). Hartwell Lake is the nearest surface water body and extends greater than 7.0 miles to the north and 15 miles south-southeast of the site (Ref.2,30). The lake is considered a static surface water. The upgradient drainage area is estimated to be 10 acres for the site (Ref. 2).

The estimated one-year twenty-four hour rainfall in the vicinity of the site is 3.5 inches (Ref.32). The two-year twenty-four hour maximum rainfall intensity expected in Oconee County is 5 inches (Ref.33).

B. Surface Water Use

There are no surface water intakes located within one stream mile of the J.P. Stevens & Company site used of drinking purposes. The nearest drinking water intake is located in Hartwell Lake approximately 2.8 miles north of the site and is operated by Clemson University (Ref.34). The Clemson University's water system has 145 retail meters and serves a population of 15,000 people

(Ref.35). Duke Power Company operates a surface intake located in Hartwell Lake approximately 15-stream miles south-southeast of the site (Ref.34). Duke Power Company meters water to numerous municipalities whose combined population served is approximately 100,000 people (Ref.22,35). The South Carolina Water Resources Commission's State Water Assessment (1983) does not report any commercial, agricultural, irrigation usage of surface water within 15 stream miles of the site. According to the Updated Preliminary Assessment of J.P. Stevens and Company completed by Craig Dukes, two irrigation intakes used by Clemson University to water test crops are located between one and two stream miles south of the site (Ref.22). According to Mark Harvley - SCDHEC Appalachia I District Consultant recreational fishing, boating and swimming occurs in Hartwell Lake within one stream mile of the probable point of entry (Ref.25).

A Listing of endangered species and species of regional concerned published by the South Carolina Heritage Trust County Search Program reports regional concern species of Lysimachia fraseri, Panax quinquefolius and, Pycnanthemum montanum as having their primary habitat in Hartwell Lake near Clemson (Ref.36). These species may not have survived in an aquatic environment. Based on topographic features, there is no freshwater wetlands within 15 miles of the site (Ref.2, 37).

C. Surface Water Impact

No surface water samples were collected from Hartwell Lake or any tributary streams during the Site Screening Investigation due to the inability to locate an on-site stream (Ref.23). Therefore, the impact of waste disposal practices on nearby surface water is unknown. However, the potential exists for surface water contamination due to the close proximity of the waste disposal units to the lake and the various contaminants detected in sludge and groundwater samples. Additionally, the discharge of untreated waste prior to 1976 into Hartwell Lake (or the river) may have left residual contaminants in lake sediment.

VI. AIR PATHWAY

The emissions from J.P. Stevens & Company's boilers, ranges and dryer are monitored by SCDHEC Bureau of Air Quality Control for compliance. Annual compliance inspections by the department indicate that the company has been in compliance with air pollution control regulations (Ref.37). No air monitoring or sampling of the site have occurred; therefore documentation of the impact of the site on air quality is not available. The detection of 1,1,1-trichloroethane (8.46 ppm) and toluene (1.0 ppm) in sample JPSC-

SS-13 (sludge) indicates a potential exists for a release of volatile-organic compounds to the atmosphere (See Table 3.2).

The nearest residence is located approximately 650 feet northwest of the fly ash landfill (Ref.2). The estimated population distribution within four miles of the site is given in Table 1. Land use within a four-mile radius of the site includes residential, industrial and recreational usage (Ref.2,25).

VII. ON-SITE EXPOSURE PATHWAY

A. Direct Contact Mode

Access to the sludge landfills and existing trash fill areas located south of Highway 37 on the plant property is controlled by a security guard and fence. However, entry to these areas can be gained via Hartwell Lake (Ref.16,21). Access to the fly ash landfill is partially controlled by locked gate at the entrance road (Ref.16,21). There is not a fence to prevent access to the fly ash disposal area. However, the area is heavily wooded. The detection of contaminants listed in Table 3.3 in samples collected from the ash and sludge landfill indicates the potential exists for individuals entering the site to come into direct contact with the waste. No incidence of direct contact is known to have cause injury to humans. There are no resident population, schools or day care centers at the site or adjacent to the site (Ref.21). An estimated 421 people reside within one mile of the site (Ref.2). No on-site terrestrial sensitive environments are known to reside at the site (Ref.36).

B. Fire and Explosion Mode

The detection of volatile organic compounds such as 1,1,1-trichloroethane and toluene indicates the potential exist for fire and explosive condition at Site. However, the significance of the contaminants detected is unknown.

VIII. CONCLUSIONS AND RECOMMENDATIONS

The detection of 1,1,1-trichloroethane in sample JPSC-SS-13 and JPSC-MW-02 indicates waste disposal practices at J.P. Stevens & Company have resulted in groundwater contamination at the site. Additionally, the ash landfill and sludge landfills contain high levels of arsenic. The phenol reported in sample JPSC-SS-13 (sludge) by SCDHEC's laboratory and Law Environmental's laboratories are at significant levels. The fly ash landfill contains substantial semivolatile levels. Since the landfills are

unlined and in close proximity to Hartwell Lake, they pose a threat to soil, surface water and groundwater.

The estimated 657 people within three miles of the site depending on groundwater for their source of drinking water may be impacted if contaminants migrate from the site into the drinking water supply. Clemson University serves drinking water to a population of approximately 15,000 people from an intake located in Hartwell Lake. Recreational users of Hartwell Lake may also be potentially impacted if contaminants enters the lake. Based on the level of hazardous substances observed in samples collected from the site and the potential targets impacted, J.P. Stevens & Company, Inc. is given a High priority for a Listing Site Inspection (LSI-E) under the Superfund program.

IX. REFERENCES

1. SCDHEC-CERCLA Files, Record of Communication - Phone conversation between Gerald Stewart of SCDHEC and Glenda Strong of Westpoint Pepperell concerning ownership history at the JPSC-Clemson Plant. November 28, 1990.

2. U.S. Geological Survey - Seneca (1980), Clemson (1980), La France (1980) and Fair Play (1979), South Carolina Topographic Maps. (Photo-revised copies).

3. U.S. EPA, "Notification of Hazardous waste Site", Section 103(c) Notification submitted by J.P. Stevens & Co. on June 8, 1981.

4. SCDHEC - CERCLA Files, Letter from Daniel Construction Company, Inc. to the Water Pollution Control Authority of South Carolina. March 14,1951.

5. SCDHEC CERCLA - Files, Letter from the South Carolina State Board of Health - Water Pollution Control Authority granting JPSC approval to discharge industrial waste, April 7, 1951.

6. SCDHEC CERCLA - Files, Application for a permit to discharge industrial wastes submitted by JPSC to S.C. State Board of Health on February 12, 1957.

7. SCDHEC CERCLA - Files, Letter from the SCPCA to Lockwood Greene Engineering, Inc. concerning wastewater discharge problems at JPSC. July 29, 1957.

8. SCDHEC CERCLA - Files, Letter from the SCPCA to Lockwood Greene and Company rejecting the proposed treatment plan at JPSC. June 28, 1960.

9. SCDHEC CERCLA - Files, Application for a permit to construct an industrial wastewater treatment plant at JPSC (Permit # 313). October 24, 1960.

10. SCDHEC CERCLA - Files, Letter from the SCPCA to JPSC regarding Permit # 313. August 22, 1972.

11. SCDHEC CERCLA Files, Letter from J.P. Stevens & Co. to SCDHEC concerning preliminary plans for a WWTP at the Clemson Plant. March 28, 1974. (Copy attached).

12. SCDHEC CERCLA - Files, Application for a permit to construct an industrial wastewater treatment system submitted by JPSC on March 7, 1975.

13. SCDHEC CERCLA - Files, Construction permit # 3399 issued to JPSC by SCDHEC for construction of a WWTP, April 14, 1975.

14. SCDHEC CERCLA - Files, Letter from Piedmont Engineers to JPSC concerning SCDHEC's approval of operation of the WWTP on October 11, 1976. October 13, 1976.

15. SCDHEC Industrial Wastewater Files, "NPDES Permit Address List", August 3, 1989. Pg. 32. (Copy is not attached).

16. SCDHEC Solid Waste Permitting Section, "Engineering Report for J.P. Stevens & Co., Inc. Clemson Plant Solid Waste Landfills...", Prepared by The Piedmont Group, March 15, 1987. (Excerpts attached).

17. SCDHEC memorandum to Donnie Dukes from Randall E. French concerning plans for JPSC's WWTP, October 22, 1974.

18. SCDHEC CERCLA - Files, "SCDHEC Notification of Hazardous Waste Activity", submitted by JPSC on December 20, 1979.

19. SCDHEC Hazardous Waste Permitting Section - Files, Listing of facilities withdrawn from interim status within South Carolina. (undated).

20. SCDHEC CERCLA - Files, Letter from Lockwood Greene Engineers to the S.C. Water Pollution Control Authority concerning industrial waste quality at JPSC. October 7, 1960.

21. SCDHEC CERCLA - Files, Site Reconnaissance Trip Report : J.P. Stevens & Co., Memorandum Completed by: Gerald Stewart on May 18,1990 (Appendix A).

22. SCDHEC CERCLA - Files, "Updated Preliminary Assessment : J.P. Stevens & Co.,Inc. - Clemson Plant", Completed by: Craig Dukes, February 1988.

23. SCDHEC CERCLA - Files, Sampling Trip Report for the Site Screening Investigation at JPSC, Completed by: Gerald Shealy, September 13, 1990 (Appendix A).

24. U.S. Department of Agriculture, "Important Farmlands Map: Oconee County, South Carolina", March 1983. (Copy is not attached).

25. SCDHEC CERCLA - Files, Record of Communication - Phone conversation between Gerald Stewart and Mark Harvley of SCDHEC concerning recreational use of Hartwell Lake. September 19, 1990.

26. SCDHEC CERCLA - Files, Memorandum from June Bristol of SCDHEC Waste Assessment Section to the JPSC file concerning site sampling trip on June 19, 1990. July 11, 1990. (Appendix A).

27. SCDHEC CERCLA - Files, Site Screening Inspection - Hydrogeologic review of JPSC completed by Judy Canova of SCDHEC on September 12, 1990.

28. SCDHEC CERCLA - Files, Site Screening Inspection - Sampling Results Report, Completed by: Judy Canova. September 12,1990.

29. SCDHEC CERCLA - Files, Analytical results provided by Law Environmental National Laboratories of Kennesaw, Georgia for split samples collected at JPSC September 20, 1990 (Appendix B).

30. S.C. Water Resources Commission, "South Carolina State Water Assessment", SCWRC Report No. 140, September 1983. PP. 286-299. (Copy is not attached).

31. SCDHEC Solid Waste Permitting Section - Files, Engineering drawing of JPSC's Sludge Landfill No. 3 completed by The Piedmont Group June 1981, Printed May 28,1987. (Copy is not attached).

32. NUS Corporation, "Hazard Ranking System",(1-year 24-hour rainfall), SW-15, March 1987 (Copy is not attached).

33. S.C. Water Resources Commission, "Maximum Rainfall INtensity Expected at Center of Each South Carolina County", undated (Copy is not attached).

34. S.C. Water Resources Commission, "Surface water Treatment Plant Intakes", (Map), February 9, 1988.

35. SCDHEC Division of Compliance and Enforcement, "Inventory of Water Supply Systems", February 13,1989. PP. 54 and 825. (Copy is not attached).

36. S.C. Heritage Trust County Search Program, Listing of Endangered Species and Species of Regional Concern within Pickens, Oconee and Anderson Counties, February 9, 1989. (Copy is not attached).

37. SCDHEC Bureau of Air Quality Control, Permit No. 1880-0008 issued to JPSC to operate boilers, ranges and a dryer at the Clemson Plant. March 19, 1985. (Compliance history is available in BAQC's files).

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(803) 288-5116

February 18, 1991

J. P. Stevens
Clemson Finishing Plant
Cherry Road
Clemson, South Carolina 29631

Attention: Mr. Billy Harris

Subject: Addendum to Report of Soil and Ground-water Sampling
dated November 6, 1990
J. P. Stevens Finishing Plant
Clemson, South Carolina
Law Engineering Job Number GVE-2598

Gentlemen:

As an addendum to Section 3.4 of the above mentioned report "Comparison: Law Engineering and SCDHEC Soil, Sludge and Ash Sample Splits", 1,1,1-trichloroethane from sludge sample SS-13 should be included with the compounds which have a variance greater than fifty percent between the Law Engineering and SCDHEC laboratory results. The Law Engineering analytical results for SS-13 detected a concentration of less than 25 parts per billion (ppb) 1,1,1-trichloroethane. The SCDHEC analytical results for SS-13 detected a concentration of 8460 ppb 1,1,1-trichlorethane.

WestPoint Pepperell

February 22, 1991

Christopher N. Zodrow
Assistant Secretary and
Assistant General Counsel

Mr. Gerald Stewart
Bureau of Solid and Hazardous
Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Re: Site Screening Investigation
J.P. Stevens & Co., Inc.
SCD 003 345 097
Oconee County

Dear Mr. Stewart:

This letter is written in response to the Site Screening Inspection report prepared by the South Carolina Department of Health and Environmental Control (DHEC) with the final submission date of January 8, 1991, concerning the J.P. Stevens Clemson Plant. The DHEC report was sent to our Mr. Eddie Lanier on January 23, 1991, and received on January 28, 1991. Based upon discrepancies between test results obtained by DHEC and those received from our consultant, Law Engineering, from samples split with the DHEC site reconnaissance team, and interal inconsistencies within the DHEC report itself, we have the following concerns about the results, conclusions and recommendations mentioned in the DHEC report.

1. The introductory section of the DHEC report indicates that 1,1,1-trichloroethane was detected in groundwater and waste samples. However, the split samples which were taken from the same location and analyzed by Law Engineering did not detect 1,1,1-trichloroethane in either sample. This is a major item of concern to us since the conclusions and recommendations of the DHEC report are based upon the DHEC test results which indicate the presence of 1,1,1-trichloroethane. Even though the DHEC report does state that Law Engineering did not detect 1,1,1-trichloroethane, on page 21 the report states that "the detection

of 1,1,1-trichloroethane in sample JPSC-SS-13 and JPSC-MW-02 indicates waste disposal practices at J.P. Stevens & Co. have resulted in groundwater contamination at the site". Likewise DHEC's statement in section VII B. on page 21 states that "the detection of volatile organic compounds such as 1,1,1-trichloroethane and toluene indicates the potential for fire and explosive condition at Site". These conclusions seem inappropriate in light of the findings of Law Engineering. I am enclosing a copy of a letter dated February 18, 1991 from Law Engineering furnishing an addendum to the Law Engineering report specifically as it relates to 1,1,1-trichloroethane. The letter explains that the results obtained by Law Engineering from split sludge sample SS-13 detected less than 25 parts per billion 1,1,1-trichloroethane while the DHEC analytical result detected a concentration of 8,460 ppb of 1,1,1-trichloroethane. Law Engineering has checked their quality assurance/quality control laboratory procedures through Law Environmental's National Laboratory in Kennesaw, Georgia and errors were not found which would explain the discrepancy between the Law Engineering and the DHEC analytical results. Law Engineering recommends that DHEC check its quality assurance/quality control laboratory procedures. If major discrepancies still remain which cannot be explained it is suggested that the subject samples be resampled. We trust you will agree with this recommendation by Law Engineering.

2. To illustrate the internal inconsistency of the DHEC report please note that the introductory section of the DHEC report indicates that no surface water samples were taken. However, sample SW-09 was a surface water sample taken from a former wastewater holding basin as indicated on page 13 of the DHEC report.

3. We are concerned about the presentation of information as it appears in section II B. (Site Location and Description) which characterizes the landfill reported on the Company's CERCLA section 103(c) notification as "a landfill used to dispose of drums containing textile waste". It is our understanding that the landfill was used to receive various textile waste which included some drums rather than a landfill exclusively used to dispose of drums containing textile waste.

4. On page 16 of the DHEC report there is an indication that sample MW-02 produced test results showing detectable quantities of 1,1,1-trichloroethane, butybenzl-phthalate and Di-N-butyl-phthalate. Analysis by Law Engineering of split samples indicated no detectable quantities of any of these substances.

5. Table 3.2 on page 17 of the DHEC report contains several entries which conflict with the results obtained by Law Engineering. As indicated earlier, the results for 1,1,1-trichloroethane varied drastically from the findings of Law Engineering on this sample. In addition, levels of phenol, 4-methylphenol and toluene were also substantially higher in DHEC's test results than in those of Law Engineering. These differences were as follows:

Substance	DHEC Results (ppm)	Law Results (ppm)
phenol	84.7	12
4-methylphenol	4.03	<1
toluene	1.1	.32

6. As indicated earlier, section VII B. (Fire and Explosion Mode) appearing on page 21 might give the impression that the level of 1,1,1-trichloroethane and toluene indicated by DHEC are sufficient to cause fires and explosions. Such a conclusion is contrary to fact and is unreasonable.

7. We are concerned that the DHEC report appears to emphasize a possible impact on groundwater at this site. The location of the plant, on the shore of Lake Hartwell and downstream from Clemson would indicate that any drinking water wells or intakes would almost surely be upgradient from the site.

In summary, we have serious concerns about several of the test results obtained by DHEC and the conclusions of the DHEC report. We strongly recommend that further testing be done to clear up the discrepancies between the DHEC test results and those of Law Engineering before a decision is made with regard to our status for a Listing Site Inspection.

Thank you for your consideration of these comments.

Very truly yours,

Christopher N. Zodrow

Christopher N. Zodrow

dt
cc: Mr. Matt Birdsong
Mr. Billy Harris
Mr. Eddie Lanier
Mr. John Morris
Mr. Don Morrow
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TES VIII WORK ASSIGNMENT NO. C04119
SITE INSPECTION PRIORITIZATION
J.P. STEVENS & COMPANY, INC.
CLEMSON, OCONEE COUNTY, SOUTH CAROLINA
EPA ID NO. SCD003345097
WASTELAN NO. 3240

Low Priority
ESI
12/10/93
Earl L. Bozard

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CONTRACT NO.:	68-W9-0005; TES VIII
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Submitted to

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION IV

by

DYNAMAC CORPORATION

November 29, 1993

TES VIII WORK ASSIGNMENT NO. C04119
SITE INSPECTION PRIORITIZATION
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TABLE OF CONTENTS

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Introduction

Dynamac Corporation (Dynamac) has conducted this Site Inspection Prioritization (SIP) at the request of EPA Region IV under the Technical Enforcement Support (VIII) contract, Work Assignment No. C04119. The objective of this SIP has been to evaluate the characteristics of the site and surrounding areas in order to provide a recommendation concerning further activities at the site. In order to achieve this objective, Dynamac has gathered and assimilated all readily available existing information concerning J.P. Stevens & Company, Inc. (J.P. Stevens) and has either assembled or confirmed data concerning the population and environments in the vicinity of J.P. Stevens (the facility). Pertinent elements of the data gathered and evaluated are presented in the sections that follow. Any informational gaps in the data evaluated are also identified.

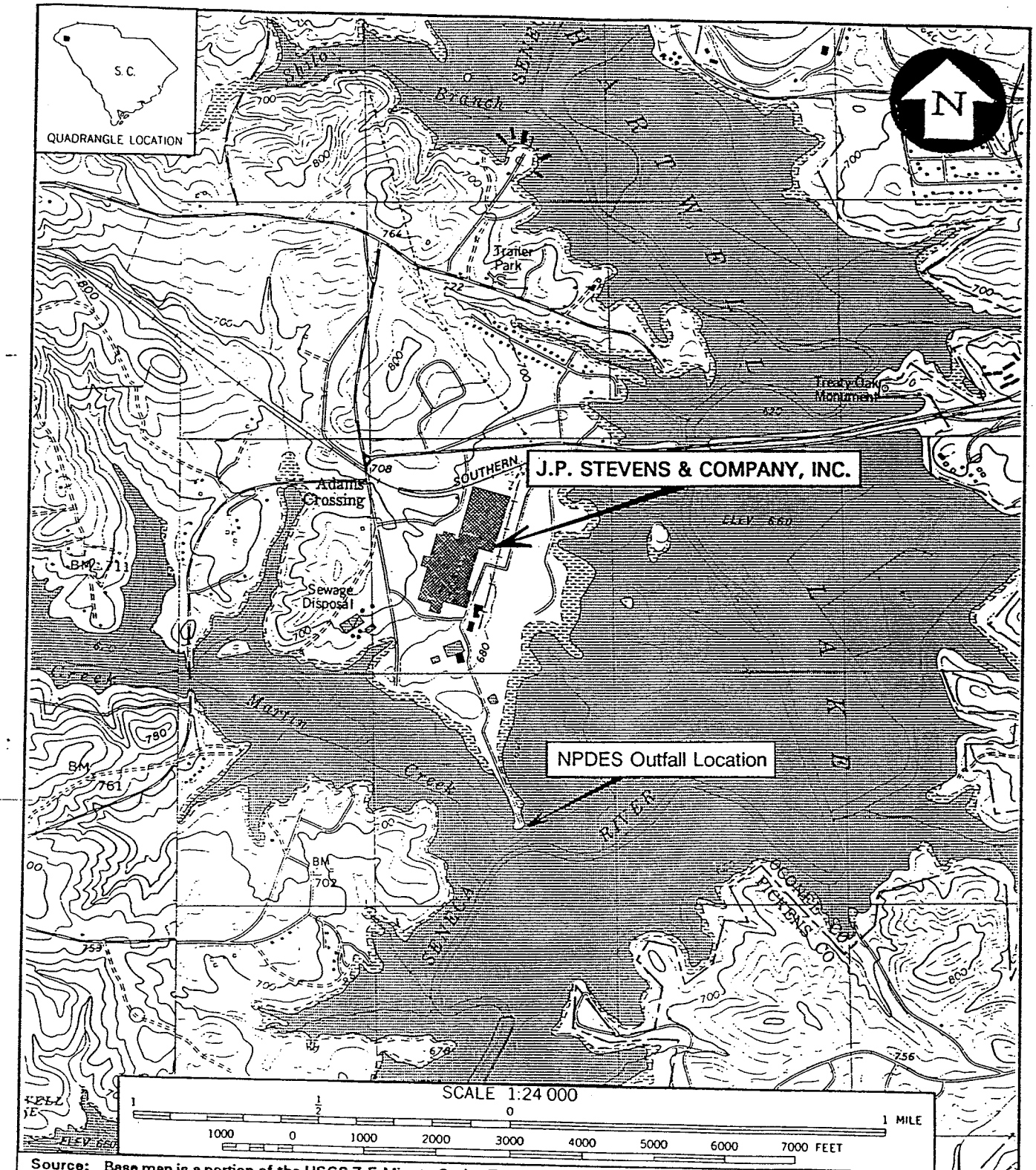
Site History and Description

J.P. Stevens, a textile manufacturing facility, is located off of Cherry Road approximately 2.5 miles southwest of Clemson in Oconee County, South Carolina (see Figure 1). The geographical coordinates for J.P. Stevens are 34° 37′ 37.3″ north latitude and 82° 52′ 24.4″ west longitude (Ref. 1, p. 2; 2).

J.P. Stevens is bordered to the east, southeast and southwest by Hartwell Lake. The town of Clemson and Clemson University are located across Hartwell Lake from J.P. Stevens, about 1.5 miles to the northeast. The only other town that is located within a 4-mile radius of J.P. Stevens is Seneca. Seneca is on the same side of the lake as J.P. Stevens and is located approximately 3.5 miles northwest of the facility (Ref. 2).

The north annual total precipitation for the Clemson area is 52 inches, and the mean annual lake evaporation is 42 inches, yielding a net annual precipitation of approximately 10 inches (Ref. 3, pp. 43, 63). The 2-year, 24-hour rainfall for Oconee County is 4 inches (Ref. 4, p. 95).

Constructed in 1951, the J.P. Stevens facility manufactured and finished textile products. These operations included bleaching, printing and fabrication of textile products (Ref. 1, pp. 4, 6).



Source: Base map is a portion of the USGS 7.5-Minute Series Topographic Quadrangle Maps of South Carolina: Clemson 1951 (Photorevised [PR] 1980), Seneca 1958 (PR 1980).

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Figure 1: Site Location Map
J.P. STEVENS & COMPANY, INC.
Clemson, Oconee County, South Carolina

In October 1960, J.P. Stevens constructed an industrial and domestic wastewater treatment plant (WWTP) which the facility updated in October 1976 (Ref. 1, pp. 4, 5). The treatment system included a network of collection and treatment basins (Ref. 1, pp. 5, 7).

J.P. Stevens operated three permitted industrial waste landfills (Landfill Nos. 1, 2 and 3) that were used for disposal of sludge from the WWTP operation and for fly ash disposal (Ref. 1, p. 7). In addition to the three landfills, J.P. Stevens used two trash and construction debris areas (Trash Fill Area I and Trash Fill Area II) and also disposed of trash and construction materials in an onsite ravine. An old unpermitted landfill, inactive for 25 years, and an old wastewater treatment pond, inactive for 30 years, were also used by J.P. Stevens (see Figure 2) (Refs. 6, pp. 2, 3).

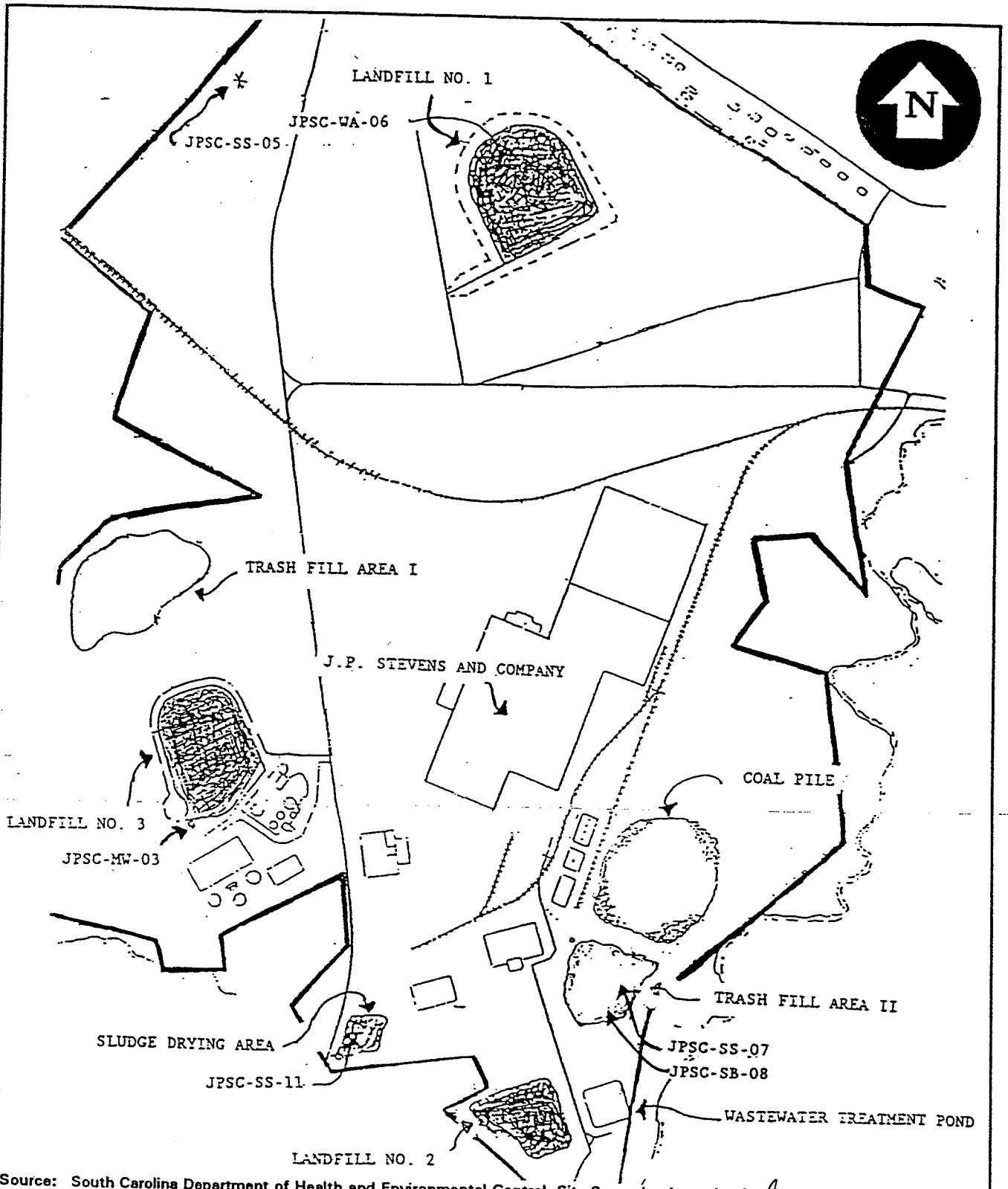
Westpoint Pepperell, Inc., which currently operates the facility, purchased the property from J.P. Stevens on May 6, 1988 (Refs. 5; 28). Westpoint Pepperell, Inc., currently uses Landfill No. 1 for fly ash disposal; however, WWTP sludge is no longer disposed onsite in Landfill Nos. 2 and 3. Landfill Nos. 2 and 3 are currently utilized for staging the WWTP sludge and for wind-drying the sludge before offsite disposal at the county landfill (Ref. 6, pp. 2, 3).

Regulatory History and Exclusions

The three industrial waste landfills, which were permitted by the South Carolina Department of Health and Environmental Control (SCDHEC), Solid Waste Division, include Landfill No. 1 (Permit No. IWP-35), Landfill No. 2 (Permit No. IWP-104) and Landfill No. 3 (Permit No. IWP-186) (Ref. 1, pp. 5, 7). WWWTP sludge is no longer disposed in the landfills, but is transported offsite for disposal; Landfill No. 1 is currently a fly ash disposal area (Ref. 6, pp. 2, 3).

The emissions from J.P. Stevens' boilers, ranges and dryer were monitored by the SCDHEC Bureau of Air Quality Control for compliance. Annual compliance inspections indicate that J.P. Stevens was in compliance with air pollution control regulations (Ref. 1, p. 20).

J.P. Stevens submitted a Notification of Hazardous Waste Activity to SCDHEC on December 20, 1979. According to this notification, the company generated and stored scrap metal drums possibly containing traces of chemicals, and screenings containing ignitable waste. Additionally, the notification listed the sludge landfill activity (Refs. 1, p. 6; 23, pp. 4-6). SCDHEC records indicate that J.P. Stevens received interim status under RCRA, but the facility withdrew



Source: South Carolina Department of Health and Environmental Control, Site Screening Investigation Report, June 1990.

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NPDES Outfall EBB 12/6/93

Figure 2: Site Layout Map
J.P. STEVENS & COMPANY, INC.
Clemson, Oconee County, South Carolina

interim status in September 1982 (Ref. 1, p. 6). Currently, J.P. Stevens is not classified as a RCRA facility. Beyond the upgrading of the wastewater treatment facility at J.P. Stevens, no remedial or removal actions are known to have occurred at the site. However, Westpoint Pepperell, Inc., conducted "housekeeping" activities, apparently upon purchasing the facility, which involved removal of some drums from the existing trash debris areas (Ref. 1, p. 8).

The facility holds a National Pollutant Discharge Elimination System (NPDES) permit No. SC0000591 issued by SCDHEC. The permit is for discharge of process wastewaters, sanitary discharges, boiler blowdown, cooling water discharge and filter backwash to Hartwell Lake (see Figure 1). The wastewater discharge is monitored for water quality parameters and sulfide, phenol, total chromium, total phosphorous, total cyanide and formaldehyde. While Westpoint Pepperell, Inc., renewed the NPDES permit in October 1993, the facility name on the permit remained J.P. Stevens & Company, Inc./Clemson Plant (Ref. 24).

In addition to monitoring the wastewater discharge, the NPDES permit requires sampling of 10 monitor wells for water quality parameters and arsenic, barium, cadmium, total chromium, copper, lead, mercury, selenium, and silver (Ref. 24).

SCDHEC issued a Notice of Violation to Westpoint Pepperell, Inc., in February 1990 for exceeding fecal coliform, total suspended solids and biochemical oxygen demand limits specified in the NPDES permit during November and December 1989 (Ref. 30).

Summary of Previous Investigations

The file material indicates that SCDHEC conducted two investigations at J.P. Stevens: a Site Screening Investigation (SSI) and an Updated Preliminary Assessment. Samples were collected only during the SSI, which SCDHEC conducted on June 6 and June 19, 1990. During the SSI, SCDHEC collected three surface soil, one subsurface soil, one surface water, three groundwater and three waste samples (Refs. 1, p. 10; 21). The sampling results obtained from the SSI are summarized in Table 1.

