26618

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IV

Site Name: J.P. Stevens Co., Inc. **EPA ID #:** SCD003345097
Alias Site Names:

City: Clemson **County or Parish:** Oconee **State:** SC

Refer to Report Dated: December 1995 **Report type:** ESI

Report developed by: SCDHEC

DECISION:

| X | **1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:**

|X | 1a. Site does not qualify for further remedial site assessment under CERCLA (No Further Remedial Action Planned - NFRAP) | | 1b. Site may qualify for further action, but is deferred to: | | RCRA | | NRC

| | **2. Further Assessment Needed Under CERCLA:** 2a. (optional) Priority: | | Higher | | Lower

2b. Activity Type: | | PA | | SI | | ESI | | HRS evaluation

| | Other: _____

DISCUSSION/RATIONALE:
Results of Expanded Site Inspection can be found in December 1995 Report prepared b SCDHEC. Site is recommended for No Further Remedial Action Planned (NFRAP). Site does not score on NPL and site does not pose risk to human health and/or the environment.

Report Reviewed and Approved by: Craig Zeller Signature: _____ Date: 9/23/96

Site Decision Made by: Craig Zeller Signature: _____ Date: 9/23/96

EPA Form # 9100-3

DATE REPORT ACCEPTED 9/23/96

DISPOSITION NFRAP

SAM SIGNATURE

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

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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).

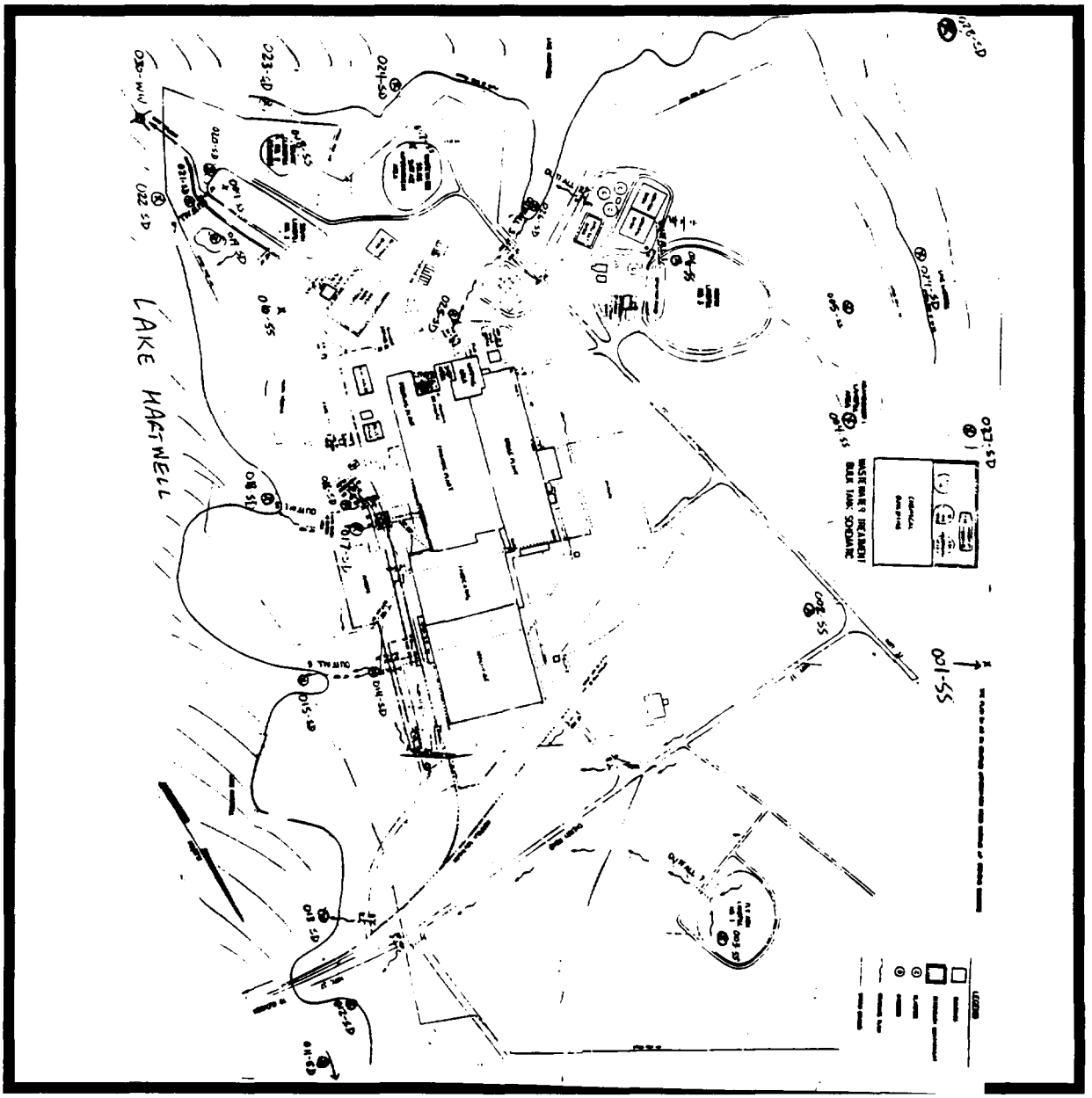

Figure I: J. P. Stevens Site Map

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.

PREScore 4.0
HRS DOCUMENTATION RECORD
J.P. Stevens & Company - 01/02/96

1. Site Name: J.P. Stevens & Company
   (as entered in CERCLIS)

2. Site CERCLIS Number: SCD 003 345

3. Site Reviewer: Jonathan McInnis

4. Date: 12/30/95

5. Site Location: Clemson, Oconee County
   (City/County,State)

6. Congressional District:

7. Site Coordinates: Single

   Latitude: 34°39'04.9" Longitude: 082°51'53.6"

	Score
Ground Water Migration Pathway Score (Sgw)	0.00
Surface Water Migration Pathway Score (Ssw)	0.00
Soil Exposure Pathway Score (Ss)	0.00
Air Migration Pathway Score (Sa)	0.00

Site Score	0.00

NOTE

Site names, and references to specific parcels or properties, are provided for general identification purposes only. Knowledge regarding the extent of sites will be refined as more information is developed during the RI/FS and even during implementation of the remedy.

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HRS DOCUMENTATION RECORD
J.P. Stevens & Company - 01/02/96

1. WASTESTREAM QUANTITY SUMMARY TABLE, SOURCE: Landfill #2

a. Wastestream ID	
b. Hazardous Constituent Quantity (C) (lbs.)	0.00
c. Data Complete?	NO
d. Hazardous Wastestream Quantity (W) (lbs.)	0.00
e. Data Complete?	NO
f. Wastestream Quantity Value (W/5,000)	0.00E+00

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J.P. Stevens & Company - 01/02/96

2. SOURCE HAZARDOUS WASTE QUANTITY FACTOR TABLE

a. Source ID		Landfill #2	
b. Source Type		Landfill	
c. Secondary Source Type		N.A.	
d. Source Vol.(yd3/gal)	Source Area (ft2)	0.00	145000.00
e. Source Volume/Area Value		4.26E+01	
f. Source Hazardous Constituent Quantity (HCQ) Value (sum of 1b)		0.00E+00	
g. Data Complete?		NO	
h. Source Hazardous Wastestream Quantity (WSQ) Value (sum of 1f)		0.00E+00	
i. Data Complete?		NO	
k. Source Hazardous Waste Quantity (HWQ) Value (2e, 2f, or 2h)		4.26E+01	

Source Hazardous Substances	Depth (feet)	Liquid	Concent.	Units
Mercury	< 2	NO	2.2E-01	ppm
Zinc	< 2	NO	6.7E+02	ppm

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J.P. Stevens & Company - 01/02/96

1. WASTESTREAM QUANTITY SUMMARY TABLE, SOURCE: Dump Areas 1&2

a. Wastestream ID	
b. Hazardous Constituent Quantity (C) (lbs.)	0.00
c. Data Complete?	NO
d. Hazardous Wastestream Quantity (W) (lbs.)	0.00
e. Data Complete?	NO
f. Wastestream Quantity Value (W/5,000)	0.00E+00

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2. SOURCE HAZARDOUS WASTE QUANTITY FACTOR TABLE

a. Source ID		Dump Areas 1&2	
b. Source Type		Landfill	
c. Secondary Source Type		N.A.	
d. Source Vol.(yd3/gal)	Source Area (ft2)	0.00	180000.00
e. Source Volume/Area Value		5.29E+01	
f. Source Hazardous Constituent Quantity (HCQ) Value (sum of 1b)		0.00E+00	
g. Data Complete?		NO	
h. Source Hazardous Wastestream Quantity (WSQ) Value (sum of 1f)		0.00E+00	
i. Data Complete?		NO	
k. Source Hazardous Waste Quantity (HWQ) Value (2e, 2f, or 2h)		5.29E+01	

Source Hazardous Substances	Depth (feet)	Liquid	Concent.	Units
Mercury	< 2	NO	1.6E-01	ppm

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HRS DOCUMENTATION RECORD
J.P. Stevens & Company - 01/02/96

1. WASTESTREAM QUANTITY SUMMARY TABLE, SOURCE: WW Solids Surf Imp

a. Wastestream ID	
b. Hazardous Constituent Quantity (C) (lbs.)	0.00
c. Data Complete?	NO
d. Hazardous Wastestream Quantity (W) (lbs.)	0.00
e. Data Complete?	NO
f. Wastestream Quantity Value (W/5,000)	0.00E+00

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2. SOURCE HAZARDOUS WASTE QUANTITY FACTOR TABLE

a. Source ID		WW Solids Surf Imp	
b. Source Type		Land Treatment	
c. Secondary Source Type		N.A.	
d. Source Vol.(yd3/gal)	Source Area (ft2)	0.00	130000.00
e. Source Volume/Area Value		4.81E+02	
f. Source Hazardous Constituent Quantity (HCQ) Value (sum of 1b)		0.00E+00	
g. Data Complete?		NO	
h. Source Hazardous Wastestream Quantity (WSQ) Value (sum of 1f)		0.00E+00	
i. Data Complete?		NO	
k. Source Hazardous Waste Quantity (HWQ) Value (2e, 2f, or 2h)		4.81E+02	

Source Hazardous Substances	Depth (feet)	Liquid	Concent.	Units
Mercury	< 2	NO	1.9E-01	ppm
Silver	< 2	NO	3.9E+00	ppm

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3. SITE HAZARDOUS WASTE QUANTITY SUMMARY

No.	Source ID	Migration Pathways	Vol. or Area Value (2e)	Constituent or Wastestream Value (2f,2h)	Hazardous Waste Qty. Value (2k)
1	Landfill #2	GW-SW-SE-A	4.26E+01	0.00E+00	4.26E+01
2	Dump Areas 1&2	GW-SW-SE-A	5.29E+01	0.00E+00	5.29E+01
3	WW Solids Surf Imp	GW-SW-SE-A	4.81E+02	0.00E+00	4.81E+02

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HRS DOCUMENTATION RECORD
J.P. Stevens & Company - 01/02/96

4. PATHWAY HAZARDOUS WASTE QUANTITY AND WASTE CHARACTERISTICS SUMMARY TABLE

Migration Pathway	Contaminant Values		HWQVs*	WCVs**
Ground Water	Toxicity/Mobility	2.00E-02	100	1
SW: Overland Flow, DW	Tox./Persistence	1.00E+04	100	32
SW: Overland Flow, HFC	Tox./Persis./Bioacc.	5.00E+08	100	320
SW: Overland Flow, Env	Etox./Persis./Bioacc.	5.00E+08	100	320
SW: GW to SW, DW	Tox./Persistence	2.00E-02	100	1
SW: GW to SW, HFC	Tox./Persis./Bioacc.	1.00E+02	100	10
SW: GW to SW, Env	Etox./Persis./Bioacc.	1.00E+02	100	10
Soil Exposure:Resident	Toxicity	1.00E+04	100	32
Soil Exposure: Nearby	Toxicity	1.00E+04	100	32
Air	Toxicity/Mobility	2.00E+03	100	18

* Hazardous Waste Quantity Factor Values
** Waste Characteristics Factor Category Values

Note: SW = Surface Water
GW = Ground Water
DW = Drinking Water Threat
HFC = Human Food Chain Threat
Env = Environmental Threat

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HRS DOCUMENTATION RECORD
J.P. Stevens & Company - 01/02/96

GROUND WATER MIGRATION PATHWAY Factor Categories & Factors	Maximum Value	Value Assigned
Likelihood of Release to an Aquifer Aquifer: Interconnected		
1. Observed Release	550	0
2. Potential to Release		
2a. Containment	10	10
2b. Net Precipitation	10	0
2c. Depth to Aquifer	5	5
2d. Travel Time	35	35
2e. Potential to Release [lines 2a(2b+2c+2d)]	500	400
3. Likelihood of Release	550	400
Waste Characteristics		
4. Toxicity/Mobility	*	2.00E-02
5. Hazardous Waste Quantity	*	100
6. Waste Characteristics	100	1
Targets		
7. Nearest Well	50	0.00E+00
8. Population		
8a. Level I Concentrations	**	0.00E+00
8b. Level II Concentrations	**	0.00E+00
8c. Potential Contamination	**	0.00E+00
8d. Population (lines 8a+8b+8c)	**	0.00E+00
9. Resources	5	0.00E+00
10. Wellhead Protection Area	20	0.00E+00
11. Targets (lines 7+8d+9+10)	**	0.00E+00
12. Targets (including overlaying aquifers)	**	0.00E+00
13. Aquifer Score	100	0.00
GROUND WATER MIGRATION PATHWAY SCORE (Sgw)	100	0.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

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SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET
J.P. Stevens & Company - 01/02/96

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT Factor Categories & Factors DRINKING WATER THREAT	Maximum Value	Value Assigned
Likelihood of Release		
1. Observed Release	550	0
2. Potential to Release by Overland Flow		
2a. Containment	10	10
2b. Runoff	25	0
2c. Distance to Surface Water	25	25
2d. Potential to Release by Overland Flow [lines 2a(2b+2c)]	500	250
3. Potential to Release by Flood		
3a. Containment (Flood)	10	10
3b. Flood Frequency	50	7
3c. Potential to Release by Flood (lines 3a x 3b)	500	70
4. Potential to Release (lines 2d+3c)	500	320
5. Likelihood of Release	550	320
Waste Characteristics		
6. Toxicity/Persistence	*	1.00E+04
7. Hazardous Waste Quantity	*	100
8. Waste Characteristics	100	32
Targets		
9. Nearest Intake	50	0.00E+00
10. Population		
10a. Level I Concentrations	**	0.00E+00
10b. Level II Concentrations	**	0.00E+00
10c. Potential Contamination	**	0.00E+00
10d. Population (lines 10a+10b+10c)	**	0.00E+00
11. Resources	5	0.00E+00
12. Targets (lines 9+10d+11)	**	0.00E+00
13. DRINKING WATER THREAT SCORE	100	0.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

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SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET
J.P. Stevens & Company - 01/02/96

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT Factor Categories & Factors HUMAN FOOD CHAIN THREAT	Maximum Value	Value Assigned
Likelihood of Release		
14. Likelihood of Release (same as line 5)	550	320
Waste Characteristics		
15. Toxicity/Persistence/Bioaccumulation	*	5.00E+08
16. Hazardous Waste Quantity	*	100
17. Waste Characteristics	1000	320
Targets		
18. Food Chain Individual	50	0.00E+00
19. Population		
19a. Level I Concentrations	**	0.00E+00
19b. Level II Concentrations	**	0.00E+00
19c. Pot. Human Food Chain Contamination	**	3.00E-04
19d. Population (lines 19a+19b+19c)	**	3.00E-04
20. Targets (lines 18+19d)	**	3.00E-04
21. HUMAN FOOD CHAIN THREAT SCORE	100	0.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

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SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET
J.P. Stevens & Company - 01/02/96

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT Factor Categories & Factors ENVIRONMENTAL THREAT	Maximum Value	Value Assigned
Likelihood of Release		
22. Likelihood of Release (same as line 5)	550	320
Waste Characteristics		
23. Ecosystem Toxicity/Persistence/Bioacc.	*	5.00E+08
24. Hazardous Waste Quantity	*	100
25. Waste Characteristics	1000	320
Targets		
26. Sensitive Environments		
26a. Level I Concentrations	**	0.00E+00
26b. Level II Concentrations	**	0.00E+00
26c. Potential Contamination	**	0.00E+00
26d. Sensitive Environments (lines 26a+26b+26c)	**	0.00E+00
27. Targets (line 26d)	**	0.00E+00
28. ENVIRONMENTAL THREAT SCORE	60	0.00
29. WATERSHED SCORE	100	0.00
30. SW: OVERLAND/FLOOD COMPONENT SCORE (Sof)	100	0.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

PREScore 4.0
GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET
J.P. Stevens & Company - 01/02/96

GROUND WATER TO SURFACE WATER MIGRATION COMPONENT Factor Categories & Factors DRINKING WATER THREAT	Maximum Value	Value Assigned
Likelihood of Release to Aquifer Aquifer: Interconnected		
1. Observed Release	550	0
2. Potential to Release		
2a. Containment	10	10
2b. Net Precipitation	10	0
2c. Depth to Aquifer	5	5
2d. Travel Time	35	35
2e. Potential to Release [lines 2a(2b+2c+2d)]	500	400
3. Likelihood of Release	550	400
Waste Characteristics		
4. Toxicity/Mobility/Persistence	*	2.00E-02
5. Hazardous Waste Quantity	*	100
6. Waste Characteristics	100	1
Targets		
7. Nearest Intake	50	0.00E+00
8. Population		
8a. Level I Concentrations	**	0.00E+00
8b. Level II Concentrations	**	0.00E+00
8c. Potential Contamination	**	0.00E+00
8d. Population (lines 8a+8b+8c)	**	0.00E+00
9. Resources	5	0.00E+00
10. Targets (lines 7+8d+9)	**	0.00E+00
11. DRINKING WATER THREAT SCORE	100	0.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

PREScore 4.0
GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET
J.P. Stevens & Company - 01/02/96

GROUND WATER TO SURFACE WATER MIGRATION COMPONENT Factor Categories & Factors HUMAN FOOD CHAIN THREAT	Maximum Value	Value Assigned
Likelihood of Release		
12. Likelihood of Release (same as line 3)	550	400
Waste Characteristics		
13. Toxicity/Mobility/Persistence/Bioacc.	*	1.00E+02
14. Hazardous Waste Quantity	*	100
15. Waste Characteristics	1000	10
Targets		
16. Food Chain Individual	50	0.00E+00
17. Population		
17a. Level I Concentrations	**	0.00E+00
17b. Level II Concentrations	**	0.00E+00
17c. Pot. Human Food Chain Contamination	**	0.00E+00
17d. Population (lines 17a+17b+17c)	**	0.00E+00
18. Targets (lines 16+17d)	**	0.00E+00
19. HUMAN FOOD CHAIN THREAT SCORE	100	0.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

PREScore 4.0
GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET
J.P. Stevens & Company - 01/02/96

GROUND WATER TO SURFACE WATER MIGRATION COMPONENT Factor Categories & Factors ENVIRONMENTAL THREAT	Maximum Value	Value Assigned
Likelihood of Release		
20. Likelihood of Release (same as line 3)	550	400
Waste Characteristics		
21. Ecosystem Tox./Mobility/Persist./Bioacc.	*	1.00E+02
22. Hazardous Waste Quantity	*	100
23. Waste Characteristics	1000	10
Targets		
24. Sensitive Environments		
24a. Level I Concentrations	**	0.00E+00
24b. Level II Concentrations	**	0.00E+00
24c. Potential Contamination	**	0.00E+00
24d. Sensitive Environments (lines 24a+24b+24c)	**	0.00E+00
25. Targets (line 24d)	**	0.00E+00
26. ENVIRONMENTAL THREAT SCORE	60	0.00
27. WATERSHED SCORE	100	0.00
28. SW: GW to SW COMPONENT SCORE (Sgs)	100	0.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

PREScore 4.0
SOIL EXPOSURE PATHWAY SCORESHEET
J.P. Stevens & Company - 01/02/96

SOIL EXPOSURE PATHWAY Factor Categories & Factors RESIDENT POPULATION THREAT	Maximum Value	Value Assigned
Likelihood of Exposure		
1. Likelihood of Exposure	550	550
Waste Characteristics		
2. Toxicity	*	1.00E+04
3. Hazardous Waste Quantity	*	100
4. Waste Characteristics	100	32
Targets		
5. Resident Individual	50	0.00E+00
6. Resident Population		
6a. Level I Concentrations	**	0.00E+00
6b. Level II Concentrations	**	0.00E+00
6c. Resident Population (lines 6a+6b)	**	0.00E+00
7. Workers	15	0.00E+00
8. Resources	5	0.00E+00
9. Terrestrial Sensitive Environments	***	0.00E+00
10. Targets (lines 5+6c+7+8+9)	**	0.00E+00
11. RESIDENT POPULATION THREAT SCORE	**	0.00E+00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.
*** No specific maximum value applies, see HRS for details.

PREScore 4.0
SOIL EXPOSURE PATHWAY SCORESHEET
J.P. Stevens & Company - 01/02/96

SOIL EXPOSURE PATHWAY Factor Categories & Factors NEARBY POPULATION THREAT	Maximum Value	Value Assigned
Likelihood of Exposure		
12. Attractiveness/Accessibility	100	5.00E+00
13. Area of Contamination	100	0.00E+00
14. Likelihood of Exposure	500	0.00E+00
Waste Characteristics		
15. Toxicity	*	1.00E+04
16. Hazardous Waste Quantity	*	100
17. Waste Characteristics	100	32
Targets		
18. Nearby Individual	1	0.00E+00
19. Population Within 1 Mile	**	0.00E+00
20. Targets (lines 18+19)	**	0.00E+00
21. NEARBY POPULATION THREAT SCORE	**	0.00E+00
SOIL EXPOSURE PATHWAY SCORE (Ss)	100	0.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

PREScore 4.0
AIR PATHWAY SCORESHEET
J.P. Stevens & Company - 01/02/96

AIR MIGRATION PATHWAY Factor Categories & Factors	Maximum Value	Value Assigned
Likelihood of Release		
1. Observed Release	550	0
2. Potential to Release		
2a. Gas Potential to Release	500	340
2b. Particulate Potential to Release	500	220
2c. Potential to Release	500	340
3. Likelihood of Release	550	340
Waste Characteristics		
4. Toxicity/Mobility	*	2.00E+03
5. Hazardous Waste Quantity	*	100
6. Waste Characteristics	100	18
Targets		
7. Nearest Individual	50	0.00E+00
8. Population		
8a. Level I Concentrations	**	0.00E+00
8b. Level II Concentrations	**	0.00E+00
8c. Potential Contamination	**	0.00E+00
8d. Population (lines 8a+8b+8c)	**	0.00E+00
9. Resources	5	0.00E+00
10. Sensitive Environments		
10a. Actual Contamination	***	0.00E+00
10b. Potential Contamination	***	0.00E+00
10c. Sens. Environments(lines 10a+10b)	***	0.00E+00
11. Targets (lines 7+8d+9+10c)	**	0.00E+00
AIR MIGRATION PATHWAY SCORE (Sa)	100	0.00E+00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.
*** No specific maximum value applies, see HRS for details.

PREScore 4.0
AIR PATHWAY SCORESHEET
J.P. Stevens & Company - 01/02/96

Record Information

1. Site Name: J.P. Stevens & Company
   (as entered in CERCLIS)

2. Site CERCLIS Number: SCD 003 345

3. Site Reviewer: Jonathan McInnis

4. Date: 12/30/95

5. Site Location: Clemson, Oconee County
   (City/County,State)

6. Congressional District:

7. Site Coordinates: Single

   Latitude: 34°39'04.9" Longitude: 082°51'53.6"

Site Description

1. Setting: Rural

2. Current Owner: Private - Industrial

3. Current Site Status: Active

4. Years of Operation: Active Site , from and to dates: 1951-present

5. How Initially Identified: CERCLA Notification

6. Entity Responsible for Waste Generation:

   - Manufacturing
   - Other Manufacturing

7. Site Activities/Waste Deposition:

   - Surface Impoundment
   - Industrial Landfill
   - Illegal Dumping

PREScore 4.0
NPL Characteristics Data Collection Form
J.P. Stevens & Company - 01/02/96

Waste Description

8. Wastes Deposited or Detected Onsite:

   - Organic Chemicals
   - Inorganic Chemicals
   - Metals
   - Fly and Bottom Ash
   - POTW Sludge Waste

Response Actions

9. Response/Removal Actions:

RCRA Information

10. For All Active Facilities, RCRA Site Status:

    - Not Applicable

Demographic Information

11. Workers Present Onsite: Yes

12. Distance to Nearest Non-Worker Individual: > 10 Feet - 1/4 Mile

13. Residential Population Within 1 Mile: Unknown

14. Residential Population Within 4 Miles: Unknown

Water Use Information

15. Local Drinking Water Supply Source:

    - Ground Water (within 4 mile distance limit)
    - Surface Water (within 15 mile distance limit)

16. Total Population Served by Local Drinking Water Supply Source: Unknown

17. Drinking Water Supply System Type for Local Drinking Water Supply Sources:

    - Municipal (Services over 25 People)
    - Private

18. Surface Water Adjacent to/Draining Site:
    - Lake

OVERSIZED

DOCUMENT

[redacted]

REFERENCE NO. 2

approved 1/29/91 R Clemmons

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

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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 (aka Landfill #1)

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.

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: labeled "SB"-08 in data table

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.

		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	<0.004	0.0098	0.01
Di-N-butyl-phthalate	<0.004	0.118	<0.004	<0.004	<0.004
1,1,1-Tri-chloroethane	<0.002	0.0054	<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. Dri paint was observed on the pipe. Therefore, the metal results reported f JPSC-MW-02 may have been influenced by the galvanized pipe. Volatile and B 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	14	19	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	<0.004
PHENOL	0.03	<0.3	84.7	<0.004
4-METHYLPHENOL	<0.3	<0.3	4.03	<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	<0.002
1,1,1-TRICHLOROETHANE	<0.02	<0.02	8.46	<0.002

* JPSC-SW-09 is listed with waste samples because the sample was collecte from the former wastewater pond. However, the results show no significan 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

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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.

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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. (APPENDIX B).

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).

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SCD	003345097

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
J.P. Stevens & Co. – Clemson Plt.	2.5 miles Southwest of Clemson, S.C. off Cherry Road.				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG DIST**
Clemson	SC	29631	Oconee	73	

09 COORDINATES LATITUDE 34 37 37.3 | LONGITUDE 082 52 24.4

10 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL _____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER _____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
06 05 90 (MONTH DAY YEAR)	☒ ACTIVE ☐ INACTIVE	1951 (BEGINNING YEAR) Present (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR _____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☒ E. STATE ☐ F. STATE CONTRACTOR _____ (Name of firm) ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Gerald Shealy	ENV. Quality Manager	SCDHEC	(803) 734-5200
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
Pete Saussy	" " "	"	( ) "
June Bristol	ENV. Techn.	SCDHEC	(803) 734-5200
Pamela James	ENV. Techn.	SCDHEC	(") "
Jacob Baker	ENV. Techn	"	(") "
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Mark Predda			( )
Robert E. MacPHEE	Hydrologist	4 Interchange Blvd. Greenville, 29607	(803) 288-5166
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	9:00 am	Sunny & hot with temperature in the 90's

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency or Organization)	03 TELEPHONE NO.
Gerald Stewart	SCDHEC / BSHWM	(803) 734-5200

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Gerald Stewart	SCDHEC	BSHWM	803-734-5220	12 31 90 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003 345 097

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [x] A. SOLID
- [ ] B. POWDER, FINES
- [x] C. SLUDGE
- [ ] D. OTHER (Specify)
- [ ] E. SLURRY
- [ ] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: ____
CUBIC YARDS: Unknown
NO. OF DRUMS: ____

03 WASTE CHARACTERISTICS (Check all that apply)

- [x] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [x] D. PERSISTENT
- [x] E. SOLUBLE
- [ ] F. INFECTIOUS
- [x] G. FLAMMABLE
- [ ] H. IGNITABLE
- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [x] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	Unknown		
OLW	OILY WASTE			
SOL	SOLVENTS	Unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	Unknown		
IOC	INORGANIC CHEMICALS	Unknown		
ACD	ACIDS	Unknown		
BAS	BASES	Unknown		
MES	HEAVY METALS	Unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	1,1,1-trichloroethane		Sludge disposal	8.46 ppm	ppm
OCC	Butylbenzyl phthalate		Unknown	0.197	ppm
MES	Arsenic		Ash disposal	170	ppm
OCC	Di-N-butylphthalate		Unknown	0.118	ppm

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sampling analysis reports)

SCDHEC - CERCLA Files

EPA FORM 2070-13(7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003 345 097

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION — 02 ☒ OBSERVED (DATE: June 5, 1990) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 657 — 04 NARRATIVE DESCRIPTION
1,1,1-trichloroethane was detected in groundwater and waste samples. Groundwater is a source of drinking for 657 people within three miles of the site.

01 ☒ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 15,000 — 04 NARRATIVE DESCRIPTION
Hartwell Lake is located adjacent (within 250 feet) of sludge and waste disposal areas at the site.

01 ☒ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
See SSI Report, Section VI.

01 ☒ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
See Section VII-B.

01 ☒ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
See Section VII-A

01 ☒ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) — 04 NARRATIVE DESCRIPTION
See Section III-C, Table 5.2 and Section VI A. of SSI Report

01 ☒ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
See Sections IV-B+C and V-B & C.

01 ☒ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
None known. However, individuals participating in excavation activities are potentially unprotected exposed to contaminants.

01 ☒ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
None known,
See Section VII-H

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003 345 097

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Unknown

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include names(s) of species)
Unknown

01 ☒ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Hartwell Lake is a major source of recreational fishing.
See Section II-A & B.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
See Sections II-B & D of SSI-Report.

01 ☒ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None known.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None known

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None known

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: 15657

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
SCDHEC - CERCLA files
Site Screening-Investigation Report - J. P. Stevens & Co.

EPA Form 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SC0	003 345 097

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES	SC0000591	10/11/76		currently operating
☐ B. UIC				
☐ C. AIR	1880-0008	3/19/85		Current permit.
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				Withdrawn 9/82
☐ F. SPCC PLAN				
☐ G. STATE (Specify)	DWP-104, 135, 186			See Section II-C of SSI Report.
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☒ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☒ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☒ F. LANDFILL		
☐ G. LANDFARM		
☒ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☒ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER

☒ A. BUILDINGS ON SITE

06 AREA OF SITE

14+ (Acres)

07 COMMENTS

See SSI Report - Sections II-B & D.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☒ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Unlined landfill and industrial permitted landfills. Drums and stained soil were observed during the site reconnaissance.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☒ NO

02 COMMENTS Access is restricted by gate and/or fence.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

SCDHEC, CERCLA - Files

Site Screening Investigation - J. P. Stevens & Co.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SCD	003345097

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☑	B. ☐
NON-COMMUNITY	C. ☐	D. ☑

02 STATUS Unknown

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☐
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE

A. 2.8 (mi)
B. 0.3 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one) –

☑ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 657

03 DISTANCE TO NEAREST DRINKING WATER WELL 0.3 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER (Bedrock)	08 SOLE SOURCE AQUIFER
5-30 (ft)	East, West & South	0 (ft)	288,000 (gpd)	☑ YES ☐ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)

14,400 - Saprolite

Two saprolite wells have been identified in the vicinity of the site. (SCDHEC-CERCLA Files, Memorandum from Judy Canova, May 29, 1990.

10 RECHARGE AREA		11 DISCHARGE AREA	
☑ YES ☐ NO	COMMENTS: Local	☑ YES ☐ NO	COMMENTS: Local

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☑ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Hartwell Lake	☐	0.038 (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 421 NO OF PERSONS	B. 1519 NO OF PERSONS	C. 4582 NO OF PERSONS

02 DISTANCE TO NEAREST POPULATION

0.12 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

Approx 40 excluding houses (x400).