The analytical data summarized in Table 1 represents contaminants detected at elevated levels in environmental samples collected at J.P. Stevens during the SSI. In addition, the analytical data for several waste samples of the WWTP sludge and fly ash are also presented in Table 1. Waste samples have no associated background samples; therefore, these results are not considered elevated. The concentration of an analyte is considered elevated if the

concentration is greater than or equal to three times the concentration in the background or control sample or greater than or equal to the minimum quantitation limit (MQL) if not detected in the background or control sample.

TABLE 1

J.P. STEVENS & COMPANY, INC.
CLEMSON, OCONEE COUNTY, SOUTH CAROLINA
SCDHEC SITE SCREENING INVESTIGATION
JUNE 1990

Analytical Data Summary

SAMPLE NUMBER	TYPE OF SAMPLE	SAMPLE LOCATION	ANALYTICAL RESULTS		REFERENCE(S)
JPSC-WA-06	Waste (Fly ash)	Center of Landfill No. 1; collected 4 inches bls.	Arsenic Barium Cadmium Chromium Lead Nickel Selenium Anthracene Benzo(a)anthracene Benzo(k)fluoranthene Benzo(b)fluoranthene Benzo(a)pyrene Chrysene Fluoranthene Phenanthrene Pyrene	170 mg/kg 270 mg/kg 1.8 mg/kg 26 mg/kg 30 mg/kg 24 mg/kg 8 mg/kg 1.77 mg/kg 4.84 mg/kg 3.72 mg/kg 3.76 mg/kg 3.52 mg/kg 5.39 mg/kg 13.1 mg/kg 8.09 mg/kg 9.93 mg/kg	7, p. 5, 8-10; 8, p. 4; 9, p. 5.
JPSC-SS-11	Waste (Dried sludge)	Small sludge drying area approximately 550 feet northwest of Landfill No. 2; collected 4 inches bls.	Arsenic Barium Chromium Copper Lead Nickel Benzoic acid bis(2-ethylhexyl) Phthalate	14 mg/kg 31 mg/kg 56 mg/kg 62 mg/kg 25 mg/kg 9.2 mg/kg 0.824 mg/kg 4.49 mg/kg	1, p. 13, 14; 7, pp. 8-10.
JPSC-SS-13	Waste (WWTP sludge)	Landfill No. 3 (sludge staging area); collected 4 inches bls.	Arsenic Barium Chromium Copper Lead Nickel Silver Phenol 4-methylphenol Toluene 1,1,1-Trichloroethane	19 mg/kg 44 mg/kg 26 mg/kg 80 mg/kg 19 mg/kg 7.7 mg/kg 35 mg/kg 84.7 mg/kg 4.03 mg/kg 1.01 mg/kg 8.46 mg/kg	1, p. 7; 7, pp. 5-6, 8-10.

Note: Footnotes for Table 1 are located at the end of the table on page 7.

TABLE 1, concluded

J.P. STEVENS & COMPANY, INC.
CLEMSON, OCONEE COUNTY, SOUTH CAROLINA
SCDHEC SITE SCREENING INVESTIGATION
JUNE 1990

Analytical Data Summary

SAMPLE NUMBER	TYPE OF SAMPLE	SAMPLE LOCATION	ANALYTICAL RESULTS		REFERENCE(S)
JPSC-SS-05	Surface Soil (Background)	50 yards north of Landfill No. 1; collected 4 inches bls.	Arsenic Copper Lead Aroclor-1260 Selenium Phenol	0.3 (U) mg/kg 3.7 mg/kg 11 mg/kg 0.01 (U) mg/kg 0.3 (U) mg/kg 0.3 (U) mg/kg	7, p. 5; 9, p. 4.
JPSC-SS-07	Surface Soil	West end of Trash Fill Area II located near Hartwell Lake; collected 4 inches bls.	Arsenic Copper Lead Selenium Phenol	49 mg/kg 36 mg/kg 42 mg/kg 0.8 mg/kg 0.537 mg/kg	7, pp. 5, 6, 8-10; 9, p. 6.
JPSC-SB-08	Subsurface Soil	Southern end of Trash Fill Area II located near Hartwell lake; collected 2.5 feet bls.	Aroclor-1260	0.03 mg/kg	1, pp. 13, 17; 7, p. 36
JPSC-PW-01	Groundwater (Background)	Private well located 0.3 mile west-northwest of the site	Barium Manganese	0.05 (U) mg/l 0.01 mg/l	1, p. 11; 10, pp. 16.
JPSC-MW-03	Groundwater	Onsite monitor well located near Landfill No. 3.	Barium Manganese	0.10 mg/l 0.49 mg/l	1, p. 7; 7, pp. 5-6, 8-10.

U = Constituent was analyzed for, but not detected; the number given is the Minimum Quantitation Limit.
bls = Below land surface
mg/l = Milligrams per liter
mg/kg = Milligrams per kilogram
WWTP = Wastewater treatment plant
SCDHEC = South Carolina Department of Health and Environmental Control

No surface water samples or sediment samples were collected from Hartwell Lake, nor have any ambient air samples been collected. The analytical data presented above indicates barium and manganese were detected at elevated levels in the groundwater sample from an onsite monitor well. Elevated levels of inorganic analytes were detected in waste samples in Landfill No. 1 and Landfill No. 3 and the sludge-drying area northwest of Landfill No. 2. Elevated levels of organic compounds were also detected in the waste samples and in soil samples collected near the landfills. An elevated level of Aroclor-1260, a polychlorinated

biphenyl (PCB) was detected in one subsurface soil sample collected from one of the trash fill areas near Hartwell Lake.

Sources and Waste Characteristics

The wastes generated in large quantities at J.P. Stevens are fly ash from the coal-fired boilers and sludge from the WWTP. Throughout its years of operation, J.P. Stevens periodically performed sludge content analyses and extraction procedure toxicity analyses on these wastes. These analyses showed that both the flyash and WWTP sludge contained barium and that the WWTP sludge also contained chromium, copper, manganese and zinc (Ref. 22, pp. 7, 8).

J.P. Stevens disposed of flyash and WWTP sludge in three permitted industrial waste landfills: Landfill No. 1, Landfill No. 2 and Landfill No. 3 (Ref. 1, p. 7). Landfill No. 1, constructed in 1976, received WWTP sludge for an unknown period of time and is currently used for fly ash disposal (Ref. 1, p. 7). Landfill No. 1 covers approximately 200,000 square feet and is located north of the main plant. A gate restricts access to Landfill No. 1 (Refs. 6, p. 3; 22, p. 6).

Landfill No. 2 covers approximately 180,000 square feet and was used for disposal of fly ash and WWTP sludge between 1978 and 1981 (Refs. 1, p. 7; 22, p. 6). A portion of Landfill No. 2 is currently used as a sludge staging area; during wet and cold weather, the sludge is spread and dried in this area. The sludge staging area is located approximately 200 to 300 feet from Hartwell Lake and covers an area of approximately 3 acres (Ref. 6, p. 2).

Landfill No. 3, which covers approximately 225,000 square feet, was permitted in 1981 for dewatering, spreading and stabilization of WWTP sludge (Refs. 1, p. 7; 6, p. 2; 22, p. 6). The sludge is spread over the surface of Landfill No. 3 to dry and is ultimately disposed in the county landfill. Runoff from Landfill No. 3 is collected in an unlined retention pond that discharges into the WWTP (Refs. 1, p. 19; 6, p. 2).

Other possible source areas, which SCDHEC personnel observed during a site reconnaissance conducted prior to the SSI, include two trash and construction debris disposal areas, an old unpermitted landfill, a ravine used for waste disposal and an old wastewater treatment pond. One trash disposal area (Trash Fill Area I) is located north-northwest of Landfill No. 3. This area covers approximately 3 acres and consists of construction debris (bricks and blocks). Another trash disposal area (Trash Fill Area II) is located approximately 800 feet south-southeast of the facility. The disposal area covers approximately 1.5

acres and consists of various debris such as construction material, cardboard and drums (Ref. 6, p. 3).

The old unpermitted landfill area is located adjacent to Trash Fill Area II and covers an area of approximately 1.5 to 2 acres. The landfill was in use for 10 to 15 years, but has been inactive for at least 25 years (Ref. 6, p. 2). J.P. Stevens may have disposed of drums containing organic and inorganic compounds, and other textile-related wastes in the old landfill (Ref. 1, p. 7). The exact location and quantity of material disposed in the old landfill is not indicated in the available file material.

The ravine is located north-northwest of Landfill No. 1. Reportedly, debris from an explosion that had occurred in the plant was disposed in the ravine. The ravine was overgrown with weeds and was not closely observed by the SCDHEC reconnaissance team (Ref. 6, p. 3).

The old wastewater treatment pond, located east of Landfill No. 2, has been inactive for 30 years. Drums and construction debris were observed in this area (Ref. 6, p. 2).

Groundwater Migration Pathway

J.P. Stevens is located in the Piedmont physiographic province of Oconee County, South Carolina (Ref. 12, p. 18). The Piedmont physiographic province is characterized by low rounded hills and long, rolling, northeast-southwest trending ridges (Ref. 13, p. 252). Elevations within a 4-mile radius of the facility range from approximately 620 feet above mean sea level (msl) at Hartwell Lake (located east of J.P. Stevens) to approximately 960 feet above msl northwest of the facility near Utica, South Carolina. The elevation of the J.P. Stevens property ranges from 680 to 700 feet above msl (Ref. 2).

J.P. Stevens is underlain by a mantle of clay-rich unconsolidated material that is primarily derived from in situ chemical weathering of the underlying bedrock. This unconsolidated material consists of soil and/or saprolite and is collectively referred to as regolith (Ref. 13, p. 252). The underlying crystalline rocks consist of biotite gneiss and migmatite. There are no carbonate units within a 4-mile radius of the facility (Ref. 14). Therefore, karst landforms and karst groundwater flow do not occur in this area.

Groundwater in the Piedmont occurs in a complex, interconnected, two-media system, which is composed of a regolith zone and a fractured bedrock zone. The thickness of the regolith zone can indicate the degree of fracturing of the

underlying crystalline bedrock. A thick regolith zone indicates that the underlying crystalline bedrock is more highly fractured and therefore permeable. A thin regolith zone indicates less than normal fracturing of the underlying bedrock and therefore less than normal permeability (Ref. 15, p. 205).

Fractures in crystalline bedrock in the Piedmont tend to change with depth and be enlarged by solution. Some fractures show a decrease in size and number with increasing depth (Ref. 15, p. 203).

Recharge occurs at the upland areas from water which infiltrates through the porous materials in the regolith zone down to the saturated zone. Therefore, Piedmont aquifers are generally unconfined. The prevailing flow of groundwater is from the upland recharge areas through bedrock features to discharge areas at the perennial streams (Ref. 15, p. 207).

The water table usually occurs at the regolith-bedrock interface. The lower boundary of the saturated zone occurs at the base of the zone in which interconnecting fractures in the bedrock are located (Ref. 15, pp. 205-207). The depth to the water table in the area is estimated to be less than 50 feet below land surface (Ref. 2).

The population within a 4-mile radius of J.P. Stevens obtains drinking water from the city of Seneca, the city of Clemson, Clemson University or from private wells. The Seneca Water Department obtains its water from a surface water intake on Lake Keowee (Ref. 25). The city of Clemson and Clemson University water departments obtain water from Duke Power-Anderson Water Operations (Duke Power), which operates a surface water intake on Hartwell Lake (Ref. 26).

Where there are no municipal waterlines, residents are believed to use private wells. The estimated total number of people served by private wells within a 4-mile radius of J.P. Stevens is approximately 1,491 people. Multiplying the number of houses determined from a house count using topographic maps of the area by the 1990 U.S. Bureau of the Census factors persons-per-household of 2.59 for Anderson County, 2.55 for Oconee County, and 2.58 for Pickens County, South Carolina, the population served by groundwater wells located within 4 miles of J.P. Stevens can be found in Table 2 (Refs. 2; 17; 29).

TABLE 2

J.P. STEVENS & COMPANY
CLEMSON, OCONEE COUNTY, SOUTH CAROLINA

Population Using Private Wells Within 4 Miles

RADIAL DISTANCE	HOUSEHOLDS			POPULATION*			TOTAL POPULATION
	A	B	C	A	B	C	
0 - 0.25 mile	--	3	--	--	8	--	8
0.25 - 0.50 mile	--	14	--	--	36	--	36
0.50 - 1 mile	--	20	1	--	51	3	54
1 - 2 miles	--	28	43	--	71	111	182
2 - 3 miles	21	103	17	54	263	44	361
3 - 4 miles	8	294	31	21	750	80	850
						Total	1,491

* Population = households x persons per household
A = Anderson County (2.59 persons per household)
B = Oconee County (2.55 persons per household)
C = Pickens County (2.58 persons per household)
-- = No houses present in this distance radius for this county

Surface Water Migration Pathway

J.P. Stevens is underlain by the Cecil soil association. This association consists of deep, well-drained, gently sloping to sloping soils that have a red subsoil (Ref. 16).

J.P. Stevens is bordered by Hartwell Lake to the east, southeast and southwest. Of the three landfill areas, surface water runoff from Landfill No. 2 is most likely to enter Hartwell Lake. Landfill No. 2 is located only 250 feet away from Hartwell Lake and has a slope of approximately 4 percent. Runoff from Landfill No. 1 could also enter Hartwell Lake via a perennial stream located approximately 1,000 feet to the north. This perennial stream flows into Hartwell Lake after flowing approximately 1,000 feet. Runoff from Landfill No. 3 is collected in a retention pond which discharges into the WWTP; therefore, runoff from Landfill No. 3 is not expected to enter Hartwell Lake (Refs. 1, p. 19; 2).

Hartwell Lake follows the river valley of the Seneca River and its tributaries. The 15-mile surface water migration pathway is completed in Hartwell Lake, in Anderson County, about 3 miles upstream from the Georgia state line (Ref. 2). Portions of the J.P. Stevens property that are located directly adjacent to the

shoreline of Hartwell Lake are bound by flood-hazard areas (Ref. 18). No potable surface water intakes are located within 15 miles downstream of J.P. Stevens (Refs. 1; 27).

Hartwell Lake is primarily fed by three surface water bodies: Twelve Mile Creek, Little River and Keowee River. No flow rate data is available for Keowee River. The average flow rates for Twelve Mile Creek and Little River are 198 cubic feet per second (cfs) and 175 cfs, respectively (Ref. 31, pp. 299, 301). Based on these data, the flow rate of Hartwell Lake is expected to be in the range of 100 to 1,000 cfs.

Hartwell Lake is a major recreational lake for South Carolina. Recreational fishing, swimming and boating occur on Hartwell Lake along the surface water pathway from J.P. Stevens (Ref. 1, p. 20). There are no wetlands along the 15-mile surface water migration pathway (Ref. 2). The ranges of some endangered and threatened species may include the surface water pathway from J.P. Stevens; however, locations of specific habitats have not been identified (Ref. 20).

Air Migration and Soil Exposure Pathways

Selected demographic information presented below was collected to evaluate the air migration and soil exposure pathways. Possible impacts of airborne contamination were assessed using the residential population, workers, schools and sensitive environments within 4 miles of J.P. Stevens. Similarly, potential effects of exposure to surficial contamination at J.P. Stevens were evaluated using accessibility of J.P Stevens and human and environmental populations onsite and within a 1-mile travel distance.

J.P. Stevens is located in a rural area of Oconee County, South Carolina, approximately 2 miles southwest from the town of Clemson and Clemson University. Clemson is located across Hartwell Lake from J.P. Stevens. The town of Seneca is located approximately 4 miles northwest of J.P. Stevens. A railroad (Norfolk Southern) and Highway 37 cross the J.P. Stevens property. A trailer park is located approximately 600 feet northeast of J.P. Stevens (Ref. 2).

Access to the sludge landfills and the existing trash fill areas located south of Highway 37 on the J.P. Stevens property is controlled by a security guard and a fence. There are no residences, schools or day-care centers located at or adjacent to J.P. Stevens (Ref. 1, p. 21).

The residential population within a 4-mile radius of J.P. Stevens was based upon a house count from topographic maps of the area and the EPA Graphical Exposure

Modeling System (GEMS) data base (Refs. 2; 19). A house count and the 1990 U.S. Bureau of the Census persons-per-household value of 2.55 for Oconee County was used to estimate the population within a 1 mile radius of J.P. Stevens (Refs. 2; 17). The GEMS database was used to estimate the population with a 1- to 4- mile radius of J. P. Stevens. The distribution of the estimated population within a 4-mile radius of J.P. Stevens is shown below.

Radial Distance	Households	Population
0.25 mile	31	79[a]
0.25 - 0.50 mile	27	69[a]
0.50 - 1 mile	41	105[a]
1 - 2 mile	--	1,956[b]
2 - 3 mile	--	6,729[b]
3 - 4 mile	--	6,444[b]
		TOTAL 15,382

[a] Population in Oconee County = households x 2.55 persons per household
[b] Population derived from GEMS database

Ranges of the following federally designated endangered and threatened animal species include the area within 4 miles of J.P. Stevens: the American peregrine falcon (Falco peregrinus anatum), eastern cougar (Felis concolor cougar), bald eagle (Haliaeetus leucocephalus), red-cockaded woodpecker (Picoides borealis) and the Arctic peregrine falcon (Falco peregrinus tundrius). The specific locations of habitats for these species are not known (Ref. 20).

Conclusion/Recommendation

The primary pathway of concern for the J.P. Stevens facility is surface water. Hartwell Lake, a major recreational fishery, is only 250 feet away from one of the three onsite landfills. Aroclor-1260, a PCB, was detected in a subsurface soil sample collected from this landfill. Barium, chromium, manganese, zinc and copper are constituents present in the fly ash wastes and WWTP sludges which comprise the majority of the wastes placed in all the landfills for many years. No surface water or sediment samples have been collected from Hartwell Lake.

The groundwater pathway is a lesser concern due to the low number of groundwater users. The majority of the population within 4 miles of J.P. Stevens obtain drinking water from municipal systems which utilize surface water intakes. The air and soil exposure pathways are also of less concern due to the restricted

access of the facility and the distance to nearby residences. The 4-mile radius is mainly rural in nature; a total of 15,382 people reside within 4 miles of the facility.

Based on the potential to release contaminants to Hartwell Lake, Dynamac Corporation recommends that further sampling be conducted to evaluate whether the waste disposal practices at J.P. Stevens have impacted Hartwell Lake.

References

1. Gerald Stewart, South Carolina Department of Health and Environmental Control, Bureau of Solid and Hazardous Waste Management, Site Screening Section, Site Screening Investigation, J.P. Stevens and Company, Oconee County, Seneca, South Carolina, prepared under SCD No. 003 345 097 (January 8, 1991).

2. U.S. Geological Survey, 7.5 minute series Topographic Quadrangle Maps of South Carolina: Clemson 1951 (Photorevised [PR] 1980), Fair Play 1958 (PR 1979), Hartwell, NE 1959 (PR 1972), La France 1950 (PR 1980), and Seneca 1958 (PR 1980), scale 1:24,000.

3. U.S. Department of Commerce, Climatic Atlas of the United States (Washington, D.C.: GPO, June 1968) Reprint: 1983, National Oceanic and Atmospheric Administration, excerpt, 4 pages.

4. U.S. Department of Commerce, Rainfall Frequency Atlas of the United States, Technical Paper Number 40 (Washington, D.C.: GPO, 1961), excerpt, 2 pages.

5. Gerald Stewart, Site Screening Section, memorandum to J.P. Stevens and Company, Inc., Oconee County, November 28, 1990. Subject: Phone conversation with Glenda Strong of West Point Pepperell concerning ownership history of J.P. Stevens.

6. Gerald Stewart, Site Screening Section, memorandum with attachment to J.P. Stevens and Company, May 18, 1990. Subject: Site Reconnaissance Trip Report.

7. Pamela B. James, Waste Assessment, interoffice memorandum with attachment to John Cresswell, Manager, Site Screening, Bureau of Solid and Hazardous Waste Management, December 3, 1990. Subject: J.P. Stevens and Company, Inc. - Chemical Evaluation Report.

8. (deleted)

9. Gerald D. Shealy, Waste Assessment and Sampling Section, interoffice memorandum with attachment to John Cresswell, Manager, Site Screening, Bureau of Solid and Hazardous Waste Management, September 13, 1990. Subject: J.P. Stevens & Company -- Clemson Plant, Trip Report.

10. Judy Canova, Hydrologist, interoffice memorandum with attachment to John Cresswell, Manager, Site Screening Section, Division of Site Engineering and Screening, Bureau of Solid and Hazardous Waste Management, September 12, 1990. Subject: J.P. Stevens Site Inspection Sampling Results Report.

11. South Carolina State Board of Health, Division of Sanitary Engineering and Water Pollution Control Authority, Application for Permit to Discharge Sewage, Industrial Wastes or Other Waste, filed by K.C. Johnson, mechanical engineer, for J.P. Stevens and Company, application No. 63, February 13, 1957.

12. South Carolina Water Resources Commission, South Carolina State Water Assessment, Report Number 140 (Columbia, South Carolina: South Carolina Water Resource Commission, September 1983), excerpt, 23 pages.

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16. United States Department of Agriculture, Soil Conservation Service, Soil Survey of Oconee County South Carolina (February 1963), excerpts, 2 pages and attachment.

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18. Federal Emergency Management Agency and Flood Hazard Boundary Map, Oconee County (Unincorporated Areas), South Carolina, Community Panel Number 450157 0009 A, November 25, 1977.

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22. The Piedmont Group, Engineering Report for J.P Stevens & Company, Inc., Clemson Plant Solid Waste Landfills, Oconee County, South Carolina, TPG Project Number 154300 (May 15, 1987).

23. South Carolina Department of Health and Environmental Control, Solid Waste Management Division, Notification of Hazardous Waste Activity form with attachment for J.P. Stevens and Company, Inc., Clemson Plant, Filed by Roger L. Gill, Manager, Clemson Finishing Plant, December 20, 1979.

24. South Carolina Department of Health and Environmental Control Water Pollution Control Permit (number SC0000591) issued to J.P. Stevens and Company, Inc., Clemson Plant, October 12, 1993.

25. Teresa Turner, Secretary, Seneca Water Department, telephone conversation with Renee Harris, Geological Engineer, Dynamac Corporation, October 16, 1993. Subject: Water source and number of connections served by Seneca Water Department.

26. Connie Finger, Administrative Specialist, Duke Power Anderson Water Operations, telephone conversation with Renee Harris, Geological Engineer, Dynamac Corporation, November 3, 1993. Subject: Water source, number of connections and population served by Duke Power Anderson Water Operations.

27. David W. Smith, Environmental Specialist, Water Resources Commission, telephone conversation with Renee Harris, Geological Engineer, Dynamac Corporation, November 2, 1993. Subject: Locations of surface water intakes on Hartwell Lake.

28. Renee Harris, Dynamac Corporation, project note to file for J.P. Stevens, November 4, 1993. Subject: List of industrial facilities near Clemson, South Carolina, obtained from Clemson Chamber of Commerce.

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

July 13, 1994

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Bobby Lanier, Manager
WestPoint Stevens - Clemson Plant
500 Cherry Road
Clemson, South Carolina 29633

RE: Clemson Plant
Expanded Site Inspection
SCD 003 345 097

Dear Mr. Lanier:

The South Carolina Department of Health and Environmental Control (DHEC), Bureau of Solid and Hazardous Waste Management (BSHWM) has begun an investigation of the above referenced site. The site is located on Cherry Road in Clemson, South Carolina. The investigation is being conducted pursuant to the authority and requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42, U.S.C. 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), Public Law 99-499. DHEC has reason to believe that there may be a release or threat of a release of hazardous substances from the site to the surrounding environment. The purpose of the investigation is to determine the nature and extent of contamination at the site and to determine what, if any, further response action would be appropriate.

On July 25, 1994 DHEC will conduct a reconnaissance at the facility. A sampling inspection will take place on approximately August 17, 1994. Activities to be conducted during the investigation may include:

1. Inspect, sketch, videotape and photograph the premises;
2. Conduct a geophysical survey;
3. Conduct air monitoring;
4. Collect environmental samples; and
5. Transportation of equipment onto and about the site as necessary to accomplish the activities listed above, including trucks and sampling equipment

The above sampling activity will be conducted by personnel from the DHEC central office in Columbia, South Carolina, and may include DHEC District personnel.

At the time of sampling we will give the opportunity to split samples. If you wish to split samples, you must contact an environmental testing laboratory and have them provide sample containers for your split samples. If you wish to contract with a private laboratory, we will send you a listing of State certified laboratories upon request without endorsement of any particular laboratory.

Parameters tested will include a modified EPA Target Compounds List consisting of many metals and organic chemicals. A list of the parameters, sample types, and number of samples to be taken will be provided at your request.

A report detailing the findings of this investigation typically takes 6 to 9 months to complete and a copy will be forwarded to you when available. I have enclosed the Site Inspection Prioritization report completed by Dynamac Corporation, a contractor for USEPA Region IV. Please review this report for accuracy and submit all corrections in writing to me. I will forward any corrections to the EPA and take them into account during this phase of the investigation.

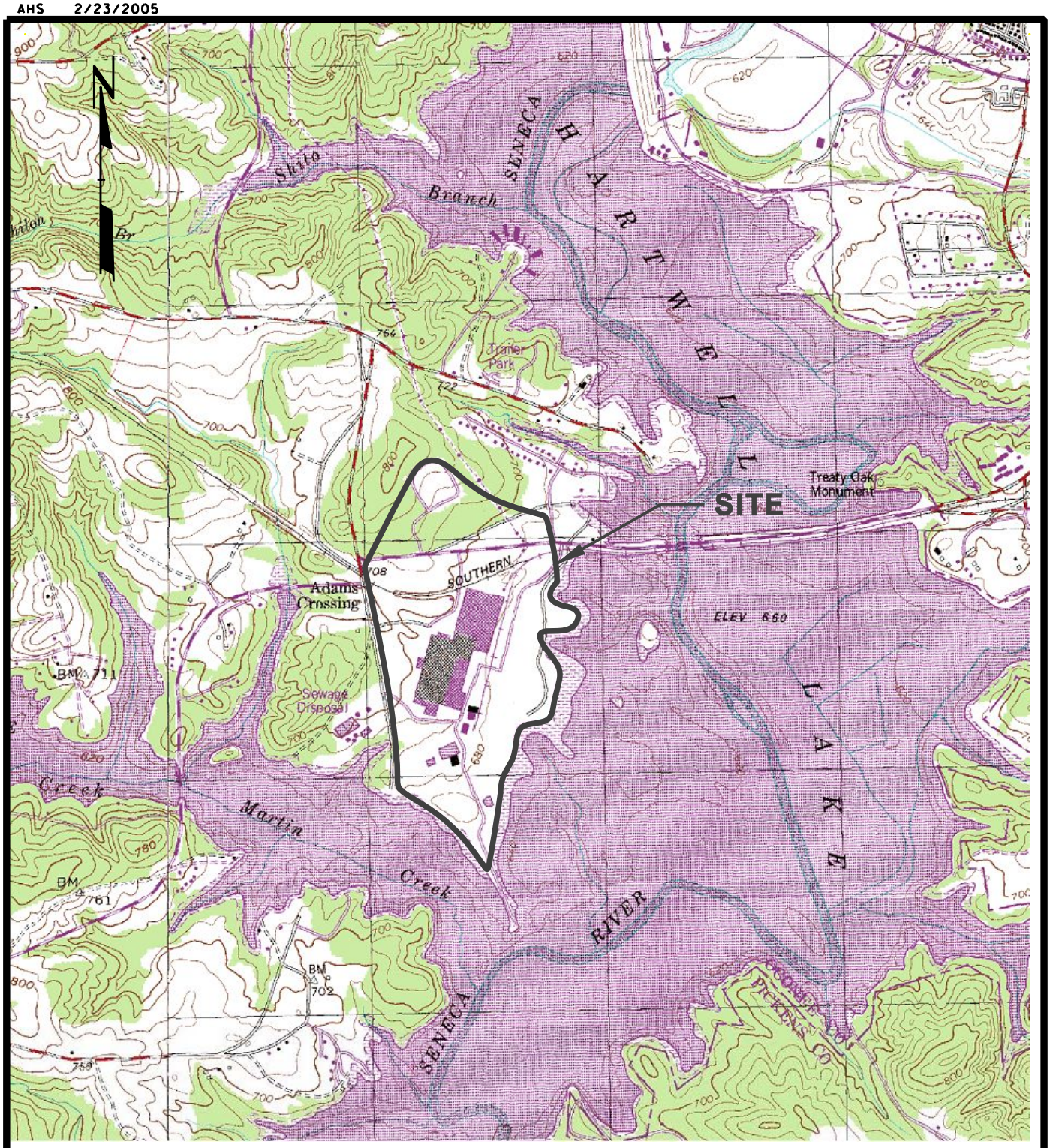
If you have any questions, please contact me at (803) 734-4703.

Sincerely,

Jonathan McInnis, Environmental Quality Manager
Site Screening Section
Bureau of Solid & Hazardous Waste Management

cc: Eddie Lanier, WestPoint Engineering & Environmental Dept.
Appalachia I EQC District
CERCLA File

J:\CAD\00-70583\ 86 \TASK03\SLG-00.70583.86.TSK3.DGN
AHS 2/23/2005



MAP DERIVED FROM DELORME'S
1980 CLEMSON (SC) 7.5' USGS
TOPOGRAPHIC QUADRANGLE

0 2000 4000

SCALE: 1"=2000'

RMT®

WESTPOINT STEVENS, INC.
CLEMSON, SOUTH CAROLINA

SITE LOCATION MAP

DRAWN BY:	AHS
APPROVED BY:	
PROJECT NO.	70583.86 TASK 03
FILE NO.	SLG-00.70583.86.TSK3.DGN
DATE:	FEBRUARY 23, 2005

FIGURE 1

This letter will provide a written account of the sludge runoff incident which occurred at the Clemson facility last week.

On Friday morning, April 24th, Tom Dillard, the plant engineer, and I went to inspect the lower landfill runoff basin, following the latest rainfall event. The basin catches the runoff from this former landfill site which is now used as a staging area for our wastewater sludge before it is shipped off-site for land application. As we approached the basin, we discovered some sludge on the ground in the area between the road and the landfill site. The sludge appeared to be running down a ditch to the stormwater outfall and toward the lake. We found that the rainfall runoff had escaped the lower landfill runoff-control berm and had carried some sludge along with it. I notified Bruce Blackwell, the Utilities Supervisor, of the situation. Bruce stated that he had already inspected the landfill that morning but he had accessed the area from another road on the opposite side of the site. The area where the runoff had escaped was not visible from that road. We immediately dispatched a front-end loader to the site and began to collect the sludge that had escaped the runoff basin. This material was then loaded onto a dump truck and carried to the second sludge staging area just above the wastewater treatment plant. Tom reported the incident to Eddie Lanier, the corporate Manager of Environmental Engineering.

It was determined that the incident should be reported both to DHEC and the U. S. Army Corps of Engineers because some of the sludge had migrated beyond our fence onto their property. Bruce called the Appalachia I District office at 11:30 A. M. and found that no one was available at that time to take the report. A message was left with the receptionist to have the appropriate person paged to return the call.

Bruce Blackwell then notified the Corps of Engineers and explained the situation. Mr. Jesse Milner arrived to assess the situation and to take some photographs. Mr. Milner stated that he saw only a small quantity near the lake and that whatever DHEC recommended for cleanup would be acceptable to him. He did request that the Corps be kept informed of the situation.

Mr. Richard Phillips from DHEC Appalachia I District Office soon returned our call and came to the site for an inspection. Mr. Phillips made several recommendations for cleaning up the area. These include the following:

1. Install hay bales and silt fencing at the lake shoreline,

2. Remove the undergrowth to reveal the extent of the sludge on the shoreline,

3. Concentrate a silt fence at a location in front of this undergrowth,

4. Skim any sludge from the sludge at the shoreline,

5. Clean the area between the berm and the shoreline, and

6. Take enough pictures to give an overview of the entire site.

SEE IF YOU FEEL COMFORTABLE WITH THIS STATEMENT

Action was taken to perform all of these recommended tasks. "We have also taken steps to ensure that all runoff from this area is now contained in the runoff basin." In addition, sufficient undergrowth was removed from around the former landfill so that the entire site can be viewed from both access roads. Both of the sludge staging areas are now inspected on a daily basis and are reinspected by the Treatment Plant Operator during and after any rainfall event. The corrective actions taken have proven effective and no further problems are expected.

If you need additional information or have any questions, please contact me at 864/653-2823.

COVER SHEET

FAX

To: Eddie Lanier
Fax #: 645-4539
Subject: Letter to Rick Caldwell
Date: May 13, 1998
Pages: 5, including this cover sheet.

COMMENTS:

The following is the letter sent to Mr. Rick T. Caldwell, II regarding the Sludge Runoff at the Lower Landfill.

From the desk of...