04 DISTANCE TO NEAREST OFF-SITE BUILDING

0.12 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

See Section II-F of the SSI-Report.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SCD	003 345 097

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Choose one)

☐ A. 10^{-6} – 10^{-8} cm/sec ☐ B. 10^{-4} – 10^{-6} cm/sec ☒ C. 10^{-4} – 10^{-3} cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Choose one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE (10^{-4} – 10^{-6} cm/sec) ☒ C. RELATIVELY PERMEABLE (10^{-2} – 10^{-4} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
Approx 40 (ft)	Unknown (ft)		

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
13 (in)	3.5 (in)	≈ 4.0 %	Southeast	≈ 7.0 %

09 FLOOD POTENTIAL

SITE IS IN _____ YEAR FLOODPLAIN

10

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: None — A. _____ (mi)

OTHER: B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

_____ (mi)

Regional Concern species have been reported

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 1.5 (mi)	B. 0.038 (mi)	C. 0.21 (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

See Section IV-4 of SSI-Report.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

SCDHEC - CERCLA - Files

Site Screening Investigation Report - J.P. Stevens & Company

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SC0	003 345 097

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO All Samples analyzed by SCDHEC Bureau of Laboratories	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	3		
SURFACE WATER	1*		
WASTE	3		
AIR			
RUNOFF			
SPILL			
SOIL	4		
VEGETATION			
OTHER	2 - Blanks		

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
None	

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☐ AERIAL None

02 IN CUSTODY OF _____ (Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS SCDHEC - CERCLA Files.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

None.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

Site Screening Investigation - J. P. Stevens & Co. - Clemson Plant.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION
01 STATE: SCD | 02 SITE NUMBER: 003 345 097

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Westpoint Pepperell		P. O. Box 71		Westpoint	Ga	31833

PARENT COMPANY (if applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
J. P. Stevens & Co.		400 East Stone Ave. P.O. Box 2550		Greenville	SC	29602
Utica and Mohawk Cotton Mill				Utica (Utica)	NY	

IV. REALTY OWNER(S) (If applicable, list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

SCDHEC - CERCLA Files

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SCD	003 345 097

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
Westpoint Pepperell - Clemson Plant	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
Cherry Road	

05 CITY	06 STATE	07 ZIP CODE
Clemson	S.C	29631

08 YEARS OF OPERATION	09 NAME OF OWNER
1988 - Present	

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
J. P. Stevens & Co., Inc.			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
Cherry Road			

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
Clemson	S.C	29631			

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
Utica Mohawk Mill			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

SCDHEC - CERCLA Files.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003 345 097

II. ON-SITE GENERATOR — NA

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003-245 097

II. PAST RESPONSE ACTIVITIES - None Known, See Section II-E of SSI Report.

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003 345 097

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

See Section II-C of SSI Report.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

SCDHEC - CERCLA Files.

EPA FORM 2070-13 (7-81)

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. Bozeman

EPA REGION:	IV
CONTRACT NO.:	68-W9-0005; TES VIII
EPA WAM:	DEBORAH VAUGHN-WRIGHT
TELEPHONE NO.:	(404) 347-5065
DYNAMAC WAM:	KATHARINE SIDERS FRANKLIN
TELEPHONE NO.:	(404) 681-0933

DOCUMENT CONTROL NO. C04119-SIP-LC-308

Submitted to

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION IV

by

DYNAMAC CORPORATION

November 29, 1993

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

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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

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.

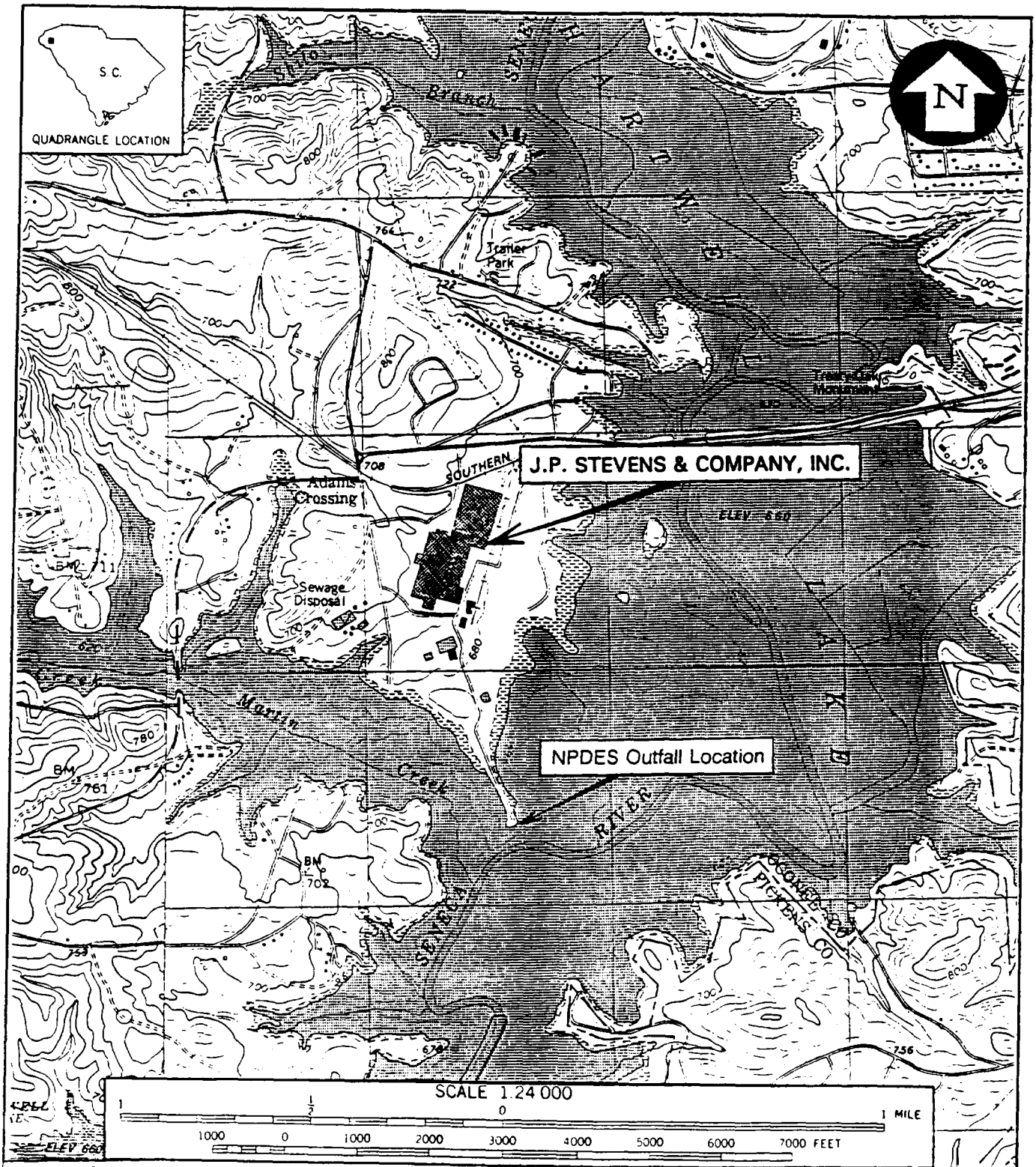
Site History and Description

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).

DYNAMAC CORPORATION
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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).

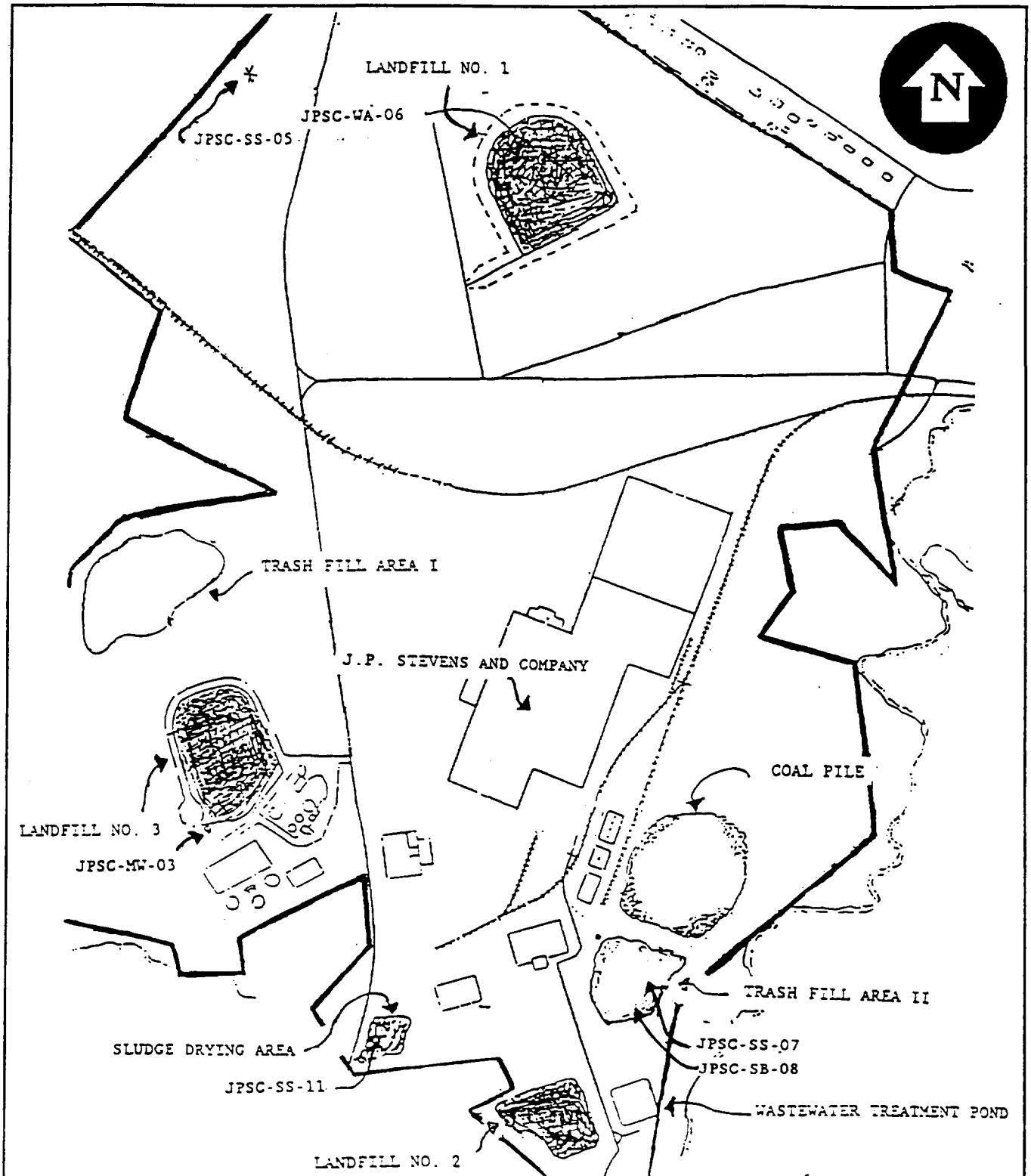
Westpoint Pepperell, Inc., which currently operates the facility, purchased the property from J.P. Stevens on May 6, 1988 (Refs. 5; 28). Westpoint Pepperell, Inc., currently uses Landfill No. 1 for fly ash disposal; however, WWTP sludge is no longer disposed onsite in Landfill Nos. 2 and 3. Landfill 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 Caroline Department of Health and Environmental Control, Site Screening Investigation Report, June 1990.

NPDES Outfall EJB 12/10/93

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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	170 mg/kg	7, p. 5, 8-10; 8, p. 4; 9, p. 5.
			Barium	270 mg/kg	
			Cadmium	1.8 mg/kg	
			Chromium	26 mg/kg	
			Lead	30 mg/kg	
			Nickel	24 mg/kg	
			Selenium	8 mg/kg	
			Anthracene	1.77 mg/kg	
			Benzo(a)anthracene	4.84 mg/kg	
			Benzo(k)fluoranthene	3.72 mg/kg	
			Benzo(b)fluoranthene	3.76 mg/kg	
			Benzo(a)pyrene	3.52 mg/kg	
			Chrysene	5.39 mg/kg	
			Fluoranthene	13.1 mg/kg	
			Phenanthrene	8.09 mg/kg	
			Pyrene	9.93 mg/kg	
JPSC-SS-11	Waste (Dried sludge)	Small sludge drying area approximately 550 feet northwest of Landfill No. 2; collected 4 inches bls.	Arsenic	14 mg/kg	1, p. 13, 14; 7, pp. 8-10.
			Barium	31 mg/kg	
			Chromium	56 mg/kg	
			Copper	62 mg/kg	
			Lead	25 mg/kg	
			Nickel	9.2 mg/kg	
			Benzoic acid	0.824 mg/kg	
			bis(2-ethylhexyl) Phthalate	4.49 mg/kg	
JPSC-SS-13	Waste (WWTP sludge)	Landfill No. 3 (sludge staging area); collected 4 inches bls.	Arsenic	19 mg/kg	1, p. 7; 7, pp. 5-6, 8-10.
			Barium	44 mg/kg	
			Chromium	26 mg/kg	
			Copper	80 mg/kg	
			Lead	19 mg/kg	
			Nickel	7.7 mg/kg	
			Silver	35 mg/kg	
			Phenol	84.7 mg/kg	
			4-methylphenol	4.03 mg/kg	
			Toluene	1.01 mg/kg	
			1,1,1-Trichloroethane	8.46 mg/kg	

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.

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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.

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17. U.S. Department of Commerce, Proof Copy of table generated for 1990 CPH-1: Summary Population and Housing Characteristics, issued by Bureau of the Census (April 1991), excerpt, 1 page.

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.

19. U.S. Environmental Protection Agency, Graphical Exposure Modeling System (GEMS) Data Base, compiled from U.S. Bureau of the Census data (1980).

20. U.S. Fish and Wildlife Service, Endangered and Threatened Species of the Southeastern United States, (Atlanta, Georgia 1992), excerpt, 4 pages.

21. Updated Preliminary Assessment for J.P. Stevens and Company, Inc. - Clemson Plant, Clemson, South Carolina, undated; obtained from South Carolina Department of Health and Environmental Control files.

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.

29. Renee Harris, Dynamac Corporation, project note to file for J.P. Stevens, November 3, 1993. Subject: Source of waterline information; taken from SCDHEC SSI report.

30. Jeffrey L. Newman, Environmental Quality Manager, Water Quality Assessment and Enforcement Division, South Carolina Department of Health and Environmental Control, letter to Terry Y. Treece, Westpoint Pepperell, February 28, 1990. Subject: Notice of Violation for J.P. Stevens/Clemson Plant, NPDES Permit #SC0000591.

31. U.S. Geological Survey, Water Resources Data, South Carolina, Water Year 1990, Water-Data Report SC-90-1, prepared in cooperation with the State of South Carolina and with other agencies (1990), excerpt, 2 pages.

RECEIVED

OCT 6 1994

SITE ENGINEERING & SCREENING
BSHWM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV
Environmental Services Division
College Station Road, Athens, Ga. 30613

*****MEMORANDUM******

DATE: 10/01/94

SUBJECT: Results of Specified Analysis;
94-0597 STEVENS JP & CO INC
CLEMSON SC
CASE NO: 22607

FROM: Charles H. Hooper, SK Bennett /for
Chief, Laboratory Evaluation/Quality Assurance Section

TO: JOHN CRISWELL

Attached are the results of analysis of samples collected as part of the subject project.

As a result of the Quality Assurance Review, certain data qualifiers may have been placed on the data. Attached is a DATA QUALIFIER REPORT which explains the reasons that these qualifiers were required.

If you have any questions please contact me.

ATTACHMENT

INORGANIC DATA QUALIFIERS REPORT (continued)

Case Number: 22607
Project Number: 94-0597
Site: Stevens JP & Co Inc., Clemson, SC

Element	Flag	Samples Affected	Reason
Cr	J	All positives in SDG MDHK90	Matrix spike recovery = -50.6%
	R	All negatives in SDG MDHK90	Matrix duplicate RPD = 165.4%
Cu	J	All positives in SDG MDHK90	Matrix spike recovery = -118.9%
	R	All negatives in SDG MDHK90	Matrix duplicate RPD = 135.9%
Cu	J	All in SDG MDHK86	Matrix duplicate RPD = 63.4%
Mn	J	All positives in SDG MDHK90	Matrix spike recovery = -46.4%
	R	All negatives in SDG MDHK90	Matrix duplicate RPD = 146.5%
As	J	All in SDG MDHK90	Matrix duplicate RPD = 122.5%
Fe	J	All in SDG MDHK90	Matrix duplicate RPD = 172.7%
Pb	J	All in SDG MDHK90	Matrix spike recovery = 64.2%
Zn	J	All in SDG MDHK90	Matrix duplicate RPD = 135.7%
Se	JN	MDHK87, 91, MDHZ46, 47, 48, & 50	Suspected positive interference from high Fe concentrations in solution
Ni	JN	MDHK91, MDHZ43 & 51	Suspected positive interference from high Fe concentrations in solution
Ag	JN	MDHZ51 & 62	Suspected positive interference from high Fe concentrations in solution
Cd	JN	MDHZ56	Suspected positive interference from high Fe concentration in solution
Cr	J	MDHZ45	% RSD > 20% for ICP multiple exposures
Co	J	MDHZ49, 52, 55, 58, 60, 63, 64, & 65	% RSD > 20% for ICP multiple exposures
Ni	J	MDHK87, 88, 89, MDHZ44, 45, 47, 48, 49, 50, 52, 56, 61 64, & 67	% RSD > 20% for ICP multiple exposures
As	U	MDHK86, 88, MDHZ46	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL
Be	U	MDHZ49, 56, 58, 62, 63, & 67	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL
Cd	U	MDHZ50	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL

INORGANIC DATA QUALIFIERS REPORT (continued)

Case Number: 22607
Project Number: 94-0597
Site: Stevens JP & Co Inc., Clemson, SC

Element	Flag	Samples Affected	Reason
Se	U	MDHK82, 89, MDHZ49, & 54	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL
As	J	MDHK87, MDHZ47, 53, 65, & 67	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis
Be	J	MDHK87, 88, 91, MDHZ43, 44, 45, 46, 47, 48, 51, 57, 59, 60, 61, 64, & 65	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis
Cd	J	MDHZ51	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis
Se	J	MDHK88, & MDHZ55	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89536 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 026-SD COLLECTION START: 08/31/94 0900 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK86 MD NO: HK86

RESULTS	UNITS	PARAMETER
0.67U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89537 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 027-SD COLLECTION START: 08/31/94 0957 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK87 MD NO: HK87

RESULTS	UNITS	PARAMETER
0.73U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89538 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 028-SD COLLECTION START: 08/31/94 0930 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK88 MD NO: HK88

RESULTS	UNITS	PARAMETER
0.66U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89539 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 029-SD COLLECTION START: 08/31/94 1025 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK89 MD NO: HK89

RESULTS	UNITS	PARAMETER
0.88U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89540 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 030-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK90 MD NO: HK90

RESULTS	UNITS	PARAMETER
10U	UG/L	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89541 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 031-SS
CASE.NO.: 22607 SAS NO.:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0857 STOP: 00/00/00
D. NO.: HK91 MD NO: HK91

RESULTS	UNITS	PARAMETER
0.73	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89542 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 032-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK92 MD NO: HK92

RESULTS	UNITS	PARAMETER
10U	UG/L	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89548 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 001-SS COLLECTION START: 08/31/94 0857 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ43 MD NO: HZ43

RESULTS	UNITS	PARAMETER
0.63U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89549 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 002-SS COLLECTION START: 08/31/94 0925 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ44 MD NO: HZ44

RESULTS	UNITS	PARAMETER
0.61U	MG/KG	CYANIDE

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FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89550 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 003-SS COLLECTION START: 08/31/94 0950 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ45 MD NO: HZ45

RESULTS	UNITS	PARAMETER
0.63U	MG/KG	CYANIDE

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FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89551 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 004-SS COLLECTION START: 08/31/94 1015 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ46 MD NO: HZ46

RESULTS	UNITS	PARAMETER
0.62U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89552 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 005-SS COLLECTION START: 08/31/94 1033 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ47 MD NO: HZ47

RESULTS	UNITS	PARAMETER
0.72U	MG/KG	CYANIDE

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FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89553 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 006-SS COLLECTION START: 08/31/94 1056 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ48 MD NO: HZ48

RESULTS	UNITS	PARAMETER
0.59U	MG/KG	CYANIDE

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FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89554 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 007-SS
CASE.NO.: 22607 SAS NO.:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1140 STOP: 00/00/00
D. NO.: HZ49 MD NO: HZ49

RESULTS	UNITS	PARAMETER
0.65U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89555 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 008-SS COLLECTION START: 08/31/94 1205 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ50 MD NO: HZ50

RESULTS	UNITS	PARAMETER
0.65U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89556 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 009-SS COLLECTION START: 08/31/94 1217 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ51 MD NO: HZ51

RESULTS	UNITS	PARAMETER
0.91	MG/KG	CYANIDE

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FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89557 SAMPLE TYPE: SOIL
PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC
CITY: CLEMSON ST: SC
STATION ID: 010-SS
COLLECTION START: 08/31/94 1233 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.:
D. NO.: HZ52 MD NO: HZ52

RESULTS	UNITS	PARAMETER
0.59U	MG/KG	CYANIDE

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89558 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 011-SD COLLECTION START: 08/31/94 1235 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ53 MD NO: HZ53

RESULTS	UNITS	PARAMETER
0.63U	MG/KG	CYANIDE

FOOTNOTES
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*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89559 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 012-SD COLLECTION START: 08/31/94 1300 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ54 MD NO: HZ54

RESULTS	UNITS	PARAMETER
0.66U	MG/KG	CYANIDE

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FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0507 SAMPLE NO. 89560 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JR & CO INC CITY: CLEMSON ST: SC
STATION ID: 013-SD COLLECTION START: 08/31/94 1323 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ55 MD NO: HZ55

RESULTS	UNITS	PARAMETER
0.61U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89561 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 014-SD COLLECTION START: 08/31/94 1225 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ56 MD NO: HZ56

RESULTS	UNITS	PARAMETER
0.61U	MG/KG	CYANIDE

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FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89562 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 015-SD COLLECTION START: 08/31/94 1250 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ57 MD NO: HZ57

RESULTS	UNITS	PARAMETER
0.70U	MG/KG	CYANIDE

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FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89563 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 016-SO COLLECTION START: 08/31/94 1145 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ58 MD NO: HZ58

RESULTS	UNITS	PARAMETER
0.68U	MG/KG	CYANIDE

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FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89564 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 017-SD COLLECTION START: 08/31/94 1200 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ59 MD NO: HZ59

RESULTS	UNITS	PARAMETER
0.68U	MG/KG	CYANIDE

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FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89565 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 018-SD COLLECTION START: 08/31/94 1310 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ60 MD NO: HZ60

RESULTS	UNITS	PARAMETER
0.64U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89566	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JR & CO INC			CITY: CLEMSON ST: SC
STATION ID: 019-SD			COLLECTION START: 08/31/94 1100 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HZ61 MD NO: HZ61

RESULTS	UNITS	PARAMETER
0.70U	MG/KG	CYANIDE

FOOTNOTES
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*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89567 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 020-SD COLLECTION START: 08/31/94 1033 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ62 MD NO: HZ62

RESULTS	UNITS	PARAMETER
0.88	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL
SOURCE: STEVENS JR & CO INC
STATION ID: 021-S
CASE.NO.: 22607 SAS NO.:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1115 STOP: 00/00/00
D. NO.: HZ63 MD NO: HZ63

RESULTS	UNITS	PARAMETER
0.65U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89569 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 022-SD
CASE.NO.: 22607 SAS NO.:

PROG ELEM: NSF COLLECTED BY: F.M CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1145 STOP: 00/00/00
D. NO.: HZ64 MD NO: HZ64

RESULTS	UNITS	PARAMETER
0.71U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89570 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 023-SD COLLECTION START: 08/31/94 1113 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ65 MD NO: HZ65

RESULTS	UNITS	PARAMETER
0.78U	MG/KG	CYANIDE

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FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89571 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 024-SD
CASE NO.: 22607 SAS NO.:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0940 STOP: 00/00/00
D. NO.: HZ66 MD NO: HZ66

RESULTS	UNITS	PARAMETER
0.62U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89572 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 025-SO COLLECTION START: 08/31/94 1003 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ67 MD NO: HZ67

RESULTS	UNITS	PARAMETER
0.64U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV
Environmental Services Division
College Station Road, Athens, Ga. 30613

*****MEMORANDUM******

DATE: 10/26/94

SUBJECT: Results of Purgeable Organic Analysis;
94-0597 STEVENS JP & CO INC
CLEMSON SC
CASE NO: 22607

FROM: Charles H. Hooper
Chief, Laboratory Evaluation/Quality Assurance Section

TO: JOHN CRISWELL

Attached are the results of analysis of samples collected as part of the subject project.

As a result of the Quality Assurance Review, certain data qualifiers may have been placed on the data. Attached is a DATA QUALIFIER REPORT which explains the reasons that these qualifiers were required.

If you have any questions please contact me.

ATTACHMENT

ORGANIC DATA QUALIFIER REPORT

Case Number 22607 Project Number 94-0597 SAS Number

Site ID. Stevens JP & CO Inc. Clemson, SC

Affected Samples	Compound or Fraction	Flag Used	Reason
Volatiles			
89541,89549	4-methyl-2-pentanone	J	low internal standard recovery
	tetrachloroethene	J	low internal standard recovery
	1,1,2,2-tetrachloroethane	J	low internal standard recovery
	toluene	J	low internal standard recovery
	chlorobenzene.	J	low internal standard recovery
	ethylbenzene	J	low internal standard recovery
	styrene	J	low internal standard recovery
	xylene	J	low internal standard recovery
89550,89552, 89556	1,1,1-trichloroethane	J	low internal standard recovery
	carbon tetrachloride	J	low internal standard recovery
	bromodichloromethane	J	low internal standard recovery
	1,2-dichloropropane	J	low internal standard recovery
	trans-1,3-dichloropropene	J	low internal standard recovery
	trichloroethene	J	low internal standard recovery
	dibromochloromethane	J	low internal standard recovery
	1,1,2-trichloroethane	J	low internal standard recovery
	benzene	J	low internal standard recovery
	cis-1,3-dichloropropene	J	low internal standard recovery
	bromoform	J	low internal standard recovery
	2-hexanone	J	low internal standard recovery
	4-methyl-2-pentanone	J	low internal standard recovery
	tetrachloroethene	J	low internal standard recovery
	1,1,2,2-tetrachloroethane	J	low internal standard recovery
	toluene	J	low internal standard recovery
	chlorobenzene	J	low internal standard recovery
	ethylbenzene	J	low internal standard recovery
	styrene	J	low internal standard recovery
	xylene	J	low internal standard recovery
Extractables			
all soils	phenol	R	unacceptable blind spike recovery
	2,4-dimethylphenol	R	unacceptable blind spike recovery
	fluorene	J	low blind spike recovery
	pentachlorophenol	R	unacceptable blind spike recovery
89536	all compounds except phenol,2,4-dimethylphenol, fluorene,pentachlorophenol	J	excessive holding time
89542	all compounds	J	excessive holding time
89556	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
89559	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	benzo(a)anthracene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< qunatitation limit
	benzo(a)pyrene	J	< qunatitation limit
	benzo(g,h,i)perylene	J	< quantitation limit

ORGANIC DATA QUALIFIER REPORT
Case Number 22607

Affected Samples	Compound or Fraction	Flag Used	Reason
89561	naphthalene	J	< quantitation limit
	acenaphthene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	dibenz(a/h)anthracene	J	< quantitation limit
89562	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
89563	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
89564	4-methylphenol	J	< qunatitation limit
	2-methylnaphthalene	J	< quantitation limit
	acenaphthylene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
89566	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	dibenz(a,h)anthracene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit
89567	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit
89568	naphthalene	J	< quantitation limit
	2-methylnaphthalene	J	< quantitation limit
	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	benzo(a)anthracene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
89571	benzo(g,h,i)perylene	J	< quantitation limit
89572	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	dibenz(a,h)anthracene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit

ORGANIC DATA QUALIFIER REPORT

Case Number 22607

Affected Samples	Compound or Fraction	Flag Used	Reason
Pesticides			
89537	dieldrin	J N	< quantitation limit difference in column quantitations
89539	aroclor-1254	J	< quantitation limit
89556	aroclor-1260	J	< quantitation limit

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89536 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 026-SD COLLECTION START: 08/31/94 0900 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK86

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE	12U	1,2-DICHLOROPROPANE
12U	BROMOMETHANE	12U	CIS-1,3-DICHLOROPROPENE
12U	VINYL CHLORIDE	12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	CHLOROETHANE	12U	DIBROMOCHLOROMETHANE
12U	METHYLENE CHLORIDE	12U	1,1,2-TRICHLOROETHANE
12U	ACETONE	12U	BENZENE
12U	CARBON DISULFIDE	12U	TRANS-1,3-DICHLOROPROPENE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	12U	BROMOFORM
12U	1,1-DICHLOROETHANE	12U	METHYL ISOBUTYL KETONE
12U	1,2-DICHLOROETHENE (TOTAL)	12U	METHYL BUTYL KETONE
12U	CHLOROFORM	12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,2-DICHLOROETHANE	12U	1,1,2,2-TETRACHLOROETHANE
12U	METHYL ETHYL KETONE	12U	TOLUENE
12U	1,1,1-TRICHLOROETHANE	12U	CHLOROBENZENE
12U	CARBON TETRACHLORIDE	12U	ETHYL BENZENE
12U	BROMODICHLOROMETHANE	12U	STYRENE
		12U	TOTAL XYLENES
		18	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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*R QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89537 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 027-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0957 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK87

UG/KG	ANALYTICAL RESULTS
14U	CHLOROMETHANE
14U	BROMOMETHANE
14U	VINYL CHLORIDE
14U	CHLOROETHANE
14U	METHYLENE CHLORIDE
14U	ACETONE
14U	CARBON DISULFIDE
14U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
14U	1,1-DICHLOROETHANE
14U	1,2-DICHLOROETHENE (TOTAL)
14U	CHLOROFORM
14U	1,2-DICHLOROETHANE
14U	METHYL ETHYL KETONE
14U	1,1,1-TRICHLOROETHANE
14U	CARBON TETRACHLORIDE
14U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
14U	1,2-DICHLOROPROPANE
14U	CIS-1,3-DICHLOROPROPENE
14U	TRICHLOROETHENE(TRICHLOROETHYLENE)
14U	DIBROMOCHLOROMETHANE
14U	1,1,2-TRICHLOROETHANE
14U	BENZENE
14U	TRANS-1,3-DICHLOROPROPENE
14U	BROMOFORM
14U	METHYL ISOBUTYL KETONE
14U	METHYL BUTYL KETONE
14U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
14U	1,1,2,2-TETRACHLOROETHANE
14U	TOLUENE
14U	CHLOROBENZENE
14U	ETHYL BENZENE
14U	STYRENE
14U	TOTAL XYLENES
33	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89538 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 028-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0930 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK88

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
23	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89539 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 029-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1025 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK89

UG/KG	ANALYTICAL RESULTS
15U	CHLOROMETHANE
15U	BROMOMETHANE
15U	VINYL CHLORIDE
15U	CHLOROETHANE
15U	METHYLENE CHLORIDE
15U	ACETONE
15U	CARBON DISULFIDE
15U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
15U	1,1-DICHLOROETHANE
15U	1,2-DICHLOROETHENE (TOTAL)
15U	CHLOROFORM
15U	1,2-DICHLOROETHANE
15U	METHYL ETHYL KETONE
15U	1,1,1-TRICHLOROETHANE
15U	CARBON TETRACHLORIDE
15U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
15U	1,2-DICHLOROPROPANE
15U	CIS-1,3-DICHLOROPROPENE
15U	TRICHLOROETHENE(TRICHLOROETHYLENE)
15U	DIBROMOCHLOROMETHANE
15U	1,1,2-TRICHLOROETHANE
15U	BENZENE
15U	TRANS-1,3-DICHLOROPROPENE
15U	BROMOFORM
15U	METHYL ISOBUTYL KETONE
15U	METHYL BUTYL KETONE
15U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
15U	1,1,2,2-TETRACHLOROETHANE
15U	TOLUENE
15U	CHLOROBENZENE
15U	ETHYL BENZENE
15U	STYRENE
15U	TOTAL XYLENES
35	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89540 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 030-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK90

UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE
10U	BROMOMETHANE
10U	VINYL CHLORIDE
10U	CHLOROETHANE
10U	METHYLENE CHLORIDE
10U	ACETONE
10U	CARBON DISULFIDE
10U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
10U	1,1-DICHLOROETHANE
10U	1,2-DICHLOROETHENE (TOTAL)
10U	CHLOROFORM
10U	1,2-DICHLOROETHANE
10U	METHYL ETHYL KETONE
10U	1,1,1-TRICHLOROETHANE
10U	CARBON TETRACHLORIDE
10U	BROMODICHLOROMETHANE

UG/L	ANALYTICAL RESULTS
10U	1,2-DICHLOROPROPANE
10U	CIS-1,3-DICHLOROPROPENE
10U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	DIBROMOCHLOROMETHANE
10U	1,1,2-TRICHLOROETHANE
10U	BENZENE
10U	TRANS-1,3-DICHLOROPROPENE
10U	BROMOFORM
10U	METHYL ISOBUTYL KETONE
10U	METHYL BUTYL KETONE
10U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
10U	1,1,2,2-TETRACHLOROETHANE
10U	TOLUENE
10U	CHLOROBENZENE
10U	ETHYL BENZENE
10U	STYRENE
10U	TOTAL XYLENES

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89541 SAMPLE TYPE SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 031-SS

CASE NO.: 22607 SAS NO.:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0857 STOP: 00/00/00

D. NO.: HK91

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13UJ	METHYL ISOBUTYL KETONE
13UJ	METHYL BUTYL KETONE
13UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13UJ	1,1,2,2-TETRACHLOROETHANE
13UJ	TOLUENE
13UJ	CHLOROBENZENE
13UJ	ETHYL BENZENE
13UJ	STYRENE
13UJ	TOTAL XYLENES
22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89542 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 032-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK92

UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE
10U	BROMOMETHANE
10U	VINYL CHLORIDE
10U	CHLOROETHANE
10U	METHYLENE CHLORIDE
10U	ACETONE
10U	CARBON DISULFIDE
10U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
10U	1,1-DICHLOROETHANE
10U	1,2-DICHLOROETHENE (TOTAL)
10U	CHLOROFORM
10U	1,2-DICHLOROETHANE
10U	METHYL ETHYL KETONE
10U	1,1,1-TRICHLOROETHANE
10U	CARBON TETRACHLORIDE
10U	BROMODICHLOROMETHANE

UG/L	ANALYTICAL RESULTS
10U	1,2-DICHLOROPROPANE
10U	CIS-1,3-DICHLOROPROPENE
10U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	DIBROMOCHLOROMETHANE
10U	1,1,2-TRICHLOROETHANE
10U	BENZENE
10U	TRANS-1,3-DICHLOROPROPENE
10U	BROMOFORM
10U	METHYL ISOBUTYL KETONE
10U	METHYL BUTYL KETONE
10U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
10U	1,1,2,2-TETRACHLOROETHANE
10U	TOLUENE
10U	CHLOROBENZENE
10U	ETHYL BENZENE
10U	STYRENE
10U	TOTAL XYLENES

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89548 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 001-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0857 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ43

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
27	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89549 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 002-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0925 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ44

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12UJ	METHYL ISOBUTYL KETONE
12UJ	METHYL BUTYL KETONE
12UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12UJ	1,1,2,2-TETRACHLOROETHANE
12UJ	TOLUENE
12UJ	CHLOROBENZENE
12UJ	ETHYL BENZENE
12UJ	STYRENE
12UJ	TOTAL XYLENES
18	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89550 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 003-SS COLLECTION START: 08/31/94 0950 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ45

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
50U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13UJ	1,1,1-TRICHLOROETHANE
13UJ	CARBON TETRACHLORIDE
13UJ	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13UJ	1,2-DICHLOROPROPANE
13UJ	CIS-1,3-DICHLOROPROPENE
13UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
13UJ	DIBROMOCHLOROMETHANE
13UJ	1,1,2-TRICHLOROETHANE
13UJ	BENZENE
13UJ	TRANS-1,3-DICHLOROPROPENE
13UJ	BROMOFORM
13UJ	METHYL ISOBUTYL KETONE
13UJ	METHYL BUTYL KETONE
13UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13UJ	1,1,2,2-TETRACHLOROETHANE
13UJ	TOLUENE
13UJ	CHLOROBENZENE
13UJ	ETHYL BENZENE
13UJ	STYRENE
13UJ	TOTAL XYLENES
22	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89551 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 004-SS COLLECTION START: 08/31/94 1015 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ46

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
20	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89552 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 005-SS

CASE NO.: 22607 SAS NO.:

PROG ELEM: NSF COLLECTED BY: F.W. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1033 STOP: 00/00/00

D. NO.: HZ47

UG/KG	ANALYTICAL RESULTS
14U	CHLOROMETHANE
14U	BROMOMETHANE
14U	VINYL CHLORIDE
14U	CHLOROETHANE
14U	METHYLENE CHLORIDE
14U	ACETONE
14U	CARBON DISULFIDE
14U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
14U	1,1-DICHLOROETHANE
14U	1,2-DICHLOROETHENE (TOTAL)
14U	CHLOROFORM
14U	1,2-DICHLOROETHANE
14U	METHYL ETHYL KETONE
14UJ	1,1,1-TRICHLOROETHANE
14UJ	CARBON TETRACHLORIDE
14UJ	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
14UJ	1,2-DICHLOROPROPANE
14UJ	CIS-1,3-DICHLOROPROPENE
14UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
14UJ	DIBROMOCHLOROMETHANE
14UJ	1,1,2-TRICHLOROETHANE
14UJ	BENZENE
14UJ	TRANS-1,3-DICHLOROPROPENE
14UJ	BROMOFORM
14UJ	METHYL ISOBUTYL KETONE
14UJ	METHYL BUTYL KETONE
14UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
14UJ	1,1,2,2-TETRACHLOROETHANE
14UJ	TOLUENE
14UJ	CHLOROBENZENE
14UJ	ETHYL BENZENE
14UJ	STYRENE
14UJ	TOTAL XYLENES
31	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89553 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 006-SS COLLECTION START: 08/31/94 1056 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: H248

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE	12U	1,2-DICHLOROPROPANE
12U	BROMOMETHANE	12U	CIS-1,3-DICHLOROPROPENE
12U	VINYL CHLORIDE	12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	CHLOROETHANE	12U	DIBROMOCHLOROMETHANE
12U	METHYLENE CHLORIDE	12U	1,1,2-TRICHLOROETHANE
12U	ACETONE	12U	BENZENE
12U	CARBON DISULFIDE	12U	TRANS-1,3-DICHLOROPROPENE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	12U	BROMOFORM
12U	1,1-DICHLOROETHANE	12U	METHYL ISOBUTYL KETONE
12U	1,2-DICHLOROETHENE (TOTAL)	12U	METHYL BUTYL KETONE
12U	CHLOROFORM	12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,2-DICHLOROETHANE	12U	1,1,2,2-TETRACHLOROETHANE
12U	METHYL ETHYL KETONE	12U	TOLUENE
12U	1,1,1-TRICHLOROETHANE	12U	CHLOROBENZENE
12U	CARBON TETRACHLORIDE	12U	ETHYL BENZENE
12U	BROMODICHLOROMETHANE	12U	STYRENE
		12U	TOTAL XYLENES
		20	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89554 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 007-SS COLLECTION START: 08/31/94 1140 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ49

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
24	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89555 SAMPLE TYPE SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 008-SS

CASE NO.: 22607 SAS NO.:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1205 STOP: 00/00/00

D. NO.: HZ50

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
24	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89556 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 009-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1217 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ51

UG/KG	ANALYTICAL RESULTS
14U	CHLOROMETHANE
14U	BROMOMETHANE
14U	VINYL CHLORIDE
14U	CHLOROETHANE
14U	METHYLENE CHLORIDE
14U	ACETONE
14U	CARBON DISULFIDE
14U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
14U	1,1-DICHLOROETHANE
14U	1,2-DICHLOROETHENE (TOTAL)
14U	CHLOROFORM
14U	1,2-DICHLOROETHANE
14U	METHYL ETHYL KETONE
14UJ	1,1,1-TRICHLOROETHANE
14UJ	CARBON TETRACHLORIDE
14UJ	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
14UJ	1,2-DICHLOROPROPANE
14UJ	CIS-1,3-DICHLOROPROPENE
14UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
14UJ	DIBROMOCHLOROMETHANE
14UJ	1,1,2-TRICHLOROETHANE
14UJ	BENZENE
14UJ	TRANS-1,3-DICHLOROPROPENE
14UJ	BROMOFORM
14UJ	METHYL ISOBUTYL KETONE
14UJ	METHYL BUTYL KETONE
14UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
14UJ	1,1,2,2-TETRACHLOROETHANE
14UJ	TOLUENE
14UJ	CHLOROBENZENE
14UJ	ETHYL BENZENE
14UJ	STYRENE
14UJ	TOTAL XYLENES
31	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89557 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 010-SS COLLECTION START: 08/31/94 1233 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: H252

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
16	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89558 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 011-SD

CASE NO.: 22607 SAS NO.:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1235 STOP: 00/00/00

D. NO.: HZ53

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89560 SAMPLE TYPE SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 013-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1323 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ55

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89561 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 014-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1225 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ56

UG/KG	ANALYTICAL RESULTS
11U	CHLOROMETHANE
11U	BROMOMETHANE
11U	VINYL CHLORIDE
11U	CHLOROETHANE
11U	METHYLENE CHLORIDE
11U	ACETONE
11U	CARBON DISULFIDE
11U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
11U	1,1-DICHLOROETHANE
11U	1,2-DICHLOROETHENE (TOTAL)
11U	CHLOROFORM
11U	1,2-DICHLOROETHANE
11U	METHYL ETHYL KETONE
11U	1,1,1-TRICHLOROETHANE
11U	CARBON TETRACHLORIDE
11U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
11U	1,2-DICHLOROPROPANE
11U	CIS-1,3-DICHLOROPROPENE
11U	TRICHLOROETHENE(TRICHLOROETHYLENE)
11U	DIBROMOCHLOROMETHANE
11U	1,1,2-TRICHLOROETHANE
11U	BENZENE
11U	TRANS-1,3-DICHLOROPROPENE
11U	BROMOFORM
11U	METHYL ISOBUTYL KETONE
11U	METHYL BUTYL KETONE
11U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
11U	1,1,2,2-TETRACHLOROETHANE
11U	TOLUENE
11U	CHLOROBENZENE
11U	ETHYL BENZENE
11U	STYRENE
11U	TOTAL XYLENES
16	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89563 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 016-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1145 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ58

UG/KG	ANALYTICAL RESULTS
14U	CHLOROMETHANE
14U	BROMOMETHANE
14U	VINYL CHLORIDE
14U	CHLOROETHANE
14U	METHYLENE CHLORIDE
14U	ACETONE
14U	CARBON DISULFIDE
14U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
14U	1,1-DICHLOROETHANE
14U	1,2-DICHLOROETHENE (TOTAL)
14U	CHLOROFORM
14U	1,2-DICHLOROETHANE
14U	METHYL ETHYL KETONE
14U	1,1,1-TRICHLOROETHANE
14U	CARBON TETRACHLORIDE
14U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
14U	1,2-DICHLOROPROPANE
14U	CIS-1,3-DICHLOROPROPENE
14U	TRICHLOROETHENE(TRICHLOROETHYLENE)
14U	DIBROMOCHLOROMETHANE
14U	1,1,2-TRICHLOROETHANE
14U	BENZENE
14U	TRANS-1,3-DICHLOROPROPENE
14U	BROMOFORM
14U	METHYL ISOBUTYL KETONE
14U	METHYL BUTYL KETONE
14U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
14U	1,1,2,2-TETRACHLOROETHANE
14U	TOLUENE
14U	CHLOROBENZENE
14U	ETHYL BENZENE
14U	STYRENE
14U	TOTAL XYLENES
29	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89562 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 015-SD COLLECTION START: 08/31/94 1250 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ57

UG/KG	ANALYTICAL RESULTS
15U	CHLOROMETHANE
15U	BROMOMETHANE
15U	VINYL CHLORIDE
15U	CHLOROETHANE
15U	METHYLENE CHLORIDE
15U	ACETONE
15U	CARBON DISULFIDE
15U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
15U	1,1-DICHLOROETHANE
15U	1,2-DICHLOROETHENE (TOTAL)
15U	CHLOROFORM
15U	1,2-DICHLOROETHANE
15U	METHYL ETHYL KETONE
15U	1,1,1-TRICHLOROETHANE
15U	CARBON TETRACHLORIDE
15U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
15U	1,2-DICHLOROPROPANE
15U	CIS-1,3-DICHLOROPROPENE
15U	TRICHLOROETHENE(TRICHLOROETHYLENE)
15U	DIBROMOCHLOROMETHANE
15U	1,1,2-TRICHLOROETHANE
15U	BENZENE
15U	TRANS-1,3-DICHLOROPROPENE
15U	BROMOFORM
15U	METHYL ISOBUTYL KETONE
15U	METHYL BUTYL KETONE
15U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
15U	1,1,2,2-TETRACHLOROETHANE
15U	TOLUENE
15U	CHLOROBENZENE
15U	ETHYL BENZENE
15U	STYRENE
15U	TOTAL XYLENES
36	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89564 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 017-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1200 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ59

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
15	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89565 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 018-SD COLLECTION START: 08/31/94 1310 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ60

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
28	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89566 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 019-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1100 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ61

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
26	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89567 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 020-SD COLLECTION START: 08/31/94 1033 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ62

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
17U	CHLOROMETHANE	17U	1,2-DICHLOROPROPANE
17U	BROMOMETHANE	17U	CIS-1,3-DICHLOROPROPENE
17U	VINYL CHLORIDE	17U	TRICHLOROETHENE(TRICHLOROETHYLENE)
17U	CHLOROETHANE	17U	DIBROMOCHLOROMETHANE
17U	METHYLENE CHLORIDE	17U	1,1,2-TRICHLOROETHANE
17U	ACETONE	17U	BENZENE
17U	CARBON DISULFIDE	17U	TRANS-1,3-DICHLOROPROPENE
17U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	17U	BROMOFORM
17U	1,1-DICHLOROETHANE	17U	METHYL ISOBUTYL KETONE
17U	1,2-DICHLOROETHENE (TOTAL)	17U	METHYL BUTYL KETONE
17U	CHLOROFORM	17U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
17U	1,2-DICHLOROETHANE	17U	1,1,2,2-TETRACHLOROETHANE
17U	METHYL ETHYL KETONE	17U	TOLUENE
17U	1,1,1-TRICHLOROETHANE	17U	CHLOROBENZENE
17U	CARBON TETRACHLORIDE	17U	ETHYL BENZENE
17U	BROMODICHLOROMETHANE	17U	STYRENE
		17U	TOTAL XYLENES
		41	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89569 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 022-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1145 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ64

UG/KG	ANALYTICAL RESULTS
14U	CHLOROMETHANE
14U	BROMOMETHANE
14U	VINYL CHLORIDE
14U	CHLOROETHANE
14U	METHYLENE CHLORIDE
14U	ACETONE
14U	CARBON DISULFIDE
14U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
14U	1,1-DICHLOROETHANE
14U	1,2-DICHLOROETHENE (TOTAL)
14U	CHLOROFORM
14U	1,2-DICHLOROETHANE
14U	METHYL ETHYL KETONE
14U	1,1,1-TRICHLOROETHANE
14U	CARBON TETRACHLORIDE
14U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
14U	1,2-DICHLOROPROPANE
14U	CIS-1,3-DICHLOROPROPENE
14U	TRICHLOROETHENE(TRICHLOROETHYLENE)
14U	DIBROMOCHLOROMETHANE
14U	1,1,2-TRICHLOROETHANE
14U	BENZENE
14U	TRANS-1,3-DICHLOROPROPENE
14U	BROMOFORM
14U	METHYL ISOBUTYL KETONE
14U	METHYL BUTYL KETONE
14U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
14U	1,1,2,2-TETRACHLOROETHANE
14U	TOLUENE
14U	CHLOROBENZENE
14U	ETHYL BENZENE
14U	STYRENE
14U	TOTAL XYLENES
27	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 021-SD COLLECTION START: 08/31/94 1115 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ63

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
20	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89570 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 023-SD COLLECTION START: 08/31/94 1113 STOP: 00/00/00
CASE NO.: 22607 SAS NO.: D. NO.: H265

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
14U	CHLOROMETHANE	14U	1,2-DICHLOROPROPANE
14U	BROMOMETHANE	14U	CIS-1,3-DICHLOROPROPENE
14U	VINYL CHLORIDE	14U	TRICHLOROETHENE(TRICHLOROETHYLENE)
14U	CHLOROETHANE	14U	DIBROMOCHLOROMETHANE
14U	METHYLENE CHLORIDE	14U	1,1,2-TRICHLOROETHANE
14U	ACETONE	14U	BENZENE
14U	CARBON DISULFIDE	14U	TRANS-1,3-DICHLOROPROPENE
14U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	14U	BROMOFORM
14U	1,1-DICHLOROETHANE	14U	METHYL ISOBUTYL KETONE
14U	1,2-DICHLOROETHENE (TOTAL)	14U	METHYL BUTYL KETONE
14U	CHLOROFORM	14U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
14U	1,2-DICHLOROETHANE	14U	1,1,2,2-TETRACHLOROETHANE
14U	METHYL ETHYL KETONE	14U	TOLUENE
14U	1,1,1-TRICHLOROETHANE	14U	CHLOROBENZENE
14U	CARBON TETRACHLORIDE	14U	ETHYL BENZENE
14U	BROMODICHLOROMETHANE	14U	STYRENE
		14U	TOTAL XYLENES
		33	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89571 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 024-SD

CASE NO.: 22607 SAS NO.:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0940 STOP: 00/00/00

D. NO.: HZ66

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
19	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89573 SAMPLE TYPE: WATER PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 038-TB COLLECTION START: 08/31/94 1010 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK93

UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE
10U	BROMOMETHANE
10U	VINYL CHLORIDE
10U	CHLOROETHANE
10U	METHYLENE CHLORIDE
10U	ACETONE
10U	CARBON DISULFIDE
10U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
10U	1,1-DICHLOROETHANE
10U	1,2-DICHLOROETHENE (TOTAL)
10U	CHLOROFORM
10U	1,2-DICHLOROETHANE
10U	METHYL ETHYL KETONE
10U	1,1,1-TRICHLOROETHANE
10U	CARBON TETRACHLORIDE
10U	BROMODICHLOROMETHANE

UG/L	ANALYTICAL RESULTS
10U	1,2-DICHLOROPROPANE
10U	CIS-1,3-DICHLOROPROPENE
10U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	DIBROMOCHLOROMETHANE
10U	1,1,2-TRICHLOROETHANE
10U	BENZENE
10U	TRANS-1,3-DICHLOROPROPENE
10U	BROMOFORM
10U	METHYL ISOBUTYL KETONE
10U	METHYL BUTYL KETONE
10U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
10U	1,1,2,2-TETRACHLOROETHANE
10U	TOLUENE
10U	CHLOROBENZENE
10U	ETHYL BENZENE
10U	STYRENE
10U	TOTAL XYLENES

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89572 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 025-SD COLLECTION START: 08/31/94 1003 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ67

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
21	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89574 SAMPLE TYPE: WATER PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 039-TB COLLECTION START: 08/31/94 1010 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK94

UG/L	ANALYTICAL RESULTS
NA	CHLOROMETHANE
NA	BROMOMETHANE
NA	VINYL CHLORIDE
NA	CHLOROETHANE
NA	METHYLENE CHLORIDE
NA	ACETONE
NA	CARBON DISULFIDE
NA	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
NA	1,1-DICHLOROETHANE
NA	1,2-DICHLOROETHENE (TOTAL)
NA	CHLOROFORM
NA	1,2-DICHLOROETHANE
NA	METHYL ETHYL KETONE
NA	1,1,1-TRICHLOROETHANE
NA	CARBON TETRACHLORIDE
NA	BROMODICHLOROMETHANE

UG/L	ANALYTICAL RESULTS
NA	1,2-DICHLOROPROPANE
NA	CIS-1,3-DICHLOROPROPENE
NA	TRICHLOROETHENE(TRICHLOROETHYLENE)
NA	DIBROMOCHLOROMETHANE
NA	1,1,2-TRICHLOROETHANE
NA	BENZENE
NA	TRANS-1,3-DICHLOROPROPENE
NA	BROMOFORM
NA	METHYL ISOBUTYL KETONE
NA	METHYL BUTYL KETONE
NA	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
NA	1,1,2,2-TETRACHLOROETHANE
NA	TOLUENE
NA	CHLOROBENZENE
NA	ETHYL BENZENE
NA	STYRENE
NA	TOTAL XYLENES

REMARKS
SAMPLE CONTAINER BROKEN WHEN RECEIVED

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89537 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 027-SD COLLECTION START: 08/31/94 0957 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK87 MD NO: HK87

ANALYTICAL RESULTS UG/KG

20JN	CAMPHENE
10JN	LIMONENE
500J	2 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89538 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 028-SD COLLECTION START: 08/31/94 0930 STOP: 00/00/00
CASE NO.: 22607 SAS NO.: D. NO.: HK88 MD NO: HK88

ANALYTICAL RESULTS UG/KG

20J 1 UNIDENTIFIED COMPOUND

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89567 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 020-SD COLLECTION START: 08/31/94 1033 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ62 MD NO: HZ62

ANALYTICAL RESULTS UG/KG

10JN	METHYLETHYLBENZENE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89568	SAMPLE TYPE SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 021-SD			COLLECTION START: 08/31/94 1115 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HZ63 MD NO: HZ63

ANALYTICAL RESULTS UG/KG

200J 6 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89537 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 027-SD COLLECTION START: 08/31/94 0957 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK87 MD NO: HK87

ANALYTICAL RESULTS UG/KG

20JN	CAMPHENE
10JN	LIMONENE
500J	2 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89538 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 028-SD COLLECTION START: 08/31/94 0930 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK88 MD NO: HK88

ANALYTICAL RESULTS UG/KG

20J 1 UNIDENTIFIED COMPOUND

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89567 SAMPLE TYPE: SOIL	PROG ELEM: NSF	COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC	CITY: CLEMSON	ST: SC
STATION ID: 020-SD	COLLECTION START: 08/31/94 1033	STOP: 00/00/00
CASE.NO.: 22607 SAS NO.:	D. NO.: HZ62	MD NO: HZ62

ANALYTICAL RESULTS UG/KG

10JN	METHYLETHYLBENZENE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89568	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 021-SD			COLLECTION START: 08/31/94 1115 STOP: 00/00/00
CASE NO.: 22607	SAS NO.:		D. NO.: HZ63 MD NO: HZ63

ANALYTICAL RESULTS UG/KG

200J 6 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV
Environmental Services Division
College Station Road, Athens, Ga. 30613

*****MEMORANDUM******

DATE: 10/26/94

SUBJECT: Results of Pesticide/PCB Analysis;
94-0597 STEVENS JP & CO INC
CLEMSON SC
CASE NO: 22607

FROM: for Charles H. Hooper
Chief, Laboratory Evaluation/Quality Assurance Section

TO: JOHN CRISWELL

Attached are the results of analysis of samples collected as part of the subject project.

As a result of the Quality Assurance Review, certain data qualifiers may have been placed on the data. Attached is a DATA QUALIFIER REPORT which explains the reasons that these qualifiers were required.

If you have any questions please contact me.

ATTACHMENT

ORGANIC DATA QUALIFIER REPORT
Case Number 22607

Affected Samples	Compound or Fraction	Flag Used	Reason
89561	naphthalene	J	< quantitation limit
	acenaphthene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	dibenz(a/h)anthracene	J	< quantitation limit
89562	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
89563	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
89564	4-methylphenol	J	< qunatitation limit
	2-methylnaphthalene	J	< quantitation limit
	acenaphthylene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
89566	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	dibenz(a,h)anthracene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit
89567	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit
89568	naphthalene	J	< quantitation limit
	2-methylnaphthalene	J	< quantitation limit
	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	benzo(a)anthracene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
89571	benzo(g,h,i)perylene	J	< quantitation limit
89572	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	dibenz(a,h)anthracene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit

ORGANIC DATA QUALIFIER REPORT

Case Number 22607

Affected Samples	Compound or Fraction	Flag Used	Reason
Pesticides			
89537	dieldrin	J N	< quantitation limit difference in column quantitations
89539	aroclor-1254	J	< quantitation limit
89556	aroclor-1260	J	< quantitation limit

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89536 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 026-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0900 STOP: 00/00/00
D. NUMBER: HK86

UG/KG	ANALYTICAL RESULTS
2 2U	ALPHA-BHC
2 2U	BETA-BHC
2 2U	DELTA-BHC
2 2U	GAMMA-BHC (LINDANE)
2 2U	HEPTACHLOR
2 2U	ALDRIN
2 2U	HEPTACHLOR EPOXIDE
2 2U	ENDOSULFAN I (ALPHA)
4 2U	DIELDRIN
4 2U	4,4'-DDE (P,P'-DDE)
4 2U	ENDRIN
4 2U	ENDOSULFAN II (BETA)
4 2U	4,4'-DDD (P,P'-DDD)
4 2U	ENDOSULFAN SULFATE
4 2U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
22U	METHOXYCHLOR
4.2U	ENDRIN KETONE
4.2U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.2U	GAMMA-CHLORDANE /2
2.2U	ALPHA-CHLORDANE /2
220U	TOXAPHENE
42U	PCB-1016 (AROCLOR 1016)
86U	PCB-1221 (AROCLOR 1221)
42U	PCB-1232 (AROCLOR 1232)
42U	PCB-1242 (AROCLOR 1242)
42U	PCB-1248 (AROCLOR 1248)
42U	PCB-1254 (AROCLOR 1254)
42U	PCB-1260 (AROCLOR 1260)
22	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.
*C-CONFIRMED BY GCMS
1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.
2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89537 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 027-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0957 STOP: 00/00/00
D. NUMBER: HK87

UG/KG	ANALYTICAL RESULTS
2.5U	ALPHA-BHC
2.5U	BETA-BHC
2.5U	DELTA-BHC
2.5U	GAMMA-BHC (LINDANE)
2.5U	HEPTACHLOR
2.5U	ALDRIN
2.5U	HEPTACHLOR EPOXIDE
2.5U	ENDOSULFAN I (ALPHA)
3.6JN	DIELDRIN
4.9U	4,4'-DDE (P,P'-DDE)
4.9U	ENDRIN
4.9U	ENDOSULFAN II (BETA)
4.9U	4,4'-DDD (P,P'-DDD)
4.9U	ENDOSULFAN SULFATE
4.9U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
25U	METHOXYCHLOR
4.9U	ENDRIN KETONE
4.9U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.5U	GAMMA-CHLORDANE /2
2.5U	ALPHA-CHLORDANE /2
250U	TOXAPHENE
49U	PCB-1016 (AROCLOR 1016)
99U	PCB-1221 (AROCLOR 1221)
49U	PCB-1232 (AROCLOR 1232)
49U	PCB-1242 (AROCLOR 1242)
49U	PCB-1248 (AROCLOR 1248)
49U	PCB-1254 (AROCLOR 1254)
49U	PCB-1260 (AROCLOR 1260)
33	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.
2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89538 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 028-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0930 STOP: 00/00/00
D. NUMBER: HK88

UG/KG	ANALYTICAL RESULTS
2.2U	ALPHA-BHC
2.2U	BETA-BHC
2.2U	DELTA-BHC
2.2U	GAMMA-BHC (LINDANE)
2.2U	HEPTACHLOR
2.2U	ALDRIN
2.2U	HEPTACHLOR EPOXIDE
2.2U	ENDOSULFAN I (ALPHA)
4.3U	DIELDRIN
4.3U	4,4'-DDE (P,P'-DDE)
4.3U	ENDRIN
4.3U	ENDOSULFAN II (BETA)
4.3U	4,4'-DDD (P,P'-DDD)
4.3U	ENDOSULFAN SULFATE
4.3U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
22U	METHOXYCHLOR
4.8U	ENDRIN KETONE
4.3U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.2U	GAMMA-CHLORDANE /2
2.2U	ALPHA-CHLORDANE /2
220U	TOXAPHENE
43U	PCB-1016 (AROCLOR 1016)
86U	PCB-1221 (AROCLOR 1221)
43U	PCB-1232 (AROCLOR 1232)
43U	PCB-1242 (AROCLOR 1242)
43U	PCB-1248 (AROCLOR 1248)
43U	PCB-1254 (AROCLOR 1254)
43U	PCB-1260 (AROCLOR 1260)
24	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89539 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 029-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1025 STOP: 00/00/00
D. NUMBER: HK89

UG/KG	ANALYTICAL RESULTS
2.4U	ALPHA-BHC
2.4U	BETA-BHC
2.4U	DELTA-BHC
2.4U	GAMMA-BHC (LINDANE)
2.4U	HEPTACHLOR
2.4U	ALDRIN
2.4U	HEPTACHLOR EPOXIDE
2.4U	ENDOSULFAN I (ALPHA)
4.7U	DIELDRIN
4.7U	4,4'-DDE (P,P'-DDE)
4.7U	ENDRIN
4.7U	ENDOSULFAN II (BETA)
4.7U	4,4'-DDD (P,P'-DDD)
4.7U	ENDOSULFAN SULFATE
4.7U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
24U	METHOXYCHLOR
4.7U	ENDRIN KETONE
4.7U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.4U	GAMMA-CHLORDANE /2
2.4U	ALPHA-CHLORDANE /2
240U	TOXAPHENE
47U	PCB-1016 (AROCLOR 1016)
95U	PCB-1221 (AROCLOR 1221)
47U	PCB-1232 (AROCLOR 1232)
47U	PCB-1242 (AROCLOR 1242)
47U	PCB-1248 (AROCLOR 1248)
26J	PCB-1254 (AROCLOR 1254)
47U	PCB-1260 (AROCLOR 1260)
30	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89540 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 030-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: D. NUMBER: HK90

UG/L	ANALYTICAL RESULTS
0.050U	ALPHA-BHC
0.050U	BETA-BHC
0.050U	DELTA-BHC
0.050U	GAMMA-BHC (LINDANE)
0.050U	HEPTACHLOR
0.050U	ALDRIN
0.050U	HEPTACHLOR EPOXIDE
0.050U	ENDOSULFAN I (ALPHA)
0.10U	DIELDRIN
0.10U	4,4'-DDE (P,P'-DDE)
0.10U	ENDRIN
0.10U	ENDOSULFAN II (BETA)
0.10U	4,4'-DDD (P,P'-DDD)
0.10U	ENDOSULFAN SULFATE
0.10U	4,4'-DDT (P,P'-DDT)

UG/L	ANALYTICAL RESULTS
0.50U	METHOXYCHLOR
0.10U	ENDRIN KETONE
0.10U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
0.050U	GAMMA-CHLORDANE /2
0.050U	ALPHA-CHLORDANE /2
5.0U	TOXAPHENE
1.0U	PCB-1016 (AROCLOR 1016)
2.0U	PCB-1221 (AROCLOR 1221)
1.0U	PCB-1232 (AROCLOR 1232)
1.0U	PCB-1242 (AROCLOR 1242)
1.0U	PCB-1248 (AROCLOR 1248)
1.0U	PCB-1254 (AROCLOR 1254)
1.0U	PCB-1260 (AROCLOR 1260)

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89541 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 031-SS
CASE NUMBER: 22607 SAS NUMBER.

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0857 STOP: 00/00/00
D. NUMBER: HK91

UG/KG	ANALYTICAL RESULTS		UG/KG	ANALYTICAL RESULTS
2.1U	ALPHA-BHC		21U	METHOXYCHLOR
2.1U	BETA-BHC		4.0U	ENDRIN KETONE
2.1U	DELTA-BHC		4.0U	ENDRIN ALDEHYDE
2.1U	GAMMA-BHC (LINDANE)	—		CHLORDANE (TECH. MIXTURE) /1
2.1U	HEPTACHLOR		2.1U	GAMMA-CHLORDANE /2
2.1U	ALDRIN		2.1U	ALPHA-CHLORDANE /2
2.1U	HEPTACHLOR EPOXIDE		210U	TOXAPHENE
2.1U	ENDOSULFAN I (ALPHA)		40U	PCB-1016 (AROCLOR 1016)
4.0U	DIELDRIN		81U	PCB-1221 (AROCLOR 1221)
4.0U	4,4'-DDE (P,P'-DDE)		40U	PCB-1232 (AROCLOR 1232)
4.0U	ENDRIN		40U	PCB-1242 (AROCLOR 1242)
4.0U	ENDOSULFAN II (BETA)		40U	PCB-1248 (AROCLOR 1248)
4.0U	4,4'-DDD (P,P'-DDD)		40U	PCB-1254 (AROCLOR 1254)
4.0U	ENDOSULFAN SULFATE		40U	PCB-1260 (AROCLOR 1260)
4.0U	4,4'-DDT (P,P'-DDT)		18	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89542 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 032-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: D. NUMBER: HK92

UG/L	ANALYTICAL RESULTS
0.050U	ALPHA-BHC
0.050U	BETA-BHC
0.050U	DELTA-BHC
0.050U	GAMMA-BHC (LINDANE)
0.050U	HEPTACHLOR
0.050U	ALDRIN
0.050U	HEPTACHLOR EPOXIDE
0.050U	ENDOSULFAN I (ALPHA)
0.10U	DIELDRIN
0.10U	4,4'-DDE (P,P'-DDE)
0.10U	ENDRIN
0.10U	ENDOSULFAN II (BETA)
0.10U	4,4'-DDD (P,P'-DDD)
0.10U	ENDOSULFAN SULFATE
0.10U	4,4'-DDT (P,P'-DDT)

UG/L	ANALYTICAL RESULTS
0.50U	METHOXYCHLOR
0.10U	ENDRIN KETONE
0.10U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
0.050U	GAMMA-CHLORDANE /2
0.050U	ALPHA-CHLORDANE /2
5.0U	TOXAPHENE
1.0U	PCB-1016 (AROCLOR 1016)
2.0U	PCB-1221 (AROCLOR 1221)
1.0U	PCB-1232 (AROCLOR 1232)
1.0U	PCB-1242 (AROCLOR 1242)
1.0U	PCB-1248 (AROCLOR 1248)
1.0U	PCB-1254 (AROCLOR 1254)
1.0U	PCB-1260 (AROCLOR 1260)

REMARKS ***REMARKS***

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89548 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 001-SS
CASE NUMBER: 22607 SAS NUMBER.