CHRISTIE COVINGTON
WESTPOINT STEVENS
[redacted]
CLEMSON, SC

(864)-653-2823
Fax: (864)-653-2837

Mr. Rick T. Caldwell, II
Appalachia I EQC
South Carolina Department of Health
and Environmental Control
2404 North Main Street
Anderson, South Carolina 29621

May 11, 1998

Re: WestPoint Stevens - Clemson Plant
NPDES Permit SC0000591
Sludge Runoff at Lower Landfill

Dear Mr. Caldwell:

As per our conversation and your site visit, below is an account of the sludge runoff as we discussed.

On Friday morning, April 24th, Tom Dillard, Plant Engineer, and I went to inspect the lower landfill runoff basin, due to the latest rainfall event. As we approached the basin, we discovered biosolids on the ground between the landfill and the road, running in the ditch to the storm water outfall and toward the lake. I notified Bruce Blackwell, Utilities Supervisor, of the situation. Bruce stated he had inspected the landfill that morning, but was on the other side of the landfill. There are two roads on either of lower landfill. At that time only one side could be seen. Now both sides can be seen from either road. We found where the rain and sludge had breached the lower landfill berm. We immediately began to scrape the biosolids from the ground with a front end loader, loaded it into our dump truck and dumped it at the upper landfill. Tom notified Mr. Eddie Lanier, Corporate Engineering & Environmental of what had taken place.

Bruce Blackwell called the Applachia I - District office to notify DHEC of the spill at 11:30. Webster Jones was asked for first, he was on vacation. George Tomlin also was out of the office that day. Richard Phillips was out till after lunch. Bruce instructed the receptionist for Richard to page him on his pager.

Bruce Blackwell notified the Corp. Of Engineers and explained the situation to them since the biosolids were on Corp. property. Mr. Jesse Milner arrived to assess the situation and took pictures. Mr. Milner stated he saw a small, negligible amount around the edge of the lake. He stated whatever DHEC recommends, as far as cleanup on Corp. property would be acceptable, but to keep the Corp. informed.

Bruce contacted Mr. Richard Phillips, Appalachia I District Office, who arrived for an assessment of the site. Mr. Phillips made several recommendations for cleaning up the area and they are as follows:

1. Hay Bales and Silt Fencing at Lake shoreline

2. Clean vines and honeysuckle to reveal extent of sludge on shoreline.

3. Concentrate silt fence at area in front of vines

4.Skim sludge from sand at shoreline.

5.Clean area between berm and shoreline

6. Take pictures, site overview

Both the lower landfill and lower landfill runoff basin are now inspected on a daily basis. They are also reinspected by the Treatment Plant Operator during and after any rainfall event. The corrective actions taken have proven effective and we have not encountered any further problems.

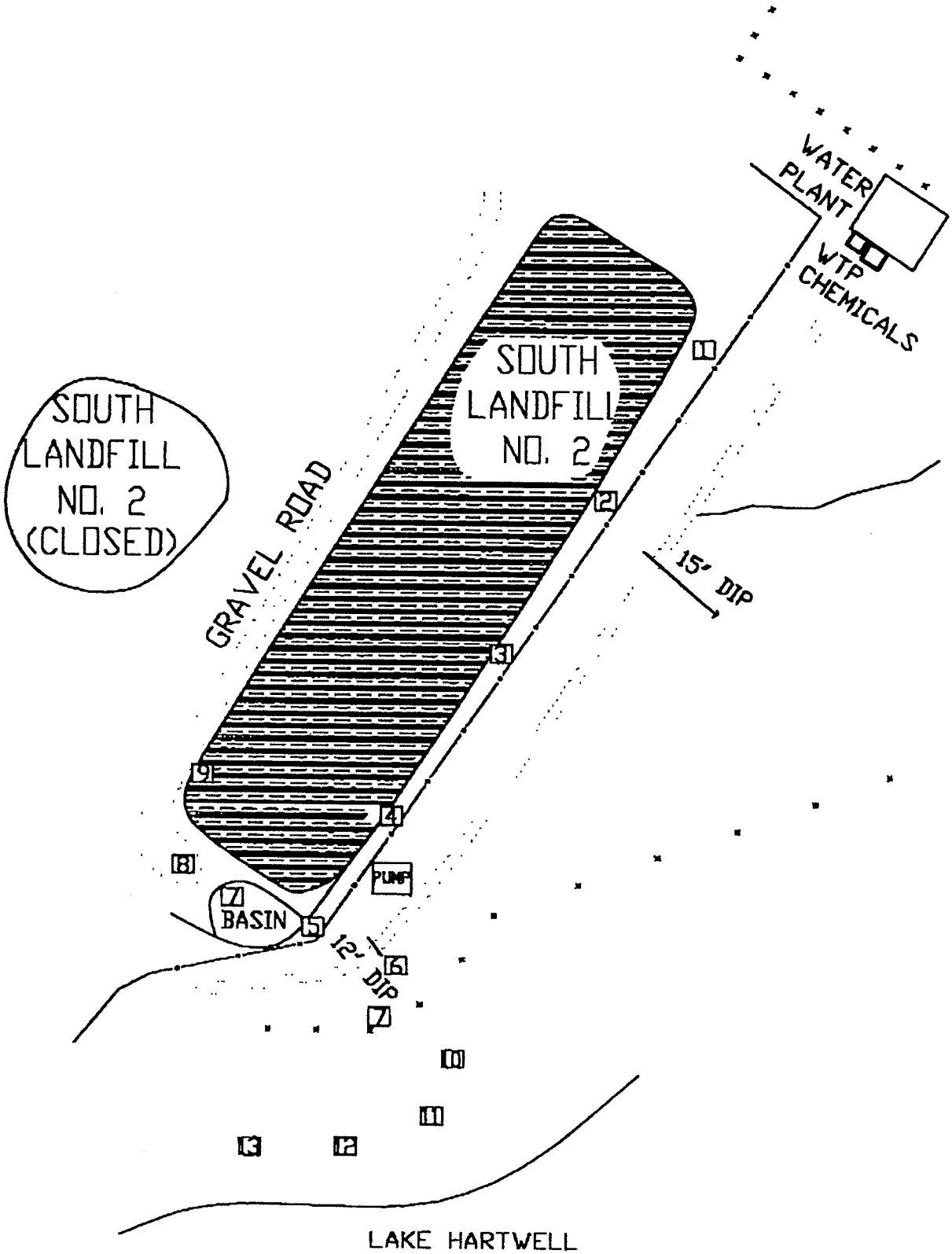
If you need additional information or have questions, please contact me at 864/653-2823. Thank you for your continued support.

Sincerely,

Christie A. Covington
Environmental Manager

:cac

cc: Mr. Billy Harris
Mr. Tom Dillard
Mr. Bruce Blackwell
Mr. Eddie Lanier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SOUTH LANDFILL NO. 2 (CLOSED)
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12' DIP
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BASIN
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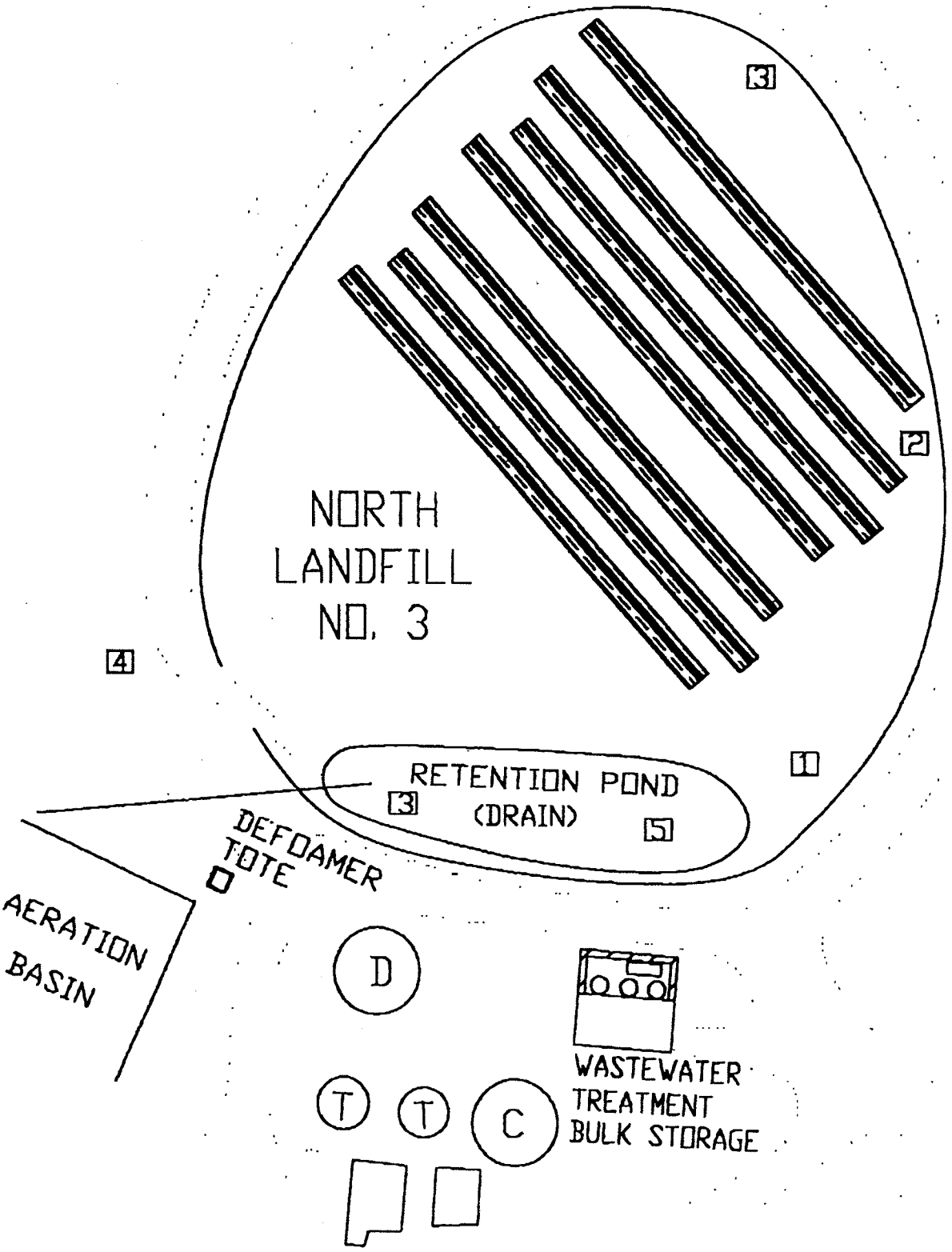
LAKE HARTWELL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WASTEWATER
TREATMENT
BULK STORAGE

WESTPOINT STEVENS

Christopher N. Zodrow
Vice President and Secretary
E-Mail: zodrow.christopher@westpoint-stevens.com

Direct Line: 706 645-4112
Fax: 706 645-4396

February 26, 1999

Mr. Frank Lupini
Bureau of Water
Water Enforcement Division
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

VIA FEDERAL EXPRESS

Re: Proposed Consent Order
WestPoint Stevens
NPDES #SC0000591
Oconee County

Dear Mr. Lupini:

I am enclosing the above-referenced Consent Order which has been executed on behalf of WestPoint Stevens Inc. Please provide me with a copy of the fully executed Consent Order at your earliest convenience in order that we will know the commencement date for the 30 day period for submitting a corrective action plan in accordance with the terms of the Consent Order.

This letter will also confirm our earlier conversation acknowledging that the $9,000 payment has been received.

If there are any other matters needing our attention please let me know at your earliest convenience.

Very truly yours,

Christopher N. Zodrow

/psb
Enclosure
cc: Billy Harris
Eddie Lanier

THE STATE OF SOUTH CAROLINA
BEFORE THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

IN RE: WESTPOINT STEVENS INC.
OCONEE COUNTY

CONSENT ORDER
99- -W

WestPoint Stevens Inc. (Respondent) owns and is responsible for the proper operation and maintenance of its wastewater treatment facility (WWTF) located in Oconee County, South Carolina.

A review of the Respondent's file by the South Carolina Department of Health and Environmental Control (Department) indicates that the Respondent has failed to meet the schedule of compliance in Consent Order #96-112-WP. In addition, the Respondent had an unauthorized release of sludge which entered Lake Hartwell.

Following approved procedures and based upon a meeting with the Respondent on November 17, 1998, both parties have agreed to the issuance of this Consent Order to include the following Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

1. The National Pollutant Discharge Elimination System (NPDES) Permit SC0000591 effective December 1, 1993, authorizes the Respondent to discharge treated wastewater into Lake Hartwell in strict compliance with terms, limitations and requirements outlined

in the permit.

2. On December 17, 1996, the Department executed Consent Order #96-112-WP with the Respondent for effluent violations of biochemical oxygen demand (BOD) and fecal coliform bacteria. The Respondent was required to construct a Department approved upgrade to meet the NPDES permit limits. The deadline for ending construction was July 1, 1998. On August 31, 1998, the Department issued a Notice of Violation (NOV) for failure to meet the July 1, 1998, deadline. The Respondent replied on September 8, 1998, that on July 2, 1998, a letter was sent to the Department stating that the project was complete except for the disinfection basin dividers.

3. On April 24, 1998, the Respondent contacted the Department to report that a breach in the berm of its landfill caused a release of industrial sludge. An undetermined amount of the sludge entered Lake Hartwell. The Respondent took corrective action by cleaning up the released sludge and making repairs to the berm. The Respondent stated that long term engineering solutions would be implemented to reduce sludge carryoff into runoff basins.

4. The Department held an enforcement conference with the Respondent on November 17, 1998. The Findings of Fact were reviewed and discussed with the Respondent. Also discussed was the issuance of a Consent Order and possible civil penalties.

CONCLUSIONS OF LAW

Based upon the above Findings of Fact, the Respondent has violated the Pollution Control Act and regulations promulgated thereunder S.C. Code Ann. § 48-1-10 *et seq.*, (1976, as amended), as follows:

1. The Department has found that the Respondent violated S.C.Code Ann.§ 48-1-130 in that it did not comply with Order #96-112-WP.

2. The Respondent is in violation of S.C. Code Ann. §§ 48-1-90(a) and 110(d) in that it allowed a combination of sludge and contaminated stormwater to enter surface waters of the state.

3. S.C. Code Ann. § 48-1-330 provides for a civil penalty not to exceed ten thousand dollars ($10,000.00) per day of violation.

NOW, THEREFORE, IT IS ORDERED, CONSENTED TO AND AGREED, pursuant to § 48-1-10 *et seq.*, (1976, as amended), that the Respondent shall:

1. Within thirty (30) days of the execution of this Order, submit to the Department a corrective action plan (CAP) detailing operation and maintenance procedures which will be implemented to prevent effluent violations. The CAP shall include a diagnostic evaluation (DE) of the sludge staging area conducted by a state registered professional engineer. The DE shall certify that the sludge staging area can prevent releases during 25 year/24 hour storm events. If the DE indicates that further construction or modifications of the sludge staging area is required, then the CAP shall include a preliminary engineering report (PER) with a schedule of implementation. The schedule, upon Department approval, shall be incorporated into and become an enforceable part of this Order.

2. Within thirty (30) days of the date of execution of this Order, pay to the Department a civil penalty in the amount of nine thousand dollars ($9,000.00).

PURSUANT TO THIS ORDER, all requirements to be submitted to the Department shall be addressed as follows:

Frank Lupini
Bureau of Water-Enforcement Division
S.C. Department of Health and Environmental Control
2600 Bull Street
Columbia, S.C. 29201

The Respondent shall confirm, in writing, completion of the Order requirements to the above address within five (5) days of completion.

IT IS FURTHER ORDERED AND AGREED that in the interest of resolving all matters known to the Department that may constitute possible violations of NPDES permit #SC0000591 as of the date hereof without delay and expense of litigation the Respondent agrees to the entrance of this Consent Order, without admission or adjudication of any issue of fact or law and without agreeing with the Findings of Fact or the Conclusions of Law; and therefore, agrees that this Order shall be deemed an admission of fact and law only as necessary for enforcement of this Order by the Department.

IT IS FURTHER ORDERED AND AGREED that if any event occurs which causes or may cause a delay in meeting any of the above scheduled dates for completion of any specified activity, the Respondent shall notify the Department in writing at least one (1) week before the scheduled date, describing in detail the anticipated length of the delay, the precise cause or causes of delay,

if ascertainable, the measures taken or to be taken to prevent or minimize the delay, and the timetable by which those measures will be implemented.

The Department shall provide written notice as soon as practicable that a specified extension of time has been granted or that no extension has been granted. An extension shall be granted for any scheduled activity delayed by an event of *force majeure*, which shall mean any event arising from causes beyond the control of the Respondent that causes a delay in or prevents the performance of any of the conditions under this Consent Order including, but not limited to: a) acts of God, fire, war, insurrection, civil disturbance, explosion; b) adverse weather condition that could not be reasonably anticipated causing unusual delay in transportation and/or field work activities, c) restraint by court order or order of public authority; d) inability to obtain, after exercise of reasonable diligence and timely submittal of all applicable applications, any necessary authorizations, approvals, permits, or licenses due to action or inaction of any governmental agency or authority; and e) delays caused by compliance with applicable statutes or regulations governing contracting, procurement or acquisition procedures, despite the exercise of reasonable diligence by the Respondent.

Events which are not *force majeure* include by example, but are not limited to, unanticipated or increase costs of performance, changed economic circumstances, normal precipitation events, or any person's failure to exercise due diligence in obtaining governmental permits of fulfilling contractual duties. Such determination will be made in the sole discretion of the Department. Any extension shall be incorporated by reference as an enforceable part of this Consent Order and thereafter be referred to as an attachment to the Consent Order.

IT IS FURTHER ORDERED AND AGREED that failure to comply with any provision of this Order shall be grounds for appropriate sanctions and further enforcement action pursuant to § 48-1-10 *et seq.*, (1976, as amended), to include the assessment of civil penalties.

THE SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

_____ DATE:_____
Douglas E. Bryant,
Commissioner

_____ DATE:_____
Alton C. Boozer, Chief
Bureau of Water

WE CONSENT:

2/26/99
Richmond B. Terry DATE: 9/26/99
WestPoint Stevens Inc.

_____ DATE:_____
Attorney for the Department

_____ DATE:_____
Valerie A. Betterton, Director
Water Enforcement Division

Corrective Action Plan
Sludge Staging Area
Consent Order 99-026-W

WestPoint Stevens, Inc.
Clemson Finishing Plant
Clemson, South Carolina

April 15, 1999

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau Of Water
Water Enforcement Division
2600 Bull Street
Columbia, South Carolina 29201-1708

Prepared By:

WestPoint Stevens Engineering and Environmental Department
3300 23rd Drive
Valley, Alabama 36854

TABLE OF CONTENTS

Section 1
Introduction

The South Carolina Department of Health and Environmental Control has executed a Consent Order with WestPoint Stevens, Inc. regarding a breach in the berm at the sludge staging area which resulted in a release of industrial sludge on April 24, 1998 at the Clemson Finishing Plant (NPDES #SC0000591). The area is used to stage sludge prior to off-site land application.

This Corrective Action Plan is in response to the terms and conditions of the Consent Order. It will detail operation and maintenance procedures which will be implemented to prevent possible effluent violations.

Section 2
Diagnostic Evaluation

2.1 Site Inspection

The sludge staging area is located to the south of the water treatment building. The staging area is approximately 800 feet long. The staging area varies in width from 242 feet at the north end, to 159 feet in the middle, and 231 feet at the south end. The staging area is bounded by earthen berms on the north, east, and south sides. A crushed-stone roadway bounds the staging area on its west side. The site contours are such that the runoff from the staging area will flow in a southeasterly direction from the roadway to a swale leading into a stormwater runoff basin. This basin prevents stormwater from leaving the staging area. The runoff basin is irregularly shaped with outwardly-sloped walls, but it is roughly 72 feet square and the bottom of the basin is 4.5 feet below the invert of the swale from the sludge staging area. An earthen berm extends around the basin except where an access road was constructed into the basin for accumulated sludge removal. See Figure 1 for a site map of the area.

The sludge staging area and adjacent stormwater runoff containment basin were inspected and an evaluation was made to determine if the basin and staging area were adequate to contain the runoff from a 25 year/24 hour storm event. The sludge staging area covers approximately 163,550 square feet. The stockpiled sludge and grassed surfaces cover roughly two-thirds of this area. The remaining area is bare soil with a rough surface. Calculations for stormwater runoff were made utilizing appropriate runoff coefficients for the various surfaces. The runoff coefficients, which are derived from data from the American Society of Civil Engineers, are included in the *State of North Carolina Erosion and Sediment Control Planning and Design Manual* (See Appendix). The 25 year/24 hour storm event for North Oconee county is 9.1 inches, as noted in the *South Carolina Stormwater and Sediment Control Handbook for Land Disturbances* (See Appendix). The stormwater runoff during a 25 year/24 hour event is 30,950 cubic feet.

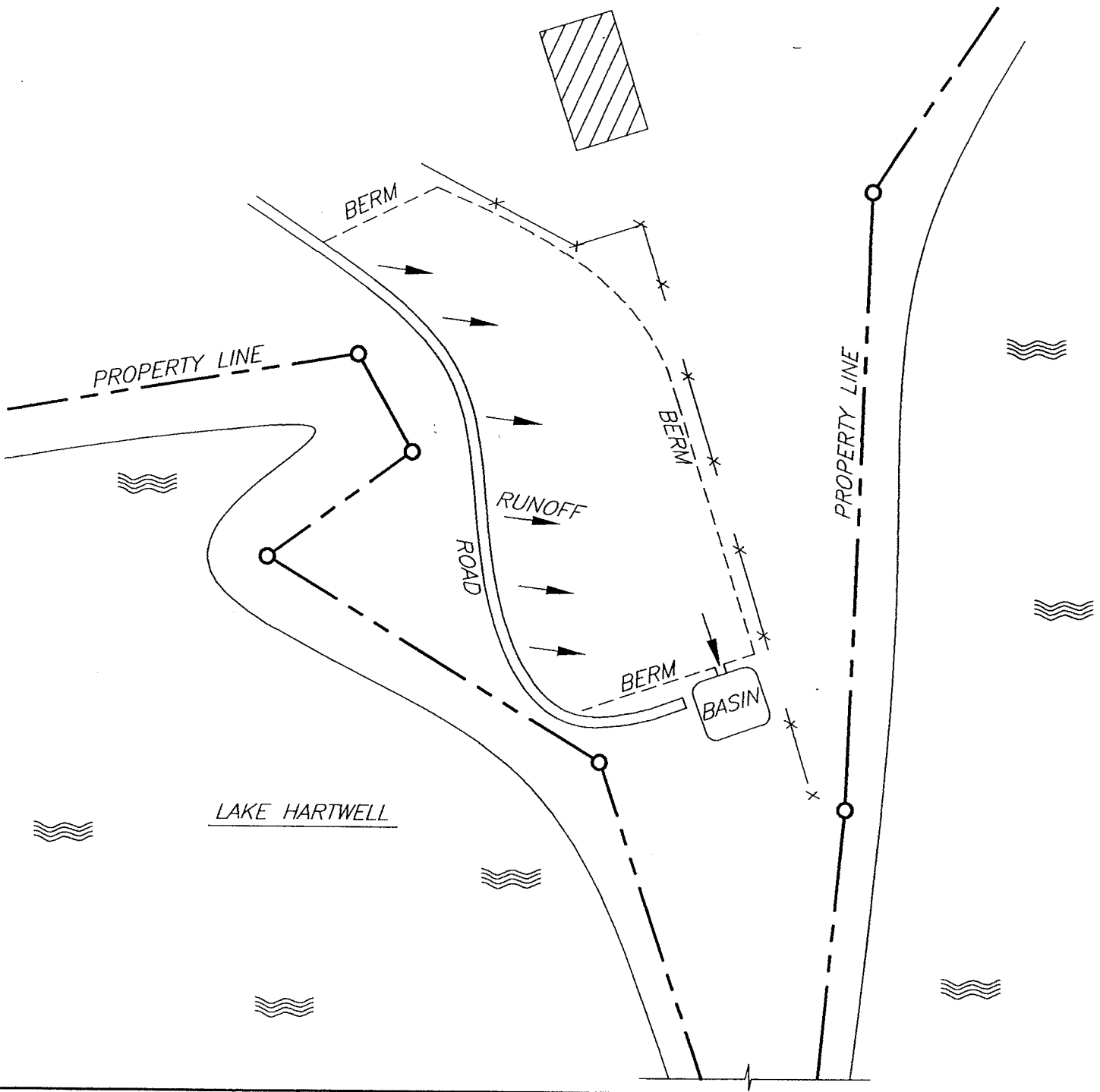
Although the walls of the basin slope outward, the capacity calculations for the basin were conservatively made assuming a straight wall and a freeboard of 6-inches. The runoff basin will contain 25,920 cubic feet and the balance of the runoff (5,030 cubic feet) can be contained in an area of approximately 80 Ft. X 80 Ft. within the lower end of sludge staging area. This area is lower in elevation than the top of the runoff basin dike. The roadway is approximately 5 feet higher than the swale into the containment basin.

A summary of the calculations and a sketch of the dimensions of the staging area (Section 4.2) are included in the Appendix. The Appendix also includes a site location map, South Carolina Rainfall Data, Runoff Coefficient Table, and a copy of the Consent Order.

2.2 Certification

Based upon my review of the site, the sludge staging area and containment basin are adequate to prevent releases of stormwater runoff resulting from a 25 year/24 hour storm event.

Roland D. Groover	13640	Roland D. Groover
Name	License Number	Signature



	SCALE N.T.S.	WESTPOINT STEVENS ENGINEERING & ENVIRONMENTAL DEPT.
	BY T CARTER	FIGURE 1 SLUDGE STAGING AREA CLEMSON FINISHING PLANT
	DATE 3-4-99	
	APP.	SHEET / DWG. NO. A-23752

Section 3
Preliminary Engineering Report

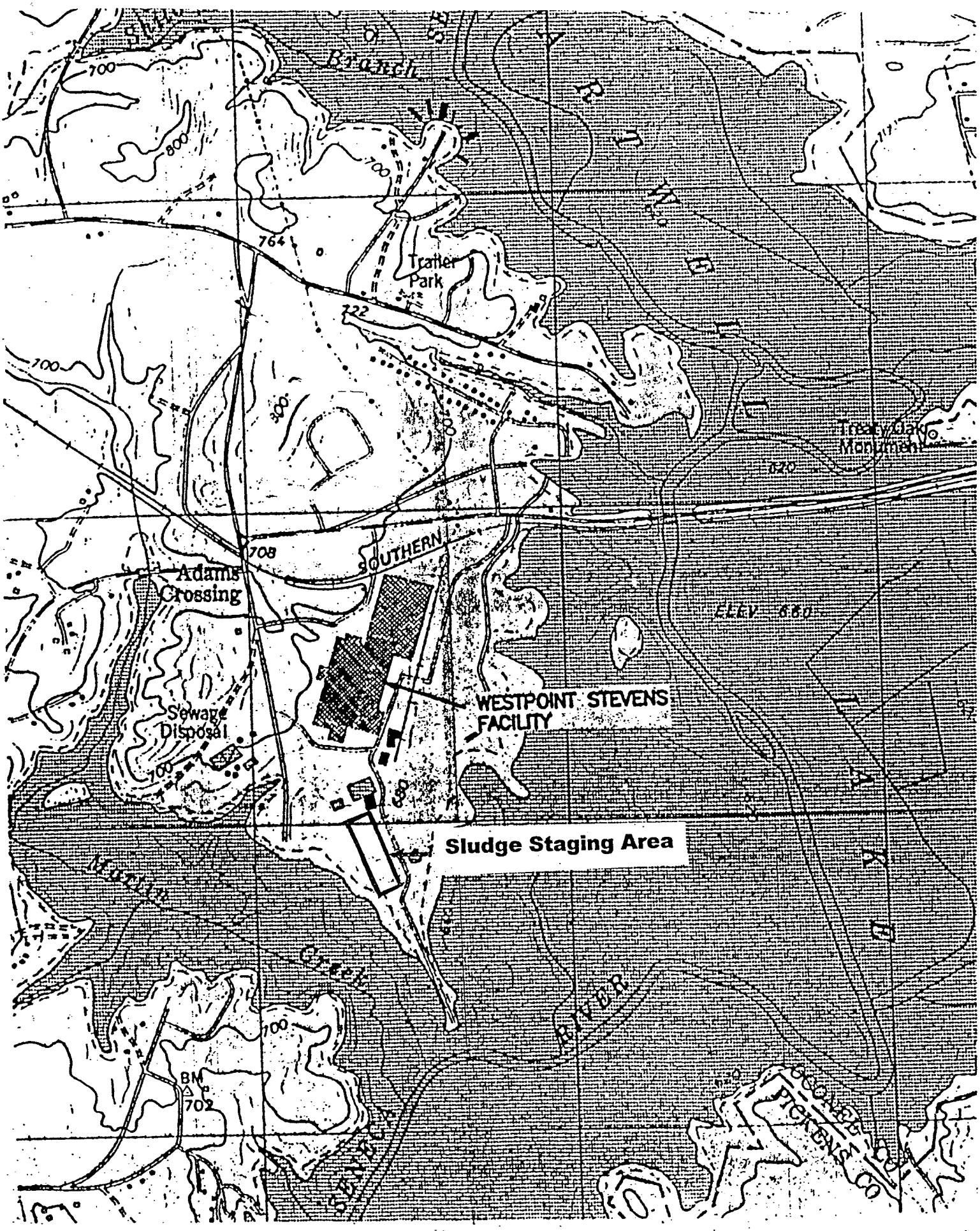
3.1 Operational and Procedural Improvements

Following cleanup of the site, operational and procedural improvements were implemented to insure that stormwater is contained in the runoff basin. The berms along the staging area and at the runoff basin were inspected and reworked as necessary to prevent breaching. An improved drainage path was prepared within the staging area to improve stormwater flow into the runoff basin. This work increases the storage capacity above that in Section 2. The 25/24 storm can be contained with 6-inches of freeboard. The area around the staging area and runoff basin was cleared of undergrowth which allows the entire site to be viewed from the access road. The staging area and runoff basin are inspected on a daily basis with additional inspections during and after any rainfall event. A log of daily inspections is maintained at the Wastewater Treatment Plant. These improvements were implemented by August 1, 1998.

3.2 Short-term Improvements

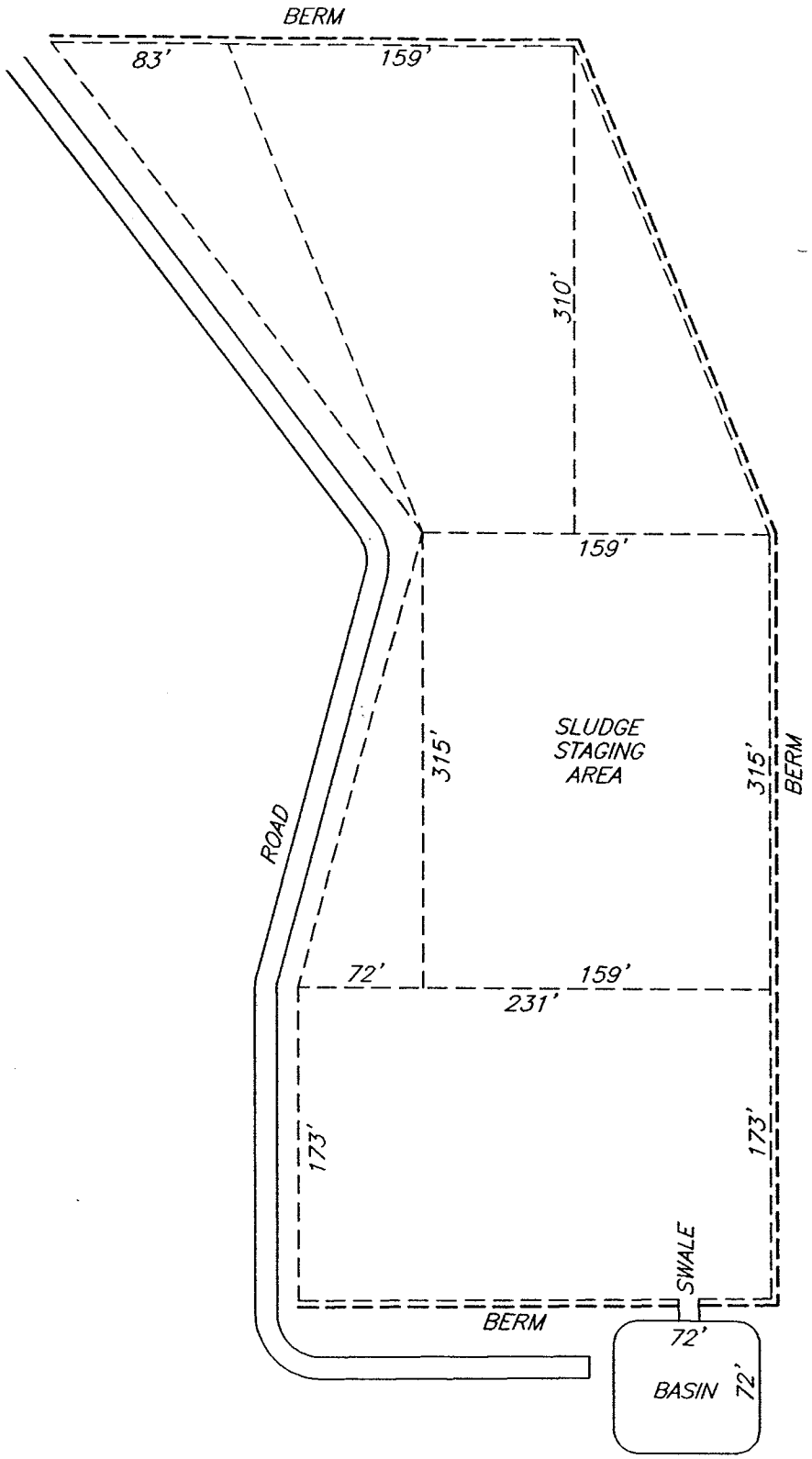
To further increase the capacity of the stormwater runoff basin, the earthen berm around the containment basin has been modified. As noted previously, an access road had been constructed into the containment basin to facilitate the removal of some accumulated sludge. The access road was eliminated and the berm has been restored to its original configuration. There was also a section of the berm directly opposite the access road which was lower in elevation than the remainder of the berm. This low section reduced the height of the berm by 0.6 feet and reduced the basin volume by 3,110 cubic feet. This low section of the berm was eliminated. The modifications were accomplished by WestPoint Stevens' personnel utilizing existing equipment at the facility. The modifications to the berm were completed by March 8, 1999. The calculations for the capacity of the basin after the modifications were made assuming a freeboard of six-inches.

Appendix

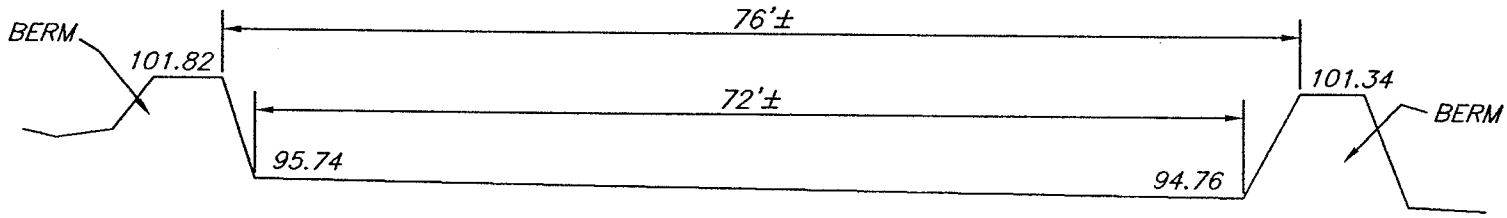


4.1

SITE LOCATION MAP



SCALE N.T.S.	WESTPOINT STEVENS ENGINEERING & ENVIRONMENTAL DEPT.	
BY T CARTER	FIGURE 4.2 DIMENSIONS FOR AREA CALCULATIONS CLEMSON FINISHING PLANT	
DATE 3-4-99		
APP.	SHEET	DWG. NO. A-23752



NOTE:
BERM ELEVATIONS
PRIOR TO MODIFICATIONS

	SCALE N.T.S.	WESTPOINT STEVENS ENGINEERING & ENVIRONMENTAL DEPT.
	BY T CARTER	FIGURE 4.3 – CROSS-SECTION STORM WATER RUNOFF BASIN CLEMSON FINISHING PLANT
	DATE 3-4-99	
	APP.	SHEET / DWG. NO. A-23752

4.4
Runoff Calculations

1. **Staging Area Calculations:**

159 Ft. X 310 Ft. + (0.5 X 83 Ft. X 310 Ft.) = 62,155
159 Ft. X 315 Ft. + (0.5 X 72 Ft. X 315 Ft.) = 61,425
173 Ft. X 231 Ft. = 39,693
163,543 Sq. Ft. - Sludge Staging Area

2. **Staging Area Runoff Calculations:**

9.1 inches rain for 25 year/24 hour storm event (South Carolina Stormwater & Sediment Control Handbook for Land Disturbers)
0.67 of Staging Area Covered by Sludge & Grass
0.33 of Staging Area with Bare Soil with Rough Surface

Area covered by sludge & grass - 163,543 Sq. Ft. X .67 = 109,574 Sq.. Ft.
Area with bare soil with rough surface- 163,543 Sq. Ft. X .33 = 53,969 Sq. Ft.

0.20 runoff coefficient - Stockpiled sludge & grassed areas (See 4.6 Runoff Coefficients;
0.35 runoff coefficient - Bare soil with rough surface American Society of Civil Engineers)

Total Runoff from stockpiled sludge & grassed area
109,574 Sq. Ft. X 0.20 X 9.1 inches/12 inches per foot = 16,619 cubic feet
Total runoff from bare area
53,969 Sq. Ft. X 0.35 X 9.1 inches/12 inches per foot = 14,324 cubic feet
Total Runoff from Staging Area 30,943 Cubic Feet

3. **Containment Capacity (Prior to Modifications of Earthen Berm)**

Note: The walls of the basin are sloped slightly outward, but a straight wall has been assumed for capacity calculations.

3.1 Basin Capacity

Average Elevation of Bottom of Basin	(95.74 + 94.76)/2 = 95.25
Lowest elevation of Berm	101.34
Basin Depth with 6" Freeboard	101.34 -95.25 - 0.5 = 5.59

72 Ft. X 72 Ft. X 5.5 Ft. = 28,510 Cubic Feet

3.2 Staging Area Capacity
80 Ft. X 80 Ft. X 0.5 Ft. = 3,200 Cubic Feet

3.3 Total Capacity

Basin	28,510
Staging	3,200
Total	**31,710 Cubic Feet**

4. **Containment Capacity (After Modification to Earthen Berm)**

4.1 Basin Capacity

Average Elevation of Bottom of Basin:	(95.74 + 94.76)/2 = 95.25
Lowest Elevation of Berm:	101.94
Basin Depth with 6" Freeboard:	101.94 - 95.25 - 0.5 = 6.19

Capacity:

72 Ft. X 72 Ft. X 6.1 Ft. = 31,622 Cubic Feet

4.2 Staging Area Capacity

100 Ft. X 100 Ft. X 0.5 Ft. = 5,000 Cubic Feet

4.3 Total Capacity

Basin	31,622
Staging	5,000
Total	**36,622 Cubic Feet**

4.5

South Carolina Rainfall Data

South Carolina Rainfall Data "South Carolina Stormwater and Sediment Control Handbook for Land Disturbances"

COUNTY NAME		RETURN PERIOD 24 HOUR STORM EVENT (INCHES)							
		1	2	5	10	25	50	100	R Factors
Abbeville		3.2	3.7	4.8	5.7	6.5	7.0	8.0	250
Aiken		3.2	3.7	4.9	5.8	6.7	7.3	8.0	250
Allendale		3.4	3.9	5.1	6.0	6.9	7.8	8.5	300
Anderson		3.3	4.0	5.2	5.9	6.7	7.5	8.0	275
Bamberg		3.4	3.9	5.2	6.0	6.9	7.8	8.5	300
Barnwell		3.3	3.9	5.1	5.9	6.9	7.7	8.2	275
Beaufort		3.7	4.5	5.9	6.8	7.8	8.8	10.0	400
Berkeley (North)	3.5	4.2	5.5	6.4	7.3	8.2	9.3	350	
Berkeley (South)	3.6	4.4	5.7	6.7	7.6	8.5	9.8	350	
Calhoun		3.3	3.8	5.0	5.9	6.7	7.5	8.2	275
Charleston		3.8	4.6	5.9	6.8	7.8	8.8	10.0	400
Cherokee		3.0	3.5	4.5	5.0	6.0	6.7	7.0	275
Chester		2.9	3.5	4.5	5.1	6.0	6.8	7.3	250
Chesterfield		3.1	3.7	4.8	5.5	6.3	7.2	7.9	275
Clarendon		3.4	4.0	5.1	6.0	6.9	7.8	8.7	300
Colleton (North)	3.5	4.2	5.4	6.3	7.2	8.0	9.1	350	
Colleton (South)	3.6	4.4	5.7	6.7	7.7	8.5	9.6	350	
Darlington		3.2	3.8	5.0	5.7	6.5	7.5	8.3	300
Dillon		3.3	3.9	5.2	5.9	6.8	7.8	8.6	325
Dorchester (North)	3.4	4.2	5.4	6.3	7.2	8.0	9.1	325	
Dorchester (South)	3.6	4.4	5.7	6.7	7.6	8.5	9.6	325	
Edgefield		3.2	3.7	4.7	5.7	6.5	7.1	7.9	250
Fairfield		3.0	3.5	4.5	5.3	6.1	6.9	7.6	250
Florence		3.3	4.0	5.2	6.0	6.8	7.8	8.8	325
Georgetown		3.6	4.5	5.7	6.7	7.7	8.7	9.8	350
Greenville (North)		4.0	5.0	5.8	6.1	7.3	8.2	8.8	300
Greenville (South)		3.4	4.0	5.0	5.7	6.6	7.3	8.0	300
Greenwood		3.1	3.7	4.7	5.6	6.4	7.0	7.8	250
Hampton		3.4	4.1	5.4	6.3	7.2	8.0	8.9	325
Horry (North)		3.4	4.0	5.4	6.3	7.3	8.2	9.3	350
Horry (South)		3.6	4.5	5.6	6.7	7.6	8.6	9.7	350
Jasper		3.5	4.3	5.7	6.7	7.6	8.3	9.3	350
Kershaw		3.1	3.7	4.7	5.5	6.3	7.2	7.9	275
Lancaster		3.0	3.6	4.6	5.3	6.1	7.0	7.6	250
Laurens		3.1	3.7	4.7	5.5	6.2	7.0	7.7	250
Lee		3.2	3.8	5.0	5.7	6.5	7.5	8.3	275
Lexington		3.1	3.7	4.8	5.6	6.5	7.2	7.9	250
Marion (North)		3.3	3.9	5.3	6.0	6.9	7.8	8.8	325
Marion (South)		3.4	4.2	5.4	6.3	7.2	8.2	9.2	325
Marlboro		3.2	3.8	4.9	5.7	6.6	7.6	8.2	300
McCormick		3.2	3.7	4.8	5.7	6.5	7.0	7.5	250
Newberry		3.0	3.6	4.5	5.4	6.1	7.0	7.5	250
Oconee (North)		4.5	5.3	7.0	8.0	9.1	9.8	11.0	300
Oconee (South)		3.5	4.6	5.8	6.5	7.5	8.0	9.0	300
Orangeburg		3.3	3.9	5.2	6.0	6.8	7.7	8.5	275
Pickens (North)		4.2	5.3	6.8	7.2	8.7	9.0	10.4	300
Pickens (South)		3.7	4.7	5.8	6.3	7.5	8.3	9.2	300
Richland		3.1	3.7	4.8	5.7	6.4	7.3	7.9	275
Saluda		3.1	3.7	4.7	5.7	6.4	7.3	7.9	250
Spartanburg NE	**Suggest use of National Weather Bureau**								
Spartanburg NW	**Publication Technical Paper 40.**								
Spartanburg SE	**Rainfall data in this area must be**								
Spartanburg SW	**predicted carefully.**								
Sumter		3.2	3.8	5.0	5.8	6.6	7.6	8.3	275
Union		3.0	3.5	4.5	5.1	6.0	6.8	7.4	250
Williamsburg		3.4	3.5	5.4	6.3	7.2	8.1	9.2	325
York		2.8	3.5	4.5	5.0	6.0	6.7	7.0	250

Table 8.03a
Value of Runoff Coefficient (C) for Rational Formula

Land Use	C	Land Use	C
Business:		Lawns:	
Downtown areas	0.70-0.95	Sandy soil, flat, 2%	0.05-0.10
Neighborhood areas	0.50-0.70	Sandy soil, ave., 2-7%	0.10-0.15
		Sandy soil, steep, 7%	0.15-0.20
Residential:		Heavy soil, flat, 2%	0.13-0.17
Single-family areas	0.30-0.50	Heavy soil, ave., 2-7%	0.18-0.22
Multi units, detached	0.40-0.60	Heavy soil, steep, 7%	0.25-0.35
Multi units, attached	0.60-0.75		
Suburban	0.25-0.40	Agricultural land:	
		Bare packed soil	
Industrial:		Smooth	0.30-0.60
Light areas	0.50-0.80	Rough	0.20-0.50
Heavy areas	0.60-0.90	Cultivated rows	
		Heavy soil no crop	0.30-0.60
Parks, cemeteries	0.10-0.25	Heavy soil with crop	0.20-0.50
		Sandy soil no crop	0.20-0.40
Playgrounds	0.20-0.35	Sandy soil with crop	0.10-0.25
		Pasture	
Railroad yard areas	0.20-0.40	Heavy soil	0.15-0.45
		Sandy soil	0.05-0.25
Unimproved areas	0.10-0.30	Woodlands	0.05-0.25
Streets:			
Asphalt	0.70-0.95		
Concrete	0.80-0.95		
Brick	0.70-0.85		
Drives and walks	0.75-0.85		
Roofs	0.75-0.85		

NOTE: The designer must use judgment to select the appropriate C value within the range for the appropriate land use. Generally, larger areas with permeable soils, flat slopes, and dense vegetation should have lowest C values. Smaller areas with slowly permeable soils, steep slopes, and sparse vegetation should be assigned highest C values.

Source: American Society of Civil Engineers

The overland flow portion of flow time may be determined from Figure 8.03a. The flow time (in minutes) in the channel can be estimated by calculating the average velocity in feet per minute and dividing the length (in feet) by the average velocity.

Step 4. Determine the rainfall intensity, frequency, and duration (Figures 8.03b through 8.03g—source: North Carolina State Highway Commission; Jan. 1973). Select the chart for the locality closest to your location. Enter the "duration" axis of the chart with the calculated time of concentration, Tc. Move vertically until you intersect the curve of the appropriate design storm, then move horizontally to read the rainfall intensity factor, i, in inches per hour.

Step 5. Determine peak discharge, Q (ft^3/sec), by multiplying the previously determined factors using the rational formula (Sample Problem 8.03a).

) H E C
ROMOTE PROTECT PROSPER
)0 Bull Street
lumbia, SC 29201-1708

)MMISSIONER:
ıglas E. Bryant

)ARD:
ın H. Burriss
ıirman

liam M. Hull, Jr., MD
:e Chairman

ger Leaks, Jr.
retary

ırk B. Kent

ıdi C. Mosteller

ian K. Smith

lney L. Grandy

March 24, 1999

CERTIFIED MAIL - RETURN RECEIPT/RESTRICTED DELIVERY

Mr. Billy E. Harris, Plant Manager
WestPoint Stevens / Clemson Complex
P.O. Box 1800
Clemson, South Carolina 29633-1800

Re: Consent Order #99-026-W
WestPoint Stevens / Clemson Complex
NPDES Permit SC0000591
Oconee County

Dear Mr. Harris:

Enclosed is the fully executed Consent Order #99-026-W affecting WestPoint Stevens / Clemson Complex. The Order is considered issued on March 22, 1999.

If you have any questions in this matter, please call me at (803) 898-4262.

Sincerely,

Frank Lupini
Bureau of Water
Water Enforcement Division

cc Christopher N. Zodrow, w/ enclosure Westpoint Stevens; P.O. Box 71; West Point, Georgia; 31833
Tom Jones, w/enclosure
Sandra Hursey, w/enclosure
Appalachia I District Office, w/enclosure
Industrial Wastewater Permitting Section, w/enclosure

THE STATE OF SOUTH CAROLINA
BEFORE THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

IN RE: WESTPOINT STEVENS INC.
OCONEE COUNTY

CONSENT ORDER
99-026-W

WestPoint Stevens Inc. (Respondent) owns and is responsible for the proper operation and maintenance of its wastewater treatment facility (WWTF) located in Oconee County, South Carolina.

A review of the Respondent's file by the South Carolina Department of Health and Environmental Control (Department) indicates that the Respondent has failed to meet the schedule of compliance in Consent Order #96-112-WP. In addition, the Respondent had an unauthorized release of sludge which entered Lake Hartwell.

Following approved procedures and based upon a meeting with the Respondent on November 17, 1998, both parties have agreed to the issuance of this Consent Order to include the following Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

1. The National Pollutant Discharge Elimination System (NPDES) Permit SC0000591 effective December 1, 1993, authorizes the Respondent to discharge treated wastewater into Lake Hartwell in strict compliance with terms, limitations and requirements outlined

in the permit.

2. On December 17, 1996, the Department executed Consent Order #96-112-WP with the Respondent for effluent violations of biochemical oxygen demand (BOD) and fecal coliform bacteria. The Respondent was required to construct a Department approved upgrade to meet the NPDES permit limits. The deadline for ending construction was July 1, 1998. On August 31, 1998, the Department issued a Notice of Violation (NOV) for failure to meet the July 1, 1998, deadline. The Respondent replied on September 8, 1998, that on July 2, 1998, a letter was sent to the Department stating that the project was complete except for the disinfection basin dividers.

3. On April 24, 1998, the Respondent contacted the Department to report that a breach in the berm of its landfill caused a release of industrial sludge. An undetermined amount of the sludge entered Lake Hartwell. The Respondent took corrective action by cleaning up the released sludge and making repairs to the berm. The Respondent stated that long term engineering solutions would be implemented to reduce sludge carryoff into runoff basins.

4. The Department held an enforcement conference with the Respondent on November 17, 1998. The Findings of Fact were reviewed and discussed with the Respondent. Also discussed was the issuance of a Consent Order and possible civil penalties.

CONCLUSIONS OF LAW

Based upon the above Findings of Fact, the Respondent has violated the Pollution Control Act and regulations promulgated thereunder S.C. Code Ann. § 48-1-10 *et seq.*, (1976, as amended), as follows:

1. The Department has found that the Respondent violated S.C.Code Ann.§ 48-1-130 in that it did not comply with Order #96-112-WP.

2. The Respondent is in violation of S.C. Code Ann. §§ 48-1-90(a) and 110(d) in that it allowed a combination of sludge and contaminated stormwater to enter surface waters of the state.

3. S.C. Code Ann. § 48-1-330 provides for a civil penalty not to exceed ten thousand dollars ($10,000.00) per day of violation.

NOW, THEREFORE, IT IS ORDERED, CONSENTED TO AND AGREED, pursuant to § 48-1-10 *et seq.*, (1976, as amended), that the Respondent shall:

1. Within thirty (30) days of the execution of this Order, submit to the Department a corrective action plan (CAP) detailing operation and maintenance procedures which will be implemented to prevent effluent violations. The CAP shall include a diagnostic evaluation (DE) of the sludge staging area conducted by a state registered professional engineer. The DE shall certify that the sludge staging area can prevent releases during 25 year/24 hour storm events. If the DE indicates that further construction or modifications of the sludge staging area is required, then the CAP shall include a preliminary engineering report (PER) with a schedule of implementation. The schedule, upon Department approval, shall be incorporated into and become an enforceable part of this Order.

2. Within thirty (30) days of the date of execution of this Order, pay to the Department a civil penalty in the amount of nine thousand dollars ($9,000.00).

PURSUANT TO THIS ORDER, all requirements to be submitted to the Department shall be addressed as follows:

Frank Lupini
Bureau of Water-Enforcement Division
S.C. Department of Health and Environmental Control
2600 Bull Street
Columbia, S.C. 29201

The Respondent shall confirm, in writing, completion of the Order requirements to the above address within five (5) days of completion.

IT IS FURTHER ORDERED AND AGREED that in the interest of resolving all matters known to the Department that may constitute possible violations of NPDES permit #SC0000591 as of the date hereof without delay and expense of litigation the Respondent agrees to the entrance of this Consent Order, without admission or adjudication of any issue of fact or law and without agreeing with the Findings of Fact or the Conclusions of Law; and therefore, agrees that this Order shall be deemed an admission of fact and law only as necessary for enforcement of this Order by the Department.

IT IS FURTHER ORDERED AND AGREED that if any event occurs which causes or may cause a delay in meeting any of the above scheduled dates for completion of any specified activity, the Respondent shall notify the Department in writing at least one (1) week before the scheduled date, describing in detail the anticipated length of the delay, the precise cause or causes of delay,

if ascertainable, the measures taken or to be taken to prevent or minimize the delay, and the timetable by which those measures will be implemented.

The Department shall provide written notice as soon as practicable that a specified extension of time has been granted or that no extension has been granted. An extension shall be granted for any scheduled activity delayed by an event of *force majeure*, which shall mean any event arising from causes beyond the control of the Respondent that causes a delay in or prevents the performance of any of the conditions under this Consent Order including, but not limited to: a) acts of God, fire, war, insurrection, civil disturbance, explosion; b) adverse weather condition that could not be reasonably anticipated causing unusual delay in transportation and/or field work activities, c) restraint by court order or order of public authority; d) inability to obtain, after exercise of reasonable diligence and timely submittal of all applicable applications, any necessary authorizations, approvals, permits, or licenses due to action or inaction of any governmental agency or authority; and e) delays caused by compliance with applicable statutes or regulations governing contracting, procurement or acquisition procedures, despite the exercise of reasonable diligence by the Respondent.

Events which are not *force majeure* include by example, but are not limited to, unanticipated or increase costs of performance, changed economic circumstances, normal precipitation events, or any person's failure to exercise due diligence in obtaining governmental permits of fulfilling contractual duties. Such determination will be made in the sole discretion of the Department. Any extension shall be incorporated by reference as an enforceable part of this Consent Order and thereafter be referred to as an attachment to the Consent Order.

IT IS FURTHER ORDERED AND AGREED that failure to comply with any provision of this Order shall be grounds for appropriate sanctions and further enforcement action pursuant to § 48-1-10 *et seq.*, (1976, as amended), to include the assessment of civil penalties.

THE SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Douglas E. Bryant,
Commissioner

DATE: 3/22/99

Alton C. Boozer, Chief
Bureau of Water

DATE: 8 March, 1999

WE CONSENT:

WestPoint Stevens Inc.

DATE: 9/26/99

Attorney for the Department

DATE: 3/22/99

Valerie A. Betterton, Director
Water Enforcement Division

DATE: 3-8-99

RMT, Inc. **INTEROFFICE MEMORANDUM**

DATE: **December 5, 1994**

TO: **Bill Goforth**

FROM: **Joyce Peterson**

SUBJECT: **Westpoint Stevens 70276.01**

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

To EDDIE LANIER	From CHRISTIE COVINGTON
Co.	Co.
Dept.	Phone #
Fax #	Fax #

Sorry the written version of my comments concerning the soil and sediment sampling results are so late, but I've been out of the office for the last 2½weeks.

Surface Soils

The volatile organics are unalarming. Most of the hits were also in the blank, and standard procedures will classify them as non-detects. The detects (2-butanone, xylene, and trichloroethene) are estimated below the method detection limits.

The semi-volatile organics are generally OK. Sample JP-07-SS had an elevated detection limit. Since there are no estimated concentrations below the detection limits for that sample, it is not likely that there is any significant problem there.

The following inorganics had significant variation (at least an order of magnitude) in the site samples: barium, calcium, copper, iron, magnesium, manganese, potassium, zinc. Of these, manganese exceeded its standard risk-based value (Region III, residential exposure) of 390 mg/kg.

Sediments

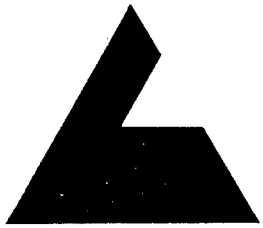
Volatile organics - ditto surface soils.

Six of the sediment samples had PAHs detected at levels that may be of concern - depending on potential exposure. I suspect that a standard "trespasser" exposure scenario for the sediments would result in excessive incremental risk.

The inorganic constituents looked OK with the possible exception of manganese in JP-11-SD (730 mg/kg). This particular sample was not one of those with PAHs.

Water

I don't know whether these samples (WW) are surface water or wastewater. If they are surface water, the following constituents exceed ambient water quality criteria (criteria in parentheses after constituent): copper (0.012 mg/L at hardness = 100 mg/L), iron (1 mg/L), and mercury (0.000012 mg/L).



REPORT OF SOIL AND GROUND WATER SAMPLING
WEST POINT PEPPERELL

CLEMSON, SOUTH CAROLINA

LAW ENGINEERING JOB NUMBER GVE-2598

LAW ENGINEERING
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November 6, 1990

West Point Pepperell
Clemson Plant
Cherry Road
Clemson, South Carolina 29631

Attention: Mr. George Todd

Subject: Report of Soil and Ground Water Sampling
West Point Pepperell
Clemson, South Carolina
Law Engineering Job Number GVE-2598

Gentlemen:

As authorized by your acceptance of our Proposal Number GV90-929, Law Engineering has completed soil, ash, sludge, ground water, and surface water sampling and chemical analysis at the subject site. The purpose of this program was to perform a sampling split with the South Carolina Department of Health and Environmental Control (SCDHEC) for QA/QC purposes. This report describes the work performed and presents the results obtained.

We appreciate the opportunity to provide our professional services during this phase of the project. If you have any questions concerning this report, please do not hesitate to call.

Sincerely,

LAW ENGINEERING

Mark S. Preddy, P.G.
Staff Hydrogeologist

Thomas L. Lammons, P.G.
Environmental Services Manager
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/sb.a

LAW ENGINEERING

TABLE OF CONTENTS

FIGURES

LAW ENGINEERING

TABLE OF CONTENTS (Cont'd)

TABLES

APPENDICES

1.0 BACKGROUND INFORMATION

1.1 Project Information

The following information was obtained from Law Engineering's Proposal for Environmental Services (Proposal Number GV90-929), dated June 4, 1990, a site visit by Law Engineering personnel on June 4 and 5, 1990, telephone conversations with employees of SCDHEC, and SCDHEC's June 1, 1990 Sampling Plan, and Screening Site Investigation, of the West Point Pepperell, Clemson plant (formerly the J.P. Stevens Company).

The subject West Point Pepperell Plant is located in Clemson, South Carolina along Cherry Road, 0.2 miles east of Road S-37-37 on the west side of Lake Hartwell in Oconee County (Figure 1). The plant manufactures textile decorative accessories such as bedsheets and pillowcases and functions as a "total integrated" textile mill; i.e., every operation required to manufacture finished textile products, from raw, unwoven fibers is performed. Byproducts from the manufacturing processes, which have been disposed in permitted landfills, include: burned coal cinders from the boiler plant disposed in Landfill No. 1, and rags, lint, and sludge from the waste treatment facility disposed in Landfill Numbers 2 and 3 (Figure 2).

In 1967, an LP gas explosion occurred within the plant facility. Rubble from the explosion was disposed into two small ravines on the plant's property (Landfill Numbers 4 and 5), and later covered with soil. Most of the rubble consisted of broken concrete, scrap metal and timber. However, it is possible that drums (number uncertain) of print-paste pigments (various dye compounds of chromium, copper, and cadmium) may have been damaged in the explosion and placed into the two explosion debris piles. On the basis of this speculation, a notification of an Uncontrolled Waste Site (CERCLA Form 103C) was filed in June 1981.

It was reported that transformer oil was discharged into the ravine where Landfill Number 5 is located. The transformer oil may have contained polychlorinated biphenyls (PCB's). In June, 1981 eight soil samples were collected by others from the ravine and chemically tested by others in the laboratory for PCB's. The laboratory test results were negative for PCB's.

SCDHEC issued a notice to West Point Pepperell on May 4, 1990 of the State's intention to collect confirmation soil, ash, sludge, ground-water and surface water samples from the facility grounds as part of a Screening Site Investigation, pursuant to the authority and requirements of CERCLA. The SCDHEC sampling plan involved collecting soil, ash, and water samples in proximity to the landfilled areas. West Point Pepperell requested that Law Engineering be present during the field sampling activities to observe the sampling procedures and to split[1] all samples with SCDHEC for QA/QC analyses.

Law Engineering personnel contacted SCDHEC by telephone on May 29, 1990 to obtain copies of the sampling and analytical plan and to organize the field sampling activities. SCDHEC was to analyze eight soil, one ash, two ground-water, one bailer rinsate, and two surface water samples for:

- Volatile Organic Compounds (VOC) by EPA Methods 624 for water and 8240 for soil and ash samples.

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[1] A split sample is portioned into two or more containers from a single sample container. Portioning assumes adequate mixing to assure the "split samples" are, for all practical purposes, identical. The resulting sample splits are sent to different laboratories for analyses.

- o Acid Extractables and Base Neutrals (ABN) by EPA Methods 8270 for water, soil, and ash samples.

- o Heavy metals (As, Ba, Cd, Cr, Cu, Pb, Mn, Hg, Ni, Se, and Ag) for the water, soil, and ash samples.

- o Polychlorinated Biphenyls (PCB) by EPA methods 608 for water and 8080 for soil and ash samples.

1.2 Sampling Plan Modifications and Scope of Services Performed

The scope of services to be performed by Law Engineering on this project included the following:

1) Providing personnel to obtain eight soil, one ash, two ground-water, one bailer rinsate, and two surface-water samples from SCDHEC personnel at the subject site on June 5, 1990.

2) Chemically analyzing the 14 samples for the parameters listed above.

3) Preparing a report of the sampling activities performed and comparing the analytical results from the SCDHEC and Law Engineering sample splits.

The field sampling activities were performed on June 5, 1990. At the time of sampling, Law Engineering personnel discovered that SCDHEC had modified their sampling plan

with respect to the laboratory analyses to be performed. Law Engineering was not notified by SCDHEC concerning the sampling plan modifications prior to June 5, 1990. The modified sampling plan of chemical parameters and materials consisted of the following:

Five Soil, Three Sludge, and One Ash:

- o VOC's by EPA Method 8240
- o ABN's by EPA method 8270
- o Metals (Ba, Cr, Cu, Hg, Mn, Ni, As, Cd, Pb, Se, Ag)
- o Cyanide by EPA Method 335.3
- o Total PCB's EPA Method 8080
- o Total Phenols by EPA Method 8040

Two Ground-water, One Bailer Rinsate and Two Surface Water Samples:

- o VOC's by EPA Method 624
- o ABN's by EPA Method 625
- o Metals (Ba, Cr, Cu, Hg, Mn, Ni, As, Cd, Ph, Se, Ag)
- o Cyanide by EPA Method 335.3
- o Total PCB's by EPA Method 608
- o Total Phenols by EPA Method 8040
- o Alkalinity by EPA Method 310.1
- o Total Organic Carbon (TOC) by EPA Method 415.1
- o Carbon Oxygen Demand (COD) by EPA Method 410.1
- o Nitrate-Nitrite by EPA Method 353.1

- o Total Dissolved Solids (TDS) by EPA Method 160.1
- o pH by EPA Method 150.1

The locations of the above samples are described in Table 1 and shown on Figure 2.

Samples were not collected from locations PW-1, MW-3, SW-9 and MW-2 for cyanide, total dissolved solids, and total phenols. The additional sample containers required were not available on site due to the unexpected modifications to the sampling plan.

The collected samples were marked with identifying numbers, immediately placed in sample coolers and secured. The samples were shipped in cooled containers (maintained at 4°C) to the Law Environmental National Laboratories in Kennesaw, Georgia for analyses. Appropriate chain-of-custody records were maintained (Appendix D). A discussion of the sample handling, shipping and chain-of-custody procedures is provided in Appendix C.

2.0 SAMPLING PROCEDURES

The soil, sludge, ash, ground-water and surface water samples were collected as grab samples and placed into the appropriate sample containers (40 ml VOA vials, one-litre plastic jars, one-litre glass jars, and 250- and 500-ml plastic jars) by SCDHEC personnel. The appropriate containers, preservatives and holding times for each parameter are provided as an addendum to Table 1. Sampling locations were selected by SCDHEC personnel prior to arriving on site June 5, 1990. A description of these locations is provided on Table 1 and the locations are shown on Figure 2.

Dedicated sampling equipment was used at each location (teflon bailers, stainless steel spoons and buckets, and glass dishes) and was cleaned and wrapped in aluminum foil in the laboratory by SCDHEC personnel prior to their use in the field. The use of dedicated sampling equipment minimizes the potential for cross-contamination between sampling locations.

2.1 Soil, Sludge and Ash Sampling

The soils, sludge and ash samples were collected using a stainless steel spoon approximately one foot in length. The soil or ash was collected from depths of approximately 3 inches to 1 foot and placed in a glass dish prior to being split into the appropriate sample vials for shipment to the laboratory.