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0857 STOP: 00/00/00
D. NUMBER: HZ43

UG/KG	ANALYTICAL RESULTS
2.1U	ALPHA-BHC
2.1U	BETA-BHC
2.1U	DELTA-BHC
2.1U	GAMMA-BHC (LINDANE)
2.1U	HEPTACHLOR
2.1U	ALDRIN
2.1U	HEPTACHLOR EPOXIDE
2.1U	ENDOSULFAN I (ALPHA)
4.1U	DIELDRIN
4.1U	4,4'-DDE (P,P'-DDE)
4.1U	ENDRIN
4.1U	ENDOSULFAN II (BETA)
4.1U	4,4'-DDD (P,P'-DDD)
4.1U	ENDOSULFAN SULFATE
4.1U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.1U	ENDRIN KETONE
4.1U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
41U	PCB-1016 (AROCLOR 1016)
84U	PCB-1221 (AROCLOR 1221)
41U	PCB-1232 (AROCLOR 1232)
41U	PCB-1242 (AROCLOR 1242)
41U	PCB-1248 (AROCLOR 1248)
41U	PCB-1254 (AROCLOR 1254)
41U	PCB-1260 (AROCLOR 1260)
21	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89549 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 002-SS
CASE NUMBER: 22607 SAS NUMBER

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0925 STOP: 00/00/00
D. NUMBER: HZ44

UG/KG	ANALYTICAL RESULTS		UG/KG	ANALYTICAL RESULTS	
2 OU	ALPHA-BHC		20U	METHOXYCHLOR	
2 OU	BETA-BHC		3.9U	ENDRIN KETONE	
2 OU	DELTA-BHC		3.9U	ENDRIN ALDEHYDE	
2 OU	GAMMA-BHC (LINDANE)	—		CHLORDANE (TECH. MIXTURE)	/1
2 OU	HEPTACHLOR		2.0U	GAMMA-CHLORDANE	/2
2 OU	ALDRIN		2.0U	ALPHA-CHLORDANE	/2
2 OU	HEPTACHLOR EPOXIDE		200U	TOXAPHENE	
2 OU	ENDOSULFAN I (ALPHA)		39U	PCB-1016 (AROCLOR 1016)	
3 9U	DIELDRIN		80U	PCB-1221 (AROCLOR 1221)	
3 9U	4,4'-DDE (P,P'-DDE)		39U	PCB-1232 (AROCLOR 1232)	
3 9U	ENDRIN		39U	PCB-1242 (AROCLOR 1242)	
3 9U	ENDOSULFAN II (BETA)		39U	PCB-1248 (AROCLOR 1248)	
3 9U	4,4'-DDD (P,P'-DDD)		39U	PCB-1254 (AROCLOR 1254)	
3 9U	ENDOSULFAN SULFATE		39U	PCB-1260 (AROCLOR 1260)	
3 9U	4,4'-DDT (P,P'-DDT)		17	PERCENT MOISTURE	

REMARKS ***REMARKS***

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89550 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 003-SS
CASE NUMBER: 22607 SAS NUMBER

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0950 STOP: 00/00/00
D. NUMBER: HZ45

UG/KG	ANALYTICAL RESULTS
2.2U	ALPHA-BHC
2.2U	BETA-BHC
2.2U	DELTA-BHC
2.2U	GAMMA-BHC (LINDANE)
2.2U	HEPTACHLOR
2.2U	ALDRIN
2.2U	HEPTACHLOR EPOXIDE
2.2U	ENDOSULFAN I (ALPHA)
4.2U	DIELDRIN
4.2U	4,4'-DDE (P,P'-DDE)
4.2U	ENDRIN
4.2U	ENDOSULFAN II (BETA)
4.2U	4,4'-DDD (P,P'-DDD)
4.2U	ENDOSULFAN SULFATE
4.2U	4,4'-DDT (P,P'-DDT)
22U	METHOXYCHLOR
4.2U	ENDRIN KETONE
4.2U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.2U	GAMMA-CHLORDANE /2
2.2U	ALPHA-CHLORDANE /2
220U	TOXAPHENE
42U	PCB-1016 (AROCLOR 1016)
85U	PCB-1221 (AROCLOR 1221)
42U	PCB-1232 (AROCLOR 1232)
42U	PCB-1242 (AROCLOR 1242)
42U	PCB-1248 (AROCLOR 1248)
42U	PCB-1254 (AROCLOR 1254)
42U	PCB-1260 (AROCLOR 1260)
22	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89551 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 004-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1015 STOP: 00/00/00
D. NUMBER: HZ46

UG/KG	ANALYTICAL RESULTS
2 1U	ALPHA-BHC
2 1U	BETA-BHC
2 1U	DELTA-BHC
2 1U	GAMMA-BHC (LINDANE)
2 1U	HEPTACHLOR
2 1U	ALDRIN
2 1U	HEPTACHLOR EPOXIDE
2 1U	ENDOSULFAN I (ALPHA)
4 0U	DIELDRIN
4 0U	4,4'-DDE (P,P'-DDE)
4 0U	ENDRIN
4 0U	ENDOSULFAN II (BETA)
4 0U	4,4'-DDD (P,P'-DDD)
4 0U	ENDOSULFAN SULFATE
4 0U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.0U	ENDRIN KETONE
4.0U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
40U	PCB-1016 (AROCLOR 1016)
82U	PCB-1221 (AROCLOR 1221)
40U	PCB-1232 (AROCLOR 1232)
40U	PCB-1242 (AROCLOR 1242)
40U	PCB-1248 (AROCLOR 1248)
40U	PCB-1254 (AROCLOR 1254)
40U	PCB-1260 (AROCLOR 1260)
20	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION
*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.
2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89552 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 005-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1033 STOP: 00/00/00
D. NUMBER: HZ47

UG/KG	ANALYTICAL RESULTS
2.4U	ALPHA-BHC
2.4U	BETA-BHC
2.4U	DELTA-BHC
2.4U	GAMMA-BHC (LINDANE)
2.4U	HEPTACHLOR
2.4U	ALDRIN
2.4U	HEPTACHLOR EPOXIDE
2.4U	ENDOSULFAN I (ALPHA)
4.7U	DIELDRIN
4.7U	4,4'-DDE (P,P'-DDE)
4.7U	ENDRIN
4.7U	ENDOSULFAN II (BETA)
4.7U	4,4'-DDD (P,P'-DDD)
4.7U	ENDOSULFAN SULFATE
4.7U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
24U	METHOXYCHLOR
4.7U	ENDRIN KETONE
4.7U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.4U	GAMMA-CHLORDANE /2
2.4U	ALPHA-CHLORDANE /2
240U	TOXAPHENE
47U	PCB-1016 (AROCLOR 1016)
95U	PCB-1221 (AROCLOR 1221)
47U	PCB-1232 (AROCLOR 1232)
47U	PCB-1242 (AROCLOR 1242)
47U	PCB-1248 (AROCLOR 1248)
47U	PCB-1254 (AROCLOR 1254)
47U	PCB-1260 (AROCLOR 1260)
30	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89552 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 005-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1033 STOP: 00/00/00
D. NUMBER: HZ47

UG/KG	ANALYTICAL RESULTS
2.4U	ALPHA-BHC
2.4U	BETA-BHC
2.4U	DELTA-BHC
2.4U	GAMMA-BHC (LINDANE)
2.4U	HEPTACHLOR
2.4U	ALDRIN
2.4U	HEPTACHLOR EPOXIDE
2.4U	ENDOSULFAN I (ALPHA)
4.7U	DIELDRIN
4.7U	4,4'-DDE (P,P'-DDE)
4.7U	ENDRIN
4.7U	ENDOSULFAN II (BETA)
4.7U	4,4'-DDD (P,P'-DDD)
4.7U	ENDOSULFAN SULFATE
4.7U	4,4'-DDT (P,P'-DDT)
24U	METHOXYCHLOR
4.7U	ENDRIN KETONE
4.7U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.4U	GAMMA-CHLORDANE /2
2.4U	ALPHA-CHLORDANE /2
240U	TOXAPHENE
47U	PCB-1016 (AROCLOR 1016)
95U	PCB-1221 (AROCLOR 1221)
47U	PCB-1232 (AROCLOR 1232)
47U	PCB-1242 (AROCLOR 1242)
47U	PCB-1248 (AROCLOR 1248)
47U	PCB-1254 (AROCLOR 1254)
47U	PCB-1260 (AROCLOR 1260)
30	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89553 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 006-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1056 STOP: 00/00/00
D. NUMBER: HZ48

UG/KG	ANALYTICAL RESULTS
2.1U	ALPHA-BHC
2.1U	BETA-BHC
2.1U	DELTA-BHC
2.1U	GAMMA-BHC (LINDANE)
2.1U	HEPTACHLOR
2.1U	ALDRIN
2.1U	HEPTACHLOR EPOXIDE
2.1U	ENDOSULFAN I (ALPHA)
4.0U	DIELDRIN
4.0U	4,4'-DDE (P,P'-DDE)
4.0U	ENDRIN
4.0U	ENDOSULFAN II (BETA)
4.0U	4,4'-DDD (P,P'-DDD)
4.0U	ENDOSULFAN SULFATE
4.0U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.0U	ENDRIN KETONE
4.0U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
40U	PCB-1016 (AROCLOR 1016)
82U	PCB-1221 (AROCLOR 1221)
40U	PCB-1232 (AROCLOR 1232)
40U	PCB-1242 (AROCLOR 1242)
40U	PCB-1248 (AROCLOR 1248)
40U	PCB-1254 (AROCLOR 1254)
40U	PCB-1260 (AROCLOR 1260)
19	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89554 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 007-SS
CASE NUMBER: 22607 SAS NUMBER

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1140 STOP: 00/00/00
D. NUMBER: HZ49

UG/KG	ANALYTICAL RESULTS
4.4U	ALPHA-BHC
4.4U	BETA-BHC
4.4U	DELTA-BHC
4.4U	GAMMA-BHC (LINDANE)
4.4U	HEPTACHLOR
4.4U	ALDRIN
4.4U	HEPTACHLOR EPOXIDE
4.4U	ENDOSULFAN I (ALPHA)
8.5U	DIELDRIN
8.5U	4,4'-DDE (P,P'-DDE)
8.5U	ENDRIN
8.5U	ENDOSULFAN II (BETA)
8.5U	4,4'-DDD (P,P'-DDD)
8.5U	ENDOSULFAN SULFATE
8.5U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
44U	METHOXYCHLOR
8.5U	ENDRIN KETONE
8.5U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
4.4U	GAMMA-CHLORDANE /2
4.4U	ALPHA-CHLORDANE /2
440U	TOXAPHENE
85U	PCB-1016 (AROCLOR 1016)
170U	PCB-1221 (AROCLOR 1221)
85U	PCB-1232 (AROCLOR 1232)
85U	PCB-1242 (AROCLOR 1242)
85U	PCB-1248 (AROCLOR 1248)
85U	PCB-1254 (AROCLOR 1254)
85U	PCB-1260 (AROCLOR 1260)
23	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89555 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 008-SS
CASE NUMBER: 22607 SAS NUMBER

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1205 STOP: 00/00/00
D. NUMBER: HZ50

UG/KG	ANALYTICAL RESULTS
2.1U	ALPHA-BHC
2.1U	BETA-BHC
2.1U	DELTA-BHC
2.1U	GAMMA-BHC (LINDANE)
2.1U	HEPTACHLOR
2.1U	ALDRIN
2.1U	HEPTACHLOR EPOXIDE
2.1U	ENDOSULFAN I (ALPHA)
4.2U	DIELDRIN
4.2U	4,4'-DDE (P,P'-DDE)
4.2U	ENDRIN
4.2U	ENDOSULFAN II (BETA)
4.2U	4,4'-DDD (P,P'-DDD)
4.2U	ENDOSULFAN SULFATE
4.2U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.2U	ENDRIN KETONE
4.2U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
42U	PCB-1016 (AROCLOR 1016)
85U	PCB-1221 (AROCLOR 1221)
42U	PCB-1232 (AROCLOR 1232)
42U	PCB-1242 (AROCLOR 1242)
42U	PCB-1248 (AROCLOR 1248)
42U	PCB-1254 (AROCLOR 1254)
42U	PCB-1260 (AROCLOR 1260)
22	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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2 CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89556 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 009-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1217 STOP: 00/00/00
D. NUMBER: HZ51

UG/KG	ANALYTICAL RESULTS
5 OU	ALPHA-BHC
5 OU	BETA-BHC
5 OU	DELTA-BHC
5 OU	GAMMA-BHC (LINDANE)
5 OU	HEPTACHLOR
5 OU	ALDRIN
5 OU	HEPTACHLOR EPOXIDE
5 OU	ENDOSULFAN I (ALPHA)
9 7U	DIELDRIN
9 7U	4,4'-DDE (P,P'-DDE)
9 7U	ENDRIN
9 7U	ENDOSULFAN II (BETA)
9 7U	4,4'-DDD (P,P'-DDD)
9 7U	ENDOSULFAN SULFATE
9 7U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
50U	METHOXYCHLOR
9.7U	ENDRIN KETONE
9.7U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
5.0U	GAMMA-CHLORDANE /2
5.0U	ALPHA-CHLORDANE /2
500U	TOXAPHENE
97U	PCB-1016 (AROCLOR 1016)
200U	PCB-1221 (AROCLOR 1221)
97U	PCB-1232 (AROCLOR 1232)
97U	PCB-1242 (AROCLOR 1242)
97U	PCB-1248 (AROCLOR 1248)
97U	PCB-1254 (AROCLOR 1254)
61J	PCB-1260 (AROCLOR 1260)
33	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89557 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 010-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1233 STOP: 00/00/00
D. NUMBER: HZ52

UG/KG	ANALYTICAL RESULTS
2.0U	ALPHA-BHC
2.0U	BETA-BHC
2.0U	DELTA-BHC
2.0U	GAMMA-BHC (LINDANE)
2.0U	HEPTACHLOR
2.0U	ALDRIN
2.0U	HEPTACHLOR EPOXIDE
2.0U	ENDOSULFAN I (ALPHA)
3.8U	DIELDRIN
3.8U	4,4'-DDE (P,P'-DDE)
3.8U	ENDRIN
3.8U	ENDOSULFAN II (BETA)
3.8U	4,4'-DDD (P,P'-DDD)
3.8U	ENDOSULFAN SULFATE
3.8U	4,4'-DDT (P,P'-DDT)
20U	METHOXYCHLOR
3.8U	ENDRIN KETONE
3.8U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.0U	GAMMA-CHLORDANE /2
2.0U	ALPHA-CHLORDANE /2
200U	TOXAPHENE
38U	PCB-1016 (AROCLOR 1016)
78U	PCB-1221 (AROCLOR 1221)
38U	PCB-1232 (AROCLOR 1232)
38U	PCB-1242 (AROCLOR 1242)
38U	PCB-1248 (AROCLOR 1248)
38U	PCB-1254 (AROCLOR 1254)
38U	PCB-1260 (AROCLOR 1260)
16	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89558 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 011-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1235 STOP: 00/00/00
D. NUMBER: HZ53

UG/KG	ANALYTICAL RESULTS
2 1U	ALPHA-BHC
2 1U	BETA-BHC
2 1U	DELTA-BHC
2 1U	GAMMA-BHC (LINDANE)
2 1U	HEPTACHLOR
2 1U	ALDRIN
2 1U	HEPTACHLOR EPOXIDE
2 1U	ENDOSULFAN I (ALPHA)
4 2U	DIELDRIN
4 2U	4,4'-DDE (P,P'-DDE)
4 2U	ENDRIN
4 2U	ENDOSULFAN II (BETA)
4 2U	4,4'-DDD (P,P'-DDD)
4 2U	ENDOSULFAN SULFATE
4 2U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.2U	ENDRIN KETONE
4.2U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
42U	PCB-1016 (AROCLOR 1016)
85U	PCB-1221 (AROCLOR 1221)
42U	PCB-1232 (AROCLOR 1232)
42U	PCB-1242 (AROCLOR 1242)
42U	PCB-1248 (AROCLOR 1248)
42U	PCB-1254 (AROCLOR 1254)
42U	PCB-1260 (AROCLOR 1260)
22	PERCENT MOISTURE

REMARKS

REMARKS

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2 CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89559 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 012-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1300 STOP: 00/00/00
D. NUMBER: HZ54

UG/KG	ANALYTICAL RESULTS
2.3U	ALPHA-BHC
2.3U	BETA-BHC
2.3U	DELTA-BHC
2.3U	GAMMA-BHC (LINDANE)
2.3U	HEPTACHLOR
2.3U	ALDRIN
2.3U	HEPTACHLOR EPOXIDE
2.3U	ENDOSULFAN I (ALPHA)
4.4U	DIELDRIN
4.4U	4,4'-DDE (P,P'-DDE)
4.4U	ENDRIN
4.4U	ENDOSULFAN II (BETA)
4.4U	4,4'-DDD (P,P'-DDD)
4.4U	ENDOSULFAN SULFATE
4.4U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
23U	METHOXYCHLOR
4.4U	ENDRIN KETONE
4.4U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.3U	GAMMA-CHLORDANE /2
2.3U	ALPHA-CHLORDANE /2
230U	TOXAPHENE
44U	PCB-1016 (AROCLOR 1016)
90U	PCB-1221 (AROCLOR 1221)
44U	PCB-1232 (AROCLOR 1232)
44U	PCB-1242 (AROCLOR 1242)
44U	PCB-1248 (AROCLOR 1248)
44U	PCB-1254 (AROCLOR 1254)
44U	PCB-1260 (AROCLOR 1260)
27	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION
*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.
2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89560 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 013-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1323 STOP: 00/00/00
D. NUMBER: HZ55

UG/KG	ANALYTICAL RESULTS
2.1U	ALPHA-BHC
2.1U	BETA-BHC
2.1U	DELTA-BHC
2.1U	GAMMA-BHC (LINDANE)
2.1U	HEPTACHLOR
2.1U	ALDRIN
2.1U	HEPTACHLOR EPOXIDE
2.1U	ENDOSULFAN I (ALPHA)
4.1U	DIELDRIN
4.1U	4,4'-DDE (P,P'-DDE)
4.1U	ENDRIN
4.1U	ENDOSULFAN II (BETA)
4.1U	4,4'-DDD (P,P'-DDD)
4.1U	ENDOSULFAN SULFATE
4.1U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.1U	ENDRIN KETONE
4.1U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
41U	PCB-1016 (AROCLOR 1016)
83U	PCB-1221 (AROCLOR 1221)
41U	PCB-1232 (AROCLOR 1232)
41U	PCB-1242 (AROCLOR 1242)
41U	PCB-1248 (AROCLOR 1248)
41U	PCB-1254 (AROCLOR 1254)
41U	PCB-1260 (AROCLOR 1260)
20	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89561 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 014-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1225 STOP: 00/00/00
D. NUMBER: HZ56

UG/KG	ANALYTICAL RESULTS
19U	ALPHA-BHC
19U	BETA-BHC
19U	DELTA-BHC
19U	GAMMA-BHC (LINDANE)
19U	HEPTACHLOR
19U	ALDRIN
19U	HEPTACHLOR EPOXIDE
19U	ENDOSULFAN I (ALPHA)
38U	DIELDRIN
38U	4,4'-DDE (P,P'-DDE)
38U	ENDRIN
38U	ENDOSULFAN II (BETA)
38U	4,4'-DDD (P,P'-DDD)
38U	ENDOSULFAN SULFATE
38U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
190U	METHOXYCHLOR
38U	ENDRIN KETONE
38U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
19U	GAMMA-CHLORDANE /2
19U	ALPHA-CHLORDANE /2
1900U	TOXAPHENE
380U	PCB-1016 (AROCLOR 1016)
760U	PCB-1221 (AROCLOR 1221)
380U	PCB-1232 (AROCLOR 1232)
380U	PCB-1242 (AROCLOR 1242)
380U	PCB-1248 (AROCLOR 1248)
380U	PCB-1254 (AROCLOR 1254)
380U	PCB-1260 (AROCLOR 1260)
14	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89562 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 015-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1250 STOP: 00/00/00
D. NUMBER: HZ57

UG/KG	ANALYTICAL RESULTS
2 4U	ALPHA-BHC
2 4U	BETA-BHC
2 4U	DELTA-BHC
2 4U	GAMMA-BHC (LINDANE)
2 4U	HEPTACHLOR
2 4U	ALDRIN
2 4U	HEPTACHLOR EPOXIDE
2 4U	ENDOSULFAN I (ALPHA)
4 6U	DIELDRIN
4 6U	4,4'-DDE (P,P'-DDE)
4 6U	ENDRIN
4 6U	ENDOSULFAN II (BETA)
4 6U	4,4'-DDD (P,P'-DDD)
4 6U	ENDOSULFAN SULFATE
4 6U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
24U	METHOXYCHLOR
4.6U	ENDRIN KETONE
4.6U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.4U	GAMMA-CHLORDANE /2
2.4U	ALPHA-CHLORDANE /2
240U	TOXAPHENE
46U	PCB-1016 (AROCLOR 1016)
94U	PCB-1221 (AROCLOR 1221)
46U	PCB-1232 (AROCLOR 1232)
46U	PCB-1242 (AROCLOR 1242)
46U	PCB-1248 (AROCLOR 1248)
46U	PCB-1254 (AROCLOR 1254)
46U	PCB-1260 (AROCLOR 1260)
29	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89563 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 016-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1145 STOP: 00/00/00
D. NUMBER: HZ58

UG/KG	ANALYTICAL RESULTS
2 2U	ALPHA-BHC
2 2U	BETA-BHC
2 2U	DELTA-BHC
2 2U	GAMMA-BHC (LINDANE)
2 2U	HEPTACHLOR
2 2U	ALDRIN
2 2U	HEPTACHLOR EPOXIDE
2 2U	ENDOSULFAN I (ALPHA)
4 2U	DIELDRIN
4 2U	4,4'-DDE (P,P'-DDE)
4 2U	ENDRIN
4 2U	ENDOSULFAN II (BETA)
4 2U	4,4'-DDD (P,P'-DDD)
4 2U	ENDOSULFAN SULFATE
4 2U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
22U	METHOXYCHLOR
4.2U	ENDRIN KETONE
4.2U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.2U	GAMMA-CHLORDANE /2
2.2U	ALPHA-CHLORDANE /2
220U	TOXAPHENE
42U	PCB-1016 (AROCLOR 1016)
86U	PCB-1221 (AROCLOR 1221)
42U	PCB-1232 (AROCLOR 1232)
42U	PCB-1242 (AROCLOR 1242)
42U	PCB-1248 (AROCLOR 1248)
42U	PCB-1254 (AROCLOR 1254)
90U	PCB-1260 (AROCLOR 1260)
22	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89564 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 017-SD
CASE NUMBER: 22607 SAS NUMBER.

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1200 STOP: 00/00/00
D. NUMBER: HZ59

UG/KG	ANALYTICAL RESULTS
20U	ALPHA-BHC
20U	BETA-BHC
20U	DELTA-BHC
20U	GAMMA-BHC (LINDANE)
20U	HEPTACHLOR
20U	ALDRIN
20U	HEPTACHLOR EPOXIDE
20U	ENDOSULFAN I (ALPHA)
38U	DIELDRIN
38U	4,4'-DDE (P,P'-DDE)
38U	ENDRIN
38U	ENDOSULFAN II (BETA)
38U	4,4'-DDD (P,P'-DDD)
38U	ENDOSULFAN SULFATE
38U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS	
200U	METHOXYCHLOR	
38U	ENDRIN KETONE	
38U	ENDRIN ALDEHYDE	
—	CHLORDANE (TECH. MIXTURE)	/1
20U	GAMMA-CHLORDANE	/2
20U	ALPHA-CHLORDANE	/2
2000U	TOXAPHENE	
380U	PCB-1016 (AROCLOR 1016)	
770U	PCB-1221 (AROCLOR 1221)	
380U	PCB-1232 (AROCLOR 1232)	
380U	PCB-1242 (AROCLOR 1242)	
380U	PCB-1248 (AROCLOR 1248)	
380U	PCB-1254 (AROCLOR 1254)	
380U	PCB-1260 (AROCLOR 1260)	
15	PERCENT MOISTURE	

REMARKS ***REMARKS***

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89565 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 018-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1310 STOP: 00/00/00
D. NUMBER: HZ60

UG/KG	ANALYTICAL RESULTS
2 4U	ALPHA-BHC
2 4U	BETA-BHC
2 4U	DELTA-BHC
2 4U	GAMMA-BHC (LINDANE)
2 4U	HEPTACHLOR
2 4U	ALDRIN
2 4U	HEPTACHLOR EPOXIDE
2 4U	ENDOSULFAN I (ALPHA)
4 6U	DIELDRIN
4 6U	4,4'-DDE (P,P'-DDE)
4 6U	ENDRIN
4 6U	ENDOSULFAN II (BETA)
4 6U	4,4'-DDD (P,P'-DDD)
4 6U	ENDOSULFAN SULFATE
4 6U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
24U	METHOXYCHLOR
4.6U	ENDRIN KETONE
4.6U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.4U	GAMMA-CHLORDANE /2
2.4U	ALPHA-CHLORDANE /2
240U	TOXAPHENE
46U	PCB-1016 (AROCLOR 1016)
94U	PCB-1221 (AROCLOR 1221)
46U	PCB-1232 (AROCLOR 1232)
46U	PCB-1242 (AROCLOR 1242)
46U	PCB-1248 (AROCLOR 1248)
46U	PCB-1254 (AROCLOR 1254)
46U	PCB-1260 (AROCLOR 1260)
29	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89566 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 019-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1100 STOP: 00/00/00
D. NUMBER: HZ61

UG/KG	ANALYTICAL RESULTS		UG/KG	ANALYTICAL RESULTS
24U	ALPHA-BHC		240U	METHOXYCHLOR
24U	BETA-BHC		46U	ENDRIN KETONE
24U	DELTA-BHC		46U	ENDRIN ALDEHYDE
24U	GAMMA-BHC (LINDANE)	—		CHLORDANE (TECH. MIXTURE) /1
24U	HEPTACHLOR		39	GAMMA-CHLORDANE /2
24U	ALDRIN		40U	ALPHA-CHLORDANE /2
24U	HEPTACHLOR EPOXIDE		2400U	TOXAPHENE
24U	ENDOSULFAN I (ALPHA)		460U	PCB-1016 (AROCLOR 1016)
46U	DIELDRIN		940U	PCB-1221 (AROCLOR 1221)
46U	4,4'-DDE (P,P'-DDE)		460U	PCB-1232 (AROCLOR 1232)
46U	ENDRIN		460U	PCB-1242 (AROCLOR 1242)
46U	ENDOSULFAN II (BETA)		460U	PCB-1248 (AROCLOR 1248)
46U	4,4'-DDD (P,P'-DDD)		460U	PCB-1254 (AROCLOR 1254)
46U	ENDOSULFAN SULFATE		460U	PCB-1260 (AROCLOR 1260)
46U	4,4'-DDT (P,P'-DDT)		31	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89567 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 020-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1033 STOP: 00/00/00
D. NUMBER: HZ62

UG/KG	ANALYTICAL RESULTS
26U	ALPHA-BHC
26U	BETA-BHC
26U	DELTA-BHC
26U	GAMMA-BHC (LINDANE)
26U	HEPTACHLOR
26U	ALDRIN
26U	HEPTACHLOR EPOXIDE
26U	ENDOSULFAN I (ALPHA)
50U	DIELDRIN
50U	4,4'-DDE (P,P'-DDE)
50U	ENDRIN
50U	ENDOSULFAN II (BETA)
50U	4,4'-DDD (P,P'-DDD)
50U	ENDOSULFAN SULFATE
50U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
260U	METHOXYCHLOR
50U	ENDRIN KETONE
50U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
26U	GAMMA-CHLORDANE /2
26U	ALPHA-CHLORDANE /2
2600U	TOXAPHENE
500U	PCB-1016 (AROCLOR 1016)
1000U	PCB-1221 (AROCLOR 1221)
500U	PCB-1232 (AROCLOR 1232)
500U	PCB-1242 (AROCLOR 1242)
500U	PCB-1248 (AROCLOR 1248)
500U	PCB-1254 (AROCLOR 1254)
500U	PCB-1260 (AROCLOR 1260)
35	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 021-SD
CASE NUMBER: 22607 SAS NUMBER.

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1115 STOP: 00/00/00
D. NUMBER: HZ63

UG/KG	ANALYTICAL RESULTS
2 2U	ALPHA-BHC
2 2U	BETA-BHC
2 2U	DELTA-BHC
2 2U	GAMMA-BHC (LINDANE)
2 2U	HEPTACHLOR
2 2U	ALDRIN
2 2U	HEPTACHLOR EPOXIDE
2 2U	ENDOSULFAN I (ALPHA)
4 2U	DIELDRIN
4 2U	4,4'-DDE (P,P'-DDE)
4 2U	ENDRIN
4 2U	ENDOSULFAN II (BETA)
4 2U	4,4'-DDD (P,P'-DDD)
4 2U	ENDOSULFAN SULFATE
4 2U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS	
22U	METHOXYCHLOR	
4.2U	ENDRIN KETONE	
4.2U	ENDRIN ALDEHYDE	
--	CHLORDANE (TECH. MIXTURE)	/1
2.2U	GAMMA-CHLORDANE	/2
2.2U	ALPHA-CHLORDANE	/2
220U	TOXAPHENE	
42U	PCB-1016 (AROCLOR 1016)	
86U	PCB-1221 (AROCLOR 1221)	
42U	PCB-1232 (AROCLOR 1232)	
42U	PCB-1242 (AROCLOR 1242)	
42U	PCB-1248 (AROCLOR 1248)	
42U	PCB-1254 (AROCLOR 1254)	
50U	PCB-1260 (AROCLOR 1260)	
24	PERCENT MOISTURE	

REMARKS

REMARKS

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2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89569 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 022-SD
CASE NUMBER: 22607 SAS NUMBER

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1145 STOP: 00/00/00
D. NUMBER: HZ64

UG/KG	ANALYTICAL RESULTS
2.3U	ALPHA-BHC
2.3U	BETA-BHC
2.3U	DELTA-BHC
2.3U	GAMMA-BHC (LINDANE)
2.3U	HEPTACHLOR
2.3U	ALDRIN
2.3U	HEPTACHLOR EPOXIDE
2.3U	ENDOSULFAN I (ALPHA)
4.5U	DIELDRIN
4.5U	4,4'-DDE (P,P'-DDE)
4.5U	ENDRIN
4.5U	ENDOSULFAN II (BETA)
4.5U	4,4'-DDD (P,P'-DDD)
4.5U	ENDOSULFAN SULFATE
4.5U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
23U	METHOXYCHLOR
4.5U	ENDRIN KETONE
4.5U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.3U	GAMMA-CHLORDANE /2
2.3U	ALPHA-CHLORDANE /2
230U	TOXAPHENE
45U	PCB-1016 (AROCLOR 1016)
92U	PCB-1221 (AROCLOR 1221)
45U	PCB-1232 (AROCLOR 1232)
45U	PCB-1242 (AROCLOR 1242)
45U	PCB-1248 (AROCLOR 1248)
45U	PCB-1254 (AROCLOR 1254)
45U	PCB-1260 (AROCLOR 1260)
28	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89570 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 023-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1113 STOP: 00/00/00
D. NUMBER: HZ65

UG/KG	ANALYTICAL RESULTS
2.4U	ALPHA-BHC
2.4U	BETA-BHC
2.4U	DELTA-BHC
2.4U	GAMMA-BHC (LINDANE)
2.4U	HEPTACHLOR
2.4U	ALDRIN
2.4U	HEPTACHLOR EPOXIDE
2.4U	ENDOSULFAN I (ALPHA)
4.6U	DIELDRIN
4.6U	4,4'-DDE (P,P'-DDE)
4.6U	ENDRIN
4.6U	ENDOSULFAN II (BETA)
4.6U	4,4'-DDD (P,P'-DDD)
4.6U	ENDOSULFAN SULFATE
4.6U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
24U	METHOXYCHLOR
4.6U	ENDRIN KETONE
4.6U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.4U	GAMMA-CHLORDANE /2
2.4U	ALPHA-CHLORDANE /2
240U	TOXAPHENE
46U	PCB-1016 (AROCLOR 1016)
94U	PCB-1221 (AROCLOR 1221)
46U	PCB-1232 (AROCLOR 1232)
46U	PCB-1242 (AROCLOR 1242)
46U	PCB-1248 (AROCLOR 1248)
46U	PCB-1254 (AROCLOR 1254)
46U	PCB-1260 (AROCLOR 1260)
30	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89571 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 024-SD
CASE NUMBER: 22607 SAS NUMBER.