2.2 Ground-water Sampling

Monitoring wells LF2-2 and LF3-3 (ground-water samples MW-2 and MW-3, respectively) were purged prior to sample collection to remove any stagnant water from the well so that the samples collected are representative of the ground-water quality in the vicinity of each well. For wells that recovered quickly, a minimum of three volumes of water were evacuated. Specific conductance, pH, and water temperature were measured periodically during well evacuation using daily calibrated instruments (Appendix B). Wells that were evacuated to dryness with less than three well volumes being removed were sampled as soon as the well had recovered enough to yield sufficient volume for a sample. The wells were purged and sampled using a bailer constructed of a 3-foot long, 1.6-inch diameter teflon pipe attached to an unused polypropylene cord.

In order to verify the quality of the sample collection, transportation and analyses, quality control (QC) samples were collected for a specific matrix type. These samples included two sampler rinsate and one trip blank samples.

Two sampler rinsate samples were collected during the sampling activities (samples MW-4 and MW-16). Sample MW-16 was collected on June 5, 1990, and sample MW-4 was collected on June 19, 1990. These samples were collected following the rinsing of a bailer by pouring deionized or distilled water over and inside the sampler. A portion of this water was collected and tested to verify the adequacy of the field cleaning procedures.

Trip blanks are defined as containers filled with deionized or distilled water which accompany the field samples during storage and transportation to the laboratory. One trip blank sample was analyzed to determine if the storage or handling of the field samples had jeopardized their integrity. The results of the bailer rinsate and trip blank samples were used for final data validation purposes.

2.3 Surface Water Sampling

A surface water sample, SW-9, was collected from the pond south of Landfill Number 4 on June 5, 1990 (Figure 2). The water sample was collected using a stainless steel bucket attached to a nylon retrieval cord. Upon retrieval, the water sample was poured from the bucket into the vials for shipment to the laboratory.

3.0 CHEMICAL ANALYSIS OF SOIL, ASH, SLUDGE, GROUND WATER AND SURFACE WATER SAMPLES

Law Engineering and SCDHEC analytical results of the soil, sludge, ash, ground-water and surface-water samples are summarized on Tables 2 through 10. Detailed laboratory test results of the Law Engineering and SCDHEC analytical data are provided in Appendices D and E, respectively.

3.1 Results of Ground-water and Surface Water Sample Analyses

SCDHEC has promulgated maximum contaminant levels (MCL's) for various compounds in drinking water. A list of the SCDHEC MCL's is provided on the analytical summary tables (Tables 2, 4, 6, 8 and 10). Water samples which have concentrations of compounds exceeding the South Carolina drinking water MCL's are listed below:

1. Ground-water sample MW-3 was collected from West Point Pepperell well LF3-3 which is downgradient from Landfill No. 3. Concentrations of lead (0.010 ppm) were detected above the South Carolina MCL's for drinking water in the Law Engineering sample split. Analytical results of the corresponding SCDHEC sample split were within the acceptable range of concentration.

2. Ground-water sample MW-2 was collected from West Point Pepperell well LF2-2 which is downgradient from Landfill No. 2. A concentration of 0.051 ppm of lead was detected in the Law sample split which exceeds the South Carolina MCL. The corresponding SCDHEC sample split did not detect

the presence of lead above the MCL. However, butylbenzyl phthalate and di-N-butylphtlate were detected at concentrations of 197 ppb and 118, ppb, respectively in the SCDHEC sample. Additionally, six tentatively identified compounds were detected in the SCDHEC sample and they are listed on Table 10.

Tentatively identified compounds were detected in addition to the normal list of compounds for a given analytical test method. These compounds are only reported as "detected" or "not detected"; and quantitative concentrations are not provided.

3.2 Comparison: Law Engineering and SCDHEC Water Sample Splits

State of the art analytical practice recognizes an acceptable margin of variance from sample to sample and from laboratory to laboratory. Although standardized EPA protocols were strictly observed in laboratory procedures, variation of analytical results was expected. A variance in results of within 40 percent is considered acceptable for water samples in this report. Comparisons between the Law Engineering and SCDHEC laboratory results for water samples indicate that there is acceptable variance between the concentrations detected for:

1. Alkalinity, COD, nitrate-nitrite, and pH (Table 2);

2. Cyanide and PCB's (Table 6);

3. Volatile organic compounds (Table 8) with the exceptions of 1, 1, 1, trichloroethane in the MW-2 SCDHEC sample which may represent

laboratory contamination, and trimethylsilanol in the PW-1 Law Engineering sample which may be an artifact of the inlet trap on the private well outlet; and

4. ABN's (Table 10). Some phthalates were detected. Phthalates are common laboratory contaminants.

Variance greater than 40 percent between the Law Engineering and SCDHEC laboratory results of the water samples include:

1. Total organic carbon (TOC) concentrations were detected in samples PW-1, MW-3, and SW-9. The analytical results are presented on Table 2. The chemical analyses of SCDHEC samples PW-1, MW-3, and SW-9 detected concentrations of TOC approximately two times higher than was detected in the corresponding Law Engineering samples. The SCDHEC QC bailer rinsate sample MW-4 also detected concentrations of TOC. The corresponding Law sample split did not detect TOC.

2. Nickel concentrations detected in the MW-3, Law Engineering ground-water sample probably represent laboratory artifacts (Table 4). The corresponding SCDHEC sample split was below detection limits.

3.3 Results of Soil, Sludge and Ash Sample Analyses

Soil sample SS-5 was collected upgradient from the site and north of Landfill No. 1 (Figure 2). Sample SS-5 was collected for the purpose of defining normal background

TABLES

TABLE 1

SAMPLE LOCATION SUMMARY

Soil	Location
SS-5*	In the woods upgradient from Landfill #1.
SS-12	Waste-water treatment facility.
SS-7	Top of explosion debris landfill (Landfill #4).
SS-8	Toe of explosion debris landfill (Landfill #4).
SS-14	Landfill #5; sample deleted due to lack of accessibility.
Ash/Sludge	
WA-6	Landfill #1.
SS-13	Landfill #3.
SS-11	Landfill #2.
SS-10	Landfill #2; sample deleted (same material as SS-11).
Ground Water	
MW-2	Ground-water monitoring well LF2-2 downgradient from Landfill #2
MW-3	Ground-water monitoring well LF3-3 downgradient from Landfill #3
PW-1*	Private water well upgradient from the site location 0.3 miles west-northwest of West Point Pepperell in the Adams Crossing Community off County Road 65.
Surface Water	
SW-9	Pond downgradient from the explosion debris landfill (Landfill #4)
SW-15	Tributary leading to Lake Hartwell; sample deleted.
Bailer Rinsates	
MW-4	6-19-90
MW-16	6-5-90

*Soil sample SS-5 and ground-water sample PW-1 were collected to determine the normal concentrations of constituents within the area soil and ground water upgradient from the West Point Pepperell plant.

ADDENDUM TO TABLE 1

Organic Analysis

Parameter	Volume	Bottle Type	Hold Time (Days)	Preservative
GC Lab				
Phenols				
(EPA 604)	1000 ml	Amber Liter	7*	None
(EPA 8040)	100 gr	Soil Jar		None
Pesticide/PCB				
(EPA 608)	1000 ml	Amber Liter	7*	None
(EPA 8080)	100 gr	Soil Jar	7*	None
GC/MS Lab				
Volatiles				
(EPA 8240)	40 ml	VOA Vials	14	HCL
Base Neutrals				
(EPA 8270)	1000 ml	Amber Liter	7*	None
Acid Extractables				
(EPA 8270)	1000 ml	Amber Liter	7*	None

Inorganic Analysis

Parameter	Volume (mls)	Bottle Type	Preservative
Alkalinity	100	Plastic	None
COD	100	Plastic	H2SO4
Cyanide	1000	Plastic	NaOH/ASC
Nitrogen			
Nitrate	100	Glass	H2SO4
Nitrate	100	Glass	H2SO4
Total Organic Carbon	80	2 VOA Vials	H2SO4
Total Organic Halides	1000	Glass Amber	H2SO4 9c)
pH	50	Plastic	None
Metals (total)	1000	Plastic	HNO3

** Hold time until extraction.*
All organic analysis bottles must be sealed with a teflon cap.

(a) Must be presterilized
(b) Plastic only, can not use glass
(c) Must be completely full. No headspace

/pb.b
2598A-1

TABLE 2
ANALYTICAL RESULTS:
Law Engineering Job Number GVE-2598
Alkalinity, TOC, COD, Nitrate-Nitrite, and pH
in Ground-Water and Surface Water Samples

Law Engineering Analytical Results:

Parameter	SC MCL	PW-1	MW-3	SW-9	MW-4	MW-2	MW-16	EPA Method
Alkalinity (ppm)	NE	4.7	17	520	<1	NT	NT	310.1
TOC (ppm)	NE	<0.50	2.4	37	<0.50	NT	NT	415.2
COD (ppm)	NE	<5	31	140	<5	NT	NT	410.4
Nitrate-Nitrite (ppm)	11*	0.62	0.094	<0.05	<0.05	NT	NT	353.2
pH	NE	5.2	6.0	9.2	5.4	NT	NT	150.1
TDS (ppm)	500**	NT	NT	NT	NT	NT	NT	160.1

SCDHEC Analytical Results:

Parameter		PW-1	MW-3	SW-9	MW-4	MW-2	MW-16
Alkalinity (ppm)		6	17	470	2	NT	4
TOC (ppm)		1.5	15.5	80	1.8	NT	3.7
COD (ppm)		<25	27	120	<25	<25	NT
Nitrate-Nitrite (ppm)		0.76	0.12	<0.02	0.02	NT	0.06
pH		5.8	6.0	9.5	5.8	NT	6.3
TDS (ppm)		34	68	900	32	NT	18

MCL = Maximum Contaminant Level for Drinking Water
NT = Not Tested
NE = Not Established

** The nitrate MCL is 10 ppm and the nitrite MCL is 1 ppm*
*** Secondary MCL - Not federally enforceable drinking water standards which are for the aesthetic qualities of drinking water (i.e., taste and odor).*

/pb.b
2598-2

TABLE 3
ANALYTICAL RESULTS:

Metals in Ash, Sludge, and Soil Samples

Law Engineering Analytical Results:

Metals (ppm)	SS-5	WA-6	SS-13	SS-12	SS-11	SS-7	SS-8
Ba	24	340	48	30	34	72	44
Cr	20	29	29	27	49	26	14
Cu	8.1	110	240	25	560	42	28
Hg	<0.1	0.2	0.2	<0.1	<0.1	<0.1	0.13
Mn	360	110	270	210	340	220	310
Ni	4.6	36	10	5.1	6.4	6.2	8.8
As	0.69	220	11	4.2	5.9	<0.5	<0.5
Cd	<0.2	0.24	<0.2	<0.2	<0.2	0.8	2.2
Pb	9.5	27	10	12	8.0	36	18
Se	<0.5	16	<0.5	<0.5	<0.5	<0.5	<0.5
Ag	<1.0	<1.0	11	<1.0	2.4	<1.0	<1.0

SCDHEC Analytical Results:

Metals (ppm)	SS-5	WA-6	SS-13	SS-12	SS-11	SS-7	SS-8
Ba	24	270	44	18	31	50	22
Cr	17	26	26	27	56	30	28
Cu	3.7	110	80	8.2	62	36	15
Hg	<0.25	<0.25	0.25	<0.25	<0.25	<0.25	<0.25
Mn	370	69	250	160	240	240	240
Ni	2.0	24	7.7	<2.0	9.2	3.5	2.9
As	<0.5	170	19	<0.5	14	49	<0.5
Cd	<1.0	1.8	<1.0	<1.0	<1.0	<1.0	1.3
Pb	11	30	19	6.0	25	42	14
Se	<0.5	8	<0.8	<0.5	<0.5	0.8	<0.5
Ag	<3.0	<3.0	3.5	<3.0	35	<3.0	<3.0

/pb.b
2598-3

TABLE 4
ANALYTICAL RESULTS:
Law Engineering Job Number GVE-2598
Metals in Ground-Water and Surface Water Samples

Law Engineering Analytical Results:

Metals (ppm)	SC MCL	PW-1	MW-3	SW-9	MW-2	MW-4	MW-16
Ba	5	<0.1	<0.1	<0.1	1.1	<0.1	<0.1
Cr	0.1	<0.005	0.012	<0.005	0.069	<0.005	<0.005
Cu	1*	0.02	0.03	<0.02	0.19	<0.02	<0.02
Hg	0.002	<0.0005	<0.0005	<0.0005	NT	<0.0005	NT
Mn	0.05*	<0.03	0.32	0.04	2.0	<0.03	<0.03
Ni	NE	<0.04	1.6	<0.04	0.10	<0.04	0.010
As	0.03	<0.005	<0.005	0.007	<0.005	<0.005	<0.005
Cd	0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Pb	0.005	<0.005	0.010	0.005	0.051	<0.005	<0.005
Se	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ag	0.05*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mg	NE	NT	NT	NT	27	NT	<0.03

SCDHEC Analytical Results:

Metals (ppm)		PW-1	MW-3	SW-9	MW-2	MW-4	MW-16
Ba		<0.050	0.100	<0.050	0.680	<0.050	<0.050
Cr		0.010	0.020	<0.010	0.120	<0.010	<0.010
Cu		0.04	0.050	0.030	0.070	0.010	<0.01
Hg		<0.0002	0.0002	<0.0002	NT	<0.0002	<0.0002
Mn		0.010	0.490	0.040	1.300	<0.010	<0.010
Ni		<0.020	<0.020	<0.020	0.130	<0.020	<0.020
As		<0.005	<0.005	0.007	<0.005	<0.005	<0.005
Cd		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Pb		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Se		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ag		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Mg		NT	NT	NT	NT	NT	NT

NE = Not Established
NT = Not Tested
MCL = Maximum Contaminant Level for Drinking Water

**Secondary MCL*

/pb.b
2598-4

TABLE 5
ANALYTICAL RESULTS:
Law Engineering Job Number GVE-2598
Cyanide and PCB's in Ash, Sludge, and Soil Samples

Law Engineering Analytical Results:

Parameters Detected	SS-5	WA-6	SS-13	SS-12	SS-11	SS-7	SS-8
Cyanide EPA Method 335.3 (ppm)	<0.5	<0.5	0.86	<0.5	<0.5	<0.5	<0.5
PCB's EPA Method 8080 (ppb) PCB-	<80	<80	<140	<80	<110	<80	<80

SCDHEC Analytical Results:

Parameters Detected	SS-5	WA-6	SS-13	SS-12	SS-11	SS-7	SS-8
Cyanide (ppm)	NT	NT	NT	NT	NT	NT	NT
PCB's (ppb) PCB-1260	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	30.5

**SCDHEC Phenols results are from their Acid Extractable/Base Nuetral Analysis (see Table 9)*

/pb
2598-5

TABLE 6
ANALYTICAL RESULTS:
Law Engineering Job Number GVE-2598
Cyanide, PCB's and Phenols
in Ground-Water and Surface Water Samples

Law Engineering Analytical Results:

Parameters Detected	SC MCL	PW-1	MW-3	SW-9	MW-2	MW-4	MW-16
Cyanide	NE	NT	NT	NT	NT	NT	NT
PCB's (ppb; EPA Method 608)	0.5	<1.0	<1.0	<1.0	<1.2	<1.0	<1.0
Total Phenols*	NE	NT	NT	NT	NT	NT	NT

SCDHEC Analytical Results:

Parameters Detected	PW-1	MW-3	SW-9	MW-2	MW-4	MW-16
Cyanide (ppm)	<0.01	<0.01	<0.01	NT	<0.01	<0.01
PCB's (ppb)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Phenols (ppb)	<10	<10	<10	NT	<10	<10

MCL = Maximum Contaminant Level for Drinking Water
NE = Not Established
NT = Not Tested

**No phenols were detected by EPA Method 625.*

/pb.b
2598-6

TABLE 7
ANALYTICAL RESULTS:
Law Engineering Job Number GVE-2598
Volatile Organic Compounds in Ash, Sludge, and Soil Samples

Law Engineering Analytical Results (EPA Method 8240):

Parameters Detected (ppb)	SS-5	WA-6	SS-13	SS-12	SS-11	SS-7	SS-8
Methylene Chloride	<5	24	<25	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	33	<25	<5	<5	5.0	<5
Acetone	<100	<100	3100*	<100	<100	900*	<100
2-Butanone	<100	<100	1500	<100	<100	240*	<100
Toluene	<5	<5	320	<5	<5	<5	<5
Benzene	<5	<5	<25	<5	<5	7.0	<5

** Estimated value: Exceeds highest calibration standard*

SCDHEC Analytical Results:

Parameters Detected (ppb)	SS-5	WA-6	SS-13	SS-12	SS-11	SS-7	SS-8
Methylene Chloride	<20	<20	<1000	<20	<20	<20	<20
1,1,1-Trichloroethane	<20	<20	8460	<20	<20	<20	<20
Acetone	NT	NT	NT	NT	NT	NT	NT
2-Butanone	NT	NT	NT	NT	NT	NT	NT
Toluene	<20	<20	1010	<20	<20	<20	<20
Benzene	<20	<20	<1000	<20	<20	<20	<20

NT = Not Tested

/pb.b
2598-7

TABLE 8
ANALYTICAL RESULTS:
Law Engineering Job Number GVE-2598
Volatile Organic Compounds
in Ground-Water and Surface Water Samples

Law Engineering Analytical Results (EPA Method 624):

Parameters Detected (ppb)	SC MCL	PW-1	MW-3	SW-9	MW-2	MW-4	MW-16
1,1,1-Trichloroethane	200	<25	<5	<5	<5	<5	<5
Trimethylsilanol**	NE	550*	ND	ND	ND	ND	ND

SCDHEC Analytical Results:

Parameters Detected (ppb)		PW-1	MW-3	SW-9	MW-2	MW-4	MW-16
1,1,1-Trichloroethane		<2.0	<2.0	<2.0	5.39	<2.0	<2.0
Trimethylsilanol		NT	NT	NT	NT	NT	NT

MCL = Maximum Contaminant Level for Drinking Water
ND = Not Detected
NE = Not Established
NT = Not Tested

**Estimated Concentration*
*** Tentatively Identified Compound*

pb.h
2598-6

TABLE 9
ANALYTICAL RESULTS:
Law Engineering Job Number GVE-2598
Acid Extractable and Base Neutrals
in Ash, Sludge, and Soil Samples

Law Engineering Analytical Results (EPA Method 8270):

Parameter Detected (ppb)	SS-5	WA-6	SS-13	SS-12	SS-11	SS-7	SS-8
Anthracene	<330	13,000	<990	<330	<1650	<330	<330
Benzo (a) Anthracene	<330	6200	<990	<330	<1650	<330	<330
Benzo (b) Fluoranthene	<330	6900	<990	<330	<1650	<330	<330
Benzo (k) Fluoranthene	<330	5100	<990	<330	<1650	<330	<330
Benzo (a) Pyrene	<330	6400	<990	<330	<1650	<330	<330
Chrysene	<330	5300	<990	<330	<1650	<330	<330
Fluoranthene	<330	17,000	<990	<330	<1650	<330	<330
Naphthalene	<330	<1320	<990	<330	<1650	<330	<330
Phenanthrene	<330	2400	<990	<330	<1650	<330	<330
Pyrene	<330	12,000	<990	<330	<1650	<330	<330
2-Methylnaphthalene	<330	<1320	<990	<330	<1650	<330	<330
Butylbenzyl Phthalate	<330	<1320	<990	<330	<1650	<330	<330
Phenol	<330	<1320	12,000*	<330	<1650	<330	<330
2-Chlorophenol**	<300	600	<30,000	<330	<3,000	<300	<300
4-Methyl Phenol	<330	<1320	<990	<330	<1650	<330	<330
Bis (2-Ethylhexyl) Phthalate	<330	<1320	<990	<330	3400	<330	<330
Benzoic Acid	<1600	<6400	<4800	<1600	<8000	<1600	<1600
Indeno (1,2,3-cd) Pyrene	<330	5900	<990	<330	<1650	<330	<330
Benzo (g,h,i) Perylene	<330	6700	<990	<330	<1650	<330	<330

*Phenol was detected at a concentration of 150,000 parts per billion in the same sample using EPA Method 8040.

**2-Chlorophenol was analyzed using EPA Method 8040.

TABLE 9 (Continued)
ANALYTICAL RESULTS:
Law Engineering Job Number GVE-2598
Acid Extractable and Base Neutrals
in Ash, Sludge, and Soil Samples

SCDHEC Analytical Results:

Parameter Detected (ppb)	SS-5	WA-6	SS-13	SS-12	SS-11	SS-7	SS-8
Anthracene	<300	1770	<3000	<300	<300	<300	<300
Benzo (a) Anthracene	<300	4840	<3000	<300	<300	<300	<300
Benzo (b) Fluoranthene	<300	3760	<3000	<300	<300	<300	<300
Benzo (k) Fluoranthene	<300	3720	<3000	<300	<300	<300	<300
Benzo (a) Pyrene	<300	3520	<3000	<300	<300	<300	<300
Chrysene	<300	5390	<3000	<300	<300	<300	<300
Fluoranthene	<300	13,100	<3000	<300	<300	<300	<300
Naphthalene	<300	694	<3000	<300	<300	<300	<300
Phenanthrene	<300	8090	<3000	<300	<300	325	<300
Pyrene	<300	9930	<3000	<300	<300	<300	<300
2-Methylnaphthalene	<300	745	<3000	<300	<300	<300	<300
Butylbenzyl Phthalate	389	<300	<3000	<300	<300	<300	<300
Phenol	<300	<300	84,700	<300	<300	527	<300
4-Methyl Phenol	<300	<300	<3000	<300	<300	313	<300
Bis (2-Ethylhexyl) Phthalate	<300	<300	<3000	<300	4490	<300	<300
Benzoic Acid	<300	<300	<3000	<300	824	<300	<300
Indeno (1,2,3-cd) Pyrene	<300	<300	<3000	<300	<300	<300	<300
Benzo (g,h,i) Perylene	<300	<300	<3000	<300	<300	<300	<300

In addition to the normal list of compounds (TID's):

1,2-Benzenedicarboxylic Acid, Butyl 2-Methylpropyl Ester	Detected	Detected	ND	Detected	ND	Detected	Detected
1,2-Benzenedicarboxylic Acid, Bis (2-Methoxyethyl) Ester	Detected	ND	ND	ND	ND	ND	Detected
Hexadecane	ND	ND	ND	ND	ND	Detected	ND
Azulene	ND	Detected	ND	ND	ND	ND	ND
2-Phenylnapthalene	ND	Detected	ND	ND	ND	ND	ND
11 H-Benzo (a) Fluorene	ND	Detected	ND	ND	ND	ND	ND
Triphenylene	ND	Detected	ND	ND	ND	ND	ND
ACN*	ND	Detected	ND	ND	ND	ND	ND
Pentanoic Acid, 4-Methyl	ND	ND	Detected	ND	ND	ND	ND
Benzene Sulfonic Acid, 4-Hydroxy	ND	ND	Detected	ND	ND	ND	ND
I H-Indole	ND	ND	Detected	ND	ND	ND	ND
Benzenepropanic Acid	ND	ND	Detected	ND	ND	ND	ND

ND = Not Detected
TID = Tentatively Identified Compounds
** ACN represents:*
1H-Indene, 1-Ethylidene Naphthalene, 1,3-Dimethyl-9H-Fluorene, 9-Methylene Pentadecane, 2,6,10,14-Tetramethylterbuthylazine

TABLE 10
ANALYTICAL RESULTS:
Law Engineering Job Number GVE-2598
Acid Extractable and Base Neutrals
in Ground Water and Surface Water Samples

Law Engineering Analytical Results: (EPA Method 625):

Parameters Detected (ppb)	SC MCL	PW-1	MW-3	SW-9	MW-2	MW-4	MW-16
Bis (2-Ethylhexyl) Phthalate	NE	<10	<10	<10	<10	88	<10
Butylbenzyl Phthalate	NE	<10	<10	<10	<10	<10	<10
Di-n-Butylphthalate	NE	<10	<10	<10	<10	<10	<10

SCDHEC Analytical Results:

Parameters Detected (ppb)		PW-1	MW-3	SW-9	MW-2	MW-4	MW-16
Bis (2-Ethylhexyl) Phthalate		<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Butylbenzyl Phthalate		<4.0	<4.0	<4.0	197	9.79	10.1
Di-n-Butylphthalate		<4.0	<4.0	<4.0	118	<4.0	<4.0

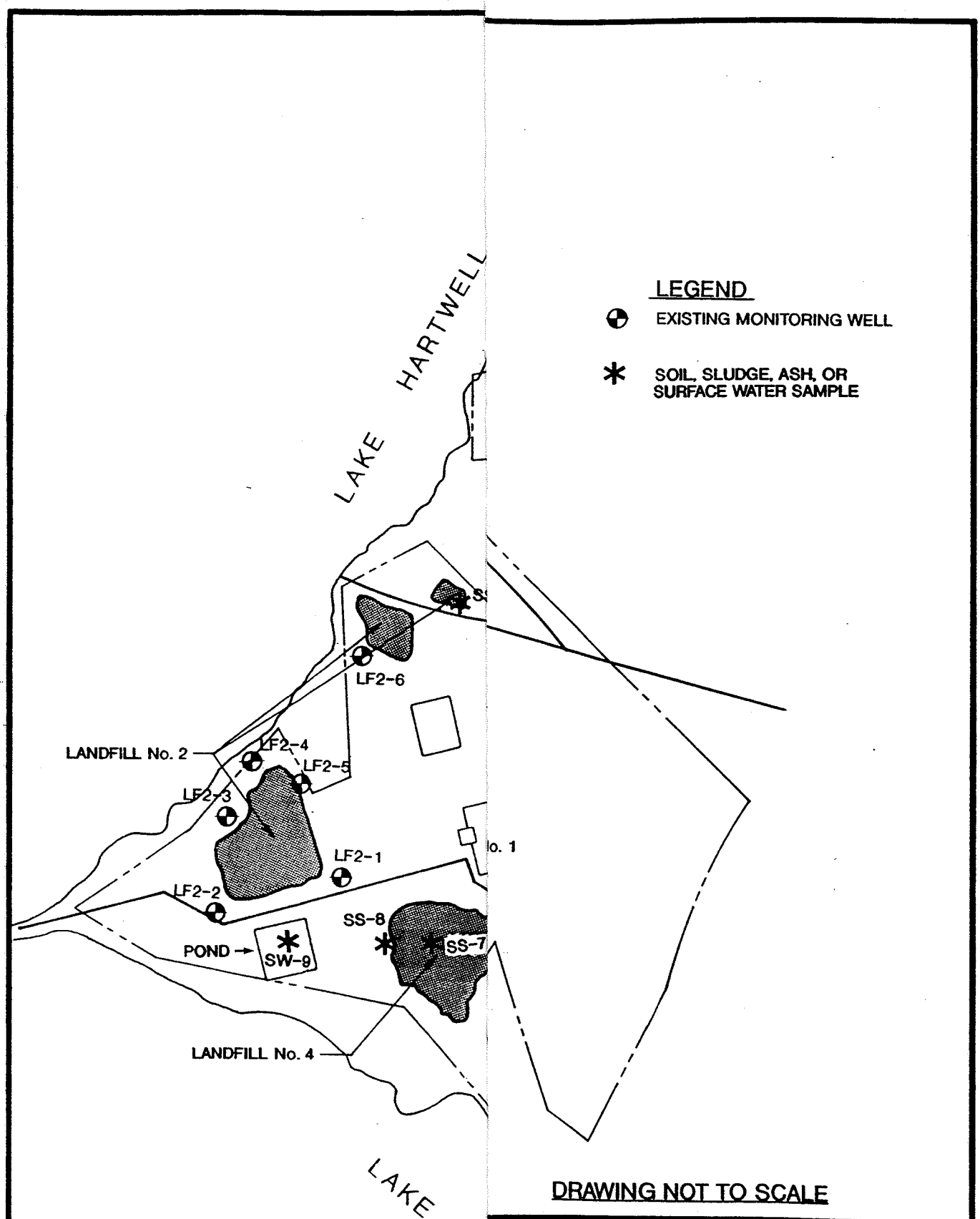
In addition to the normal list of compounds (TID's):

Cyclotetradecane		ND	ND	Detected	ND	ND	ND
2,4-Hexadiene		ND	ND	ND	ND	ND	Detected
1-Hexadecene		ND	ND	ND	Detected	ND	Dete
Cyclohexene		ND	ND	ND	Detected	ND	ND
Benzaldehyde, 4-Hydroxy-3-Methoxy		ND	ND	ND	Detected	ND	ND
Cyclotetradecane		ND	ND	ND	Detected	ND	ND
9-Octadecen-1-OL, (2)-2,4-Hexadiene		ND	ND	ND	Detected	ND	ND
Cyclohexanone		ND	ND	ND	Detected	ND	ND
1,Z-Benzenedicarboxylic Acid, Butyl Cyclohexyl Ester		ND	ND	ND	Detected	ND	ND
Phenol, 4,4-Butylidenebise 2-(1,1-Dimethylethyl)-5-Methyl		ND	ND	ND	Detected	ND	ND

ND = Not Detected
NE = Not Established
TID = Tentatively Identified Compounds

/pb.b
2598-10

APPENDICES



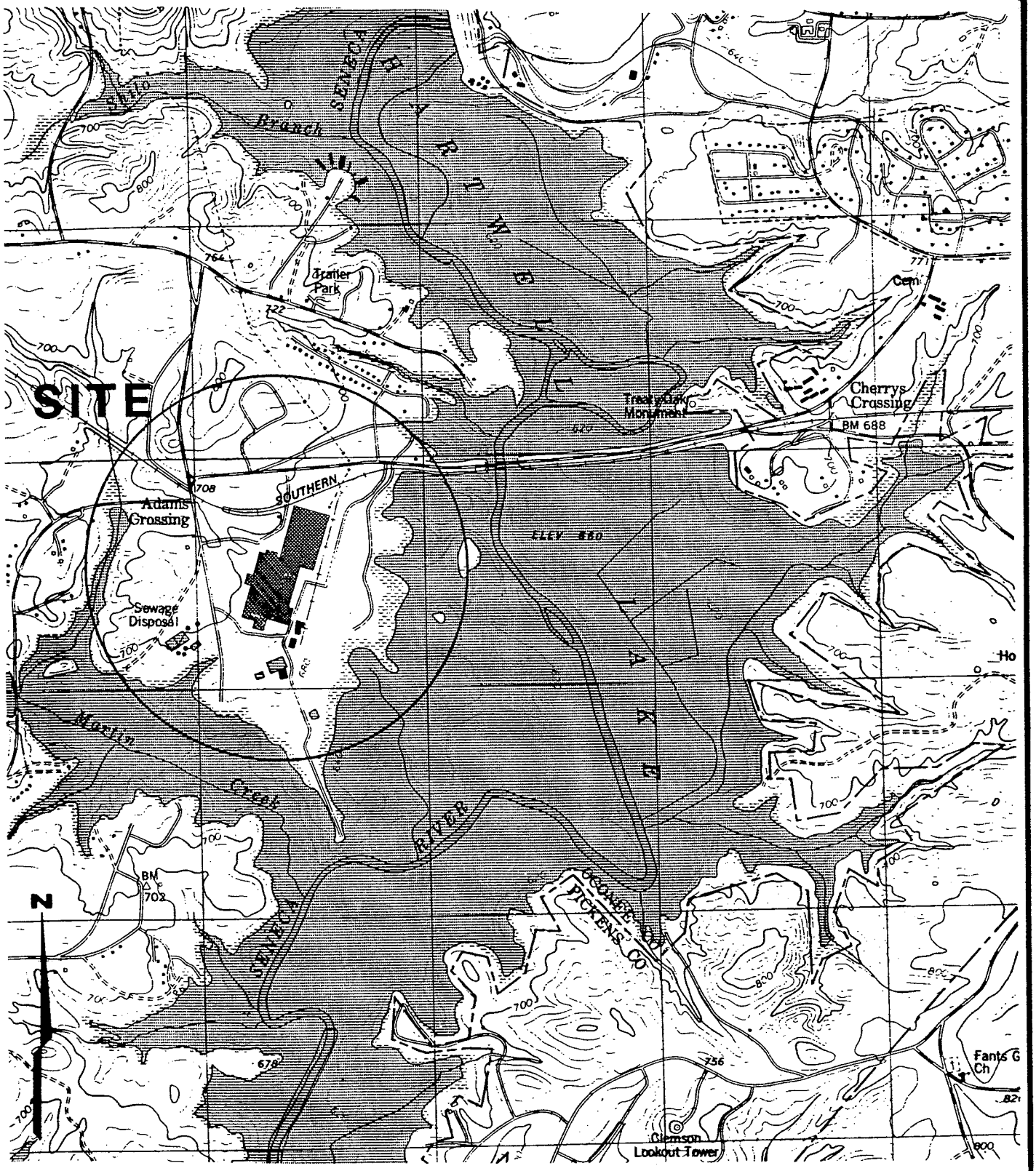
DRAWING NOT TO SCALE

LAW ENGINEERING
GREENVILLE, SOUTH CAROLINA

SITE PLAN
WEST POINT PEPPERELL
CLEMSON PLANT
CLEMSON, SOUTH CAROLINA

JOB NO. GVE-2598 | FIGURE 2

FIGURES



SCALE: 1" = 2000'

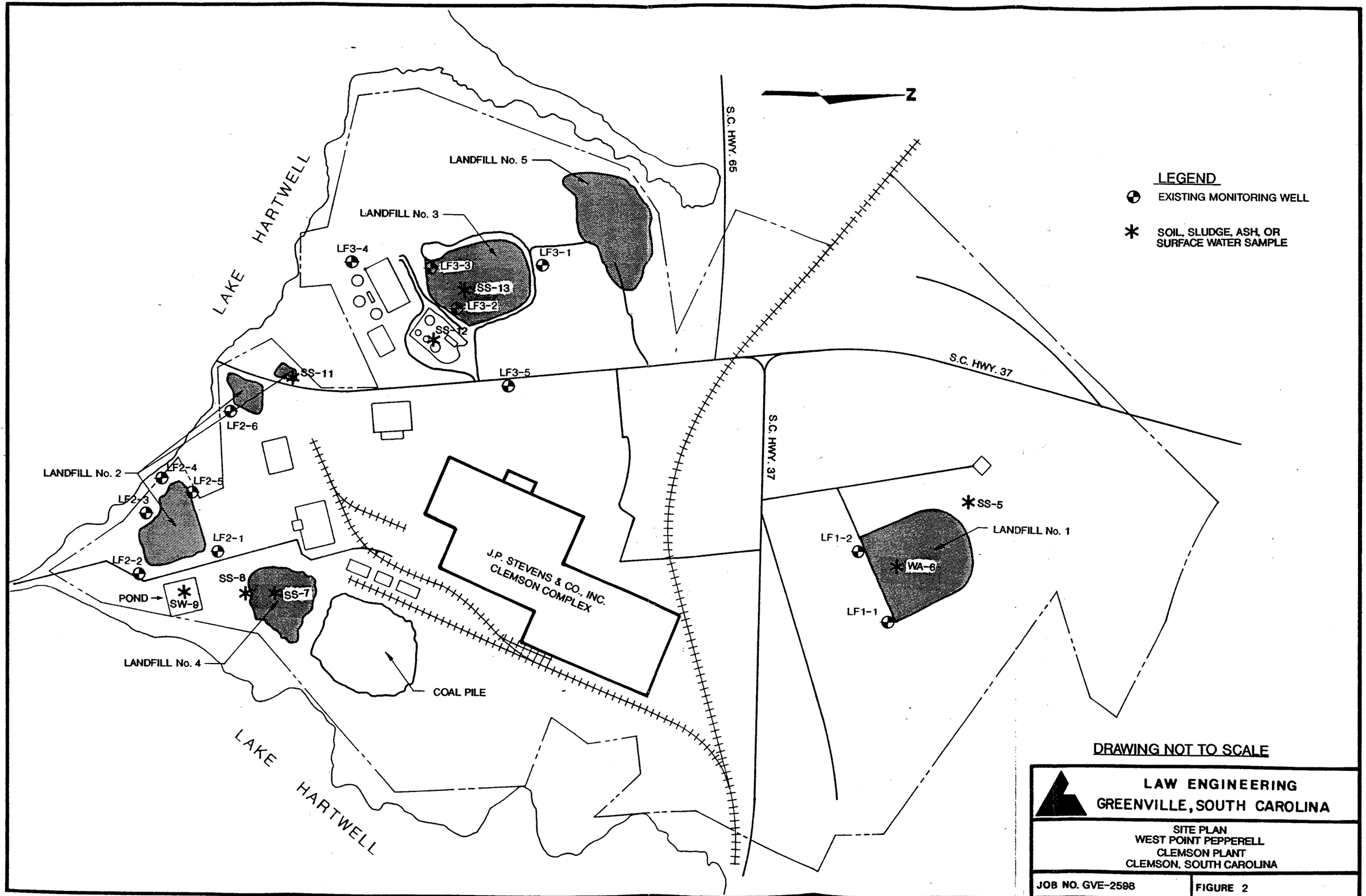
REFERENCE:
USGS TOPOGRAPHIC MAP, CLEMSON, S.C.
QUADRANGLE, 7.5 MINUTE SERIES, DATED 1980.