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0940 STOP: 00/00/00
D. NUMBER: HZ66

UG/KG	ANALYTICAL RESULTS
2 1U	ALPHA-BHC
2 1U	BETA-BHC
2 1U	DELTA-BHC
2 1U	GAMMA-BHC (LINDANE)
2 1U	HEPTACHLOR
2 1U	ALDRIN
2 1U	HEPTACHLOR EPOXIDE
2 1U	ENDOSULFAN I (ALPHA)
4 1U	DIELDRIN
4 1U	4,4'-DDE (P,P'-DDE)
4 1U	ENDRIN
4 1U	ENDOSULFAN II (BETA)
4 1U	4,4'-DDD (P,P'-DDD)
4 1U	ENDOSULFAN SULFATE
4 1U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.1U	ENDRIN KETONE
4.1U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
41U	PCB-1016 (AROCLOR 1016)
83U	PCB-1221 (AROCLOR 1221)
41U	PCB-1232 (AROCLOR 1232)
41U	PCB-1242 (AROCLOR 1242)
41U	PCB-1248 (AROCLOR 1248)
41U	PCB-1254 (AROCLOR 1254)
41U	PCB-1260 (AROCLOR 1260)
20	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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2 CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89572 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 025-SD
CASE NUMBER: 22607 SAS NUMBER

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1003 STOP: 00/00/00
D. NUMBER: HZ67

UG/KG	ANALYTICAL RESULTS
2.2U	ALPHA-BHC
2.2U	BETA-BHC
2.2U	DELTA-BHC
2.2U	GAMMA-BHC (LINDANE)
2.2U	HEPTACHLOR
2.2U	ALDRIN
2.2U	HEPTACHLOR EPOXIDE
2.2U	ENDOSULFAN I (ALPHA)
4.2U	DIELDRIN
5.0U	4,4'-DDE (P,P'-DDE)
4.2U	ENDRIN
4.2U	ENDOSULFAN II (BETA)
4.2U	4,4'-DDD (P,P'-DDD)
4.2U	ENDOSULFAN SULFATE
4.2U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
22U	METHOXYCHLOR
4.2U	ENDRIN KETONE
4.2U	ENDRIN ALDEHYDE
	CHLORDANE(TECH. MIXTURE) /1
2.2U	GAMMA-CHLORDANE /2
2.2U	ALPHA-CHLORDANE /2
220U	TOXAPHENE
42U	PCB-1016 (AROCLOR 1016)
85U	PCB-1221 (AROCLOR 1221)
42U	PCB-1232 (AROCLOR 1232)
42U	PCB-1242 (AROCLOR 1242)
42U	PCB-1248 (AROCLOR 1248)
42U	PCB-1254 (AROCLOR 1254)
180U	PCB-1260 (AROCLOR 1260)
23	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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RECEIVED

OCT 6 1994

SITE ENGINEERING & SCREENING
BSHWM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV
Environmental Services Division
College Station Road, Athens, Ga. 30613

MORANDUM******

: 10/01/94

: Results of Metals Analysis;
94-0597 STEVENS JP & CO INC
CLEMSON SC
CASE NO: 22607

Charles H. Hooper BK Samuels for
Chief, Laboratory Evaluation/Quality Assurance Section

JOHN CRISWELL

d are the results of analysis of samples collected as part of
ject project.

sult of the Quality Assurance Review, certain data qualifiers
e been placed on the data. Attached is a DATA QUALIFIER
which explains the reasons that these qualifiers were required.

have any questions please contact me.

ATTACHMENT

INORGANIC DATA QUALIFIERS REPORT (continued)

Case Number: 22607
Project Number: 94-0597
Site: Stevens JP & Co Inc., Clemson, SC

Element	Flag	Samples Affected	Reason
Cr	J	All positives in SDG MDHK90	Matrix spike recovery = -50.6%
	R	All negatives in SDG MDHK90	Matrix duplicate RPD = 165.4%
Cu	J	All positives in SDG MDHK90	Matrix spike recovery = -118.9%
	R	All negatives in SDG MDHK90	Matrix duplicate RPD = 135.9%
Cu	J	All in SDG MDHK86	Matrix duplicate RPD = 63.4%
Mn	J	All positives in SDG MDHK90	Matrix spike recovery = -46.4%
	R	All negatives in SDG MDHK90	Matrix duplicate RPD = 146.5%
As	J	All in SDG MDHK90	Matrix duplicate RPD = 122.5%
Fe	J	All in SDG MDHK90	Matrix duplicate RPD = 172.7%
Pb	J	All in SDG MDHK90	Matrix spike recovery = 64.2%
Zn	J	All in SDG MDHK90	Matrix duplicate RPD = 135.7%
Se	JN	MDHK87, 91, MDHZ46, 47, 48, & 50	Suspected positive interference from high Fe concentrations in solution
Ni	JN	MDHK91, MDHZ43 & 51	Suspected positive interference from high Fe concentrations in solution
Ag	JN	MDHZ51 & 62	Suspected positive interference from high Fe concentrations in solution
Cd	JN	MDHZ56	Suspected positive interference from high Fe concentration in solution
Cr	J	MDHZ45	% RSD > 20% for ICP multiple exposures
Co	J	MDHZ49, 52, 55, 58, 60, 63, 64, & 65	% RSD > 20% for ICP multiple exposures
Ni	J	MDHK87, 88, 89, MDHZ44, 45, 47, 48, 49, 50, 52, 56, 61 64, & 67	% RSD > 20% for ICP multiple exposures
As	U	MDHK86, 88, MDHZ46	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL
Be	U	MDHZ49, 56, 58, 62, 63, & 67	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL
Cd	U	MDHZ50	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL

INORGANIC DATA QUALIFIERS REPORT (continued)

Case Number: 22607
Project Number: 94-0597
Site: Stevens JP & Co Inc., Clemson, SC

Element	Flag	Samples Affected	Reason
Se	U	MDHK82, 89, MDHZ49, & 54	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL
As	J	MDHK87, MDHZ47, 53, 65, & 67	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis
Be	J	MDHK87, 88, 91, MDHZ43, 44, 45, 46, 47, 48, 51, 57, 59, 60, 61, 64, & 65	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis
Cd	J	MDHZ51	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis
Se	J	MDHK88, & MDHZ55	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89536 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 026-SD COLLECTION START: 08/31/94 0900 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HK86

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
4000	ALUMINUM	78	MANGANESE
3.2UJ	ANTIMONY	0.13U	MERCURY
1U	ARSENIC	1.9U	NICKEL
18	BARIUM	140U	POTASSIUM
0.27U	BERYLLIUM	1U	SELENIUM
0.53U	CADMIUM	1U	SILVER
100	CALCIUM	40U	SODIUM
5.2	CHROMIUM	0.60U	THALLIUM
0.80U	COBALT	NA	TIN
24J	COPPER	20U	VANADIUM
3800	IRON	7U	ZINC
5.9	LEAD	25	PERCENT MOISTURE
76	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89537 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 027-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0957 STOP: 00/00/00
MD NUMBER: HK87

MG/KG	ANALYTICAL RESULTS
30000	ALUMINUM
20UJ	ANTIMONY
2.3J	ARSENIC
41	BARIUM
0.93J	BERYLLIUM
0.59U	CADMIUM
67	CALCIUM
43	CHROMIUM
19	COBALT
42J	COPPER
55000	IRON
22JN	LEAD
1600	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
470	MANGANESE
0.15U	MERCURY
5.3J	NICKEL
1300U	POTASSIUM
2.8JN	SELENIUM
3U	SILVER
50U	SODIUM
0.86U	THALLIUM
NA	TIN
140	VANADIUM
30U	ZINC
32	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89538 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 028-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0930 STOP: 00/00/00
MD NUMBER: HK88

MG/KG	ANALYTICAL RESULTS
19000	ALUMINUM
3.2UJ	ANTIMONY
1U	ARSENIC
57	BARIUM
0.93J	BERYLLIUM
0.53U	CADMIUM
300	CALCIUM
11	CHROMIUM
4.4	COBALT
16J	COPPER
25000	IRON
7.7	LEAD
900	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
200	MANGANESE
0.13U	MERCURY
7.4J	NICKEL
1600	POTASSIUM
1.3J	SELENIUM
2U	SILVER
69	SODIUM
0.79U	THALLIUM
NA	TIN
59	VANADIUM
30U	ZINC
24	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA 09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89539 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 029-SD COLLECTION START: 08/31/94 1025 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HK89

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
12000	ALUMINUM	45	MANGANESE
4.2UJ	ANTIMONY	0.18U	MERCURY
0.71U	ARSENIC	2.9J	NICKEL
77	BARIUM	680U	POTASSIUM
0.57J	BERYLLIUM	2U	SELENIUM
0.71U	CADMIUM	2U	SILVER
300	CALCIUM	660U	SODIUM
25	CHROMIUM	1.1U	THALLIUM
6.9	COBALT	NA	TIN
28J	COPPER	41	VANADIUM
13000	IRON	40U	ZINC
9	LEAD	43	PERCENT MOISTURE
200	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89540 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 030-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HK90

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
130U	ALUMINUM	27	MANGANESE
50U	ANTIMONY	0.20U	MERCURY
10J	ARSENIC	7U	NICKEL
17J	BARIUM	53000	POTASSIUM
1U	BERYLLIUM	5U	SELENIUM
2U	CADMIUM	2UJ	SILVER
9600	CALCIUM	1400000J	SODIUM
3	CHROMIUM	5U	THALLIUM
3U	COBALT	NA	TIN
43	COPPER	58	VANADIUM
3200J	IRON	64	ZINC
2UJ	LEAD		
5200	MAGNESIUM		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89541 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 031-SS COLLECTION START: 08/31/94 0857 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HK91

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
32000	ALUMINUM	390	MANGANESE
9UJ	ANTIMONY	0.13U	MERCURY
2.8	ARSENIC	16JN	NICKEL
220	BARIUM	2900	POTASSIUM
1.2J	BERYLLIUM	1.9JN	SELENIUM
0.51U	CADMIUM	2U	SILVER
520	CALCIUM	57	SODIUM
54	CHROMIUM	0.76U	THALLIUM
11	COBALT	NA	TIN
36J	COPPER	81	VANADIUM
35000	IRON	72	ZINC
11	LEAD	21	PERCENT MOISTURE
4700	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89542 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 032-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HK92

UG/L	ANALYTICAL RESULTS
120U	ALUMINUM
50U	ANTIMONY
8U	ARSENIC
17J	BARIUM
1U	BERYLLIUM
2U	CADMIUM
9200	CALCIUM
3U	CHROMIUM
3U	COBALT
41	COPPER
3000J	IRON
2UJ	LEAD
5100	MAGNESIUM

UG/L	ANALYTICAL RESULTS
25	MANGANESE
0.20U	MERCURY
7U	NICKEL
54000	POTASSIUM
5U	SELENIUM
2UJ	SILVER
1200000J	SODIUM
5U	THALLIUM
NA	TIN
56	VANADIUM
69	ZINC

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89548 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 001-SS COLLECTION START: 08/31/94 0857 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ43

MG/KG	ANALYTICAL RESULTS
29000	ALUMINUM
20UJ	ANTIMONY
2.8	ARSENIC
230	BARIUM
0.98J	BERYLLIUM
0.51U	CADMIUM
520	CALCIUM
57	CHROMIUM
11	COBALT
33J	COPPER
36000	IRON
48JN	LEAD
4900	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
380	MANGANESE
0.13U	MERCURY
15JN	NICKEL
2900	POTASSIUM
2JN	SELENIUM
2U	SILVER
63	SODIUM
0.76U	THALLIUM
NA	TIN
84	VANADIUM
73	ZINC
21	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89549 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 002-SS COLLECTION START: 08/31/94 0925 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ44

MG/KG	ANALYTICAL RESULTS
20000	ALUMINUM
8UJ	ANTIMONY
3.4	ARSENIC
82	BARIUM
0.58J	BERYLLIUM
0.49U	CADMIUM
1500	CALCIUM
22	CHROMIUM
6.6	COBALT
18J	COPPER
27000	IRON
150JN	LEAD
70	MAGNESIUM
1400	MANGANESE
0.12U	MERCURY
3.6J	NICKEL
250U	POTASSIUM
1.6JN	SELENIUM
2U	SILVER
40U	SODIUM
0.73U	THALLIUM
NA	TIN
70	VANADIUM
71	ZINC
18	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89550 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 003-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0950 STOP: 00/00/00
MD NUMBER: HZ45

MG/KG	ANALYTICAL RESULTS
2400	ALUMINUM
3UJ	ANTIMONY
5	ARSENIC
72	BARIUM
1.2J	BERYLLIUM
0.50U	CADMIUM
1400	CALCIUM
3.2J	CHROMIUM
3.1	COBALT
13J	COPPER
4100	IRON
2	LEAD
40	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
22	MANGANESE
0.13U	MERCURY
4.2J	NICKEL
190U	POTASSIUM
0.75U	SELENIUM
0.50U	SILVER
60	SODIUM
0.75U	THALLIUM
NA	TIN
14	VANADIUM
5U	ZINC
20	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89551 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 004-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1015 STOP: 00/00/00
MD NUMBER: HZ46

MG/KG	ANALYTICAL RESULTS
17000	ALUMINUM
10UJ	ANTIMONY
2U	ARSENIC
21	BARIUM
0.53J	BERYLLIUM
0.50U	CADMIUM
200	CALCIUM
29	CHROMIUM
2.6	COBALT
27J	COPPER
43000	IRON
9.8JN	LEAD
150	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
160	MANGANESE
0.12U	MERCURY
1.7U	NICKEL
220U	POTASSIUM
2.2JN	SELENIUM
2U	SILVER
40U	SODIUM
0.75U	THALLIUM
NA	TIN
110	VANADIUM
20U	ZINC
20	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89552 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 005-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1033 STOP: 00/00/00
MD NUMBER: HZ47

MG/KG	ANALYTICAL RESULTS
24000	ALUMINUM
7UJ	ANTIMONY
2.7J	ARSENIC
180	BARIUM
0.70J	BERYLLIUM
0.57U	CADMIUM
3100	CALCIUM
18	CHROMIUM
8.2	COBALT
35J	COPPER
33000	IRON
21JN	LEAD
3500	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
730	MANGANESE
0.16	MERCURY
7.1J	NICKEL
830U	POTASSIUM
2.3JN	SELENIUM
2U	SILVER
50U	SODIUM
0.66U	THALLIUM
NA	TIN
79	VANADIUM
59	ZINC
30	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89553 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 006-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START 08/31/94 1056 STOP: 00/00/00
MD NUMBER: HZ48

MG/KG	ANALYTICAL RESULTS
24000	ALUMINUM
7UJ	ANTIMONY
1U	ARSENIC
150	BARIUM
0.57J	BERYLLIUM
0.48U	CADMIUM
2500	CALCIUM
17	CHROMIUM
9.8	COBALT
48J	COPPER
36000	IRON
13JN	LEAD
4800	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
390	MANGANESE
0.12U	MERCURY
3.7J	NICKEL
3300	POTASSIUM
1.9JN	SELENIUM
2U	SILVER
380	SODIUM
0.71U	THALLIUM
NA	TIN
72	VANADIUM
68	ZINC
16	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89554 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 007-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1140 STOP: 00/00/00
MD NUMBER: HZ49

MG/KG	ANALYTICAL RESULTS
19000	ALUMINUM
6UJ	ANTIMONY
3.6	ARSENIC
26	BARIUM
1U	BERYLLIUM
0.52U	CADMIUM
13000	CALCIUM
32	CHROMIUM
2J	COBALT
67J	COPPER
22000	IRON
16	LEAD
280	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
160	MANGANESE
0.19	MERCURY
3.2J	NICKEL
270U	POTASSIUM
1U	SELENIUM
3.9	SILVER
68	SODIUM
0.78U	THALLIUM
NA	TIN
44	VANADIUM
30U	ZINC
23	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89555 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 008-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1205 STOP: 00/00/00
MD NUMBER: HZ50

MG/KG	ANALYTICAL RESULTS
24000	ALUMINUM
10UJ	ANTIMONY
5.1	ARSENIC
20U	BARIUM
0.26U	BERYLLIUM
1U	CADMIUM
530	CALCIUM
26	CHROMIUM
0.78U	COBALT
14J	COPPER
46000	IRON
8.3JN	LEAD
260	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
66	MANGANESE
0.16	MERCURY
2J	NICKEL
560U	POTASSIUM
2.3JN	SELENIUM
2U	SILVER
40U	SODIUM
0.78U	THALLIUM
NA	TIN
87	VANADIUM
20U	ZINC
23	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89556 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 009-SS COLLECTION START: 08/31/94 1217 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ51

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
6600	ALUMINUM	360	MANGANESE
20UJ	ANTIMONY	0.22	MERCURY
11	ARSENIC	14JN	NICKEL
90	BARIUM	200U	POTASSIUM
0.87J	BERYLLIUM	1.6JN	SELENIUM
1.1J	CADMIUM	8.7JN	SILVER
79000	CALCIUM	210	SODIUM
45	CHROMIUM	0.88U	THALLIUM
3.9	COBALT	NA	TIN
250J	COPPER	46	VANADIUM
42000	IRON	670	ZINC
31JN	LEAD	32	PERCENT MOISTURE
1100	MAGNESIUM		

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89557 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 010-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1233 STOP: 00/00/00
MD NUMBER: HZ52

MG/KG	ANALYTICAL RESULTS
17000	ALUMINUM
6UJ	ANTIMONY
3.3	ARSENIC
18	BARIUM
0.24U	BERYLLIUM
0.47U	CADMIUM
130	CALCIUM
26	CHROMIUM
2.1J	COBALT
11J	COPPER
19000	IRON
9.2	LEAD
130	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
120	MANGANESE
0.16	MERCURY
3.8J	NICKEL
230U	POTASSIUM
1U	SELENIUM
1U	SILVER
43U	SODIUM
0.71U	THALLIUM
NA	TIN
47	VANADIUM
20U	ZINC
15	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89558 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 011-SD COLLECTION START: 08/31/94 1235 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ53

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
10000	ALUMINUM	990	MANGANESE
3UJ	ANTIMONY	0.16	MERCURY
1.3J	ARSENIC	3.5J	NICKEL
31	BARIUM	160U	POTASSIUM
0.25U	BERYLLIUM	0.76U	SELENIUM
0.50U	CADMIUM	1U	SILVER
70	CALCIUM	40U	SODIUM
13	CHROMIUM	0.76U	THALLIUM
29	COBALT	NA	TIN
9.5J	COPPER	33	VANADIUM
17000	IRON	8U	ZINC
17	LEAD	21	PERCENT MOISTURE
71	MAGNESIUM		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89559 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 012-SD COLLECTION START: 08/31/94 1300 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ54

MG/KG	ANALYTICAL RESULTS
15000	ALUMINUM
5UJ	ANTIMONY
2.9	ARSENIC
18	BARIUM
0.26U	BERYLLIUM
0.53U	CADMIUM
190	CALCIUM
16	CHROMIUM
0.79U	COBALT
9.5J	COPPER
21000	IRON
10	LEAD
130	MAGNESIUM
35	MANGANESE
0.13U	MERCURY
1.9U	NICKEL
140U	POTASSIUM
2U	SELENIUM
1U	SILVER
40U	SODIUM
0.79U	THALLIUM
NA	TIN
47	VANADIUM
20U	ZINC
24	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

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METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89560 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 013-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1323 STOP: 00/00/00
MD NUMBER: HZ55

MG/KG	ANALYTICAL RESULTS
9600	ALUMINUM
4UJ	ANTIMONY
2U	ARSENIC
9U	BARIUM
0.24U	BERYLLIUM
0.49U	CADMIUM
210	CALCIUM
12	CHROMIUM
1J	COBALT
7.3J	COPPER
15000	IRON
3.9	LEAD
140	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
28	MANGANESE
0.12U	MERCURY
1.7U	NICKEL
210U	POTASSIUM
0.88J	SELENIUM
1U	SILVER
40U	SODIUM
0.73U	THALLIUM
NA	TIN
31	VANADIUM
7U	ZINC
15	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89561 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 014-SD COLLECTION START: 08/31/94 1225 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ56

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
6700	ALUMINUM	230J	MANGANESE
28JN	ANTIMONY	0.12U	MERCURY
14J	ARSENIC	4.1J	NICKEL
35	BARIUM	290U	POTASSIUM
1U	BERYLLIUM	1.2U	SELENIUM
1.4JN	CADMIUM	3U	SILVER
730	CALCIUM	40U	SODIUM
80J	CHROMIUM	1.2U	THALLIUM
4.7	COBALT	NA	TIN
170J	COPPER	25	VANADIUM
70000J	IRON	530J	ZINC
39JN	LEAD	18	PERCENT MOISTURE
220	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89562 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 015-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1250 STOP: 00/00/00
MD NUMBER: HZ57

MG/KG	ANALYTICAL RESULTS
30000	ALUMINUM
6UJ	ANTIMONY
3.4J	ARSENIC
45	BARIUM
0.74J	BERYLLIUM
0.56U	CADMIUM
470	CALCIUM
21J	CHROMIUM
3	COBALT
14J	COPPER
18000J	IRON
17J	LEAD
410	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
100J	MANGANESE
0.14U	MERCURY
5.6J	NICKEL
330U	POTASSIUM
1.4U	SELENIUM
1U	SILVER
40U	SODIUM
1.4U	THALLIUM
NA	TIN
47	VANADIUM
40UJ	ZINC
28	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89563 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 016-SD COLLECTION START: 08/31/94 1145 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ58

MG/KG	ANALYTICAL RESULTS
20000	ALUMINUM
20UJ	ANTIMONY
5J	ARSENIC
20	BARIUM
1U	BERYLLIUM
0.54U	CADMIUM
440	CALCIUM
16J	CHROMIUM
1.7J	COBALT
18J	COPPER
24000J	IRON
'OJ	LEAD
90	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
110J	MANGANESE
0.14U	MERCURY
1.9U	NICKEL
630U	POTASSIUM
1.4U	SELENIUM
1U	SILVER
40U	SODIUM
1.4U	THALLIUM
NA	TIN
46	VANADIUM
70J	ZINC
26	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89564 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 017-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1200 STOP: 00/00/00
MD NUMBER: HZ59

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
16000	ALUMINUM	110J	MANGANESE
20UJ	ANTIMONY	0.14U	MERCURY
3J	ARSENIC	4	NICKEL
37	BARIUM	690U	POTASSIUM
0.65J	BERYLLIUM	1.4U	SELENIUM
0.54U	CADMIUM	2U	SILVER
1800	CALCIUM	87	SODIUM
23J	CHROMIUM	1.4U	THALLIUM
3.5	COBALT	NA	TIN
28J	COPPER	56	VANADIUM
25000J	IRON	650J	ZINC
7J	LEAD	26	PERCENT MOISTURE
40	MAGNESIUM		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD. ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89565 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 018-SD COLLECTION START: 08/31/94 1310 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ60

MG/KG	ANALYTICAL RESULTS
19000	ALUMINUM
3.1UJ	ANTIMONY
1.3UJ	ARSENIC
43	BARIUM
0.30J	BERYLLIUM
0.51U	CADMIUM
280	CALCIUM
9.6J	CHROMIUM
1.2J	COBALT
7.1J	COPPER
5000J	IRON
15J	LEAD
250	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
39J	MANGANESE
0.13U	MERCURY
1.8U	NICKEL
210U	POTASSIUM
1.3U	SELENIUM
0.51U	SILVER
38	SODIUM
1.3U	THALLIUM
NA	TIN
25	VANADIUM
20UJ	ZINC
22	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89566 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 019-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1100 STOP: 00/00/00
MD NUMBER: HZ61

MG/KG	ANALYTICAL RESULTS
26000	ALUMINUM
20UJ	ANTIMONY
4.6J	ARSENIC
53	BARIUM
0.62J	BERYLLIUM
0.56U	CADMIUM
21000	CALCIUM
20J	CHROMIUM
2.7	COBALT
21J	COPPER
26000J	IRON
17J	LEAD
1700	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
220J	MANGANESE
0.14U	MERCURY
2.5J	NICKEL
1600	POTASSIUM
1.4U	SELENIUM
2U	SILVER
320	SODIUM
1J.4U	THALLIUM
NA	TIN
55	VANADIUM
68J	ZINC
28	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89567 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 020-SD COLLECTION START: 08/31/94 1033 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ62

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
22000	ALUMINUM	210J	MANGANESE
20UJ	ANTIMONY	0.21	MERCURY
10J	ARSENIC	13	NICKEL
15	BARIUM	400U	POTASSIUM
1U	BERYLLIUM	1.6U	SELENIUM
0.65U	CADMIUM	8.5JN	SILVER
63000	CALCIUM	220U	SODIUM
35J	CHROMIUM	1.6U	THALLIUM
2.9	COBALT	NA	TIN
220J	COPPER	43	VANADIUM
37000J	IRON	110J	ZINC
14JN	LEAD	39	PERCENT MOISTURE
800	MAGNESIUM		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 021-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1115 STOP: 00/00/00
MD NUMBER: HZ63

MG/KG	ANALYTICAL RESULTS
15000J	ALUMINUM
8UJ	ANTIMONY
12J	ARSENIC
32	BARIUM
1U	BERYLLIUM
0.52U	CADMIUM
2300	CALCIUM
16J	CHROMIUM
1.8J	COBALT
24J	COPPER
15000J	IRON
16J	LEAD
460	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
140J	MANGANESE
0.13U	MERCURY
1.8U	NICKEL
470U	POTASSIUM
1.3U	SELENIUM
1U	SILVER
38	SODIUM
1.3U	THALLIUM
NA	TIN
31	VANADIUM
60J	ZINC
22	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89569 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 022-SD COLLECTION START: 08/31/94 1145 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ64

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
41000	ALUMINUM	55J	MANGANESE
20UJ	ANTIMONY	0.14U	MERCURY
5.8J	ARSENIC	3.2J	NICKEL
51	BARIUM	350U	POTASSIUM
0.55J	BERYLLIUM	1.4U	SELENIUM
0.57U	CADMIUM	2U	SILVER
310	CALCIUM	50U	SODIUM
37J	CHROMIUM	1.4U	THALLIUM
2.7J	COBALT	NA	TIN
18J	COPPER	81	VANADIUM
34000J	IRON	30UJ	ZINC
10JN	LEAD	30	PERCENT MOISTURE
330	MAGNESIUM		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89570 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 023-SD COLLECTION START: 08/31/94 1113 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ65

MG/KG	ANALYTICAL RESULTS
35000	ALUMINUM
20UJ	ANTIMONY
2.6J	ARSENIC
25	BARIUM
0.58J	BERYLLIUM
0.62U	CADMIUM
180	CALCIUM
15J	CHROMIUM
2J	COBALT
9.6J	COPPER
31000J	IRON
10J	LEAD
580	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
83J	MANGANESE
0.16U	MERCURY
2.2U	NICKEL
790U	POTASSIUM
1.6U	SELENIUM
1U	SILVER
50U	SODIUM
1.6U	THALLIUM
N/	TIN
57	VANADIUM
2CUJ	ZINC
36	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89571 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 024-SD COLLECTION START: 08/31/94 0940 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ66

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
2000	ALUMINUM	18J	MANGANESE
5UJ	ANTIMONY	0.12U	MERCURY
1.2UJ	ARSENIC	1.7U	NICKEL
3U	BARIUM	130U	POTASSIUM
0.25U	BERYLLIUM	1.2U	SELENIUM
0.50U	CADMIUM	0.50U	SILVER
75	CALCIUM	40U	SODIUM
2.7J	CHROMIUM	1.2U	THALLIUM
0.75U	COBALT	NA	TIN
4.8J	COPPER	6.6	VANADIUM
13000J	IRON	5UJ	ZINC
1.5J	LEAD	20	PERCENT MOISTURE
31	MAGNESIUM		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89572 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 025-SD COLLECTION START: 08/31/94 1003 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ67

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
4100	ALUMINUM	110J	MANGANESE
5UJ	ANTIMONY	0.13U	MERCURY
2.1J	ARSENIC	8J	NICKEL
38	BARIUM	990U	POTASSIUM
1U	BERYLLIUM	1.3U	SELENIUM
0.51U	CADMIUM	0.51U	SILVER
2000	CALCIUM	55	SODIUM
18J	CHROMIUM	1.3U	THALLIUM
2.6	COBALT	NA	TIN
12J	COPPER	15	VANADIUM
7900J	IRON	99J	ZINC
86J	LEAD	21	PERCENT MOISTURE
820	MAGNESIUM		

REMARKS

REMARKS

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
COLLEGE STATION RD.
ATHENS, GA. 30613

*****MEMORANDUM******

DATE: 04/25/95

SUBJECT: Results of Purgeable Organic Analysis;
94-0597 STEVENS JP & CO INC
CLEMSON SC
CASE NO: 22607

FROM: Tom B. Bennett, Jr.
ESAT RPO

TO: JOHN CRISWELL

Attached are the results of analysis of samples collected as part of the subject project. These data replace those previously submitted to you on these samples

If you have any questions please contact me.

ATTACHMENT

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

REPRINTED ON 04/24/95

TARGETABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89548 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 001 SS COLLECTION START: 08/31/94 0857 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ43

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE	13U	1,2-DICHLOROPROPANE
13U	BROMOMETHANE	13U	CIS-1,3-DICHLOROPROPENE
13U	VINYL CHLORIDE	13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	CHLOROETHANE	13U	DIBROMOCHLOROMETHANE
13U	METHYLENE CHLORIDE	13U	1,1,2-TRICHLOROETHANE
13U	ACETONE	13U	BENZENE
13U	CARBON DISULFIDE	13U	TRANS-1,3-DICHLOROPROPENE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	13U	BROMOFORM
13U	1,1-DICHLOROETHANE	13U	METHYL ISOBUTYL KETONE
13U	1,2-DICHLOROETHENE (TOTAL)	13U	METHYL BUTYL KETONE
13U	CHLOROFORM	13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,2-DICHLOROETHANE	13U	1,1,2,2-TETRACHLOROETHANE
13U	METHYL ETHYL KETONE	13U	TOLUENE
13U	1,1,1-TRICHLOROETHANE	13U	CHLOROBENZENE
13U	CARBON TETRACHLORIDE	13U	ETHYL BENZENE
13U	BROMODICHLOROMETHANE	13U	STYRENE
		13U	TOTAL XYLENES
		27	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

04/21/95

VOLATILE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89559 SAMPLE TYPE:
SOURCE:
STATION ID: 012-SD
CASE NO.: 22607 SAS NO.:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1300 STOP: 00/00/00
D. NO.: HZ54

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1 DICHLOROETHANE
12U	1,2 DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
160U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
23	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

REPRINTED ON 04/24/95

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 021-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1115 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ63

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
20	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

REPRINTED ON 04/24/95

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 021-SD COLLECTION START: 08/31/94 1115 STOP: 00/00/00
CASE NO.: 22607 SAS NO.: D. NO.: HZ63 MD NO: HZ63

ANALYTICAL RESULTS UG/KG

200J 6 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
COLLEGE STATION RD.
ATHENS, GA. 30613

RECEIVED

APR 28 1995

SITE ENGINEERING & SCREENING
BSHWM

*****MEMORANDUM******

DATE: 04/25/95

SUBJECT: Results of Purgeable Organic Analysis;
94-0597 STEVENS JP & CO INC
CLEMSON SC
CASE NO: 22607

FROM: Tom B. Bennett, Jr.
ESAT RPO

TO: JOHN CRISWELL

Attached are the results of analysis of samples collected as part of the subject project. These data replace those previously submitted to you on these samples

If you have any questions please contact me.

ATTACHMENT

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

REPRINTED ON 04/24/95

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89548 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 001-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0857 STOP: 00/00/00

CASE NO. 22607 SAS NO.: D. NO.: HZ43

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
27	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

04/21/95

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89559 SAMPLE TYPE: PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: CITY: CLEMSON ST: SC
STATION ID: 012 SD COLLECTION START: 08/31/94 1300 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ54

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE	12U	1,2-DICHLOROPROPANE
12U	BROMOMETHANE	12U	CIS-1,3-DICHLOROPROPENE
12U	VINYL CHLORIDE	12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	CHLOROETHANE	12U	DIBROMOCHLOROMETHANE
12U	METHYLENE CHLORIDE	12U	1,1,2-TRICHLOROETHANE
12U	ACETONE	12U	BENZENE
12U	CARBON DISULFIDE	12U	TRANS-1,3-DICHLOROPROPENE
12U	1,1 DICHLOROETHENE,1,1-DICHLOROETHYLENE)	12U	BROMOFORM
12U	1,1-DICHLOROETHANE	12U	METHYL ISOBUTYL KETONE
12U	1,2-DICHLOROETHENE (TOTAL)	12U	METHYL BUTYL KETONE
12U	CHLOROFORM	12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,2-DICHLOROETHANE	12U	1,1,2,2-TETRACHLOROETHANE
160U	METHYL ETHYL KETONE	12U	TOLUENE
12U	1,1,1-TRICHLOROETHANE	12U	CHLOROBENZENE
12U	CARBON TETRACHLORIDE	12U	ETHYL BENZENE
12U	BROMODICHLOROMETHANE	12U	STYRENE
		12U	TOTAL XYLENES
		23	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

REPRINTED ON 04/24/95

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 021 SD COLLECTION START: 08/31/94 1115 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ63

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE	12U	1,2-DICHLOROPROPANE
12U	BROMOMETHANE	12U	CIS-1,3-DICHLOROPROPENE
12U	VINYL CHLORIDE	12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	CHLOROETHANE	12U	DIBROMOCHLOROMETHANE
12U	METHYLENE CHLORIDE	12U	1,1,2-TRICHLOROETHANE
12U	ACETONE	12U	BENZENE
12U	CARBON DISULFIDE	12U	TRANS-1,3-DICHLOROPROPENE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	12U	BROMOFORM
12U	1,1-DICHLOROETHANE	12U	METHYL ISOBUTYL KETONE
12U	1,2-DICHLOROETHENE (TOTAL)	12U	METHYL BUTYL KETONE
12U	CHLOROFORM	12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,2-DICHLOROETHANE	12U	1,1,2,2-TETRACHLOROETHANE
12U	METHYL ETHYL KETONE	12U	TOLUENE
12U	1,1,1-TRICHLOROETHANE	12U	CHLOROBENZENE
12U	CARBON TETRACHLORIDE	12U	ETHYL BENZENE
12U	BROMODICHLOROMETHANE	12U	STYRENE
		12U	TOTAL XYLENES
		20	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

REPRINTED ON 04/24/95

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 021-SD COLLECTION START: 08/31/94 1115 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ63 MD NO: HZ63

ANALYTICAL RESULTS UG/KG

200J 6 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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LAW ENGINEERING
geotechnical, environmental & construction materials consultants
FOUR INTERCHANGE BOULEVARD
GREENVILLE, SOUTH CAROLINA 29607
(803) 288-5116

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
Registered, South Carolina #893

Robert E. Smith, Jr., P.E.
Chief Engineer
Registered, South Carolina #6365

/sb.a

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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.

---

[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.

- Acid Extractables and Base Neutrals (ABN) by EPA Methods 8270 for water, soil, and ash samples.

- Heavy metals (As, Ba, Cd, Cr, Cu, Pb, Mn, Hg, Ni, Se, and Ag) for the water, soil, and ash samples.

- 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

- Total Dissolved Solids (TDS) by EPA Method 160.1
- 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

soil concentrations for VOC's ABN's selected metals, cyanide, PCB's and total phenols (Tables 3, 5, 7 and 9). Samples from the Law Engineering sample split and the SCDHEC sample split which detected concentrations exceeding the standard background sample, SS-5, include:

1. Ash sample WA-6 which was collected from a depth of 1 foot below ground at Landfill No. 1. This landfill was utilized to dispose of burned coal cinders. Concentrations of barium, copper, nickel, arsenic, methylene chloride, 1,1,1 trichloroethane, anthracene, benzo (a) anthracene, benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, chrysene, fluoranthene, naphthalene, phenanthrene, pyrene, and 2-methylnaphthalene were detected at concentrations exceeding the normal background soil concentrations. Six tentatively identified compounds were also detected and they are listed on Table 9.

2. Sludge sample SS-13 was collected from a depth of 1 foot below ground at Landfill 3. Landfill No. 3 is utilized for disposal of sludge from the waste treatment facility. Concentrations of copper, silver, phenol, acetone, 2-butanone, cyanide, and toluene were detected at concentrations exceeding normal background soil concentrations. Four tentatively identified compounds were detected and they are listed on Table 9.

3. Sludge sample SS-11 was collected from a depth of 1 foot below ground at Landfill No. 2. Landfill No. 2 is utilized for disposal of sludge from the waste treatment facility. Concentrations of copper, silver, and bis (2

ethylhexyl) phthalate, and benzoic acid were detected at concentrations exceeding normal background soil concentrations.

4. Soil sample SS-7 was collected from a depth of 1 foot below ground at the top of Landfill No. 4. Landfill No. 4 was utilized to store the 1967 explosion debris. Concentrations of arsenic, barium, copper, lead, acetone, phenanthrene, phenol, 4-methyl phenol, 1,1,1-trichloroethane, 2-butanone, and benzene were detected at concentrations exceeding normal background soil conditions. Two tentatively identified compounds were detected and they are listed on Table 9.

5. Soil sample SS-8 was collected from a depth of 1 foot below ground at the toe of Landfill No. 4. Concentrations of PCB-1260 were detected above normal background soil concentrations. Two tentatively identified compounds were detected and they are listed on Table 9.

3.4 Comparison: Law Engineering and SCDHEC Soil, Sludge and Ash Sample Splits

Analytical results for soil, sludge, and ash may vary due to the lack of homogeneity between samples from the same location, and from normal laboratory variation. A variance in results of within 50 percent is considered acceptable in this report for soil, sludge, and ash. Comparisons between the Law Engineering and SCDHEC laboratory results indicate that acceptable variance exists between the concentrations detected for:

1. cyanide and PCB's (Table 5);

2. volatile organic compounds (Table 7); and

3. ABN's (Table 9). Some phthalates were detected. Phthalates are common laboratory contaminants.

Variance greater than 50 percent between the Law Engineering and SCDHEC laboratory results of the soil, sludge, and ash samples include:

1. Metal analyses on Table 3 for copper (SS-11, SS-12, SS-13), Arsenic (SS-7, SS-11, SS-12), lead (SS-11), and silver (SS-11, SS-13).

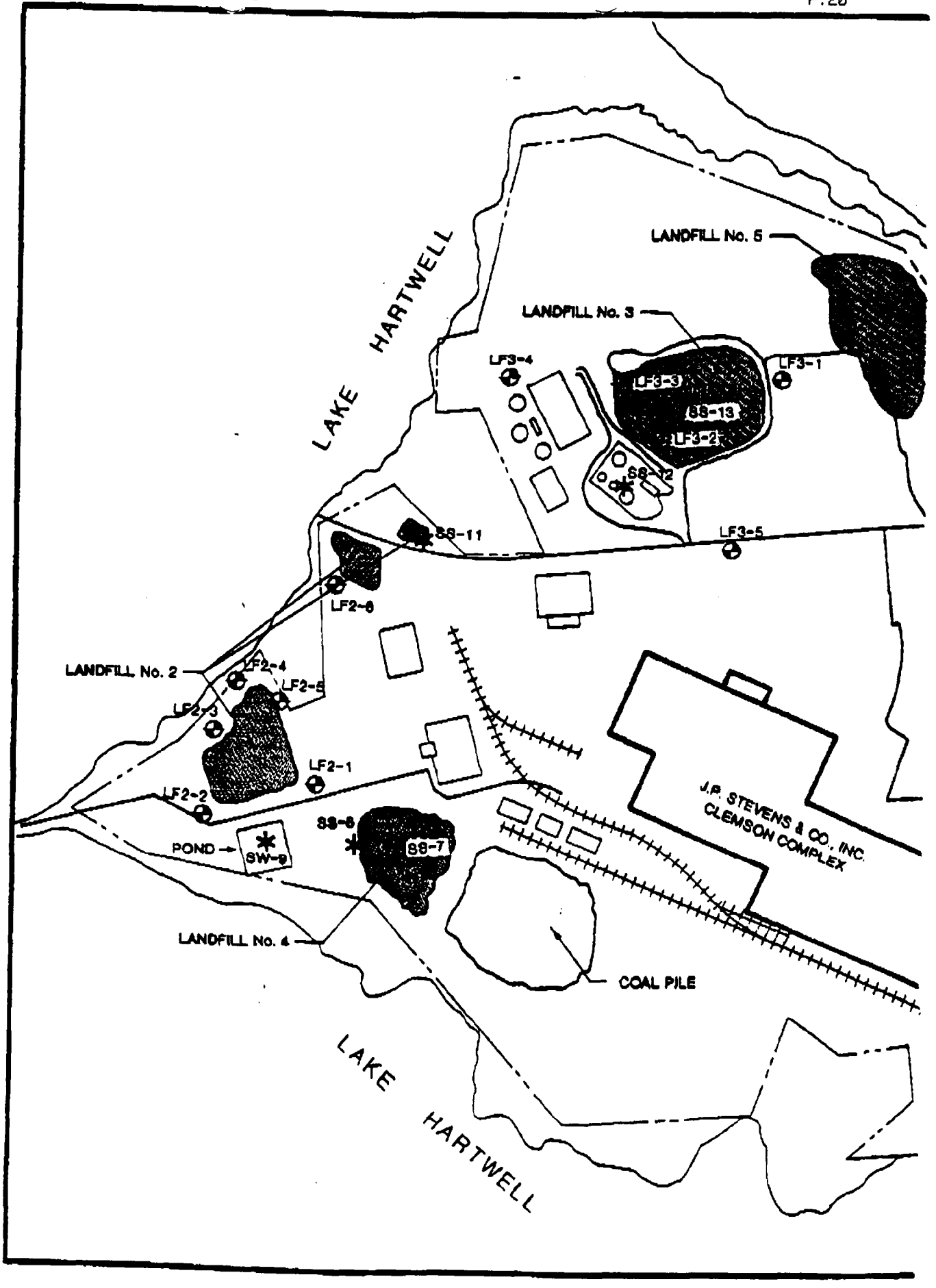
4.0 QUALIFICATION OF REPORT

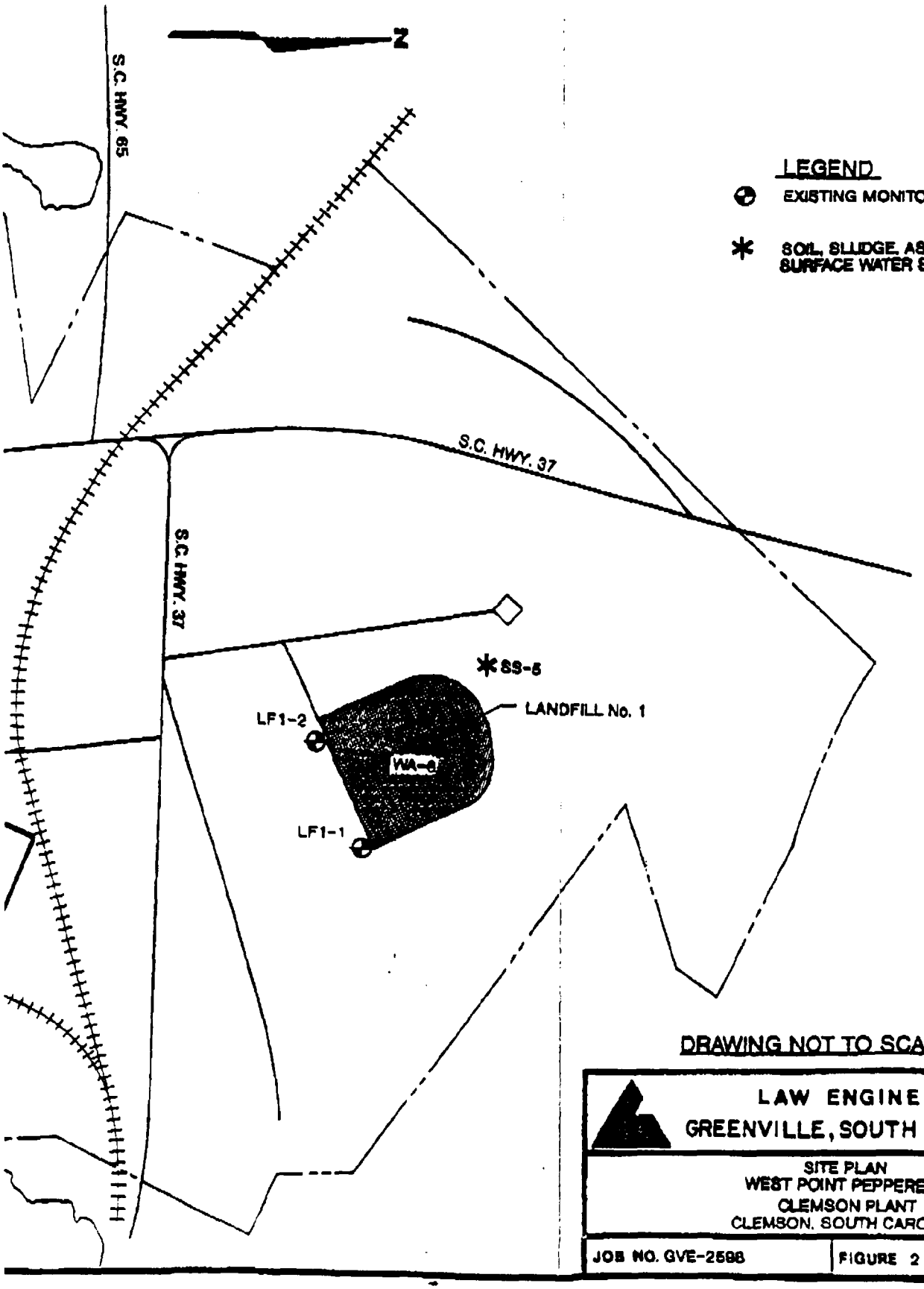
The activities and evaluative approaches used in this assessment are consistent with those normally employed in hydrogeological assessments and waste-management projects of this type. Our evaluation of site conditions has been based on our understanding of the site and project information and the data obtained in our exploration.

Regardless of the thoroughness of an environmental site assessment, there is always the possibility that conditions between sampling locations will vary. Therefore, it was not possible to identify all conceivable forms of contamination at this site. The primary objective was to perform sufficient work to determine if contamination exists in the soils and waters in the immediate vicinity of the eleven sampling locations at the West Point Pepperell site and to only report the results of analytical testing. It was not the purpose of this preliminary evaluation to determine the degree or extent of contamination at, or adjacent to, the property or to make recommendations based on the results of sample

analyses. Sample locations and the laboratory methods performed were determined by SCDHEC prior to arriving on site, and field sampling procedures were conducted by SCDHEC personnel.

This report has been prepared on behalf of an exclusively for the use of the West Point Pepperell Company. This report and the findings contained herein shall not, in whole or part, be disseminated or conveyed to any other party or used or relied upon by any other party, in whole or in part, without the consultants prior written notice.


LAKE HARTWELL
LANDFILL No. 5
LANDFILL No. 3
LF3-4
LF3-3
LF3-1
SS-13
LF3-2
SS-12
SS-11
LF3-5
LF2-6
LANDFILL No. 2
LF2-4
LF2-5
LF2-3
LF2-1
LF2-2
POND
SW-9
SS-8
SS-7
J.P. STEVENS & CO., INC.
CLEMSON COMPLEX
LANDFILL No. 4
COAL PILE
LAKE HARTWELL



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

Date: 12/20/95

S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
SITE BEING EVALUATED J P STEVENS, 343904.9 LATITUDE 825153.6 LONGITUDE
THE SURFACEWATER SUPPLIES FOUND BETWEEN LATITUDE 34-30-00 TO 34-40-00 AND LONGITUDE 82-47-30 TO 82-52-30
THIS REPORT IS BASED UPON DATA PROVIDED BY THE S.C. WATER RESOURCES COMMISSION (02/92).

TREATMENT WORKS NAME / OWNERS IDENTIFICATION	STREAM NAME	LONGITUDE / LATITUDE	SOURCE ID.	PUMP (GPM) / TREATMENT (GPD)
J.P. Stevens & Co., Inc. - Clemson Plants		82-51-20	IN	2500.0
Lake Hartwell	Lake Hartwell	34-38-55		3.600
. lleton Finishing Plant - Div. of Milliken & Co.		82-48-10	IN	1798.6
Eighteen Mile Creek	Eighteen Mile Creek	34-39-25		2.592

SOURCE IDENTIFICATION:

AQ - Aquaculture	IR - Irrigator	PT - Thermo-power	CO - Commerical	MI - Mining
ST - Sewage Treatment	GC - Golf Course	PH - Hydro-power	WS - Public Supply	IN - Industry

S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
SITE BEING EVALUATED J P STEVENS, 343904.9 LATITUDE 825153.6 LONGITUDE
THE ENDANGERED SPECIES FOUND WITHIN 4 MILES AND BETWEEN LATITUDE 34-30-00 TO 34-40-00 AND LONGITUDE 82-47-30 TO 82-52-30
THIS REPORT IS BASED UPON DATA PROVIDED BY THE S.C. HERITAGE TRUST FOUNDATION (01/92).

COMMON NAME SCIENTIFIC NAME	STATUS	LONGITUDE LATITUDE	DISTANCE FROM SITE	GRANK SRANK	DATE ADDED	TOPO MAP / COUNTY WHERE THE SPECIES IS LOCATED
LONG-TAILED WEASEL MUSTELA FRENATA	UN	82-48-00 34-38-44	3.73 Miles ESE	G5 S3S4	05/23/82	CLEMSON Anderson
BARN-OWL TYTO ALBA	UN	82-50-11 34-39-04	1.63 Miles ESE	G5 S4	08/31/91	CLEMSON Pickens
FADED TRILLIUM TRILLIUM DISCOLOR	UN	82-52-00 34-41-23	2.65 Miles NNW	G2 S?	04/01/76	CLEMSON Pickens
SWAMP RABBIT SYLVILAGUS AQUATICUS	UN	82-49-52 34-39-22	1.96 Miles ENE	G5 S2S3	/ /	CLEMSON Pickens
LONG-TAILED WEASEL MUSTELA FRENATA	UN	82-50-05 34-40-00	2.02 Miles ENE	G5 S3S4	10/02/79	CLEMSON Pickens
MEADOW JUMPING MOUSE ZAPUS HUDSONIUS	UN	82-50-42 34-40-37	2.10 Miles NNE	G5 S?	11/01/28	CLEMSON Oconee
FRASER LOOSESTRIFE [MACHIA FRASERI	RC/CU	82-51-00 34-41-32	2.94 Miles NNE	G2G3 S1	10/21/58	CLEMSON Oconee
CLIMBING FERN LYGODIUM PALMATUM	SL	82-49-00 34-37-55	3.06 Miles ESE	G4 S1S2	02/01/69	CLEMSON Anderson
MEADOW VOLE MICROTUS PENNSYLVANICUS	SC	82-50-42 34-40-37	2.10 Miles NNE	G5 S4	01/27/27	CLEMSON Pickens
BARN-OWL TYTO ALBA	UN	82-48-49 34-38-08	3.13 Miles ESE	G5 S4	08/31/91	CLEMSON Anderson
LONG-TAILED WEASEL MUSTELA FRENATA	UN	82-50-20 34-37-31	2.33 Miles SSE	G5 S3S4	09/11/81	CLEMSON Anderson

S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
SITE BEING EVALUATED J P STEVENS, 343904.9 LATITUDE 825153.6 LONGITUDE
THE ENDANGERED SPECIES FOUND WITHIN 4 MILES AND BETWEEN LATITUDE 34-30-00 TO 34-40-00 AND LONGITUDE 82-47-30 TO 82-52-30
THIS REPORT IS BASED UPON DATA PROVIDED BY THE S.C. HERITAGE TRUST FOUNDATION (01/92).

COMMON NAME SCIENTIFIC NAME	STATUS	LONGITUDE LATITUDE	DISTANCE FROM SITE	GRANK SRANK	DATE ADDED	TOPO MAP / COUNTY WHERE THE SPECIES IS LOCATED
LONG-TAILED WEASEL MUSTELA FRENATA	UN	82-48-00 34-38-44	0.00 Miles UNK	G5 S3S4	05/23/82	CLEMSON Anderson
BARN-OWL TYTO ALBA	UN	82-50-11 34-39-04	0.00 Miles UNK	G5 S4	08/31/91	CLEMSON Pickens
SWAMP RABBIT SYLVILAGUS AQUATICUS	UN	82-49-52 34-39-22	0.00 Miles UNK	G5 S2S3	/ /	CLEMSON Pickens
LONG-TAILED WEASEL MUSTELA FRENATA	UN	82-50-05 34-40-00	0.00 Miles UNK	G5 S3S4	10/02/79	CLEMSON Pickens
CLIMBING FERN LYGODIUM PALMATUM	SL	82-49-00 34-37-55	0.00 Miles UNK	G4 S1S2	02/01/69	CLEMSON Anderson
BARN-OWL TYTO ALBA	UN	82-48-49 34-38-08	0.00 Miles UNK	G5 S4	08/31/91	CLEMSON Anderson
LONG-TAILED WEASEL MUSTELA FRENATA	UN	82-50-20 34-37-31	0.00 Miles UNK	G5 S3S4	09/11/81	CLEMSON Anderson

GRANK/SRANK - Nature Conservancy rating:

G1 - Critically imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction.
G2 - Imperiled globally because of rarity or factor(s) making it vulnerable.
G3 - Either very rare throughout its range or found locally in a restricted range, or having factors making it vulnerable.
G4 - Apparently secure globally, though it may be rare in parts of its range.
G5 - Demonstrably secure globally, though it may be rare in parts of its range.
S1 - Critically imperiled state-wide because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation.

STATUS - Legal status:

FE - Federal Endangered
FT - Federal Threatened
NC - Of Concern, National (plants)
RC - Of Concern, Regional (plants)
SE - State Endangered (animals)
ST - State Threatened (animals)
SC - Of Concern, State (animals)
SL - Of Concern, State (plants)
SX - State Extirpated

S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
SITE BEING EVALUATED J P STEVENS, 343904.9 LATITUDE 825153.6 LONGITUDE
THE ENDANGERED SPECIES FOUND WITHIN 4 MILES AND BETWEEN LATITUDE 34-30-00 TO 34-40-00 AND LONGITUDE 82-47-30 TO 82-52-30
THIS REPORT IS BASED UPON DATA PROVIDED BY THE S.C. HERITAGE TRUST FOUNDATION (01/92).

COMMON NAME / SCIENTIFIC NAME	STATUS	LONGITUDE / LATITUDE	DISTANCE FROM SITE	GRANK / SRANK	DATE ADDED	TOPO MAP / COUNTY WHERE THE SPECIES IS LOCATED

S2 - Imperiled state-wide because of rarity or factor(s) making it vulnerable.
S3 - Rare or uncommon in state.
- Apparently secure in state.
- Demonstrably secure in state.

CU - Candidate (Federal review)
UN - Undetermined

S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
SITE BEING EVALUATED J P STEVENS, 343904.9 LATITUDE 825153.6 LONGITUDE
THE GROUNDWATER SUPPLIES FOUND WITHIN 4 MILES
THIS REPORT IS BASED UPON DATA PROVIDED BY THE S.C. WATER RESOURCES COMMISSION (02/92).

COMPANY: Rufus Newton — COUNTY: — AQUIFER: — SCWRC: 51G--z01
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-42-95 — DRILL DEPTH: 105 — YIELD: 30
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Hwy. 178 & Hwy. 88

COMPANY: Camille Browning — COUNTY: — AQUIFER: — SCWRC: 51G--z02
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-42-95 — DRILL DEPTH: 180 — YIELD: 1
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: N. of Anderson

COMPANY: Sarah Richardson — COUNTY: — AQUIFER: — SCWRC: 51G--z03
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-42-95 — DRILL DEPTH: 385 — YIELD: 1
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: N. of Anderson

COMPANY: Calvin Nix — COUNTY: — AQUIFER: — SCWRC: 51G--z04
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-42-95 — DRILL DEPTH: 205 — YIELD: 20
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Nr. Pendleton

COMPANY: City of Anderson — COUNTY: — AQUIFER: — SCWRC: 51H--z01
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE: WS
ADDRESS: — LATITUDE: 34-37-95 — DRILL DEPTH: 205 — YIELD: 50
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Anderson

NOTE: LATITUDES OR LONGITUDES ENDING IN 95 ARE ONLY ACCURATE TO WITHIN 5 MINUTES.
LATITUDES OR LONGITUDES ENDING IN 91 ARE ONLY ACCURATE TO WITHIN 1 MINUTE.

S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
SITE BEING EVALUATED J P STEVENS, 343904.9 LATITUDE 825153.6 LONGITUDE
THE GROUNDWATER SUPPLIES FOUND WITHIN 4 MILES
THIS REPORT IS BASED UPON DATA PROVIDED BY THE S.C. WATER RESOURCES COMMISSION (02/92).

COMPANY: Dan Merritt — COUNTY: — AQUIFER: — SCWRC: 51H--z02
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-37-95 — DRILL DEPTH: 185 — YIELD: 8
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Nr. Pendleton

COMPANY: Jack Gerrard — COUNTY: — AQUIFER: — SCWRC: 51I--z01
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE:
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 85 — YIELD: 30
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Anderson

COMPANY: Girl Scout Camp? — COUNTY: — AQUIFER: — SCWRC: 51I--z02
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE:
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 195 — YIELD: 3
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: I-85 & Hwy 178

COMPANY: Girl Scout Camp? — COUNTY: — AQUIFER: — SCWRC: 51I--z03
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE:
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 300 — YIELD: 3
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: I-85 & Hwy 178

COMPANY: Robert Dupree — COUNTY: — AQUIFER: — SCWRC: 51I--z04
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 280 — YIELD: 12
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Nr. Anderson

NOTE: LATITUDES OR LONGITUDES ENDING IN 95 ARE ONLY ACCURATE TO WITHIN 5 MINUTES.
LATITUDES OR LONGITUDES ENDING IN 91 ARE ONLY ACCURATE TO WITHIN 1 MINUTE.

S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
SITE BEING EVALUATED J P STEVENS, 343904.9 LATITUDE 825153.6 LONGITUDE
THE GROUNDWATER SUPPLIES FOUND WITHIN 4 MILES
THIS REPORT IS BASED UPON DATA PROVIDED BY THE S.C. WATER RESOURCES COMMISSION (02/92).

COMPANY: G. A. Macomson COUNTY: AQUIFER: SCWRC: 51I--z05
CONTACT: PHONE: LONGITUDE: 82-42-95 COMP. DEPTH: -1 USE: DO
ADDRESS: LATITUDE: 34-32-95 DRILL DEPTH: 305 YIELD: -1
, DISTANCE: 0.00 MILES UNK ELEV: -1.00
REMARKS: LOCATION: I-85 & Hwy 76

COMPANY: Haskel Shiflet COUNTY: AQUIFER: SCWRC: 51I--z06
CONTACT: PHONE: LONGITUDE: 82-42-95 COMP. DEPTH: -1 USE: DO
ADDRESS: LATITUDE: 34-32-95 DRILL DEPTH: 325 YIELD: 2
, DISTANCE: 0.00 MILES UNK ELEV: -1.00
REMARKS: LOCATION: Nr. Anderson

COMPANY: Jim Eiland COUNTY: AQUIFER: SCWRC: 51I--z07
CONTACT: PHONE: LONGITUDE: 82-42-95 COMP. DEPTH: -1 USE: DO
ADDRESS: LATITUDE: 34-32-95 DRILL DEPTH: 305 YIELD: 40
, DISTANCE: 0.00 MILES UNK ELEV: -1.00
REMARKS: LOCATION: Nr. Anderson

COMPANY: K. R. Gillespie COUNTY: AQUIFER: SCWRC: 51I--z08
CONTACT: PHONE: LONGITUDE: 82-42-95 COMP. DEPTH: -1 USE: DO
ADDRESS: LATITUDE: 34-32-95 DRILL DEPTH: 185 YIELD: 10
, DISTANCE: 0.00 MILES UNK ELEV: -1.00
REMARKS: LOCATION: I-85 & Hwy. 76

COMPANY: Roy Pennell, Jr. COUNTY: AQUIFER: SCWRC: 51I--z09
CONTACT: PHONE: LONGITUDE: 82-42-95 COMP. DEPTH: -1 USE: DO
ADDRESS: LATITUDE: 34-32-95 DRILL DEPTH: 145 YIELD: 40
, DISTANCE: 0.00 MILES UNK ELEV: -1.00
REMARKS: LOCATION: Anderson

NOTE: LATITUDES OR LONGITUDES ENDING IN 95 ARE ONLY ACCURATE TO WITHIN 5 MINUTES.
LATITUDES OR LONGITUDES ENDING IN 91 ARE ONLY ACCURATE TO WITHIN 1 MINUTE.

S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
SITE BEING EVALUATED J P STEVENS, 343904.9 LATITUDE 825153.6 LONGITUDE
THE GROUNDWATER SUPPLIES FOUND WITHIN 4 MILES
THIS REPORT IS BASED UPON DATA PROVIDED BY THE S.C. WATER RESOURCES COMMISSION (02/92).

COMPANY: William Shiflet — COUNTY: — AQUIFER: — SCWRC: 51I--z10
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 265 — YIELD: 20
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Nr. Anderson

COMPANY: John Davenport — COUNTY: — AQUIFER: — SCWRC: 51I--z11
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 200 — YIELD: 10
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Nr. Anderson

COMPANY: William McClain — COUNTY: — AQUIFER: — SCWRC: 51I--z12
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 245 — YIELD: 2
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Anderson

COMPANY: Bill Brissey — COUNTY: — AQUIFER: — SCWRC: 51I--z13
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 355 — YIELD: 25
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: NW of Anderson

COMPANY: John Arflin — COUNTY: — AQUIFER: — SCWRC: 51I--z14
CONTACT: — PHONE: — LONGITUDE: 82-42-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 247 — YIELD: -1
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: W of Anderson

NOTE: LATITUDES OR LONGITUDES ENDING IN 95 ARE ONLY ACCURATE TO WITHIN 5 MINUTES.
LATITUDES OR LONGITUDES ENDING IN 91 ARE ONLY ACCURATE TO WITHIN 1 MINUTE.

S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
SITE BEING EVALUATED J P STEVENS, 343904.9 LATITUDE 825153.6 LONGITUDE
THE GROUNDWATER SUPPLIES FOUND WITHIN 4 MILES
THIS REPORT IS BASED UPON DATA PROVIDED BY THE S.C. WATER RESOURCES COMMISSION (02/92).

COMPANY: COUNTY: AQUIFER: SCWRC: 52G--o07
CONTACT: PHONE: LONGITUDE: 82-49-46 COMP. DEPTH: -1 USE:
ADDRESS: LATITUDE: 34-42-19 DRILL DEPTH: -1 YIELD: 5
, DISTANCE: 4.23 MILES NNE ELEV: 680.00
REMARKS: Off hwy. 133 LOCATION:

COMPANY: Louise Johnson COUNTY: AQUIFER: SCWRC: 52H--bz1
CONTACT: PHONE: LONGITUDE: 82-46-91 COMP. DEPTH: -1 USE: DO
ADDRESS: LATITUDE: 34-39-91 DRILL DEPTH: 35 YIELD: -1
, DISTANCE: 0.00 MILES UNK ELEV: -1.00
REMARKS: LOCATION: Pendleton

COMPANY: COUNTY: AQUIFER: SCWRC: 52H--d01
CONTACT: PHONE: LONGITUDE: 82-48-55 COMP. DEPTH: -1 USE:
ADDRESS: LATITUDE: 34-39-20 DRILL DEPTH: -1 YIELD: 5
, DISTANCE: 2.85 MILES ENE ELEV: 718.00
REMARKS: nr New Hope School LOCATION:

COMPANY: Lola McDowell COUNTY: AQUIFER: SCWRC: 52H--d05
CONTACT: PHONE: LONGITUDE: 82-48-48 COMP. DEPTH: -1 USE: DO
ADDRESS: LATITUDE: 34-39-16 DRILL DEPTH: 60 YIELD: -1
, DISTANCE: 2.95 MILES ENE ELEV: 785.00
REMARKS: Off Hwy 76 LOCATION: Rt. 2 Pendleton

COMPANY: COUNTY: AQUIFER: SCWRC: 52H--f02
CONTACT: PHONE: LONGITUDE: 82-49-05 COMP. DEPTH: -1 USE:
ADDRESS: LATITUDE: 34-39-05 DRILL DEPTH: -1 YIELD: 5
, DISTANCE: 2.68 MILES ENE ELEV: 730.00
REMARKS: nr. New Hope School LOCATION:

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LATITUDES OR LONGITUDES ENDING IN 91 ARE ONLY ACCURATE TO WITHIN 1 MINUTE.