LAW ENGINEERING
GREENVILLE, SOUTH CAROLINA

SITE LOCATION MAP
WEST POINT PEPPERELL
CLEMSON PLANT
CLEMSON, SOUTH CAROLINA

JOB NO. GVE-2598	FIGURE 1

THE PRINT MACHINE, INC. N92400



LEL

WESTPOINT STEVENS
INTER OFFICE COMMUNICATION

From: Eddie Lanier

Date: January 23, 1996

To: Mr. Chris Zodrow

Subject: DHEC Report on
Superfund Site Inspection
Clemson Plant

Attached is a copy of DHEC's Expanded Site Inspection Report on the landfills at Clemson. This inspection was done to determine whether the site should be included in further Federal Superfund activity. DHEC recommended the site receive a low priority and expects that no further Superfund activity will be required at this site.

ENGINEERING & ENVIRONMENTAL DEPARTMENT

EL

Eddie Lanier

LEL:si

enclosure

c: Mr. Bobby Lanier
Mr. Billy Harris
Ms. Christie Covington
Mr. W. E. Evans
Dr. E. C. Roberts

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

January 18, 1996

Mr. Eddie Lanier, Engineering & Environmental
WestPoint Stevens
P.O. Box 71
West Point, Georgia 31833

Re: Clemson Plant
Expanded Site Inspection Report
SCD 003 345 097

Dear Mr. Lanier:

Please find enclosed a copy of the Expanded Site Inspection (ESI) report for the Clemson site. The report recommends that a "low" priority be assigned for this site. The report is tentative and will be reviewed by the USEPA before a final determination is made for this site. If the USEPA concurs with this recommendation, it is unlikely that there will be any further Federal Superfund activity at this site.

Please notify me in writing of any errors or discrepancies in the report. Any comments you make will be added to the file and taken into consideration during any further phase. If you have any questions, please contact me at (803) 896-4061.

Sincerely,

Jonathan McInnis
Site Assessment Section
Bureau of Solid and Hazardous Waste Management

Enclosure

EXPANDED SITE INSPECTION
J.P. STEVENS & COMPANY
SCD 003 345 097
OCONEE COUNTY

Prepared by : Jonathan McInnis
Reviewed by : Robert Cole
Site Assessment Section
Bureau of Solid and Hazardous Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Date : December 29, 1995

TABLE OF CONTENTS

I. SCOPE OF WORK

Under authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Site Assessment Section, South Carolina Department of Health and Environmental Control (SCDHEC) conducted an Expanded Site Investigation (ESI) at the J.P. Stevens site in Oconee County, South Carolina. The purpose of this investigation is to assess the potential threat posed to human health and the environment and to determine the need for additional CERCLA/SARA or other appropriate action. The scope of the investigation included a review of available file information, a site reconnaissance and sampling trip, and a thorough target survey. As part of this investigation, samples were collected from on-site and off-site soils/sediments, and one wastewater sample. The primary objectives of this investigation were to determine any impact(s) to Lake Hartwell and further define on-site source areas.

II. INTRODUCTION/EXECUTIVE SUMMARY

The J.P. Stevens site is a fully integrated textile mill located off Cherry Road approximately 2.5 miles southwest of the town of Clemson in Oconee County, South Carolina. The site is bordered to the east, south, and southwest by Lake Hartwell. Potential waste sources on-site include three permitted industrial waste landfills, unpermitted disposal areas, and an NPDES discharge.

Sampling for this investigation found only slightly elevated levels of metals in the unpermitted disposal areas and former landfill area. No contaminants were found to be elevated in nearby surface water sediments. Elevated compounds detected in on-site runoff pathways are likely due to runoff from nearby truck parking lots and the road. Groundwater use is limited within the immediate area. Due to the low levels detected on-site and the lack of impact to nearby surface water, the J.P. Stevens site is given a low priority for further Federal Superfund activity.

III. SITE DESCRIPTION, HISTORY AND WASTE CHARACTERISTICS

A. Ownership History

Present Owner:	Westpoint Stevens - Clemson Plant Cherry Road Clemson, SC
Contact:	Eddie Lanier, Engineering & Environmental Department Westpoint Stevens Inc. Westpoint, Georgia 31833
Former Owner:	1951 - 1988 J.P. Stevens & Company, Inc. Utica Mohawk Division Utica, New York

B. Site Description

The 900 acre J.P. Stevens site is bordered to the east, south, and southwest by Lake Hartwell. Predominant on-site features include the large greige/fabricating/finishing plant, a wastewater treatment plant, and three permitted landfills. See Figure I for site layout. The site coordinates are 34 degrees 39 minutes 4.9 seconds north latitude, 82 degrees 51 minutes 53.6 seconds west longitude (Ref 1).

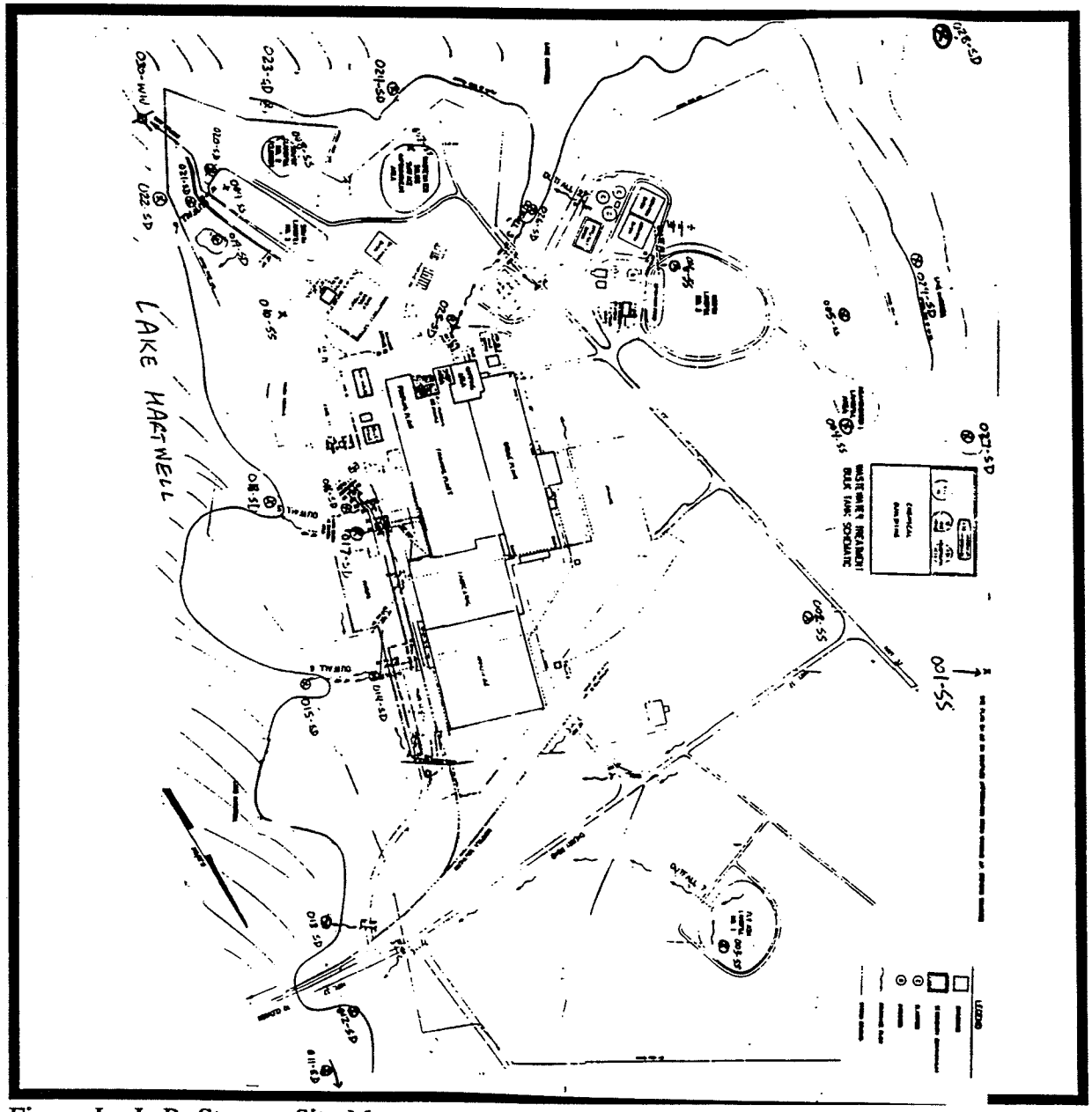


Figure I: J. P. Stevens Site Map

C. Operational / Regulatory History

The facility was constructed in 1951. Prior to 1976, the facility discharged untreated wastewater into Lake Hartwell (Ref. 2). The facility currently operates a wastewater treatment plant under NPDES permit #SC0000591 (Ref. 2). Three industrial waste landfills (IWP-104, IWP-135, IWP-186) have been permitted by SCDHEC at the site. These landfills have been used for fly ash disposal and wastewater treatment plant sludge disposal (Ref. 2). Fly ash is no longer generated on-site due to the replacement of coal-fired boilers with natural gas boilers (Ref. 8). Wastewater treatment plant sludge is staged on-site for drying, but is disposed offsite at the county landfill (Ref. 3). Additionally, two areas are known to have received textile wastes in the past, these will be designated as Dump Areas 1 & 2.

D. Waste Characteristics

As part of this investigation, eight samples were collected from on-site waste sources. Slightly elevated levels of mercury, zinc, and arsenic were detected in samples collected from the dump areas and landfill #2 (Ref. 4). Selected analytical results are shown below in Table I. The waste sources used for this evaluation include the following:

Landfill #2 - Composed of two sections, the total area is estimated to be 145,000 ft^2. The landfill was used for the disposal of rags, lint, and sludge from the waste treatment facility (Ref. 9). Samples 008-SS and 009-SS will be used to characterize this source.

Dump Areas 1 & 2 - In 1967, an LP gas explosion occurred at the facility. Rubble from the explosion was disposed into two small ravines on the plant property (Ref. 9). The majority of this material was believed to be broken concrete and scrap metal; however, some drums of pigments may have been damaged and placed into the debris piles (Ref. 9). Mercury was found to be slightly elevated in samples from these two areas. The total area of these sources is estimated to be approximately 4.5 acres (Ref. 2).

Wastewater Solids Surface Impoundment Area - This area is located approximately 200 to 300 feet from Lake Hartwell and was formerly used as a sludge staging area. Sample 007-SS will be used to characterize this source, which contained slightly elevated concentrations of silver and mercury (Ref. 2,4). The area of this source is estimated to be 3 acres (Ref. 2).

Table I: Selected Analytical Results - Soil Samples
J.P. Stevens ESI Sampling - 8/31/94
all results in ppm
Shaded Cells represent significant (> 3X background) detections
U - undetected J - estimated

Analyte	001-SS Bkgrnd	002-SS On-site Control	003-SS LF #1	004-SS DUMP 1	005-SS Gully	006-SS LF #3	007-SS WW Area	008-SS LF #2	009-SS LF #2	010-SS DUMP 2
Arsenic	2.8	3.4	5	2U	2.7J	1U	3.6	5.1	11	3.3
Cobalt	11	6.6	3.1	2.6	8.2	9.8	2J	0.78U	3.9	2.1J
Copper	33J	18J	13J	27J	35J	48J	67J	14J	250J	11J
Manganese	380	1400	22	160	730	390	160	66	360	120
Mercury	0.13U	0.12U	0.13U	0.12U	0.16	0.12U	0.19	0.16	0.22	0.16
Silver	2U	2U	0.50U	2U	2U	2U	3.9	2U	8.7JN	1U
Zinc	73	71	5U	20U	59	68	30U	20U	670	20U

(Ref. 4)

IV. GROUNDWATER PATHWAY

The population within a 4-mile radius of the site obtains drinking water from the town of Seneca, the city of Clemson, Clemson University or from private wells (Ref. 3). The public water supply systems are served from surface water intakes on Lake Keowee and Lake Hartwell (Ref. 3). Very few private wells are located within 2 miles of the site. Due to the low number of groundwater targets in the immediate area, the groundwater pathway will not be evaluated for the purposes of this report.

V. SURFACE WATER PATHWAY

A. Regional Characteristics

The J.P. Stevens site is bordered by Lake Hartwell to the east, south, and southwest. Landfill #2 is located only 250 feet from the lake (Ref. 3). The 15-mile surface water migration pathway is completed in Lake Hartwell, near the Interstate 85 bridge (Ref. 1). Portions of the site are located within flood-hazard areas (Ref. 5). The 2-year, 24-hour maximum rainfall for the center of Oconee County is 5.00 inches, with an annual average total precipitation of 54.29 inches (Ref. 6,7).

B. Targets

No surface water intakes for drinking water (or other uses) are located within the fifteen mile downstream limit (Ref. 10). A Duke Power Company intake (sold to several nearby municipalities) is located just outside the 15-mile downstream segment. No wetlands are present along the surface water pathway (Ref. 1). Lake Hartwell is utilized for recreational fishing, boating, and swimming. No state or federal endangered species have known habitats along the surface water pathway (Ref. 10).

C. Analytical Data / Conclusions

As part of this investigation, nineteen sediment samples were collected from Lake Hartwell and on-site runoff pathways. Background samples were collected from Lake Hartwell, upstream of any site influence.

No contaminants were detected in Lake Hartwell at significant levels (Ref. 4). Several elevated levels of polynuclear aromatic hydrocarbons (PAH's) were detected in samples 014-SD, 017-SD, 019-SD, and 020-SD. These samples were from the former wastewater treatment pond and stormwater runoff routes. Table II shows selected analytical results for on-site sediment samples:

Table II: Selected Analytical Results: On-site Sediment Samples
J.P. Stevens - Clemson Plant
all results in ppb
Shaded cells represent significant (> 3X) detections
U - undetected J - estimated

Analyte	011-SD BKGRND	014-SD	017-SD	019-SD	020-SD	025-SD
Phenanthrene	420U	2500	28000	2100	1300	730
Anthracene	420U	410	8300	330J	270J	110J
Carbazole	420U	400	7500	330J	210J	120J
Fluoranthene	420U	5400	36000	2200	1800	650
Pyrene	420U	4200	28000	2700	1300	870
Benzo(a)Anthracene	420U	2100	19000	1500	860	570
Chrysene	420U	2200	18000	1300	930	560
Benzo(a)Pyrene	420U	2100	12000	1100	650	400J
Indeno(1,2,3-cd)Pyrene	420U	870	2500	450J	230J	170J
Benzo(ghi)Perylene	420U	580	1600	300J	180J	430U

VI. SOIL EXPOSURE PATHWAY & AIR PATHWAY

The textile mill, wastewater treatment facility, landfills, and unpermitted dumps are located within a chain link fence with controlled access (Ref. 8). No day-care centers, schools, or terrestrial sensitive environments are located on or within 200 feet of the site (Ref. 10). The nearest resident is approximately 0.5 miles from areas of observed contamination (Ref. 1,4). Due to the low population in the immediate area and the lack of significant surficial contamination, the Soil Exposure and Air Pathways will not be evaluated for purposes of this report.

VII. SUMMARY AND CONCLUSIONS

Sampling for this investigation found only slightly elevated levels of metals in the unpermitted disposal areas and a former landfill area. No contaminants were found to be elevated in nearby surface water sediments. Elevated compounds detected in on-site runoff pathways are likely due to runoff from nearby truck parking lots and the road. Surrounding Groundwater use is limited within the immediate area. Due to the low levels detected on-site and the lack of impact to nearby surface water, the J.P. Stevens site is given a low priority for further Federal Superfund activity.

This report will be forwarded to the SCDHEC Stormwater Permitting Section for information purposes due to the elevated PAH's detected in runoff pathways. The analytical data may be useful in any future stormwater permitting issues at the site.

VIII. REFERENCES

Copies attached unless noted

1. USGS Topographic Maps, 7.5 minute series

Clemson, SC	1980
Seneca, SC	1980
La France, SC	1980
Fair Play, SC	1979

2. J.P. Stevens & Company Site Screening Investigation. Completed by Gerald Stewart, SCDHEC. January 8, 1991.

3. J.P. Stevens & Company Site Inspection Prioritization. Completed by Dynamac Corporation. November 29, 1993.

4. Analytical Results from ESI Sampling at J.P. Stevens. Compiled by Environmental Services Division (ESD) Region IV EPA, Athens, Georgia.

5. FEMA Flood Hazard Boundary Map, Oconee County, SC. Panel Number 450157 0009 A, November 25, 1977. Available at SCDHEC.

6. SC Water Resources Commission, State Climatologist. Maximum Rainfall Intensity Data. Undated. Available in Site Screening Section.

7. National Weather Service, SC Climatology Office. State of South Carolina Weather and Crop Summaries. March 1989. Available in Site Screening Section.

8. Field Logbooks from J.P. Stevens ESI Reconnaissance & Sampling. Available at SCDHEC.

9. Report of Soil and Ground Water Sampling for West Point Pepperell, prepared by Law Engineering. November 6, 1990.

10. Printout detailing surface water uses, endangered species, and grouindwater use within target distance limits of J.P. Stevens site.

#2 fuel oil (tank 60)
print clear solution (tank 61)
nitrogen (tank 63)
reclaim permeate (tank 66)

3.3 Spills and Leaks

The Clemson Plants are required to maintain a log of all spills and leaks, regardless of size, that occur at the facility. This log must be maintained at the site for three years. Following is a summary of the spills in the last three years (2000, 2001, and 2002):

Spill History

Date	Location	Substance Spilled	Spill scenario	Result
05/12/2000	PVA loading	PVA reclaim	Tank truck valve left open	Personnel saw the leak and were able to contain the spill with absorbent material.
07/25/2000	Truck unloading	< 250 gallons red liquid dye	A forklift punctured a 250 gallon container while unloading it from a truck	Personnel were able to contain the spill with absorbent material.
02/22/2001	Greige Mill	20 gallons used oil	Overfill of used oil tank	Spill was captured within containment area.
06/16/2001	Dock 61	5-6 gallons hydraulic fluid	A forklift's hydraulic fluid line ruptured	The area was cleaned with absorbent material. A small quantity of the fluid may have reached a storm drain.
06/25/2001	N. Sludge Landfill	N. sludge landfill runoff	Contained water that was being pumped to the WWTP discharged to the ground.	A dam was constructed to prevent discharge. Plant personnel were able to recover all discharged material.
12/12/2002	Off-site	200 gallons of sludge	A truck transporting sludge swerved, causing sludge to spill on the highway.	Crews were able to scoop most sludge off highway. Did not reach stormwater system
01/02/2003	Truck staging area	Less than 10 gallons Isozol Green 94 dye	A leaking 55 gallon drum was in a truck that was waiting to be unloaded	The truck was moved away from storm drains, which were blocked with absorbent and sand. Some of the substance reached a storm drain, so an earthen and plywood dam was built and all of the substance was recovered with a portable pump.

WESTPOINT STEVENS

March 7, 2003

South Carolina Department of Health
And Environmental Control
2404 North Main Street
Anderson, SC 29621
Attn: Mr. Webster Jones

Re: WestPoint Stevens – Clemson Complex
WWTP Operator of Record
NPDES Permit No. SC 0000591
Oconee County

Dear Mr. Jones,

As requested by your office this letter is to officially document our telephone conversation. On the night of March 5,2003 a severe thunderstorm passed over the Clemson Complex. During the storm lighting struck the transformers that supply power to our wastewater treatment middle pump station. This pump station pumps our treated wastewater effluent to Lake Hartwell. When we lost power to the pump station, we spilled approximately 200 gallons of treated wastewater on the ground. The spill was contained and monitored through out the day.

If there are any questions, please contact me at (864) 653-2764.

Sincerely,

Mr. Gary Crafford
Utilities Manager

cc: Mr. Eddie Lanier
Mr. Billy Harris
Mr. George Suggs
Ms. Marti Jennings

WESTPOINT STEVENS

July 15, 2004

South Carolina Department of Health
And Environmental Control
2404 North Main Street
Anderson, SC 29621
Attn: Mr. Jeff Garrison

Re: WestPoint Stevens – Clemson Complex
NPDES Permit No. SC 0000591
Oconee County

Dear Mr. Garrison,

As requested by your office, this letter is to officially document our telephone conversation reporting a 40-pound spill of bioSolids at 10:30 AM on July 14, 2004. The spill occurred when the driver of the transportation truck had to make a sudden stop due to a traffic light change at the intersection of Old Stone Church Road and Highway 76 in Clemson, SC. The driver notified the plant immediately and a clean up crew was deployed to the site. Clean up consisted of removing the bioSolids from the pavement and bringing it back to the facility. Sand was spread onto the pavement to absorb the spill; at no time did the bioSolids reach the surrounding ground. Clean up was completed by 11:30 AM and the facility returned to normal operation.

At 3:45 PM the same afternoon, you visited the site where the spill had taken place. You remarked that proper clean-up and state notification procedures had been followed. This letter is being submitted to document that fact.

If there are any questions, please contact me at (864) 653-2823.

Sincerely,

Marti Jennings

Ms. Marti Jennings
Environmental Coordinator

cc: Mr. Eddie Lanier
Mr. Glenn McCants
Mr. Billy Harris
Mr. George Suggs

PRESS RELEASE

4:30 P.M.

May 20, 1983

A POWER TRANSFORMER EXPLODED IN A SMALL ENCLOSED SPACE AT THE CLEMSON FABRICATING PLANT OF J.P. STEVENS AT APPROXIMATELY 10:30 A.M. TODAY.

FORTUNATELY, ON ONE WAS HURT. THE PLANT EMPLOYES APPROXIMATELY 900 PEOPLE. ALL BUT 250 OR SO HAVE BEEN SENT HOME. THOSE REMAINING WILL RECEIVE A CHANGE OF CLOTHING BEFORE GOING HOME AS A PRECAUTIONARY MEASURE.

THERE WAS NO STRUCTURAL DAMAGE. THE PLANT WILL REOPEN AT THE REGULAR TIME ON MONDAY.

J. P. Stevens & Co., Inc.

TECHNICAL CENTER

MATERIALS EVALUATION DEPARTMENT
REPORT

TO: Mr. Sam Griggs

FROM: M. Tin MT

DATE: May 24, 1983

CC: Dr. W. J. Zubyk

M.E.DEPT.
CODE: A-2483
Proj. 674000
Clemson

SUBJECT PCB Analysis - Fabric & Dust Samples

Results: The sheet fabrics and dust samples taken from the Clemson Plant after the G.E. transformer explosion on May 20, 1983 were extracted with hexane and the PCB in the extracts was analyzed by the gas chromatograph equipped with an electron capture detector. The amounts of PCB found in one square foot of each sheet fabric and the concentrations of PCB found in the dust samples are listed as follows:

Fabric Samples Taken on 5/20/83		Micrograms Per Sq. Ft.
Fab. Rm.		
No. 1	Entrance to hallway to Apparatus Rm. (folded sheet)	15
No. 2	100 ft. from entrance to hallway (straight out) (open case)	15
No. 3	Entrance to hallway (open sheet)	10
No. 4	125 ft. from entrance to hallway (straight out)	5
No. 5	175 ft. from entrance to hallway (straight out)	1
Storage Rm.		
No. 1	20 ft. near door to Apparatus Room	40
No. 2	50 ft. near door to Apparatus Room	30
No. 3	75 ft. from door to Apparatus Room	25

Fabric Samples Taken on 5/21/83 (3rd sheet down in bundle)		
Storage Rm.		
No. 1	50 ft from door to Apparatus Room	Not Detected (Less than 0.5)
No. 2	25 ft. from door to Apparatus Room	1
Fab. Rm.		
No. 1	20 ft. from hallway - inside doorway	Not Detected
No. 2	40 ft. from doorway	Not Detected
Control Sheet No. 1 Prints on Yellow Fabric		Not Detected
Control Sheet No. 2 Prints on White Fabric		Not Detected

Dust Samples Taken on 5/20/83	PCB Found in ppm
Pent House 21 Duct out of Roof #1	35
Pent House 21 Duct out of Roof #2	25
Pent House Dust at Top Stairs Well	350

Dust Samples Taken on 5/21/83 (CDC Warehouse PCB Transformer)	PCB Found in ppm
Floor dust from 2nd floor	120*
Dust from vents from rear of transformer	20
Dust from shelves directly behind the transformer	6

NOTE: These dust samples were requested to be weighed for PCB analysis and to report as concentration found instead of amounts of PCB found to the total sample submitted.

* This sample showed to contain higher boiling fractions of Arochloro 1254.

1143D-S
tm

J. P. Stevens & Co., Inc.

TECHNICAL CENTER

MATERIALS EVALUATION DEPARTMENT
REPORT

TO: Mr. Sam Griggs Stevens Center

CC: Dr. W. J. Zubyk Stevens Center

FROM: M. Tin M.T.

DATE: May 25, 1983

M.E. DEPT.
CODE: A-2485
Project 674000
Clemson

SUBJECT PCB Analysis in Sump Water from Air Washer

Results: A 100 ml aliquot of water sample was extracted with 20, 10 and 10 ml of hexane successively and the PCB was analyzed in the combined hexane extracts with GC-EC method. The water sample was found to contain 12 ppb PCB Aroclor 1254.

1163D-S
tm

J. P. Stevens & Co., Inc.

TECHNICAL CENTER

MATERIALS EVALUATION DEPARTMENT
REPORT

TO: Mr. Richard Holmes

FROM: M. Tin MT

DATE: May 24, 1983

CC: Dr. W. J. Zubyk
Mr. J. R. Brown

M.E.DEPT.
CODE: A-2484
Proj. 674000
Clemson

SUBJECT PCB Analysis - Air Samplings

Results: The air samples taken at the Clemson Plant after the GE transformer explosion on May 20, 1983 and also the wiped surface samples taken at the three different areas at the plant were analyzed using the gas chromatograph with the electron capture halogen sensitive selective detector. The amounts of PCB Arochlor 1254 found in the hexane extracts of the filter samples are as follows:

Samples	Area Taken	Micrograms PCB (in total sample)
Air Sample # 7 - 5/20/83	Fabric Department	0.5
Air Sample # 9 - 5/20/83	Fabric Department	0.5
Air Sample #30 - 5/21/83	Fabric Area	Not Detected (Less than 0.05)
Air Sample #31 - 5/21/83	Blank	Not Detected
Air Sample #32 - 5/21/83	Fabric Area	Not Detected
Air Sample #35 - 5/21/83	Blank	Not Detected
Air Sample #37 - 5/21/83	Bill Reed's Office	Not Detected
Wiped Sample # 1 - 5/20/83	Main Cafeteria	2
Wiped Sample # 2 - 5/20/83	Blank	Not Detected
Wiped Sample # 3 - 5/20/83	Main Cafeteria	2
Wiped Sample # 4 - 5/20/83	Main Cafeteria	3
Wiped Sample # 5 - 5/20/83	Main Cafeteria Wall	Not Detected
Wiped Sample # 6 - 5/20/83	Finishing Plant Cafeteria	2
Wiped Sample #10 - 5/21/83	Fabric Area	1
Wiped Sample #11 - 5/21/83	Fabric Area	1

1145D-S
tm

J. P Stevens & Co., Inc.

Stevens Center

400 EAST STONE AVENUE • P.O. BOX 2850 • GREENVILLE, S.C. 29502-2850 • TELEPHONE 803/239-4000

May 26, 1983

Thomas Hyslip, M.D., M.P.H.
District Medical Director
Appalachia I Health District
P. O. Box 1906
Anderson, SC 29622

Re: J. P. Stevens & Co., Inc.
Clemson Plant/Oconee County

Dear Dr. Hyslip:

During a recent conversation with Mr. J. M. Causey, I was advised that you had certain questions concerning the food service area as a result of the transformer incident which occurred at our Clemson Plant. Prior to responding to those questions, it is important to note that none of the discharge from the transformer entered the food area via the air vents. The food service area is served by another air service system which was not affected by this incident.