S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
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COMPANY: COUNTY: AQUIFER: SCWRC: 52H--f03
CONTACT: PHONE: LONGITUDE: 82-49-08 COMP. DEPTH: -1 USE:
ADDRESS: LATITUDE: 34-39-39 DRILL DEPTH: -1 YIELD: 5
, DISTANCE: 2.71 MILES ENE ELEV: 715.00
REMARKS: nr. New Hope School LOCATION:

COMPANY: James Dickson COUNTY: AQUIFER: SCWRC: 52H--u02
CONTACT: PHONE: LONGITUDE: 82-45-91 COMP. DEPTH: -1 USE: DO
ADDRESS: LATITUDE: 34-37-95 DRILL DEPTH: 20 YIELD: -1
, DISTANCE: 0.00 MILES UNK ELEV: -1.00
REMARKS: WRRI Proj. A-047-SC LOCATION: SE of Pendleton

COMPANY: Annabelle Bowen COUNTY: AQUIFER: SCWRC: 52H--v01
CONTACT: PHONE: LONGITUDE: 82-46-91 COMP. DEPTH: -1 USE: DO
ADDRESS: LATITUDE: 34-35-91 DRILL DEPTH: -1 YIELD: -1
, DISTANCE: 0.00 MILES UNK ELEV: -1.00
REMARKS: WRRI Proj. A-047-SC LOCATION: S of Pendleton

COMPANY: Lucille O. Whiteley COUNTY: AQUIFER: SCWRC: 52H--z01
CONTACT: PHONE: LONGITUDE: 82-47-95 COMP. DEPTH: -1 USE: DO
ADDRESS: LATITUDE: 34-37-95 DRILL DEPTH: 225 YIELD: 7
, DISTANCE: 0.00 MILES UNK ELEV: -1.00
REMARKS: LOCATION: Pendleton

COMPANY: Pamela M. Spencer COUNTY: AQUIFER: SCWRC: 52H--z02
CONTACT: PHONE: LONGITUDE: 82-47-95 COMP. DEPTH: -1 USE: DO
ADDRESS: LATITUDE: 34-37-95 DRILL DEPTH: 325 YIELD: 30
, DISTANCE: 0.00 MILES UNK ELEV: -1.00
REMARKS: LOCATION: Pendleton

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LATITUDES OR LONGITUDES ENDING IN 91 ARE ONLY ACCURATE TO WITHIN 1 MINUTE.

S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
SITE BEING EVALUATED J P STEVENS, 343904.9 LATITUDE 825153.6 LONGITUDE
THE GROUNDWATER SUPPLIES FOUND WITHIN 4 MILES
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COMPANY: Robert A. Taylor — COUNTY: — AQUIFER: — SCWRC: 52H--z03
CONTACT: — PHONE: — LONGITUDE: 82-47-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-37-95 — DRILL DEPTH: 19 — YIELD: -1
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: NW of Anderson

COMPANY: Walter Davis — COUNTY: — AQUIFER: — SCWRC: 52I--bz1
CONTACT: — PHONE: — LONGITUDE: 82-46-91 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-34-91 — DRILL DEPTH: 580 — YIELD: 1
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: NW of Anderson

COMPANY: Harold E. Albert — COUNTY: — AQUIFER: — SCWRC: 52I--d01
CONTACT: — PHONE: — LONGITUDE: 82-48-91 — COMP. DEPTH: -1 — USE:
ADDRESS: — LATITUDE: 34-34-91 — DRILL DEPTH: 260 — YIELD: 60
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Anderson

COMPANY: Louis Langford — COUNTY: — AQUIFER: — SCWRC: 52I--e02
CONTACT: — PHONE: — LONGITUDE: 82-49-91 — COMP. DEPTH: -1 — USE: DH
ADDRESS: — LATITUDE: 34-34-91 — DRILL DEPTH: 300 — YIELD: -1
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: WRRI Proj. A-047-SC — LOCATION: SW of Pendelton

COMPANY: Louis Langford — COUNTY: — AQUIFER: — SCWRC: 52I--e03
CONTACT: — PHONE: — LONGITUDE: 82-49-91 — COMP. DEPTH: -1 — USE: DH
ADDRESS: — LATITUDE: 34-34-91 — DRILL DEPTH: 250 — YIELD: -1
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: WRRI Proj. A-047-SC — LOCATION: SE of Pendleton

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LATITUDES OR LONGITUDES ENDING IN 91 ARE ONLY ACCURATE TO WITHIN 1 MINUTE.

S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
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COMPANY: Charles Loyd — COUNTY: — AQUIFER: — SCWRC: 52I--ez1
CONTACT: — PHONE: — LONGITUDE: 82-49-91 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-34-91 — DRILL DEPTH: 315 — YIELD: 200
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: NW of Anderson

COMPANY: Truman Huggins — COUNTY: — AQUIFER: — SCWRC: 52I--u01
CONTACT: — PHONE: — LONGITUDE: 82-45-91 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 43 — YIELD: -1
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: W of Anderson

COMPANY: T. Ree McCoy — COUNTY: — AQUIFER: — SCWRC: 52I--z01
CONTACT: — PHONE: — LONGITUDE: 82-47-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 225 — YIELD: 160
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Anderson

COMPANY: Ralph McClain — COUNTY: — AQUIFER: — SCWRC: 52I--z02
CONTACT: — PHONE: — LONGITUDE: 82-47-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 125 — YIELD: 6
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Nr. Sandy Springs

COMPANY: Thomas McAfee, Jr. — COUNTY: — AQUIFER: — SCWRC: 52I--z03
CONTACT: — PHONE: — LONGITUDE: 82-47-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 300 — YIELD: 6
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Nr. Anderson

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S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
SITE BEING EVALUATED J P STEVENS, 343904.9 LATITUDE 825153.6 LONGITUDE
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THIS REPORT IS BASED UPON DATA PROVIDED BY THE S.C. WATER RESOURCES COMMISSION (02/92).

COMPANY: Ben Wofford — COUNTY: — AQUIFER: — SCWRC: 52I--zO4
CONTACT: — PHONE: — LONGITUDE: 82-47-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 125 — YIELD: 12
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Nr. Anderson

COMPANY: C. A. Latimer — COUNTY: — AQUIFER: — SCWRC: 52I--zO5
CONTACT: — PHONE: — LONGITUDE: 82-47-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 305 — YIELD: 1
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Nr. Anderson

COMPANY: Mary J. McPhail — COUNTY: — AQUIFER: — SCWRC: 52I--zO6
CONTACT: — PHONE: — LONGITUDE: 82-47-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 280 — YIELD: 6
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: W of Anderson

COMPANY: Tommy Thomas — COUNTY: — AQUIFER: — SCWRC: 52I--zO7
CONTACT: — PHONE: — LONGITUDE: 82-47-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 405 — YIELD: 12
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: W of Anderson

COMPANY: Warren Carpenter — COUNTY: — AQUIFER: — SCWRC: 53G--nO1
CONTACT: — PHONE: — LONGITUDE: 82-53-91 — COMP. DEPTH: -1 — USE: HP
ADDRESS: — LATITUDE: 34-42-91 — DRILL DEPTH: 425 — YIELD: 110
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: E of Seneca

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S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
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THIS REPORT IS BASED UPON DATA PROVIDED BY THE S.C. WATER RESOURCES COMMISSION (02/92).

COMPANY: Clemson University — COUNTY: — AQUIFER: — SCWRC: 53H--a02
CONTACT: — PHONE: — LONGITUDE: 82-50-39 — COMP. DEPTH: -1 — USE: IR
ADDRESS: — LATITUDE: 34-39-55 — DRILL DEPTH: 300 — YIELD: 30
, — DISTANCE: 1.52 MILES ENE — ELEV: 670.00
REMARKS: — LOCATION: Clemson, SC

COMPANY: Jennie White — COUNTY: — AQUIFER: — SCWRC: 53H--g03
CONTACT: — PHONE: — LONGITUDE: 82-53-25 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-38-02 — DRILL DEPTH: -1 — YIELD: -1
, — DISTANCE: 1.89 MILES WSW — ELEV: 800.00
REMARKS: Hwy 65 — LOCATION: Seneca

COMPANY: Family Homes — COUNTY: — AQUIFER: — SCWRC: 53H--g04
CONTACT: — PHONE: — LONGITUDE: 82-53-91 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-38-91 — DRILL DEPTH: 265 — YIELD: 12
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: SE of Seneca

COMPANY: Bet Wilson — COUNTY: — AQUIFER: — SCWRC: 53H--h04
CONTACT: — PHONE: — LONGITUDE: 82-50-30 — COMP. DEPTH: -1 — USE:
ADDRESS: — LATITUDE: 34-38-39 — DRILL DEPTH: -1 — YIELD: -1
, — DISTANCE: 1.42 MILES ESE — ELEV: 615.00
REMARKS: — LOCATION: Wilson's Landing

COMPANY: Thad Cwik — COUNTY: — AQUIFER: — SCWRC: 53H--y03
CONTACT: — PHONE: — LONGITUDE: 82-54-91 — COMP. DEPTH: -1 — USE: HP
ADDRESS: — LATITUDE: 34-35-91 — DRILL DEPTH: 450 — YIELD: 65
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: S of Seneca

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S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
SITE BEING EVALUATED J P STEVENS, 343904.9 LATITUDE 825153.6 LONGITUDE
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THIS REPORT IS BASED UPON DATA PROVIDED BY THE S.C. WATER RESOURCES COMMISSION (02/92).

COMPANY: Army Corps of Eng. COUNTY: AQUIFER: SCWRC: 53H--z01
CONTACT: PHONE: LONGITUDE: 82-52-95 COMP. DEPTH: -1 USE: OB
ADDRESS: LATITUDE: 34-37-95 DRILL DEPTH: 520 YIELD: 9
, DISTANCE: 0.00 MILES UNK ELEV: -1.00
REMARKS: Pk entr road& 93 LOCATION: Twin Lakes Rec. Area

COMPANY: Timber Lake SD COUNTY: AQUIFER: SCWRC: 53H?-z02
CONTACT: PHONE: LONGITUDE: 82-52-95 COMP. DEPTH: -1 USE: WS
ADDRESS: LATITUDE: 34-37-30 DRILL DEPTH: 145 YIELD: 40
, DISTANCE: 2.43 MILES SSW ELEV: 690.00
REMARKS: see DHEC WS#537006,7 LOCATION: Tokeena Crossroads

COMPANY: Timber Lake SD COUNTY: AQUIFER: SCWRC: 53H?-z03
CONTACT: PHONE: LONGITUDE: 82-52-95 COMP. DEPTH: -1 USE: WS
ADDRESS: LATITUDE: 34-37-30 DRILL DEPTH: 565 YIELD: 15
, DISTANCE: 2.43 MILES SSW ELEV: 707.00
REMARKS: see DHEC WS#537006,7 LOCATION: Tokeena Crossroads

COMPANY: Timber Lake SD COUNTY: AQUIFER: SCWRC: 53H?-zo4
CONTACT: PHONE: LONGITUDE: 82-52-95 COMP. DEPTH: -1 USE: WS
ADDRESS: LATITUDE: 34-37-30 DRILL DEPTH: 105 YIELD: 60
, DISTANCE: 2.43 MILES SSW ELEV: 691.00
REMARKS: see DHEC WS#537006,7 LOCATION: Tokeena Crossroads

COMPANY: COUNTY: AQUIFER: SCWRC: 53I--z01
CONTACT: PHONE: LONGITUDE: 82-52-95 COMP. DEPTH: -1 USE:
ADDRESS: LATITUDE: 34-32-95 DRILL DEPTH: 220 YIELD: 20
, DISTANCE: 0.00 MILES UNK ELEV: -1.00
REMARKS: LOCATION: Townville

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S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
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COMPANY: Corps of Engineers — COUNTY: — AQUIFER: — SCWRC: 53I--z02
CONTACT: — PHONE: — LONGITUDE: 82-52-95 — COMP. DEPTH: -1 — USE:
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 275 — YIELD: 4
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Townville

COMPANY: King Oil Co. — COUNTY: — AQUIFER: — SCWRC: 53I--z03
CONTACT: — PHONE: — LONGITUDE: 82-52-95 — COMP. DEPTH: -1 — USE:
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 205 — YIELD: 15
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Anderson

COMPANY: State Hwy. Dept. — COUNTY: — AQUIFER: — SCWRC: 53I--z04
CONTACT: — PHONE: — LONGITUDE: 82-52-95 — COMP. DEPTH: -1 — USE:
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 162 — YIELD: 13
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: I-85 Weigh Station

COMPANY: State Hwy. Dept. — COUNTY: — AQUIFER: — SCWRC: 53I--z05
CONTACT: — PHONE: — LONGITUDE: 82-52-95 — COMP. DEPTH: -1 — USE:
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 243 — YIELD: -1
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: I-85 Weigh Station

COMPANY: Foster Const. Co. — COUNTY: — AQUIFER: — SCWRC: 53I--z06
CONTACT: — PHONE: — LONGITUDE: 82-52-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 245 — YIELD: 20
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: I-85 & Hwy. 24

NOTE: LATITUDES OR LONGITUDES ENDING IN 95 ARE ONLY ACCURATE TO WITHIN 5 MINUTES.
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S.C. DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF SOLID & HAZARDOUS WASTE
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COMPANY: Ben Willingham — COUNTY: — AQUIFER: — SCWRC: 53I--z07
CONTACT: — PHONE: — LONGITUDE: 82-52-95 — COMP. DEPTH: -1 — USE: DO
RESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 125 — YIELD: 150
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Townville

COMPANY: Melvin Rumsey — COUNTY: — AQUIFER: — SCWRC: 53I--z08
CONTACT: — PHONE: — LONGITUDE: 82-52-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 105 — YIELD: 20
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: Townville

COMPANY: Roy Kelley — COUNTY: — AQUIFER: — SCWRC: 54I--z01
CONTACT: — PHONE: — LONGITUDE: 82-57-95 — COMP. DEPTH: -1 — USE: DO
ADDRESS: — LATITUDE: 34-32-95 — DRILL DEPTH: 240 — YIELD: 6
, — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: — LOCATION: W of Anderson

COMPANY: Terry Alexander — COUNTY: — AQUIFER: — SCWRC: 52H--rz1
TACT: — PHONE: 369-6676 — LONGITUDE: 82-47-91 — COMP. DEPTH: -1 — USE: DO
ADDRESS: 106 Virginia Ave. — LATITUDE: 34-36-91 — DRILL DEPTH: 220 — YIELD: 5
Honea Path, SC 29654 — DISTANCE: 0.00 MILES UNK — ELEV: -1.00
REMARKS: "Iron Ore or Red Rock mixed with Granite 100'- 110'" — LOCATION: SW of Pendleton

NOTE: LATITUDES OR LONGITUDES ENDING IN 95 ARE ONLY ACCURATE TO WITHIN 5 MINUTES.

SITE STEVENS, J P & CO STATE SC MANAGER JOHN CRISWELL
PROJECT # 94-0597 SHIPWEEK 08/22/94

SOILVOA BOOKED	29	DATA RECEIVED	/ /	FOR		SAMPLES
H2OVOA BOOKED	1	DATA RECEIVED	/ /	FOR		SAMPLES
SOILEXT BOOKED	29	DATA RECEIVED	/ /	FOR		SAMPLES
H2OEXT BOOKED	1	DATA RECEIVED	/ /	FOR		SAMPLES
SOILPEST BOOKED	29	DATA RECEIVED	/ /	FOR		SAMPLES
H2OPEST BOOKED	1	DATA RECEIVED	/ /	FOR		SAMPLES
SOILMET BOOKED	29	DATA RECEIVED	10/06/94	FOR	30	SAMPLES
H2OMET BOOKED	1	DATA RECEIVED	10/06/94	FOR	2	SAMPLES
SOILCN BOOKED	29	DATA RECEIVED	10/06/94	FOR	30	SAMPLES
H2OCN BOOKED	1	DATA RECEIVED	10/06/94	FOR	2	SAMPLES
SOILOTH1 BOOKED	0	DATA RECEIVED	/ /	FOR		SAMPLES
SOILOTH2 BOOKED	0	DATA RECEIVED	/ /	FOR		SAMPLES
H2OOTH1 BOOKED	0	DATA RECEIVED	/ /	FOR		SAMPLES
H2OOTH2 BOOKED	0	DATA RECEIVED	/ /	FOR		SAMPLES
OTHER1 BOOKED	0	DATA RECEIVED	/ /	FOR		SAMPLES
OTHER2 BOOKED	0	DATA RECEIVED	/ /	FOR		SAMPLES

LAB(CLP/ESD/FASP/QTM) CLP

REMARKS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV
Environmental Services Division
College Station Road, Athens, Ga. 30613

*****MEMORANDUM******

DATE: 10/01/94

SUBJECT: Results of Metals Analysis;
94-0597 STEVENS JP & CO INC
CLEMSON SC
CASE NO: 22607

FROM: Charles H. Hooper
Chief, Laboratory Evaluation/Quality Assurance Section

TO: JOHN CRISWELL

Attached are the results of analysis of samples collected as part of the subject project.

As a result of the Quality Assurance Review, certain data qualifiers may have been placed on the data. Attached is a DATA QUALIFIER REPORT which explains the reasons that these qualifiers were required.

If you have any questions please contact me.

ATTACHMENT

INORGANIC DATA QUALIFIERS REPORT

Case Number: 22607
Project Number: 94-0597
Site: Stevens JP & Co Inc., Clemson, SC

Element	Flag	Samples Affected	Reason
A. Water			
Sb, Cr, Pb, Mn Ag, Tl, V	U	All positives > IDL, but < CRDL	Baseline instability
Al, Zn	U	All positives > IDL, but < 10X contaminant level	Positives in blanks
Pb	JN	All positives with Al or Fe concentrations in solution > 100,000 ug/L	Suspected positive interference as noted in the contractor ICS
Ba	J R	All positives All negatives	Matrix spike recovery = 27.2%
Fe	J	All	Matrix spike recovery = 62.5%
Pb	J	All	Matrix spike recovery = 47.5%
Ag	J	All	Matrix spike recovery = 53.1%
Na	J	All	Serial dilution percent difference = 16.7%
As	J	MDHK90	Only analysis of 2X CRDL standard required by contract SOW for ICP analysis
B. Soil			
Sb, Cr, Pb, Mn Ag, Tl, V	U	All positives > IDL, but < CRDL	Baseline instability
Al, Ba, Fe, K, Zn	U	All positives > IDL, but < 10X contaminant level	Positives in blanks
Sb	JN	All positives in SDG MDHK86 & 90 with Al or Fe concentrations in solution > 140,000 ug/L	Suspected positive interference as noted in the contractor ICS
Pb	JN	All positives in SDG MDHK86 & 90 with Al or Fe concentrations in solution > 100,000 ug/L	Suspected positive interference as noted in the contractor ICS
Se	J	All in SDG MDHK90 with Al or Fe concentrations in solution > 75,000 ug/L	Suspected over correction as contractor ICS
Tl	J	All in SDG MDHK90 with Al or Fe concentrations in solution > 120,000 ug/L	Suspected over correction as contractor ICS
Sb	J	All in SDG MDHK86	Matrix spike recovery = 42.1%
Sb	J	All in SDG MDHK90	Matrix spike recovery = 64.1%

INORGANIC DATA QUALIFIERS REPORT (continued)

Case Number: 22607
Project Number: 94-0597
Site: Stevens JP & Co Inc., Clemson, SC

Element	Flag	Samples Affected	Reason
Cr	J	All positives in SDG MDHK90	Matrix spike recovery = -50.6%
	R	All negatives in SDG MDHK90	Matrix duplicate RPD = 165.4%
Cu	J	All positives in SDG MDHK90	Matrix spike recovery = -118.9%
	R	All negatives in SDG MDHK90	Matrix duplicate RPD = 135.9%
Cu	J	All in SDG MDHK86	Matrix duplicate RPD = 63.4%
Mn	J	All positives in SDG MDHK90	Matrix spike recovery = -46.4%
	R	All negatives in SDG MDHK90	Matrix duplicate RPD = 146.5%
As	J	All in SDG MDHK90	Matrix duplicate RPD = 122.5%
Fe	J	All in SDG MDHK90	Matrix duplicate RPD = 172.7%
Pb	J	All in SDG MDHK90	Matrix spike recovery = 64.2%
Zn	J	All in SDG MDHK90	Matrix duplicate RPD = 135.7%
Se	JN	MDHK87, 91, MDHZ46, 47, 48, & 50	Suspected positive interference from high Fe concentrations in solution
Ni	JN	MDHK91, MDHZ43 & 51	Suspected positive interference from high Fe concentrations in solution
Ag	JN	MDHZ51 & 62	Suspected positive interference from high Fe concentrations in solution
Cd	JN	MDHZ56	Suspected positive interference from high Fe concentration in solution
Cr	J	MDHZ45	% RSD > 20% for ICP multiple exposures
Co	J	MDHZ49, 52, 55, 58, 60, 63, 64, & 65	% RSD > 20% for ICP multiple exposures
Ni	J	MDHK87, 88, 89, MDHZ44, 45, 47, 48, 49, 50, 52, 56, 61 64, & 67	% RSD > 20% for ICP multiple exposures
As	U	MDHK86, 88, MDHZ46	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL
Be	U	MDHZ49, 56, 58, 62, 63, & 67	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL
Cd	U	MDHZ50	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL

INORGANIC DATA QUALIFIERS REPORT (continued)

Case Number: 22607
Project Number: 94-0597
Site: Stevens JP & Co Inc., Clemson, SC

Element	Flag	Samples Affected	Reason
Se	U	MDHK82, 89, MDHZ49, & 54	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL
As	J	MDHK87, MDHZ47, 53, 65, & 67	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis
Be	J	MDHK87, 88, 91, MDHZ43, 44, 45, 46, 47, 48, 51, 57, 59, 60, 61, 64, & 65	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis
Cd	J	MDHZ51	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis
Se	J	MDHK88, & MDHZ55	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89536 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 026-SD COLLECTION START: 08/31/94 0900 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HK86

MG/KG	ANALYTICAL RESULTS
4000	ALUMINUM
3.2UJ	ANTIMONY
1U	ARSENIC
18	BARIUM
0.27U	BERYLLIUM
0.53U	CADMIUM
100	CALCIUM
5.2	CHROMIUM
0.80U	COBALT
24J	COPPER
3800	IRON
5.9	LEAD
76	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
78	MANGANESE
0.13U	MERCURY
1.9U	NICKEL
140U	POTASSIUM
1U	SELENIUM
1U	SILVER
40U	SODIUM
0.80U	THALLIUM
NA	TIN
20U	VANADIUM
7U	ZINC
25	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 09/30/94

PROJECT NO. 94-0597 SAMPLE NO. 89537 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 027-SD COLLECTION START: 08/31/94 0957 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HK87

MG/KG	ANALYTICAL RESULTS
30000	ALUMINUM
20UJ	ANTIMONY
2.3J	ARSENIC
41	BARIUM
0.93J	BERYLLIUM
0.59U	CADMIUM
67	CALCIUM
43	CHROMIUM
19	COBALT
42J	COPPER
55000	IRON
22JN	LEAD
1600	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
470	MANGANESE
0.15U	MERCURY
5.3J	NICKEL
1300U	POTASSIUM
2.8JN	SELENIUM
3U	SILVER
50U	SODIUM
0.88U	THALLIUM
NA	TIN
140	VANADIUM
30U	ZINC
32	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89538 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 028-SD COLLECTION START: 08/31/94 0930 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HK88

MG/KG	ANALYTICAL RESULTS
19000	ALUMINUM
3.2UJ	ANTIMONY
1U	ARSENIC
57	BARIUM
0.93J	BERYLLIUM
0.53U	CADMIUM
300	CALCIUM
11	CHROMIUM
4.4	COBALT
16J	COPPER
25000	IRON
7.7	LEAD
3900	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
200	MANGANESE
0.13U	MERCURY
7.4J	NICKEL
1600	POTASSIUM
1.3J	SELENIUM
2U	SILVER
69	SODIUM
0.79U	THALLIUM
NA	TIN
59	VANADIUM
30U	ZINC
24	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89539 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 029-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1025 STOP: 00/00/00
MD NUMBER: HK89

MG/KG	ANALYTICAL RESULTS
12000	ALUMINUM
4.2UJ	ANTIMONY
0.71U	ARSENIC
77	BARIUM
0.57J	BERYLLIUM
0.71U	CADMIUM
300	CALCIUM
25	CHROMIUM
6.9	COBALT
28J	COPPER
13000	IRON
20	LEAD
2200	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
45	MANGANESE
0.18U	MERCURY
2.9J	NICKEL
680U	POTASSIUM
2U	SELENIUM
2U	SILVER
60U	SODIUM
1.1U	THALLIUM
NA	TIN
41	VANADIUM
40U	ZINC
43	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89540 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 030-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HK90

UG/L	ANALYTICAL RESULTS
130U	ALUMINUM
50U	ANTIMONY
10J	ARSENIC
17J	BARIUM
1U	BERYLLIUM
2U	CADMIUM
9600	CALCIUM
3	CHROMIUM
3U	COBALT
43	COPPER
3200J	IRON
2UJ	LEAD
5200	MAGNESIUM

UG/L	ANALYTICAL RESULTS
27	MANGANESE
0.20U	MERCURY
7U	NICKEL
53000	POTASSIUM
5U	SELENIUM
2UJ	SILVER
1400000J	SODIUM
5U	THALLIUM
NA	TIN
58	VANADIUM
64	ZINC

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89541 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 031-SS COLLECTION START: 08/31/94 0857 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HK91

MG/KG	ANALYTICAL RESULTS
32000	ALUMINUM
9UJ	ANTIMONY
2.8	ARSENIC
220	BARIUM
1.2J	BERYLLIUM
0.51U	CADMIUM
520	CALCIUM
54	CHROMIUM
11	COBALT
36J	COPPER
35000	IRON
41	LEAD
4700	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
390	MANGANESE
0.13U	MERCURY
16JN	NICKEL
2900	POTASSIUM
1.9JN	SELENIUM
2U	SILVER
57	SODIUM
0.76U	THALLIUM
NA	TIN
81	VANADIUM
72	ZINC
21	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89542 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 032-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HK92

UG/L	ANALYTICAL RESULTS
120U	ALUMINUM
50U	ANTIMONY
8U	ARSENIC
17J	BARIUM
1U	BERYLLIUM
2U	CADMIUM
9200	CALCIUM
3U	CHROMIUM
3U	COBALT
41	COPPER
3000J	IRON
2UJ	LEAD
5100	MAGNESIUM

UG/L	ANALYTICAL RESULTS
25	MANGANESE
0.20U	MERCURY
7U	NICKEL
54000	POTASSIUM
5U	SELENIUM
2UJ	SILVER
1200000J	SODIUM
5U	THALLIUM
NA	TIN
56	VANADIUM
69	ZINC

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89548 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 001-SS COLLECTION START: 08/31/94 0857 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ43

MG/KG	ANALYTICAL RESULTS
29000	ALUMINUM
20UJ	ANTIMONY
2.8	ARSENIC
230	BARIUM
0.98J	BERYLLIUM
0.51U	CADMIUM
520	CALCIUM
57	CHROMIUM
11	COBALT
33J	COPPER
36000	IRON
48JN	LEAD
4900	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
380	MANGANESE
0.13U	MERCURY
15JN	NICKEL
2900	POTASSIUM
2JN	SELENIUM
2U	SILVER
63	SODIUM
0.76U	THALLIUM
NA	TIN
84	VANADIUM
73	ZINC
21	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89549 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 002-SS COLLECTION START: 08/31/94 0925 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ44

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
20000	ALUMINUM	1400	MANGANESE
8UJ	ANTIMONY	0.12U	MERCURY
3.4	ARSENIC	3.6J	NICKEL
82	BARIUM	250U	POTASSIUM
0.58J	BERYLLIUM	1.6JN	SELENIUM
0.49U	CADMIUM	2U	SILVER
1500	CALCIUM	40U	SODIUM
22	CHROMIUM	0.73U	THALLIUM
6.6	COBALT	NA	TIN
18J	COPPER	70	VANADIUM
27000	IRON	71	ZINC
150JN	LEAD	18	PERCENT MOISTURE
570	MAGNESIUM		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89550 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 003-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0950 STOP: 00/00/00
MD NUMBER: HZ45

MG/KG	ANALYTICAL RESULTS
2400	ALUMINUM
3UJ	ANTIMONY
5	ARSENIC
72	BARIUM
1.2J	BERYLLIUM
0.50U	CADMIUM
1400	CALCIUM
3.2J	CHROMIUM
3.1	COBALT
13J	COPPER
4100	IRON
2.2	LEAD
140	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
22	MANGANESE
0.13U	MERCURY
4.2J	NICKEL
190U	POTASSIUM
0.75U	SELENIUM
0.50U	SILVER
60	SODIUM
0.75U	THALLIUM
NA	TIN
14	VANADIUM
5U	ZINC
20	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89551 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 004-SS COLLECTION START: 08/31/94 1015 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ46

MG/KG	ANALYTICAL RESULTS
17000	ALUMINUM
10UJ	ANTIMONY
2U	ARSENIC
21	BARIUM
0.53J	BERYLLIUM
0.50U	CADMIUM
200	CALCIUM
29	CHROMIUM
2.6	COBALT
27J	COPPER
43000	IRON
9.8JN	LEAD
150	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
160	MANGANESE
0.12U	MERCURY
1.7U	NICKEL
220U	POTASSIUM
2.2JN	SELENIUM
2U	SILVER
40U	SODIUM
0.75U	THALLIUM
NA	TIN
110	VANADIUM
20U	ZINC
20	PERCENT MOISTURE

REMARKS

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FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89552 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 005-SS COLLECTION START: 08/31/94 1033 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ47

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
24000	ALUMINUM	730	MANGANESE
7UJ	ANTIMONY	0.16	MERCURY
2.7J	ARSENIC	7.1J	NICKEL
180	BARIUM	830U	POTASSIUM
0.70J	BERYLLIUM	2.3JN	SELENIUM
0.57U	CADMIUM	2U	SILVER
3100	CALCIUM	50U	SODIUM
18	CHROMIUM	0.86U	THALLIUM
8.2	COBALT	NA	TIN
35J	COPPER	79	VANADIUM
33000	IRON	59	ZINC
21JN	LEAD	30	PERCENT MOISTURE
3500	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89553 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 006-SS COLLECTION START: 08/31/94 1056 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ48

MG/KG	ANALYTICAL RESULTS
24000	ALUMINUM
7UJ	ANTIMONY
1U	ARSENIC
150	BARIUM
0.57J	BERYLLIUM
0.48U	CADMIUM
2500	CALCIUM
17	CHROMIUM
9.8	COBALT
48J	COPPER
36000	IRON
13JN	LEAD
4800	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
390	MANGANESE
0.12U	MERCURY
3.7J	NICKEL
3300	POTASSIUM
1.9JN	SELENIUM
2U	SILVER
380	SODIUM
0.71U	THALLIUM
NA	TIN
72	VANADIUM
68	ZINC
16	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89554 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 007-SS COLLECTION START: 08/31/94 1140 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ49

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
19000	ALUMINUM	160	MANGANESE
6UJ	ANTIMONY	0.19	MERCURY
3.6	ARSENIC	3.2J	NICKEL
26	BARIUM	270U	POTASSIUM
1U	BERYLLIUM	1U	SELENIUM
0.52U	CADMIUM	3.9	SILVER
13000	CALCIUM	68	SODIUM
32	CHROMIUM	0.78U	THALLIUM
2J	COBALT	NA	TIN
67J	COPPER	44	VANADIUM
22000	IRON	30U	ZINC
16	LEAD	23	PERCENT MOISTURE
280	MAGNESIUM		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89555 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 008-SS COLLECTION START: 08/31/94 1205 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ50

MG/KG	ANALYTICAL RESULTS
24000	ALUMINUM
10UJ	ANTIMONY
5.1	ARSENIC
20U	BARIUM
0.26U	BERYLLIUM
1U	CADMIUM
530	CALCIUM
26	CHROMIUM
0.78U	COBALT
14J	COPPER
46000	IRON
8.3JN	LEAD
260	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
66	MANGANESE
0.16	MERCURY
2J	NICKEL
560U	POTASSIUM
2.3JN	SELENIUM
2U	SILVER
40U	SODIUM
0.78U	THALLIUM
NA	TIN
87	VANADIUM
20U	ZINC
23	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89556 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 009-SS COLLECTION START: 08/31/94 1217 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ51