Concerning the actual clean-up in the food service area in question, I have been advised that all open food, containers, plastic plates, plastic service utensils, and the like, were removed from the cafeteria. The only material not so disposed of was food in the closed refrigerators and this material was subsequently moved to other locations. The physical clean-up was performed by Industrial Housekeeping, Inc. of Greenville, South Carolina pursuant to its service contract with the plant and they were supervised by both Wometco and Stevens' personnel. All surface areas within this room, except for walls and ceilings, were washed with low residue detergents. Regarding testing in the food area, our preliminary testing of the room prior to clean-up revealed only trace amounts of contaminants (0.2 - 0.3 $\mu g/ft^2$). Despite these extremely low readings, the area was cleaned as described above.

As to your question regarding the clean-up of the air conditioning ducts that provide air to this area, please note that, as described above, the air conditioning system for this area was not affected by the incident. Specifically, this area has its own independent air conditioning system and, for this reason, it was not necessary to clean that system.

It is my hope that this information is responsive to your questions. We appreciate your concern and want to assure you that we have taken all appropriate steps to ensure the safety of our employees. If I can be of any further assistance, please feel free to contact me.

Very truly yours,

Samuel H. Griggs
Director
Environmental Affairs Department

SHG:dfs
0353

bcc: [redacted]
Mr. C. E. Foster
Mr. W. L. Reed
Mr. W. A. L. Sibley, Jr.

Copy - WACS
Dr. Roberts
File - Clemson - PCB - 6/6/83

Appalachia Public Health District I
South Carolina Department of Health and Environmental Control

P. O. Box 1906
Anderson, South Carolina 29622

Anderson County Health Department
Anderson, S. C. 29622
Telephone: 225-3731

Oconee County Health Department
Walhalla, S. C. 29691
Telephone: 638-3639

June 13, 1983

Mr. Samuel H. Griggs, Director
Environmental Affairs Department
J. P. Stevens & Co., Inc.
P. O. Box 2850
Greenville, SC 29602

ENVIRONMENTAL AFFAIRS
DEPT.

Re: J. P. Stevens & Co., Inc.
Clemson Plant/Oconee County

Dear Mr. Griggs:

Enclosed are copies of Food Examination for several foods collected at the Fabrication Cafeteria at the above referenced plant. I am pleased with the lab results that no PCBs were detected in the samples tested. A copy of these laboratory reports are furnished for your files.

Yours very truly,

James F. Causey

James F. Causey, Director
Environmental Health Services
Appalachia District I

JFC/gs

FOOD EXAMINATION
BUREAU OF LABORATORIES
S. C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
2600 BULL STREET · COLUMBIA, S. C. 29201

406

J.P. Stevens Plant (Woodfin) Clemson, S.C.
Person Submitting Sample — Telephone Number

Fabrication Cafeteria
Address (Street) (City)

5/24/83 11:10
Date and Hour Collected

Reason for Collecting Sample:
(Please Check Appropriate Box)

- ☐ Food From Alleged Outbreak
- ☐ Routine
- ☑ Other (Specify) Check for PC B's Only

Herman A. Dickson
Sanitarian

P.O. Box 1906
Address

Anderson, S.C. 29622
Zip

Sender No.

Billing No.

Lab ID

Date Reported 1 1
Mo. Day Yr.

Program No.

Location Food Stored When Sampled	Temperature	Time Between Serving and Sampling (Hours)
Steam Table	122°F	

Shipped: ✓ Refrigerated ____ Frozen ____ Ambient Identification Marks ____

Remarks:

Type of Sample	Brand	Lot Number	Where Purchased
Fabric Swab			

Manufacturer's Name and Address

Container Size or Weight

Symptoms of Victims (Please Mark All Appropriate Boxes): Number of People Ill:

- ☐ Nausea ☐ Vomiting ☐ Abdominal Cramps ☐ Fever ☐ Diarrhea
- ☐ Other (Specify)

Time Suspected Food Eaten	Time of Illness Onset	Incubation Period	Duration of Illness

Investigator	Title	Agency	Date

Investigator's Remarks:

LABORATORY USE ONLY

Date Received 5-25-83
Mo. Day Yr.

Total Plate Count ____ /gm.
Total Coliform ____ /gm.
Fecal Coliform ____ /gm.
Staphylococci Coagulase positive ____ /gm.
C. perfringens ____ /gm.
Salmonella ____ /gm.
Yeast and Mold ____ /gm.
pH. ____

Chemical or Physical Analyses:

LABORATORY COMMENTS: Sample Referred to Specialty Laboratory for Analysis Report attached

Analyst EC 6-28-83

DHEC 1528 (Rev. 5-77)

Lab No. 3

SPECIAL CHEMISTRY
BUREAU OF LABORATORIES
S. C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
COLUMBIA, S. C. 29201

Person Submitting Sample: [illegible] Telephone Number: _____

Address: [illegible] (Street) [illegible] (City) _____ (County)

Date Collected: 5/24/83 Mo. Day Yr. 11:10

MAIL REPORT TO:

Collected by: _____ Sender Name: Horace H. Dickson Sender No.: _____

Type of Sample: Wet Vegs Sender Address: P.O. Box 1966 Billing No.: _____

Analysis Requested: PCB Hendersonville, S.C. 28792 Zip

Lab ID: _____ Date Reported: 5/31/83 Mo. Day Yr. Program No.: _____

Date Received: 5/25/83 Mo. Day Yr.

Comments and History: _____

(If additional space is needed attach on separate sheet.)

LABORATORY USE ONLY

Analyst: JAB

RESULTS:

YES PCB detected

(limit of detection < 9ppb)

DHEC - 1344 (Rev. 3-82)

404

FOOD EXAMINATION
BUREAU OF LABORATORIES
S. C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
2600 BULL STREET · COLUMBIA, S. C. 29201

T. P Stevens Plant (Wemetco) Clemson, S.C.
Person Submitting Sample — Telephone Number

Fabrication Cafeteria — 5/24/83 — 11:10
Address (Street) (City) — Date and Hour Collected

Reason for Collecting Sample:
(Please Check Appropriate Box)

- ☐ Food From Alleged Outbreak
- ☐ Routine
- ☒ Other (Specify) Check for PCB's only

Sanitarian: Horace Dickson — Sender No.
Address: P.O. Box 1506, Clemson, S.C. 29631 — Billing No.
Lab ID — Date Reported Mo. Day Yr. — Zip — Program No.

Location Food Stored When Sampled	Temperature	Time Between Serving and Sampling (Hours)
Steam Table	@ °F/°C	

Shipped ___ Refrigerated ___ Frozen ___ Ambient · Identification Marks ___

Remarks:

		Lot Number	Where Purchased

Manufacturer's Name and Address — Container Size or Weight

Symptoms of Victims (Please Mark All Appropriate Boxes): Number of People Ill:
☐ Nausea ☐ Vomiting ☐ Abdominal Cramps ☐ Fever ☐ Diarrhea
☐ Other (Specify)

Time Suspected Food Eaten	Time of Illness Onset	Incubation Period	Duration of Illness

Investigator	Title	Agency	Date

Investigator's Remarks:

LABORATORY USE ONLY

Date Received 5 25 83 (Mo. Day Yr.)

Chemical or Physical Analyses:

Total Plate Count ___ /gm.
Total Coliform ___ /gm.
Fecal Coliform ___ /gm.
Staphylococci
Coagulase positive ___ /gm.
C. perfringens ___ /gm.
Salmonella ___ /gm.
Yeast and Mold ___ /gm.
pH ___

LABORATORY COMMENTS:
Sample submitted by Horace Dickson
Except Aroclor 1260 for
Analysis Requested
Initialed

Analyst EWS 6-2-83

DHEC 1328 (Rev. 5-77)

Lab No. 7416

SPECIAL CHEMISTRY
BUREAU OF LABORATORIES
S. C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
COLUMBIA, S. C. 29201

T. L. Stevens Plant Clemson, S.C. Telephone Number
Person Submitting Sample

Fountain Cafeteria
Address (Street) (City) (County)

Date Collected 5/24/83 11:10 Mo. Day Yr.

MAIL REPORT TO:

Collected by: Horace Dickson Sender Name Sender No.

Type of Sample: French Fries P.O. Box 1906 Sender Address

Anderson, S.C. 29621 Billing No.

Analysis Requested: PCBs

Date Reported 5/31/83 Mo. Day Yr. Program No.

Date Received 5/25/83 Mo. Day Yr. Lab ID

Comments and History:

(If additional space is needed attach on separate sheet.)

LABORATORY USE ONLY

Analyst JB

RESULTS:

No PCB detected

Limit of detection (A.1254) = < 9 ppb (parts per billion)

OHEC - 1349 (Rev. 3-82)

FOOD EXAMINATION
BUREAU OF LABORATORIES
S. C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
2600 BULL STREET · COLUMBIA, S. C. 29201

T.P. Stevens Plant (Inmate) Clemson, S.C.
Person Submitting Sample — Telephone Number

Fabrication Cafeteria 5/26/83 11:10
Address (Street) (City) Date and Hour Collected

Reason for Collecting Sample:
(Please Check Appropriate Box)

☐ Food From Alleged Outbreak
☐ Routine
☑ Other (Specify) Check for PCB's Only

Horace Dickson — Sanitarian — Sender No.
P.O. Box 1906
Anderson, S.C. 29621 — Address — Billing No.

Lab ID — Date Reported Mo. Day Yr. — Zip — Program No.

Location Food Stored When Sampled	Temperature	Time Between Serving and Sampling (Hours)
Steam Table	122°F	

Shipped: ✓ Refrigerated ____ Frozen ____ Ambient · Identification Marks ____

Remarks:

Trade Name	Brand Name	Lot Number	Where Purchased

Manufacturer's Name and Address — Container Size or Weight

Symptoms of Victims (Please Mark All Appropriate Boxes): Number of People Ill: ____
☐ Nausea ☐ Vomiting ☐ Abdominal Cramps ☐ Fever ☐ Diarrhea
☐ Other (Specify) ____

Time Suspected Food Eaten	Time of Illness Onset	Incubation Period	Duration of Illness

Investigator	Title	Agency	Date

Investigator's Remarks: ____

LABORATORY USE ONLY

Date Received 5 25 83 (Mo. Day Yr.)

Total Plate Count ____ /gm.
Total Coliform ____ /gm.
Fecal Coliform ____ /gm.
Staphylococci
Coagulase positive ____ /gm.
C. perfringens ____ /gm.
Salmonella ____ /gm.
Yeast and Mold ____ /gm.
pH ____

Chemical or Physical Analyses:

LABORATORY COMMENTS: Sample released for shipment. Shipping for analysis. Report to Plant.

Analyst [illegible] 6-2-83

DHEC 1328 (Rev. 8-77)

Lab No. 240

SPECIAL CHEMISTRY
BUREAU OF LABORATORIES
S. C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
COLUMBIA, S. C. 29201

T.I. Stevens Plant, Clemson, S.C. Telephone Number
Person Submitting Sample

Fabricating Cafeteria (City) (County)
Address (Street)

Date Collected 5/26/83 11:10 MAIL REPORT TO:
Mo. Day Yr.

Collected by: Horace Dickson Sender No.
Sender Name

Type of Sample: Waste Waters P.O. Box 1406
Sender Address

Clemson, S.C. 29631 Billing No.

Analysis Requested: PCB

Date Reported 5/31/83 Zip Program No.
Mo. Day Yr.

Lab ID

Date Received 5/29/83
Mo. Day Yr.

Comments and History:

(If additional space is needed attach on separate sheet.)

LABORATORY USE ONLY

Analyst NB

RESULTS:

no PCB detected

(Limit of detection < 9 ppb (parts per billion))

DHEC-1344 (Rev. 3-82)

Stevens Interoffice Correspondence

Environmental Affairs Department

AT Stevens Center DATE June 20, 1983

SUBJECT Disposal of PCB Materials

TO Mr. Tony Matthews AT Clemson FROM Michael H. Davis/bb

MHD

cc: Mr. W. R. Burnett Clemson

Attached are the shipping papers and labels for shipment of the drum of PCB materials to ENSCO. Follow the instructions carefully when filling in the required information and affixing the labels. The proper shipping name is "polychlorinated biphenyls". The hazardous class is ORM-E, and the I.D. number or code is UN2315, not to be confused with the EPA I.D. number for your plant (SCD003345097) which is also required on the manifest. Overnite Transportation's address is P. O. Box 5367, Station B, Greenville, S. C., 29606, phone number 288-2330, EPA I.D. number VAD000651778.

Please hold this drum until I receive the labels/paperwork for the Abbeville capacitor which has been moved to Clemson. Ship them together. If you need help, give me a call.

Enclosure: (To Mr. Matthews Only)

Stevens Interoffice Correspondence

Corporate Health & Safety AT Stevens Center DATE June 27, 1983

SUBJECT Clemson Meeting Write-Up

TO	Mr. G. H. Abrams	AT	Stevens Center	FROM Jerry C. Brooks
	Mr. J. R. Brown		Stevens Center	Pat Howard, R.N.
	Mr. S. H. Griggs		Stevens Center	
	Mr. W. R. Hogue		Stevens Center	
	Mr. R. S. Holmes		Stevens Center	
	Dr. R. E. Robards		Stevens Center	

As requested, attached for your review is a draft of the meeting held at Clemson on Sunday, May 22, to discuss the transformer incident. Please review and advise us by July 10 of any needed changes.

Attachment

cb

TRANSFORMER INCIDENT MEETING
CLEMSON FABRICATING PLANT
MAY 22, 1983

This meeting was called to discuss the transformer failure and the current status of items relating to the incident. The following persons were present:

Mr. Clyde Foster, Executive Vice-President
Mr. Terry Treece, Group General Manager
Ms. Pat Howard, R.N., Mgr. - Occupational Health Nursing
Mr. King Compton, Administrative Manager, Fabricating
Mr. Jerry Brooks, Corporate Safety Director
Mr. Sam Griggs, Director - Environmental Affairs
Dr. Robert Robards, Corporate Medical Director
Mr. Arden Ellise, Director - Employee Relations
Mr. Wyndle Kingsmore, Personnel Manager - Fabricating
Mr. Bob Burnett, Division Engineer
Mr. Derrill Dilworth, Technical Mgr. - Clemson Fabricating
Mr. Rick Holmes, Industrial Hygienist
Mr. Bill Reed, Business Manager - Clemson Plants

On May 20, at approximately 9:30 a.m., a phase-to-phase short circuit occurred in the Clemson Fabricating transformer located in Apparatus Room #21. This failure vented an estimated 30 - 40 gallons of transformer fluid, which was contained in the room. Power was lost in the Fabricating plant, and the plant was evacuated within 10 minutes. A chronological order of events is included as Attachment #1.

DHEC representatives have stated they are satisfied with our actions and there was no environmental contamination. Although there is no legal requirement to notify OSHA, a courtesy notice will be provided by the Corporate Safety Director on May 23.

Following discussion of the current status of the incident and results of air and wipe samples, the following decisions were made:

1. The cafeteria will be given a thorough cleaning.
2. Production will be resumed Sunday night on the third shift.
3. The Penthouse will be cleaned and residue disposed of as required.
4. An explanatory notice to employees will be prepared (copy included as Attachment #2) and posted.
5. If any employees went to their personal physicians, we will pay this cost out of plant funds.
6. The three pregnant females will be personally counseled by the Plant Occupational Health Nurse, and their personal physician will be contacted by the Corporate Medical Director.

7. The thirteen individuals who entered the room will be personally counseled by the Plant Nurse, and a detailed medical history taken.

8. Employee clothing:

   A. Production area employees will have their clothing returned with a $10 payment for inconvenience.

   B. Clothing and shoes of the thirteen employees will be retained and disposed of, and the employees reimbursed.

9. The Corporate Medical Director will discuss the incident with the plant physician.

10. The top layers of cloth in the storage area will be removed.

11. Letters of appreciation will be sent to Clemson University (for use of towels) and to Duke Power (for provision of uniforms).

In closing, Mr. Foster expressed his and the division's appreciation for the work of all Stevens employees who participated in the handling of the emergency.

JCB:cb

ATTACHMENT #1

CONFIDENTIAL

Clemson Fab Transformer Failure/Plant Evacuation

May 20, 1983

9:30 A.M. Lights flickered and all power went out in Fabricating Plant. Main vacuum circuit breaker kicked out when the transformer blew - phase-to-phase short circuit resulting in instantaneous transformer failure. An expansion valve ruptured releasing transformer fluid into diked area of Apparatus Room #21 which housed the transformer. (Fluid contained to Apparatus Room #21)

Plant was evacuated without incident within ten (10) minutes. Approximately 840 employees were involved. Thirteen employees entered Apparatus Room #21:

Donnie McKern	Garnett Martin	Billy Whitfield
Wayne Glenn	Tommy Sluder	Rick Robinson
Terry Bowen	Perry Ashmore	Sonny White
Pat Patterson	Elbert McMillian	Rod Padgett
Odell Mize		

10:30 A.M. Corporate Offices notified.
Mr. Bill Hogue, Mr. Sam Griggs, Mr. Jerry Brooks

11:00 A.M. DHEC, EPA, and General Electric notified.

12:30 A.M. Dick Jones, G. E. Regional Engineer arrived.

1:00 P.M. Following discussion with Jerry Brooks approximately 600 employees were allowed to leave the premises. These individuals were more than 100 feet from the transformer. Wall locations and proximity to transformer also considered. Sam Griggs, Corporate Environmental Affairs, arrived to sample area.

1:45 P.M. Jerry Brooks, Pat Howard, and Rick Holmes from Corporate Safety/Health arrived.

CONFIDENTIAL

May 20, 1983

3:00 P.M.	The remaining 240 (approximate) employees were detained so that they could shower, place their clothing in a plastic bag, and re-dress into disposable coveralls prior to leaving the premises. (Coveralls obtained from Duke Power, towels from Clemson University)
	WYFF and Greenville News arrived at Plant gate. Numerous other stations called both the Plant and Stevens Center. South Carolina Department of Labor representative called Plant, referred to Ron Copsey.
4:00 P.M.	Employees showers began.
5:00 P.M.	G. E. clean-up crew arrived.
5:30 P.M.	G. E. began clean up of Apparatus Room #21. Floor drain plugged with concrete for duration of cleaning.
8:00 P.M.	Employee showers completed.

No injuries caused by incident.

J. P. Stevens lab analysis of swab sample from Apparatus Room #21 shows PCB to have been present.

May 21, 1983

2:30 A.M.	G. E. clean-up completed.
7:00 A.M.	Bob Burnett assumed control of power hook-up, loading transformer, and preparation of manifest.
9:30 A.M.	Transformer moved to loading dock. G. E. began final mopping up of Apparatus Room #21.
2:00 P.M.	G. E. completed final mopping of Apparatus Room #21.

CONFIDENTIAL

May 21, 1983

10:00 A.M. Wipe samples taken in Fab and Finishing cafeterias.

12:00 P.M. Manifest completed.

1:00 P.M. Transformer left premises.

6:00 P.M. Power restored.

May 22, 1983

9:00 A.M. Meeting - Mr. C. E. Foster, Mr. T. Y. Treece, Mr. Sam Griggs, Dr. Robards, Ms. Pat Howard, Mr. Jerry Brooks, Mr. Rick Holmes, Mr. Derrill Dilworth, Mr. Wyndle Kingsmore, Mr. King Compton, Mr. Bob Burnett, Mr. Bill Reed, and Mr. Arden Ellise.

Decisions: Re-open Fab 11:30 P.M. May 22, post notice to employees, and meet with Supervisors to give up-date on incident. Clean all Fab canteen surfaces thoroughly, return clothes to employees who showered along with $10 for inconvenience, 13 employees who entered Apparatus Room #21 will not get clothes back and shoes to be turned in to Personnel on May 22, 1983 (reimbursement to be paid by Company). Health questionnaires to be completed by Clinic, four pregnant employees to see nurses for reassurance. Collect and hold sample sheets and pillowcases from cut fitted sheet storage area.

It was noted that routine annual maintenance had been performed by G. E. service shop in July 1982 and that all quarterly inspections had been conducted and logged per "PREPARE" manual.

11:45 A.M. Sample sheets and pillowcases collected, boxed and held.

May 23, 1983

6:45 A.M. Meeting - all Fab Supervisors to give up-date on incident.

7:30 A.M. First shift started up.

10:00 A.M. Meeting with 13 employees who entered Apparatus Room #21.

IPS-10121-A4

J.P. Stevens & Co., Inc., N. Y., N. Y.

DIVISIONAL SHIPPING ORDER NO. 613956

SHIPPER J. P. STEVENS & CO., INC. CLEMSON FABRICATION, CLEMSON, S. C. AT BY

CHG. FRT. TO GENERAL ELECTRIC COMPANY

MAY 21, 1983 ← DATE

CONSIGNED TO

GENERAL ELECTRIC COMPANY
2328 THRIFT ROAD
CHARLOTTE, N. C. 28208

VIA: TRUCKING DEPT.

NO. PKGS.	DESCRIPTION	WEIGHT	NO. PKGS.	DESCRIPTION	WEIGHT
	UN-FINISHED RAYON FABRICS I.O.P.				
	UN-FINISHED COTTON FABRICS I.O.P.				

INVOICE CODE INVOICE NO. ORDER NO.

DESCRIPTION

CASE NO.	PCS.	GROSS WT.	NET WT.	STYLE/YDS./DOZ.	CASE NO.	PCS.	GROSS WT.	NET WT.	STYLE/YDS./DOZ.	PRICE	AMOUNT
	1	10 M	PCB Transformer Carcass SN H882394								
	6	4 M	Contaminated PCB Transformer Oil (6/55 Gal Drums)								
	4	200 lbs.	55 Gal. Drums-Other Regulated Material								

GENERAL ELECTRIC COMPANY TAKES TITLE TO THE ITEMS LISTED AND RELIEVES J.P. STEVENS AND CO., INC., OF ANY FURTHER RESPONSIBILITY. GENERAL ELECTRIC COMPANY INDEMNIFIES J. P. STEVENS & CO., INC., FROM FURTHER LIABILITY AND AGREES TO DISPOSE OF THE ITEMS LISTED ACCORDING TO CURRENT FEDERAL AND STATE EPA REGULATIONS. GENERAL ELECTRIC COMPANY WILL FURNISH J. P. STEVENS & CO., INC., WITH A CERTIFICATE OF DISPOSAL.

1st TRACTOR	1st VAN	1st TRIP NO.	1st DRIVER
2nd TRACTOR	2nd VAN	2nd TRIP NO.	2nd DRIVER
3rd TRACTOR	3rd VAN	3rd TRIP NO.	3rd DRIVER

HAZARDOUS WASTE MANIFEST

ORIGINAL – NOT NEGOTIABLE

1983-2
MANIFEST DOCUMENT NUMBER

613956
SHIPPER NUMBER

General Electric Co.
NAME OF CARRIER (SCAC)

25475
CARRIER NUMBER

IDENTIFICATION

	12 DIGIT EPA ID #	COMPANY NAME, MAILING ADDRESS, AND TELEPHONE NUMBER	DATE SHIPPED OR RECEIVED
GENERATOR/ SHIPPER		J. P. Stevens & Co., Inc. (803) 654-3030 Clemson Plant, Cherry Road, Clemson, S.C.	05/21/8
TRANSPORTER # 1	NCD-0513-22980	General Electric Co. (704) 334-1644 2328 Thrift Road, Charlotte, N.C. 28208	05/21/8
TRANSPORTER # 2 (if required)			
TSDF TREATMENT STORAGE OR DIS-POSAL FACILITY	NCD-0513-22980	General Electric Co. (704) 334-1644 2328 Thrift Road, Charlotte, N. C. 28208	05/21/8
TSDF TREATMENT STORAGE OR DIS-POSAL FACILITY		ALTERNATE	

WASTE INFORMATION

NO. OF UNITS & CONTAINER TYPE	HM	EPA HAZ. WASTE ID #	DESCRIPTION AND CLASSIFICATION (Proper Shipping Name, Class and Identification Number per 172.101, 172.202, 172.203	UN # or NA #	EXEMPTION OR NO LABELS REQUIRED	FLASH POINT (IN °C) WHEN REQ'D	UNITS WT/VOL	TOTAL QUANTITY	RATE	CHARGE (For Carri Use Only
6	RQ1 10		55 Gallon Drums Waste PCB Oil	Un-2315			GAL.	250		
4			55 Gallon Drums ORM-E	Un-2315						

SPECIAL HANDLING INSTRUCTIONS

If an RQ commodity is spilled on a waterway or adjoining land, the incident must be promptly reported to the Federal government at 1-800-424-8802 (toll free) or 202-426-2675 (toll call). If other DOT Hazardous Materials are discharged creating a serious situation, call shipper's telephone number or Chemtrec 1-800-424-9300 immediately.

COMMENTS

On "Collect on Delivery" shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec. 1

PLACARDS TENDERED
Yes ☐ No ☐

REMIT C.O.D. TO: ADDRESS

COD Amt: $

C.O.D. FEE:
PREPAID ☐
COLLECT ☐ $

TOTAL CHARGES: $

FREIGHT CHARGES
FREIGHT PREPAID except when box at right is checked ☐
Check box if charges are to be collected

Note—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding.
$ _____ per _____

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."

_____ Signature

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

_____ (Signature of Consignor)

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CERTIFICATION

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the U.S. Environmental Protection Agency

J R Burnett 5-21-83
GENERATOR'S SIGNATURE DATE

This is to certify acceptance of the hazardous waste shipment.

Hugh Crump 5-21-83
TRANSPORTER #1 SIGNATURE & DATE

TRANSPORTER #2 SIGNATURE & DATE (if required)

This is to certify acceptance of the hazardous waste for treatment, storage or disposal.

TSDF SIGNATURE DATE

HAZARDOUS WASTE MANIFEST

ORIGINAL — NOT NEGOTIABLE

1983-1
MANIFEST DOCUMENT NUMBER

613956
SHIPPER NUMBER

General Electric Company
NAME OF CARRIER (SCAC)

25475
CARRIER NUMBER

IDENTIFICATION

	12 DIGIT EPA ID #	COMPANY NAME, MAILING ADDRESS, AND TELEPHONE NUMBER	DATE SHIPPED OR RECEIVED
GENERATOR/ SHIPPER		J. P. STEVENS & CO., INC. (803-654-3030) Clemson Plant, Cherry Road, Clemson, S.C.	05/21/8
TRANSPORTER # 1	NCD-0513-22980	General Electric Co. (704-334-1644) 2328 Thrift Road, Charlotte, N.C. 28208	05/21/8
TRANSPORTER # 2 (if required)			
TSDF TREATMENT STORAGE OR DISPOSAL FACILITY	NCD-0513-22980	General Electric Co. (704-334-1644) 2328 Thrift Road, Charlotte, N. C. 28208	05/21/8
TSDF TREATMENT STORAGE OR DISPOSAL FACILITY		ALTERNATE	

WASTE INFORMATION

NO. OF UNITS & CONTAINER TYPE	HM	EPA HAZ. WASTE ID #	DESCRIPTION AND CLASSIFICATION (Proper Shipping Name, Class and Identification Number per 172.101, 172.202, 172.203	UN # or NA #	EXEMPTION OR NO LABELS REQUIRED	FLASH POINT (IN °C) WHEN REQ'D	UNITS WT/VOL	TOTAL QUANTITY	RATE	CHARGE (For Carr Use Onl
1 10	RQ		Polychlorinated Biphenol (PCB) Transformer S/N H882394	ON-2315			Empty	Transformer Carcass Only		

SPECIAL HANDLING INSTRUCTIONS

If an RQ commodity is spilled on a waterway or adjoining land, the incident must be promptly reported to the Federal government at 1-800-424-8802 (toll free) or 202-426-2675 (toll call). If other DOT Hazardous Materials are discharged creating a serious situation, call shipper's telephone number or Chemtrec 1-600-424-9300 immediately.

COMMENTS

On "Collect on Delivery" shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec. 1

PLACARDS TENDERED
Yes ☐ No ☐

REMIT C.O.D. TO: ADDRESS

COD Amt: $

C.O.D. FEE: PREPAID ☐ COLLECT ☐ $

Note—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding.
$ _____ per _____

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."
_____ Signature

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
_____ (Signature of Consignor)

TOTAL CHARGES: $

FREIGHT CHARGES
FREIGHT PREPAID except when box at right is checked ☐ Check box if charge are to c collec

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CERTIFICATION

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the U.S. Environmental Protection Agency

P K Burnett 5-21-83
GENERATOR'S SIGNATURE DATE

This is to certify acceptance of the hazardous waste shipment.

[signature] 5-21-83
TRANSPORTER #1 SIGNATURE & DATE

TRANSPORTER #2 SIGNATURE & DATE (if required)

This is to certify acceptance of the hazardous waste for treatment, storage or disposal.

TSDF SIGNATURE DATE

ATTACHMENT #2

N O T I C E

THIS NOTICE IS TO ADDRESS ANY CONCERNS YOU MAY HAVE OVER THE TRANSFORMER MALFUNCTION EXPERIENCED FRIDAY, MAY 20, 1983.

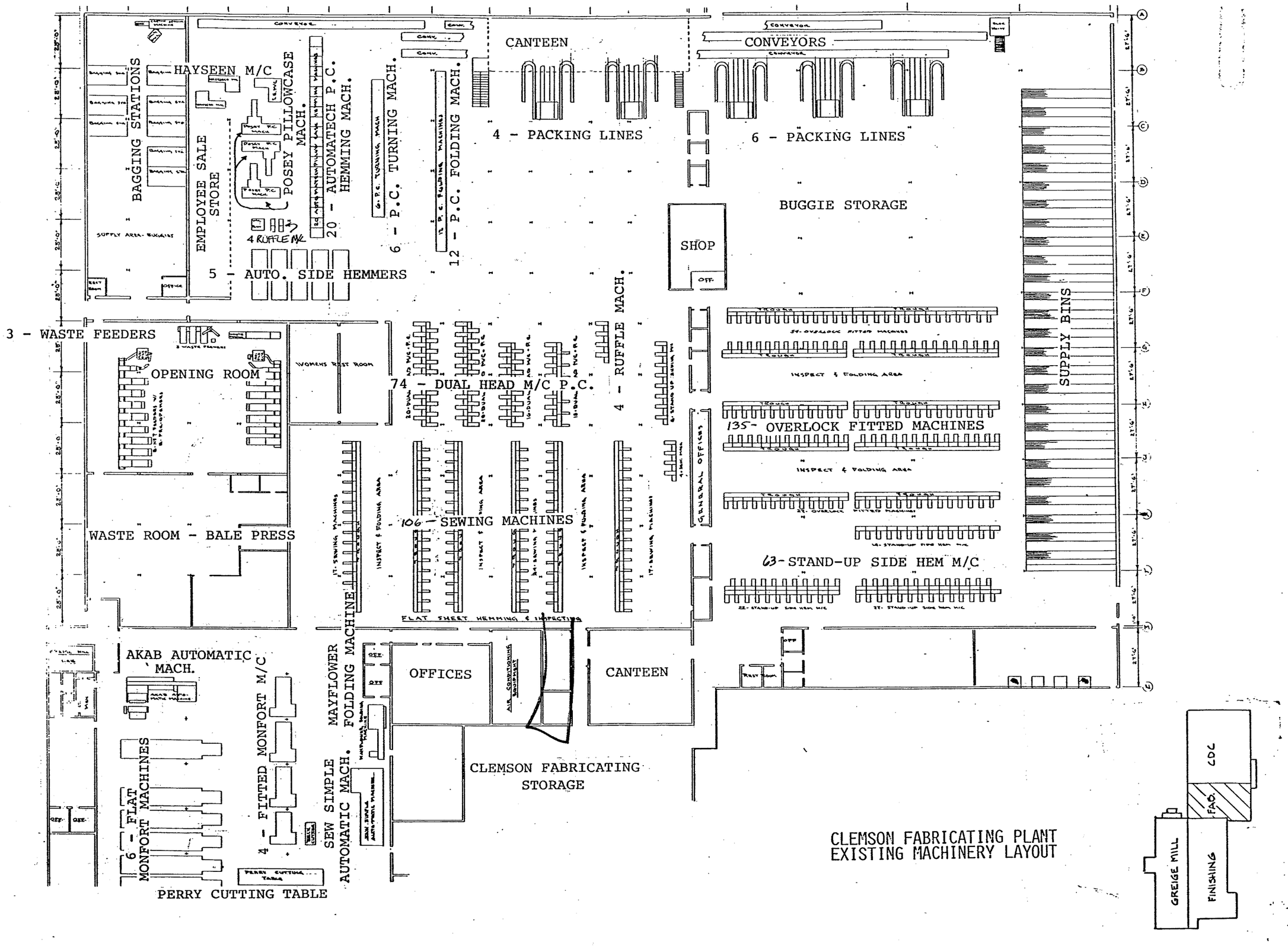
ALL STATE AND FEDERAL REGULATIONS HAVE BEEN FOLLOWED AND THERE ARE NO DANGERS ASSOCIATED WITH THIS MISHAP. ALL NECESSARY TESTS WERE MADE TO ASSURE US THAT THERE WERE NO PERSONAL AND ENVIRONMENTAL DANGERS. THESE TEST RESULTS WERE SATISFACTORY.

FOR THOSE EMPLOYEES DETAINED AND ASKED TO SHOWER WE REGRET THE INCONVENIENCE FOR THE PRECAUTIONS THAT WERE TAKEN. WE ARE THANKFUL THAT THEY WERE JUST PRECAUTIONARY MEASURES. YOUR CLOTHES WILL BE RETURNED TO YOU WITHIN THE WEEK AND WITH THEM $10.00 FOR THE INCONVENIENCE.

ALL EMPLOYEES ARE TO BE ASSURED THAT NO HARMFUL EFFECTS WILL RESULT DUE TO THIS INCIDENT. WE APPRECIATE YOUR COOPERATION AND UNDERSTANDING CONCERNING THIS MATTER. IF YOU HAVE ANY INDIVIDUAL QUESTIONS PLEASE CONTACT THE PERSONNEL DEPARTMENT.

CLEMSON FABRICATIONS

POSTED 05/22/83
REMOVED 06/01/83



CLEMSON FABRICATING PLANT
EXISTING MACHINERY LAYOUT

Appendix G
Site Photographs

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
1	02/17/05

Description
Overview of the Clemson Complex

Photo No.	Date
2	02/18/05

Description
Closed Fly Ash Landfill (Landfill No. 1).

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
3	02/18/05

Description
Wet area on Landfill No. 2 cover.

Photo No.	Date
4	02/18/05

Description
PVA equalization solids being dried before disposal – sludge Landfill No. 3 area

Photographic Log

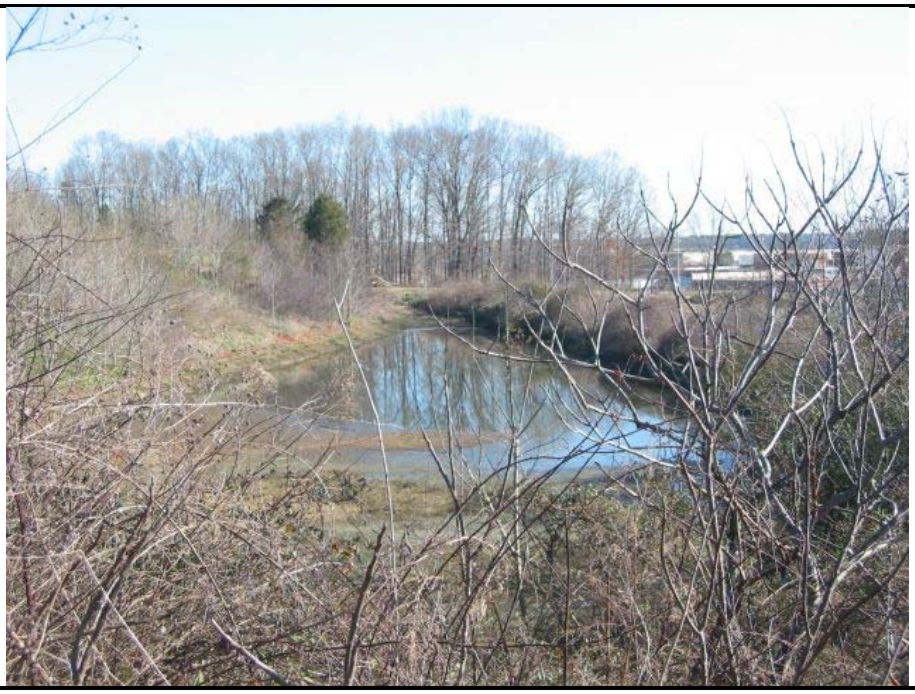
Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
5	02/18/05

Description
Wastewater solids runoff at sludge Landfill No. 3.

Photo No.	Date
6	02/18/05

Description
Surface water runoff basin at sludge Landfill No. 3. Water is pumped to WWTP.



Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
7	02/17/05

Description
Unpermitted Landfill No. 4 area.

Photo No.	Date
8	02/18/05

Description
Abandoned landfill area north of sludge Landfill No. 3. Unpermitted Landfill No. 5 area.

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
9	02/17/05

Description
Boneyard area west of main plain building.

Photo No.	Date
10	02/17/05

Description
Inside water treatment building.

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
11	02/17/05

Description
Industrial equalization basin

Photo No.	Date
12	02/18/05

Description
Tank storage at WWTP.

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
13	02/18/05

Description
Tote storage at WWTP.

Photo No.	Date
14	02/18/05

Description
Activated sludge basin at WWTP.

Photographic Log

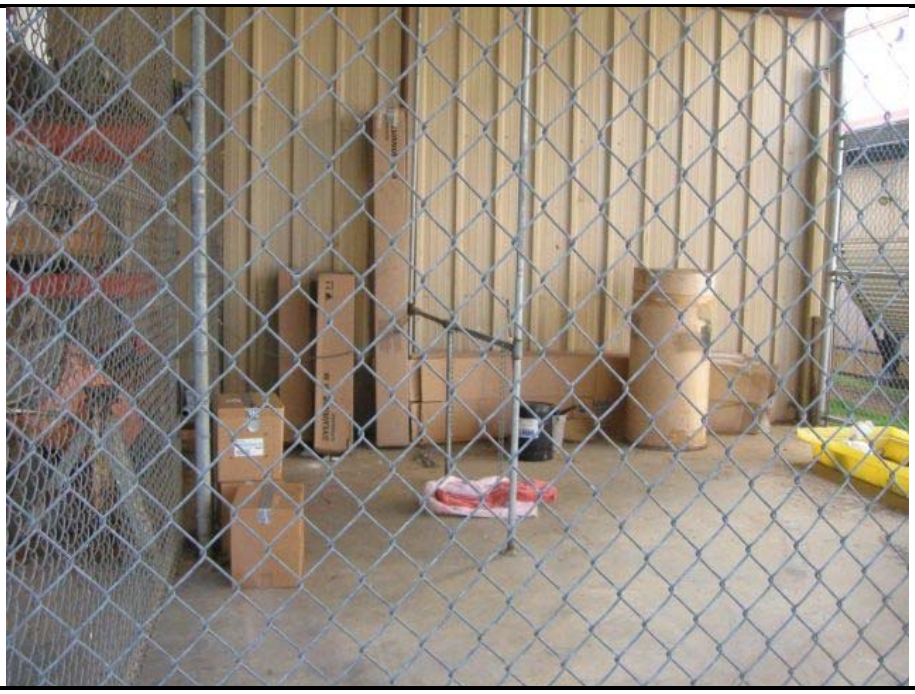
Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
15	02/17/05

Description
Pump leaking oil.

Photo No.	Date
16	02/17/05

Description
Universal waste accumulation area.



Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
17	02/17/05

Description
Used oil accumulation area east of main building.

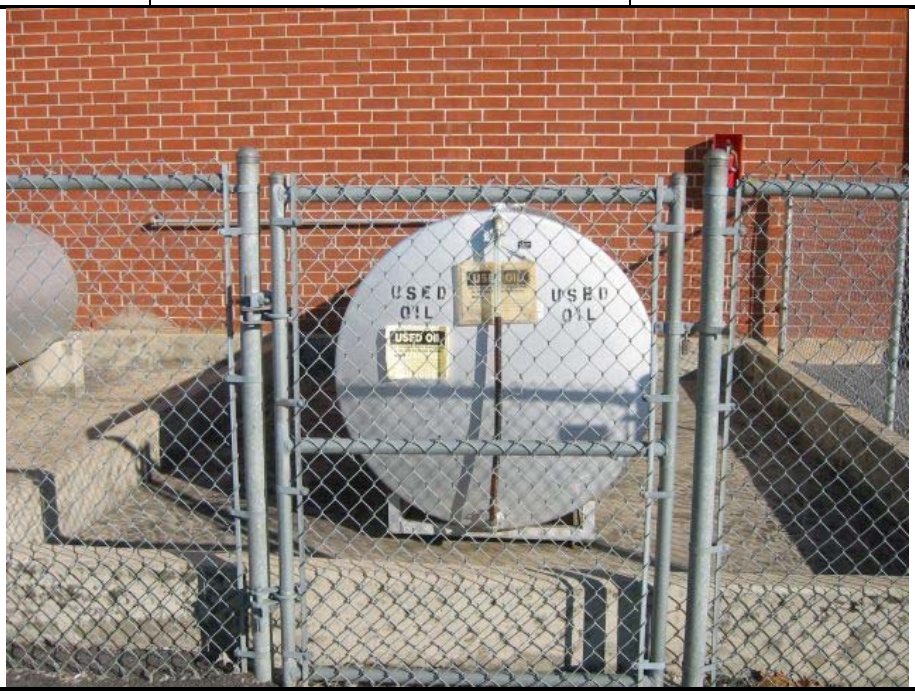


Photo No.	Date
18	02/17/05

Description
Used oil accumulation area west of main building.

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
19	02/19/05

Description
PVA tanks.

Photo No.	Date
20	02/17/05

Description
PVA storage tanks.

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
21	02/17/05

Description
Tank farm area.

Photo No.	Date
22	02/17/05

Description
Piping at tank farm area.

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
23	02/17/05

Description
Tote storage area.

Photo No.	Date
24	02/17/05

Description
Fuel dispersion.

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
25	02/17/05

Description
Standby fuel oil for boiler.

Photo No.	Date
26	02/17/05

Description
Printing area.

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
27	02/17/05

Description
Wastewater in printing area.

Photo No.	Date
28	02/17/05

Description
Screen cleaning area.

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
29	02/17/05

Description
Waste draining to the basement

Photo No.	Date
30	02/17/05

Description
Basement area.

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
31	02/17/05

Description
Chemical mixing in finishing plant.

Photo No.	Date
32	02/17/05

Description
Quality control titration area.

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
33	02/17/05

Description
Machining area in finishing plant.

Photo No.	Date
34	02/17/05

Description
Machining area in finishing plant.

Photographic Log

Client Name:	Site Location:	Project No.:
WestPoint Stevens	Clemson Plant	70583.86

Photo No.	Date
35	02/17/05

Description
Typical parts cleaner.

Photo No.	Date
36	02/17/05

Description
Solid waste accumulation area.

Appendix H
Interview Documentation

PHASE I ESA QUESTIONNAIRE – Site Visit and Interview Documentation

Project Number: 00-70583.86 Task 00003
Date Completed: 02/17-18/05

Complete every question. Answers must indicate whether information was obtained through observation, interview or review of records. N/A (not applicable) is an acceptable answer. It is also acceptable to reference attached lists or other information sources.

General Information

1. Facility: WestPoint Stevens Clemson Plant
   Address: 500 West Cherry Road
   Clemson, South Carolina 29631
   County: Oconee County

2. Facility contacts:

Name	Title	Number of years at the site
Moe Hinson	Technical Department-2 years	5
Billy Harris	Plant Manager	
Boyd Paul	WWTP Manager	18

3. RMT site representative(s):
   Joyce Petereson — Lynn Watson
   Charity Teamer

4. Age of facility: Built in 1951 (54 years)

5. Number of employees: ~1,500

6. Property area (acres or square feet): 384 acres

7. Building area (square feet): 1,205,565 square feet

8. Describe the facility setting (*i.e.*, industrial, commercial, rural, etc.). If industrial or agricultural, try to provide details on what kind.
   North: residential/fly ash landfill across the road
   South: Lake Hartwell

Facility: Clemson Plant

East: Lake Hartwell

West: Lake Hartwell

Observations of adjoining properties: Mostly residential to the north beyond fly ash landfill, Lake Hartwell adjoins property to the south, east, and west.

9. Describe site topography: If there are any overall site plans available that show topographic relief, obtain a good copy.

   1951 map shows a smaller facility with no WWTP area. 1980 map shows Lake Hartwell, the sewage disposal area (WWTP). The facility has expanded. The fly ash landfill is present on the 1980 map. There is a neighborhood further north of the fly ash landfill.

10. List providers for or note existence of utilities in use at the facility:

Electricity: Duke Power	Sanitary Sewer: On site
Natural Gas: Fort Hill	Septic System: N/A
Fuel Oil: Lowry	Storm Sewer: On site
Propane: Not sure	City Water: City of Seneca (drinking water)
	Well Water: N/A

Lake Water is used as process water. Pumped from the lake to clarifiers, then treated with coagulants and filtered.

11. Current use of facility (briefly describe process):

    Textile manufacturing plant. Operations have not changed since the plant was built in the 1951. Clemson complex is vertically integrated – the facility does everything.

12. Former uses of facility:

    Sheeting operation – brand called Utica.

    Textiles – Weaving, dyeing, finishing, fabrication, and producing yarn

13. Former owners (source of information – date of ownership):

    JP Stevens built the facility in the 1951

    WP Pepperell acquired the facility in the 1988

Facility: Clemson Plant

14. List the bulk materials in use at the facility.
    Documentation given and will be included in appendices of the report

15. List bulk materials formerly used at the facility that are no longer in use today.
    List provided from site personnel: ferric chloride, ammonia, hydrosoft LNC, sodium silicate, JPS Lo Crock 268, ULF Resin, Patbind ACB

16. Are there any unused or abandoned structures on-site? ☐Yes ☒No
    If yes, please describe their prior usage.

17. Are there any pending or ongoing environmental notices of violation or enforcement actions? ☐Yes ☐No
    If yes, please describe and **obtain copies of relevant Agency correspondence.**
    No pending NOVs or enforcements but the facility has the following monitoring programs:
    On-site landfills – fly ash is currently being monitored by SC DHEC (annually)
    Sludge landfills – elevated nitrate levels in GW from sludge stored in ground before it was sent off for disposal. The wells are monitored. They petitioned SC DHEC for less frequent sampling. Quarterly monitoring cut to semiannual monitoring.
    Have to monitor the landfills for 20 years (They have been monitoring for 7 or 8 years)

18. Have there been any complaints/issues with neighbors (including odor, smoke, dust, light, noise and vibration, amongst others)? ☒ Yes ☐ No
    If yes, please describe.
    Noise complaint in the 1990s that lead to WPS creating a baffling system at the greige mill.
    Greige Mill will be shutdown in March/April 2005.

Facility: Clemson Plant

19. Are there any operational restrictions relating to environmental noise or external complaints relating to noise arising from site operations (not OSHA related noise exposure)?

☐ Yes ☒ No

If yes, please describe.

20. Have any previous environmental assessments, audits, or studies of any type been conducted of this site (this would include any 103(a) and (c) CERCLA notification reports, insurance audits, or previous site assessments)?

☒ Yes ☐ No

If yes, please **obtain copies of all applicable documents** and describe their contents.

There weren't any environmental assessments done when WPS acquired the property. The following assessments have been conducted

CERCLA 103(c) – 4 or 5 land disposal sites (USEPA inspected and sampled)

SC DHEC contractor – Split samples

2nd round sampling – Nothing was found to pursue further

Copies of these reports were provided and will be attached to the report.

21. Have there been any past or ongoing environmental remediation activities at the site?

☒ Yes ☐ No

If yes, describe in detail these activities and their expected resolution.

1983 Explosion of PCB transformer - Debris carried to place on the site (see correspondence from Eddie)

Pile near discharge (old bone yard) – SC DHEC sampled and found nothing.

On going groundwater monitoring at landfills (1,2, &3).

22. Is there any evidence of groundwater monitoring wells on or near the site?

☒ Yes ☐ No

If yes, describe the observed locations, how many, and, if possible, the purpose for these wells.

20 monitoring wells – 14 around the perimeter of property (covered under NPDES) and 6 around the fly ash landfill (covered under landfill closure rules).

Some are monitored annually and others semiannually (submit annual report)

20 year monitoring period (7 or 8 years into the monitoring)

23. Have there ever been any environmental discharges, releases, or spills at the site?

☒ Yes ☐ No

If yes, please describe in detail what was released, how much was released, and how the facility responded to and resolved the situation.

Spills and leaks – See copy of SWPPP

Dike broke and sludge spilled out of the staging area and into a ditch that discharges to the lake – year ~2000

Transportation spills (leaks)

There could possibly be spills, discharges, or releases that are unknown (prior to WPS acquiring the property)

24. Are there any visual indications at the site of potential environmental impact (*i.e.,* stressed vegetation, soil depressions, stains, odors, surface debris, seeps, etc.)?

☒ Yes ☐ No

If yes, please describe in detail and obtain photographic evidence.

The sludge staging area has a foul odor. Landfill No. 1 and Landfill No. 2 appeared to have low lying (wet) and overgrown portions within the cover of the closed landfills.

Water/Wastewater Conditions

25. Describe all wastewater sources at the site and the manner in which these sources are treated and/or discharged. Include a discussion of all treatment systems, including septic tanks, sewer discharges, and package treatment systems. Discuss any sludge disposal.

Activated sludge system built in 1974 for the pretreatment of the print paste operation.

Print paste clarifier is not in operation anymore.

WWTP constructed in 1975. WWTP receives wastewater from the following sources: wet processes in the bleach plant, the dye and finishing plants, and the printing plant; utility areas such as air washer blowdown, cooling water systems, steam condensate, and bearing seal waters; sanitary and cafeteria waste; boiler blowdown; water treatment plant clarifier

and filter backwash; and rag room water. Wastewater produced from the finishing plant operations is collected in a 50 X 100 foot basement located below a portion of the finishing and dyeing sections of the plant. The WWTP operates under NPDES Permit No. SC0000591, which establishes permit conditions for the effluent discharge to Lake Hartwell and the land application of sludge. The sludge is dewatered in a press, mixed with lime, and transported by truck to the concrete storage area where it is then transported off site for land application at various permitted sites.

26. Are any surface water bodies (*e.g.,* streams, lakes, ponds) present on or contiguous to the site? ☒ Yes ☐ No

    If yes, please provide the name and location. If no, describe location of nearest surface water bodies.

    Lake Hartwell adjoins the property to the south, east, and west.

27. Does the site discharge storm water runoff from process areas; raw material storage areas, or other areas where potential contaminants might be picked up?

    ☒ Yes ☐ No

    If so, please describe visual quality of discharge and area surrounding outfall(s).

    Currently storm water is managed in accordance with the SWPPP. Seven outfalls are located on the subject property. No staining/stressed vegetation reported.

28. Does the facility have NPDES or local permits for discharge to a local POTW or other sewage treatment works? ☒ Yes ☐ No

    If yes, please obtain copies.

    The WWTP operates under NPDES Permit No. SC0000591, which establishes permit conditions for the effluent discharge to Lake Hartwell and the land application of sludge.

Facility: Clemson Plant

Soil Type/Condition

29. In general, describe the conditions and types of soil (i.e., sandy, clay-silt, etc.) observed on the site.

    According to the EDR report, the site is comprised of sandy clay loam soil.

30. Are there any visual indications at the site of potential environmental impact (*i.e.,* stressed vegetation, soil depressions, stains, odors, surface debris, seeps, etc.)? ☒ Yes ☐ No

    If yes, please describe in detail.

    The sludge staging area has a foul odor. Landfill No. 1 and Landfill No. 2 appeared to have low lying (wet) and overgrown portions within the cover of the closed landfills.

Storage Facilities

31. Are there any hazardous material container storage areas on-site? ☒ Yes ☐ No

    If yes, describe their use and condition, and provide photographs.

    Totes of chemicals and dyes stored in the supply area (inside the facility)

32. Are hazardous materials storage practices acceptable? ☒ Yes ☐ No

    Identify any areas of inadequate flammable storage, incompatible storage (flammables or combustibles with oxidizers, acids with bases).

33. Does the facility utilize aboveground storage tanks? ☒ Yes ☐ No

    Describe materials and volumes stored in on-site tanks and spill prevention and control measures (secondary containment).

    Documentation given and provided in appendices of the report.

Facility: Clemson Plant

34. Are underground storage tanks present on-site? ☐ Yes ☒ No
    If yes, please describe their present condition, location, age, capacity, and contents.
    According to site personnel, no USTs are currently present at the site.

35. Have any underground storage tanks been removed from the site? ☒ Yes ☐ No
    If yes, please describe the size of the former tank(s), what it held, when it was removed, if a tank removal assessment report was prepared, and status of tank closure. **Obtain copies of all documentation.**
    Internal documentation provided by WPS and will be included in report.

36. Are there any visible vent pipes, fill pipes, or other indications of the existence of tanks not previously accounted for? ☐ Yes ☒ No
    If yes, please describe and provide photographs.

Waste (Hazardous/Non hazardous)

37. Describe and list all non-hazardous solid wastes generated at the site.
    used oil, used batteries, scrap metal, scrap fabric, scrap metal, general office trash, wood pallets, cardboard, and wastewater treatment sludge

38. Have solid wastes ever been disposed of on site? ☒ Yes ☐ No
    If yes, please describe these waste disposal methods in detail.
    Sludge, textile equipment, debris – documentation provided by WPS and will be attached to the report.

39. What is the facility's Generator Status (Large Quantity Generator, Small Quantity Generator, Conditionally Exempt Small Quantity Generator)? Provide facility's EPA Generator Identification Number.

Facility: Clemson Plant

CESQG

40. If applicable, describe and list hazardous wastes generated at the facility, the EPA hazardous waste codes, and typical volumes generated.

    No hazardous waste generated on a regular basis.

    Broken lamps, COD vials, cleanup debris from spills have been disposed of as haz waste in the past.

41. Are any waste piles evident on-site? ☒ Yes ☐ No

    Has there been past disposal of wastes on-site (filling of low areas)? ☒ Yes ☐ No

    If yes, please describe the conditions observed and provide site photographs.

    Covered boneyard called south landfill #2 – spinning frames and textile equipment.

    Landfill No. 4 and Landfill No. 5 contain waste – documentation provided and will be included in report.

42. Are there now or have there ever been any waste treatment lagoons, disposal pits, or surface impoundments on-site ? ☒ Yes ☐ No

    If yes, please describe the conditions observed and provide site photographs.

    Old wastewater lagoon – Covered with dirt. Documentation provided and will be included in the report.

43. Are there now or have there ever been any landfills or land disposal sites evident at the site? ☒ Yes ☐ No

    If yes, please describe these sites in detail, provide their precise locations, and provide site photographs.

    Landfills #1 - #5 – Documentation and maps given. Documentation will be attached to the report.

Air Emissions

44. List air pollution control equipment present at the site:

    Title V permit

Facility: Clemson Plant

Electrostatic participator

SIMS unit, PIMS unit (taken out of service because it wasn't working properly), COMS unit

Opacity meter on boilers (2 boilers)

PCBs

45. Are there electrical power transformers on the site? ☒ Yes ☐ No

    If yes, please describe any available information on these units and their likely PCB content (utility owned or site owned, serial number if available).

    Site personnel reported No PCB-containing transformer left onsite.

    No leaks reported.

46. If transformers are noted on-site, have any tests been conducted on these units to determine if and at what levels PCBs are present? ☒ Yes ☐ No

    If yes, please obtain copies of all relevant test results.

    PCB test results provided that were collected in 7/2004.

47. Is any other equipment present on site that has been identified as containing PCBs (capacitors, ballasts, switch gear, oil-cooled equipment) ? ☒ Yes ☐ No

    If yes, please describe.

    Some ballasts have been determined to contain PCBs (all recycled)

48. Have PCBs been historically utilized in maintenance or in process at the facility? ☐ Yes ☒ No

    If yes, describe method or manner of use.

    Only in occasional ballasts and transformers but not in the equipment being used.

Facility: Clemson Plant

Radioactive Materials

49. Are there any radioactive materials on site? ☒ Yes ☐ No

    If yes, list the types, purposes, applicable registrations or certificates:

    Historically – static sensors/monitors could have contained radioactive waste

    Only one static sensor/monitor at the facility – will be shipped back to the manufacturer.

Asbestos

50. Have there ever been previous asbestos surveys of the site and related structures or is the facility aware of the presence of any asbestos or potentially asbestos containing materials? ☒ Yes ☐ No

    RMT conducted the removal. Monthly inspection conducted – area is undisturbed.

    If yes, what is the current status of these materials on-site? Note any visible materials that are either friable or damaged. – Take Photographs.

    Ongoing asbestos abatement

51. If applicable, does the facility currently have an asbestos management plan? ☒ Yes ☐ No

Miscellaneous

52. Are there any other relevant environmental concerns at this facility relating to the nature of land usage for properties in the immediate site area or other environmental issues that have not been described in the previous questions? ☐ Yes ☒ No

    If yes, please describe these issues and provide any necessary comments or supporting documentation.

    Plant fairly isolated

    Residential toward the north

    3 sides – Lake Hartwell

    PCBs detected in sediments near Clemson plant from Sangamo Weston Site (10 miles upstream)

Facility: Clemson Plant

53. Provide, as an attachment, digital photographs of the site showing site conditions as you observed them during your visit to the facility. Photograph all identified RECs.

    Photographs will be included with report.

54. Individuals interviewed:

Name	Title
Michael Hinson	Technical Dept Manager
Boyd Paul	WWTP Manager
Eddie Lanier	Environmental Engineering Manager

Facility: Clemson Plant

SPACE FOR ADDITIONAL COMMENTS (Indicate number of question, if applicable.)

1984 – 6 USTs (not sure where they are located). The USTs were at the facility when WP acquired the facility. (visual and odor inspection done)

The original building was constructed in approximately 1951 with several expansions occurring in 1955, 1959, 1962, 1974, and 1990.

No previous ESAs conducted.

They take the cotton and polyester and wind it into yarn. Then it goes to the Greige Mill (weaving). Then to finishing plant (bleach, finishing, dyeing, and printing). After finishing, the material goes to the fabricating plant (rolled goods – sheets, pillow casing, etc.)

WP has the following equipment, buildings, land, etc.:

WWTP, steam boilers (2), air compressors, fire equipment, air conditioners (# unknown), pumping stations (pump lake water as facility process water), landfills (5 total), CDC warehouse

8 to 10% PVA water is sent to the Calhoun Plant (reused in the Calhoun process) – transported by truck.

The facility operates on a 24 hour/ 5 days a week schedule

Communication Record

RMT, Inc.
30 Patewood Drive, Suite 100
Greenville, SC 29615-3535
Tel. (864) 281-0030 • Fax (864) 281-0288

Participant		Company Name		Telephone No.
Eddie Lanier		WestPoint Stevens		706-645-4515
Prepared By:	Charity Teamer		**Title**	
Signature:	Charity M Teamer		02/24/05	
Project Name:	WestPoint Stevens			
Project No.:	70583.86	**Meeting At:**		
Date:	02/24/05	**Time:**	**Telephone Conversation:**	Yes
Subject/Purpose:	Clemson Complex			

Discussion/Decision (Summary):

(Interview dates: 02/21/05 to 02/24/05; Interview time: between 10:00AM and 4:30PM)

1.) Are the WWT basins lined?
Eddie – Yes, all are lined with concrete except for the most recently built basin. It is lined with PVC.

2.) What information do you have about the buried drums?
Eddie – No information on the buried drums. That incident happened before WP Stevens acquired the property.

3.) How much of the plant does the basement cover?
Eddie – The basement is underneath a portion of the finishing and dying section of the plant. The basement is approximately 50 x 100 feet. The printing and bleaching areas do not have a basement underneath them. Basically, those areas are on a concrete slab.

4.) What information do you have on the landfill permits and landfill closure permits?
Eddie – There are two landfills that were closed before WP Stevens acquired the facility. One of them is landfill #2. Landfill #1 he has a permit. Eddie will fax that information tomorrow. Landfill #3 was never a formal landfill. Piedmont engineers did the plans for that area to become a landfill but that is as far as the development went. Landfill #3 does not have a closure permit. Landfill #5 was never a formal landfill. This landfill was pre-WP Stevens. Landfill #5 contains the explosion debris. Landfill #5 is also known as the Abandoned Landfill. Two groups worked on Landfill #5 for clean up efforts. DHEC was group #1. Eddie said that DHEC claimed they could not go deep enough to ensure that the waste was removed. Group #2 was able to dig deep enough to get the waste. Landfill #5 does not have a closure permit.

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Participant		Company Name		Telephone No.
Moe Hinson		WestPoint Stevens		864-654-3030
Prepared By:	Charity Teamer		**Title**	
Signature:	Charity McLean 02/24/05			
Project Name:	WestPoint Stevens			
Project No.:	70583.86	**Meeting At:**		
Date:	2/24/05	**Time:**	**Telephone Conversation:**	Yes
Subject/Purpose:	Clemson Complex			

Discussion/Decision (Summary):

(Interview dates: 02/21/05 to 02/24/05; Interview time: between 10:00AM and 4:30PM)

1.) How was the lagoon filled? What was placed in it?
Moe – The lagoon was filled with dirt. He isn't sure if anything, besides liquids, was placed in the lagoon.

2.) Are there metals in the dyes?
Moe – Yes, some of the dyes have pre-catalyzed metals. There are approximately 60 to 70 dyes that are used. He knows that the green dye definitely has metals.

Followup Assignments:

Communication Record

RMT, Inc.
30 Patewood Drive, Suite 100
Greenville, SC 29615-3535
Tel. (864) 281-0030 • Fax (864) 281-0288

Participant		Company Name		Telephone No.
Chuck Hithtower		SCDHEC		803-896-6944
Prepared By:	Charity Teamer		**Title**	
Signature:	Charity Teamer 02/24/05			
Project Name:	WestPoint Stevens			
Project No.:	70583.86	**Meeting At:**		
Date:	2/24/05	**Time:**	**Telephone Conversation:**	Yes
Subject/Purpose:	Clemson Complex			

Discussion/Decision (Summary):

(Interview dates: 02/21/05 to 02/24/05; Interview time: between 10:00AM and 4:30PM)

There was no information on the USTs at the Clemson Complex. They would not have been required to register USTs until 1986.

Followup Assignments:

Communication Record

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Tel. (864) 281-0030 • Fax (864) 281-0288

Participant		Company Name		Telephone No.
William Daniels		Clemson University Fire Station		864-656-2242
Prepared By:	Charity Teamer	**Title**		
Signature:	Charity Teamer 02/24/05			
Project Name:	WestPoint Stevens			
Project No.:	70583.86	**Meeting At:**		
Date:	2/24/05	**Time:**	**Telephone Conversation:**	Yes
Subject/Purpose:	Clemson Complex			

Discussion/Decision (Summary):

(Interview dates: 02/21/05 to 02/24/05; Interview time: between 10:00AM and 4:30PM)

The Clemson University Fire Station has responded to a couple of fires at the Clemson Complex. The last reported fire, classified as a small fire, occurred in 2002 and was located on the roof.

Followup Assignments:

Communication Record

RMT, Inc.
30 Patewood Drive, Suite 100
Greenville, SC 29615-3535
Tel. (864) 281-0030 • Fax (864) 281-0288

Participant		Company Name		Telephone No.
Henry Gordon		Oconee County Emergency Management		864-638-4200
Prepared By:	Charity Teamer		**Title**	
Signature:	Charity McTeamer 03/02/05			
Project Name:	WestPoint Stevens			
Project No.:	70583.86	**Meeting At:**		
Date:	2/24/05	**Time:**	**Telephone Conversation:**	Yes
Subject/Purpose:	Clemson Complex			

Discussion/Decision (Summary):

(Interview dates: 02/21/05 to 02/24/05; Interview time: between 10:00AM and 4:30PM)

There was a propane incident at the Clemson Complex a few years ago. There was a hazardous material spill, approximately six to seven years ago, which involved a small leak. The contaminated area was properly cleaned up and contained. Mr. Gordon did not recall any fires at the facility.

Followup Assignments:

(Interview date: 03/02/05; Interview time: between 8:30AM and 9:15AM)

Eddie Lanier clarified the "hazardous material spill" that Mr. Gordon commented on. Mr. Lanier stated that the only spill that he can recall was the sludge spill that occurred in the 1990's. The sludge is considered a non-hazardous material. The local and state officials were notified immediately and did aid in the clean up and containment process. Because Mr. Gordon was going off of memory there is a strong possibility that the two incidences are the same and that he used the phrase "hazardous material" not remembering what the actual material was.

Moe Hinson could only recall one propane incident that occurred at the facility. The incident occurred his first week as an employee at the Clemson facility. During the summer a propane tank capacity became 104%. Moe is unsure about if any emergency response personnel were alerted but he stated that he would find out more information.

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Tel. (864) 281-0030 • Fax (864) 281-0288

Participant		Company Name		Telephone No.
N/A		Central Fire & Rescue		864-654-7074
Prepared By:	Charity Teamer	**Title**		
Signature:	Charity McTeamer 02/24/05			
Project Name:	WestPoint Stevens			
Project No.:	70583.86	**Meeting At:**		
Date:	2/24/05	**Time:**	**Telephone Conversation:**	Yes
Subject/Purpose:	Clemson Complex			

Discussion/Decision (Summary):

(Interview dates: 02/21/05 to 02/24/05; Interview time: between 10:00AM to 4:30PM)

Contact was not established.

Followup Assignments:

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