MG/KG	ANALYTICAL RESULTS
6600	ALUMINUM
20UJ	ANTIMONY
11	ARSENIC
90	BARIUM
0.87J	BERYLLIUM
1.1J	CADMIUM
79000	CALCIUM
45	CHROMIUM
3.9	COBALT
250J	COPPER
42000	IRON
31JN	LEAD
1100	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
360	MANGANESE
0.22	MERCURY
14JN	NICKEL
200U	POTASSIUM
1.6JN	SELENIUM
8.7JN	SILVER
210	SODIUM
0.88U	THALLIUM
NA	TIN
46	VANADIUM
670	ZINC
32	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89557 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 010-SS COLLECTION START: 08/31/94 1233 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ52

MG/KG	ANALYTICAL RESULTS
17000	ALUMINUM
6UJ	ANTIMONY
3.3	ARSENIC
18	BARIUM
0.24U	BERYLLIUM
0.47U	CADMIUM
130	CALCIUM
26	CHROMIUM
2.1J	COBALT
11J	COPPER
19000	IRON
9.2	LEAD
130	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
120	MANGANESE
0.16	MERCURY
3.8J	NICKEL
230U	POTASSIUM
1U	SELENIUM
1U	SILVER
40U	SODIUM
0.71U	THALLIUM
NA	TIN
47	VANADIUM
20U	ZINC
15	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89558 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 011-SD COLLECTION START: 08/31/94 1235 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ53

MG/KG	ANALYTICAL RESULTS
10000	ALUMINUM
3UJ	ANTIMONY
1.3J	ARSENIC
34	BARIUM
0.25U	BERYLLIUM
0.50U	CADMIUM
70	CALCIUM
13	CHROMIUM
29	COBALT
9.5J	COPPER
17000	IRON
17	LEAD
71	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
990	MANGANESE
0.16	MERCURY
3.5J	NICKEL
160U	POTASSIUM
0.76U	SELENIUM
1U	SILVER
40U	SODIUM
0.76U	THALLIUM
NA	TIN
33	VANADIUM
8U	ZINC
21	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89559 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 012-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1300 STOP: 00/00/00
MD NUMBER: HZ54

MG/KG	ANALYTICAL RESULTS
15000	ALUMINUM
5UJ	ANTIMONY
2.9	ARSENIC
18	BARIUM
0.26U	BERYLLIUM
0.53U	CADMIUM
190	CALCIUM
16	CHROMIUM
0.79U	COBALT
9.5J	COPPER
21000	IRON
10	LEAD
130	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
35	MANGANESE
0.13U	MERCURY
1.9U	NICKEL
140U	POTASSIUM
2U	SELENIUM
1U	SILVER
40U	SODIUM
0.79U	THALLIUM
NA	TIN
47	VANADIUM
20U	ZINC
24	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89560 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 013-SD COLLECTION START: 08/31/94 1323 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ55

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
9600	ALUMINUM	28	MANGANESE
4UJ	ANTIMONY	0.12U	MERCURY
2U	ARSENIC	1.7U	NICKEL
9U	BARIUM	210U	POTASSIUM
0.24U	BERYLLIUM	0.88J	SELENIUM
0.49U	CADMIUM	1U	SILVER
210	CALCIUM	40U	SODIUM
12	CHROMIUM	0.73U	THALLIUM
1J	COBALT	NA	TIN
7.3J	COPPER	31	VANADIUM
15000	IRON	7U	ZINC
3.9	LEAD	18	PERCENT MOISTURE
140	MAGNESIUM		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89561 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 014-SD COLLECTION START: 08/31/94 1225 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ56

MG/KG	ANALYTICAL RESULTS
6700	ALUMINUM
28JN	ANTIMONY
14J	ARSENIC
35	BARIUM
1U	BERYLLIUM
1.4JN	CADMIUM
730	CALCIUM
80J	CHROMIUM
4.7	COBALT
170J	COPPER
70000J	IRON
39JN	LEAD
220	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
230J	MANGANESE
0.12U	MERCURY
4.1J	NICKEL
290U	POTASSIUM
1.2U	SELENIUM
3U	SILVER
40U	SODIUM
1.2U	THALLIUM
NA	TIN
25	VANADIUM
530J	ZINC
18	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89562 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 015-SD COLLECTION START: 08/31/94 1250 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ57

MG/KG	ANALYTICAL RESULTS
30000	ALUMINUM
6UJ	ANTIMONY
3.4J	ARSENIC
45	BARIUM
0.74J	BERYLLIUM
0.56U	CADMIUM
470	CALCIUM
21J	CHROMIUM
3	COBALT
14J	COPPER
18000J	IRON
17J	LEAD
410	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
100J	MANGANESE
0.14U	MERCURY
5.6J	NICKEL
330U	POTASSIUM
1.4U	SELENIUM
1U	SILVER
40U	SODIUM
1.4U	THALLIUM
NA	TIN
47	VANADIUM
40UJ	ZINC
28	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89563 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 016-SD COLLECTION START: 08/31/94 1145 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ58

MG/KG	ANALYTICAL RESULTS
20000	ALUMINUM
20UJ	ANTIMONY
5J	ARSENIC
20	BARIUM
1U	BERYLLIUM
0.54U	CADMIUM
440	CALCIUM
16J	CHROMIUM
1.7J	COBALT
18J	COPPER
24000J	IRON
10J	LEAD
290	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
110J	MANGANESE
0.14U	MERCURY
1.9U	NICKEL
630U	POTASSIUM
1.4U	SELENIUM
1U	SILVER
40U	SODIUM
1.4U	THALLIUM
NA	TIN
46	VANADIUM
70J	ZINC
26	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89564 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 017-SD COLLECTION START: 08/31/94 1200 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ59

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
16000	ALUMINUM	110J	MANGANESE
20UJ	ANTIMONY	0.14U	MERCURY
3J	ARSENIC	4	NICKEL
37	BARIUM	690U	POTASSIUM
0.65J	BERYLLIUM	1.4U	SELENIUM
0.54U	CADMIUM	2U	SILVER
1800	CALCIUM	87	SODIUM
23J	CHROMIUM	1.4U	THALLIUM
3.5	COBALT	NA	TIN
28J	COPPER	56	VANADIUM
25000J	IRON	650J	ZINC
17J	LEAD	26	PERCENT MOISTURE
740	MAGNESIUM		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89565 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 018-SD COLLECTION START: 08/31/94 1310 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ60

MG/KG	ANALYTICAL RESULTS
19000	ALUMINUM
3.1UJ	ANTIMONY
1.3UJ	ARSENIC
13	BARIUM
0.30J	BERYLLIUM
0.51U	CADMIUM
280	CALCIUM
9.6J	CHROMIUM
1.2J	COBALT
7.1J	COPPER
5000J	IRON
15J	LEAD
250	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
39J	MANGANESE
0.13U	MERCURY
1.8U	NICKEL
210U	POTASSIUM
1.3U	SELENIUM
0.51U	SILVER
38	SODIUM
1.3U	THALLIUM
NA	TIN
25	VANADIUM
20UJ	ZINC
22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89566 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 019-SD COLLECTION START: 08/31/94 1100 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ61

MG/KG	ANALYTICAL RESULTS
26000	ALUMINUM
20UJ	ANTIMONY
4.6J	ARSENIC
53	BARIUM
0.62J	BERYLLIUM
0.56U	CADMIUM
21000	CALCIUM
20J	CHROMIUM
2.7	COBALT
21J	COPPER
26000J	IRON
17J	LEAD
1700	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
220J	MANGANESE
0.14U	MERCURY
2.5J	NICKEL
1600	POTASSIUM
1.4U	SELENIUM
2U	SILVER
320	SODIUM
1J,4U	THALLIUM
NA	TIN
55	VANADIUM
68J	ZINC
28	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89567 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 020-SD COLLECTION START: 08/31/94 1033 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ62

MG/KG	ANALYTICAL RESULTS
22000	ALUMINUM
20UJ	ANTIMONY
10J	ARSENIC
15	BARIUM
1U	BERYLLIUM
0.65U	CADMIUM
63000	CALCIUM
35J	CHROMIUM
2.9	COBALT
220J	COPPER
37000J	IRON
14JN	LEAD
800	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
210J	MANGANESE
0.21	MERCURY
13	NICKEL
470U	POTASSIUM
1.6U	SELENIUM
8.5JN	SILVER
220U	SODIUM
1.6U	THALLIUM
NA	TIN
43	VANADIUM
110J	ZINC
39	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 021-SD COLLECTION START: 08/31/94 1115 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ63

MG/KG	ANALYTICAL RESULTS
15000J	ALUMINUM
8UJ	ANTIMONY
12J	ARSENIC
32	BARIUM
1U	BERYLLIUM
0.52U	CADMIUM
2300	CALCIUM
16J	CHROMIUM
1.8J	COBALT
24J	COPPER
15000J	IRON
16J	LEAD
460	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
140J	MANGANESE
0.13U	MERCURY
1.8U	NICKEL
470U	POTASSIUM
1.3U	SELENIUM
1U	SILVER
38	SODIUM
1.3U	THALLIUM
NA	TIN
31	VANADIUM
60J	ZINC
22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89569 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 022-SD COLLECTION START: 08/31/94 1145 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ64

MG/KG	ANALYTICAL RESULTS
41000	ALUMINUM
20UJ	ANTIMONY
5.8J	ARSENIC
51	BARIUM
0.55J	BERYLLIUM
0.57U	CADMIUM
310	CALCIUM
37J	CHROMIUM
2.7J	COBALT
18J	COPPER
34000J	IRON
10JN	LEAD
330	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
55J	MANGANESE
0.14U	MERCURY
3.2J	NICKEL
350U	POTASSIUM
1.4U	SELENIUM
2U	SILVER
50U	SODIUM
1.4U	THALLIUM
NA	TIN
81	VANADIUM
30UJ	ZINC
30	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89570 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 023-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1113 STOP: 00/00/00
MD NUMBER: HZ65

MG/KG	ANALYTICAL RESULTS
35000	ALUMINUM
20UJ	ANTIMONY
2.6J	ARSENIC
25	BARIUM
0.58J	BERYLLIUM
0.62U	CADMIUM
180	CALCIUM
15J	CHROMIUM
2J	COBALT
9.6J	COPPER
31000J	IRON
10J	LEAD
580	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
83J	MANGANESE
0.16U	MERCURY
2.2U	NICKEL
790U	POTASSIUM
1.6U	SELENIUM
1U	SILVER
50U	SODIUM
1.6U	THALLIUM
NA	TIN
57	VANADIUM
20UJ	ZINC
36	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89571 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 024-SD COLLECTION START: 08/31/94 0940 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: MD NUMBER: HZ66

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
2000	ALUMINUM	18J	MANGANESE
5UJ	ANTIMONY	0.12U	MERCURY
1.2UJ	ARSENIC	1.7U	NICKEL
3U	BARIUM	130U	POTASSIUM
0.25U	BERYLLIUM	1.2U	SELENIUM
0.50U	CADMIUM	0.50U	SILVER
75	CALCIUM	40U	SODIUM
2.7J	CHROMIUM	1.2U	THALLIUM
0.75U	COBALT	NA	TIN
4.8J	COPPER	6.6	VANADIUM
13000J	IRON	5UJ	ZINC
1.5J	LEAD	20	PERCENT MOISTURE
31	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

METALS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89572 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 025-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1003 STOP: 00/00/00
MD NUMBER: HZ67

MG/KG	ANALYTICAL RESULTS
4100	ALUMINUM
5UJ	ANTIMONY
2.1J	ARSENIC
38	BARIUM
1U	BERYLLIUM
0.51U	CADMIUM
2000	CALCIUM
18J	CHROMIUM
2.6	COBALT
12J	COPPER
7900J	IRON
86J	LEAD
820	MAGNESIUM

MG/KG	ANALYTICAL RESULTS
110J	MANGANESE
0.13U	MERCURY
8J	NICKEL
990U	POTASSIUM
1.3U	SELENIUM
0.51U	SILVER
55	SODIUM
1.3U	THALLIUM
NA	TIN
15	VANADIUM
99J	ZINC
21	PERCENT MOISTURE

REMARKS

REMARKS

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV
Environmental Services Division
College Station Road, Athens, Ga. 30613

*****MEMORANDUM******

DATE: 10/01/94

SUBJECT: Results of Specified Analysis;
94-0597 STEVENS JP & CO INC
CLEMSON SC
CASE NO: 22607

FROM: Charles H. Hooper
Chief, Laboratory Evaluation/Quality Assurance Section

TO: JOHN CRISWELL

Attached are the results of analysis of samples collected as part of the subject project.

As a result of the Quality Assurance Review, certain data qualifiers may have been placed on the data. Attached is a DATA QUALIFIER REPORT which explains the reasons that these qualifiers were required.

If you have any questions please contact me.

ATTACHMENT

INORGANIC DATA QUALIFIERS REPORT

Case Number: 22607
Project Number: 94-0597
Site: Stevens JP & Co Inc., Clemson, SC

Element	Flag	Samples Affected	Reason
A. Water			
Sb, Cr, Pb, Mn Ag, Tl, V	U	All positives > IDL, but < CRDL	Baseline instability
Al, Zn	U	All positives > IDL, but < 10X contaminant level	Positives in blanks
Pb	JN	All positives with Al or Fe concentrations in solution > 100,000 ug/L	Suspected positive interference as noted in the contractor ICS
Ba	J R	All positives All negatives	Matrix spike recovery = 27.2%
Fe	J	All	Matrix spike recovery = 62.5%
Pb	J	All	Matrix spike recovery = 47.5%
Ag	J	All	Matrix spike recovery = 53.1%
Na	J	All	Serial dilution percent difference = 16.7%
As	J	MDHK90	Only analysis of 2X CRDL standard required by contract SOW for ICP analysis
B. Soil			
Sb, Cr, Pb, Mn Ag, Tl, V	U	All positives > IDL, but < CRDL	Baseline instability
Al, Ba, Fe, K, Zn	U	All positives > IDL, but < 10X contaminant level	Positives in blanks
Sb	JN	All positives in SDG MDHK86 & 90 with Al or Fe concentrations in solution > 140,000 ug/L	Suspected positive interference as noted in the contractor ICS
Pb	JN	All positives in SDG MDHK86 & 90 with Al or Fe concentrations in solution > 100,000 ug/L	Suspected positive interference as noted in the contractor ICS
Se	J	All in SDG MDHK90 with Al or Fe concentrations in solution > 75,000 ug/L	Suspected over correction as contractor ICS
Tl	J	All in SDG MDHK90 with Al or Fe concentrations in solution > 120,000 ug/L	Suspected over correction as contractor ICS
Sb	J	All in SDG MDHK86	Matrix spike recovery = 42.1%
Sb	J	All in SDG MDHK90	Matrix spike recovery = 64.1%

INORGANIC DATA QUALIFIERS REPORT (continued)

Case Number: 22607
Project Number: 94-0597
Site: Stevens JP & Co Inc., Clemson, SC

Element	Flag	Samples Affected	Reason
Cr	J	All positives in SDG MDHK90	Matrix spike recovery = -50.6%
	R	All negatives in SDG MDHK90	Matrix duplicate RPD = 165.4%
Cu	J	All positives in SDG MDHK90	Matrix spike recovery = -118.9%
	R	All negatives in SDG MDHK90	Matrix duplicate RPD = 135.9%
Cu	J	All in SDG MDHK86	Matrix duplicate RPD = 63.4%
Mn	J	All positives in SDG MDHK90	Matrix spike recovery = -46.4%
	R	All negatives in SDG MDHK90	Matrix duplicate RPD = 146.5%
As	J	All in SDG MDHK90	Matrix duplicate RPD = 122.5%
Fe	J	All in SDG MDHK90	Matrix duplicate RPD = 172.7%
Pb	J	All in SDG MDHK90	Matrix spike recovery = 64.2%
Zn	J	All in SDG MDHK90	Matrix duplicate RPD = 135.7%
Se	JN	MDHK87, 91, MDHZ46, 47, 48, & 50	Suspected positive interference from high Fe concentrations in solution
Ni	JN	MDHK91, MDHZ43 & 51	Suspected positive interference from high Fe concentrations in solution
Ag	JN	MDHZ51 & 62	Suspected positive interference from high Fe concentrations in solution
Cd	JN	MDHZ56	Suspected positive interference from high Fe concentration in solution
Cr	J	MDHZ45	% RSD > 20% for ICP multiple exposures
Co	J	MDHZ49, 52, 55, 58, 60, 63, 64, & 65	% RSD > 20% for ICP multiple exposures
Ni	J	MDHK87, 88, 89, MDHZ44, 45, 47, 48, 49, 50, 52, 56, 61 64, & 67	% RSD > 20% for ICP multiple exposures
As	U	MDHK86, 88, MDHZ46	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL
Be	U	MDHZ49, 56, 58, 62, 63, & 67	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL
Cd	U	MDHZ50	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL

INORGANIC DATA QUALIFIERS REPORT (continued)

Case Number: 22607
Project Number: 94-0597
Site: Stevens JP & Co Inc., Clemson, SC

Element	Flag	Samples Affected	Reason
Se	U	MDHK82, 89, MDHZ49, & 54	% RSD > 20% for ICP multiple exposures and result > IDL, but < CRDL
As	J	MDHK87, MDHZ47, 53, 65, & 67	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis
Be	J	MDHK87, 88, 91, MDHZ43, 44, 45, 46, 47, 48, 51, 57, 59, 60, 61, 64, & 65	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis
Cd	J	MDHZ51	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis
Se	J	MDHK88, & MDHZ55	Only the analysis of 2X CRDL standard required by contract SOW for ICP analysis

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89536 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 026-SD COLLECTION START: 08/31/94 0900 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK86 MD NO: HK86

RESULTS	UNITS	PARAMETER
0.67U	MG/KG	CYANIDE

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89537 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 027-SD COLLECTION START: 08/31/94 0957 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK87 MD NO: HK87

RESULTS	UNITS	PARAMETER
0.73U	MG/KG	CYANIDE

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89538 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 028-SD COLLECTION START: 08/31/94 0930 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK88 MD NO: HK88

RESULTS	UNITS	PARAMETER
0.66U	MG/KG	CYANIDE

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89539 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 029-SD COLLECTION START: 08/31/94 1025 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK89 MD NO: HK89

RESULTS	UNITS	PARAMETER
0.88U	MG/KG	CYANIDE

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89540 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 030-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK90 MD NO: HK90

RESULTS	UNITS	PARAMETER
10U	UG/L	CYANIDE

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89541 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 031-SS COLLECTION START: 08/31/94 0857 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK91 MD NO: HK91

RESULTS	UNITS	PARAMETER
0.73	MG/KG	CYANIDE

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89542 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 032-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK92 MD NO: HK92

RESULTS	UNITS	PARAMETER
10U	UG/L	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89548 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 001-SS COLLECTION START: 08/31/94 0857 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ43 MD NO: HZ43

RESULTS	UNITS	PARAMETER
0.63U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89549 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 002-SS COLLECTION START: 08/31/94 0925 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ44 MD NO: HZ44

RESULTS	UNITS	PARAMETER
0.61U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89550 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 003-SS COLLECTION START: 08/31/94 0950 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ45 MD NO: HZ45

RESULTS	UNITS	PARAMETER
0.63U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89551 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 004-SS COLLECTION START: 08/31/94 1015 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ46 MD NO: HZ46

RESULTS	UNITS	PARAMETER
0.62U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89552 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 005-SS COLLECTION START: 08/31/94 1033 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ47 MD NO: HZ47

RESULTS	UNITS	PARAMETER
0.72U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89553 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 006-SS COLLECTION START: 08/31/94 1056 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ48 MD NO: HZ48

RESULTS	UNITS	PARAMETER
0.59U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89554 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 007-SS COLLECTION START: 08/31/94 1140 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ49 MD NO: HZ49

RESULTS	UNITS	PARAMETER
0.65U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89555 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 008-SS COLLECTION START: 08/31/94 1205 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ50 MD NO: HZ50

RESULTS	UNITS	PARAMETER
0.65U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89556 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 009-SS COLLECTION START: 08/31/94 1217 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ51 MD NO: HZ51

RESULTS	UNITS	PARAMETER
0.91	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89557 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 010-SS COLLECTION START: 08/31/94 1233 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ52 MD NO: HZ52

RESULTS	UNITS	PARAMETER
0.59U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89558 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 011-SD COLLECTION START: 08/31/94 1235 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ53 MD NO: HZ53

RESULTS	UNITS	PARAMETER
0.63U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89559 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 012-SD COLLECTION START: 08/31/94 1300 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ54 MD NO: HZ54

RESULTS	UNITS	PARAMETER
0.66U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89560 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 013-SD COLLECTION START: 08/31/94 1323 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ55 MD NO: HZ55

RESULTS	UNITS	PARAMETER
0.61U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89561 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 014-SD COLLECTION START: 08/31/94 1225 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ56 MD NO: HZ56

RESULTS	UNITS	PARAMETER
0.61U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89562 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 015-SD COLLECTION START: 08/31/94 1250 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ57 MD NO: HZ57

RESULTS	UNITS	PARAMETER
0.70U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89563 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 016-SD COLLECTION START: 08/31/94 1145 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ58 MD NO: HZ58

RESULTS	UNITS	PARAMETER
0.68U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89564 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 017-SD COLLECTION START: 08/31/94 1200 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ59 MD NO: HZ59

RESULTS	UNITS	PARAMETER
0.68U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89565 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 018-SD COLLECTION START: 08/31/94 1310 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ60 MD NO: HZ60

RESULTS	UNITS	PARAMETER
0.64U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

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SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89566 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 019-SD COLLECTION START: 08/31/94 1100 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ61 MD NO: HZ61

RESULTS	UNITS	PARAMETER
0.70U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89567 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 020-SD COLLECTION START: 08/31/94 1033 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ62 MD NO: HZ62

RESULTS	UNITS	PARAMETER
0.88	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 021-SD COLLECTION START: 08/31/94 1115 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ63 MD NO: HZ63

RESULTS	UNITS	PARAMETER
0.65U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89569 SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC	CITY: CLEMSON ST: SC
STATION ID: 022-SD	COLLECTION START: 08/31/94 1145 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.:	D. NO.: HZ64 MD NO: HZ64

RESULTS	UNITS	PARAMETER
0.71U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89570 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 023-SD COLLECTION START: 08/31/94 1113 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ65 MD NO: HZ65

RESULTS	UNITS	PARAMETER
0.78U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89571 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 024-SD COLLECTION START: 08/31/94 0940 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ66 MD NO: HZ66

RESULTS	UNITS	PARAMETER
0.62U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

09/30/94

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89572 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 025-SD COLLECTION START: 08/31/94 1003 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ67 MD NO: HZ67

RESULTS	UNITS	PARAMETER
0.64U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SITE [illegible], [illegible] & CO STATE [illegible] [illegible]
PROJECT # 94-0597 [illegible] 09/[illegible]/94

SOIL[illegible] BOOKED	29	DATA RECEIVED	10/[illegible]/94	FOR	29	SAMPLES
H2OVOA BOOKED	1	DATA RECEIVED	10/[illegible]/94	FOR	4	SAMPLES
SOILEXT BOOKED	29	DATA RECEIVED	10/31/94	FOR	10	SAMPLES
H2OEXT BOOKED	1	DATA RECEIVED	10/31/94	FOR	2	SAMPLES
SOIL[illegible] BOOKED	29	DATA RECEIVED	10/[illegible]/94	FOR	[illegible]	SAMPLES
H2OPEST BOOKED	1	DATA RECEIVED	10/[illegible]/94	FOR	2	SAMPLES
SOILMET BOOKED	29	DATA RECEIVED	10/06/94	FOR	10	SAMPLES
H2OMET BOOKED	1	DATA RECEIVED	10/06/94	FOR	2	SAMPLES
SOILCN BOOKED	29	DATA RECEIVED	10/06/94	FOR	30	SAMPLES
H2OCN BOOKED	1	DATA RECEIVED	10/06/94	FOR	2	SAMPLES

SOIL[illegible] BOOKED	0	DATA RECEIVED	/ /	FOR	SAMPLES
SOIL[illegible] BOOKED	0	DATA RECEIVED	/ /	FOR	SAMPLES
H2OOTH BOOKED	0	DATA RECEIVED	/ /	FOR	SAMPLES
H2OOTH2 BOOKED	0	DATA RECEIVED	/ /	FOR	SAMPLES
OTHER1 BOOKED	0	DATA RECEIVED	/ /	FOR	SAMPLES
OTHER2 BOOKED	0	DATA RECEIVED	/ /	FOR	SAMPLES

LAB([illegible]/FASP/QTM) [illegible]

REMARKS: [illegible] MISSING FROM VOA FRACTION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV
Environmental Services Division
College Station Road, Athens, Ga. 30613

*****MEMORANDUM******

DATE: 10/26/94

SUBJECT: Results of Purgeable Organic Analysis;
94-0597 STEVENS JP & CO INC
CLEMSON SC
CASE NO: 22607

FROM: Charles H. Hooper
Chief, Laboratory Evaluation/Quality Assurance Section

TO: JOHN CRISWELL

Attached are the results of analysis of samples collected as part of the subject project.

As a result of the Quality Assurance Review, certain data qualifiers may have been placed on the data. Attached is a DATA QUALIFIER REPORT which explains the reasons that these qualifiers were required.

If you have any questions please contact me.

ATTACHMENT

ORGANIC DATA QUALIFIER REPORT

Case Number 22607 Project Number 94-0597 SAS Number

Site ID. Stevens JP & CO Inc. Clemson, SC

Affected Samples	Compound or Fraction	Flag Used	Reason
Volatiles			
89541,89549	4-methyl-2-pentanone	J	low internal standard recovery
	tetrachloroethene	J	low internal standard recovery
	1,1,2,2-tetrachloroethane	J	low internal standard recovery
	toluene	J	low internal standard recovery
	chlorobenzene	J	low internal standard recovery
	ethylbenzene	J	low internal standard recovery
	styrene	J	low internal standard recovery
	xylene	J	low internal standard recovery
89550,89552, 89556	1,1,1-trichloroethane	J	low internal standard recovery
	carbon tetrachloride	J	low internal standard recovery
	bromodichloromethane	J	low internal standard recovery
	1,2-dichloropropane	J	low internal standard recovery
	trans-1,3-dichloropropene	J	low internal standard recovery
	trichloroethene	J	low internal standard recovery
	dibromochloromethane	J	low internal standard recovery
	1,1,2-trichloroethane	J	low internal standard recovery
	benzene	J	low internal standard recovery
	cis-1,3-dichloropropene	J	low internal standard recovery
	bromoform	J	low internal standard recovery
	2-hexanone	J	low internal standard recovery
	4-methyl-2-pentanone	J	low internal standard recovery
	tetrachloroethene	J	low internal standard recovery
	1,1,2,2-tetrachloroethane	J	low internal standard recovery
	toluene	J	low internal standard recovery
	chlorobenzene	J	low internal standard recovery
	ethylbenzene	J	low internal standard recovery
	styrene	J	low internal standard recovery
	xylene	J	low internal standard recovery
Extractables			
all soils	phenol	R	unacceptable blind spike recovery
	2,4-dimethylphenol	R	unacceptable blind spike recovery
	fluorene	J	low blind spike recovery
	pentachlorophenol	R	unacceptable blind spike recovery
89536	all compounds except phenol,2,4-dimethylphenol, fluorene,pentachlorophenol	J	excessive holding time
89542	all compounds	J	excessive holding time
89556	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
89559	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	benzo(a)anthracene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< qunatitation limit
	benzo(a)pyrene	J	< qunatitation limit
	benzo(g,h,i)perylene	J	< quantitation limit

ORGANIC DATA QUALIFIER REPORT
Case Number 22607

Affected Samples	Compound or Fraction	Flag Used	Reason
89561	naphthalene	J	< quantitation limit
	acenaphthene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	dibenz(a/h)anthracene	J	< quantitation limit
89562	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
89563	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
89564	4-methylphenol	J	< qunatitation limit
	2-methylnaphthalene	J	< quantitation limit
	acenaphthylene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
89566	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	dibenz(a,h)anthracene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit
89567	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit
89568	naphthalene	J	< quantitation limit
	2-methylnaphthalene	J	< quantitation limit
	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	benzo(a)anthracene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
89571	benzo(g,h,i)perylene	J	< quantitation limit
89572	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	dibenz(a,h)anthracene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit

ORGANIC DATA QUALIFIER REPORT

Case Number 22607

Affected Samples	Compound or Fraction	Flag Used	Reason
Pesticides			
89537	dieldrin	J N	< quantitation limit difference in column quantitations
89539	aroclor-1254	J	< quantitation limit
89556	aroclor-1260	J	< quantitation limit

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89536 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 026-SD COLLECTION START: 08/31/94 0900 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK86

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
18	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89537 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 027-SD COLLECTION START: 08/31/94 0957 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK87

UG/KG	ANALYTICAL RESULTS
14U	CHLOROMETHANE
14U	BROMOMETHANE
14U	VINYL CHLORIDE
14U	CHLOROETHANE
14U	METHYLENE CHLORIDE
14U	ACETONE
14U	CARBON DISULFIDE
14U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
14U	1,1-DICHLOROETHANE
14U	1,2-DICHLOROETHENE (TOTAL)
14U	CHLOROFORM
14U	1,2-DICHLOROETHANE
14U	METHYL ETHYL KETONE
14U	1,1,1-TRICHLOROETHANE
14U	CARBON TETRACHLORIDE
14U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
14U	1,2-DICHLOROPROPANE
14U	CIS-1,3-DICHLOROPROPENE
14U	TRICHLOROETHENE(TRICHLOROETHYLENE)
14U	DIBROMOCHLOROMETHANE
14U	1,1,2-TRICHLOROETHANE
14U	BENZENE
14U	TRANS-1,3-DICHLOROPROPENE
14U	BROMOFORM
14U	METHYL ISOBUTYL KETONE
14U	METHYL BUTYL KETONE
14U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
14U	1,1,2,2-TETRACHLOROETHANE
14U	TOLUENE
14U	CHLOROBENZENE
14U	ETHYL BENZENE
14U	STYRENE
14U	TOTAL XYLENES
33	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89538 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 028-SD COLLECTION START: 08/31/94 0930 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK88

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
23	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89539 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 029-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1025 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK89

UG/KG	ANALYTICAL RESULTS
15U	CHLOROMETHANE
15U	BROMOMETHANE
15U	VINYL CHLORIDE
15U	CHLOROETHANE
15U	METHYLENE CHLORIDE
15U	ACETONE
15U	CARBON DISULFIDE
15U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
15U	1,1-DICHLOROETHANE
15U	1,2-DICHLOROETHENE (TOTAL)
15U	CHLOROFORM
15U	1,2-DICHLOROETHANE
15U	METHYL ETHYL KETONE
15U	1,1,1-TRICHLOROETHANE
15U	CARBON TETRACHLORIDE
15U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
15U	1,2-DICHLOROPROPANE
15U	CIS-1,3-DICHLOROPROPENE
15U	TRICHLOROETHENE(TRICHLOROETHYLENE)
15U	DIBROMOCHLOROMETHANE
15U	1,1,2-TRICHLOROETHANE
15U	BENZENE
15U	TRANS-1,3-DICHLOROPROPENE
15U	BROMOFORM
15U	METHYL ISOBUTYL KETONE
15U	METHYL BUTYL KETONE
15U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
15U	1,1,2,2-TETRACHLOROETHANE
15U	TOLUENE
15U	CHLOROBENZENE
15U	ETHYL BENZENE
15U	STYRENE
15U	TOTAL XYLENES
35	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89540 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 030-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK90

UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE
10U	BROMOMETHANE
10U	VINYL CHLORIDE
10U	CHLOROETHANE
10U	METHYLENE CHLORIDE
10U	ACETONE
10U	CARBON DISULFIDE
10U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
10U	1,1-DICHLOROETHANE
10U	1,2-DICHLOROETHENE (TOTAL)
10U	CHLOROFORM
10U	1,2-DICHLOROETHANE
10U	METHYL ETHYL KETONE
10U	1,1,1-TRICHLOROETHANE
10U	CARBON TETRACHLORIDE
10U	BROMODICHLOROMETHANE

UG/L	ANALYTICAL RESULTS
10U	1,2-DICHLOROPROPANE
10U	CIS-1,3-DICHLOROPROPENE
10U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	DIBROMOCHLOROMETHANE
10U	1,1,2-TRICHLOROETHANE
10U	BENZENE
10U	TRANS-1,3-DICHLOROPROPENE
10U	BROMOFORM
10U	METHYL ISOBUTYL KETONE
10U	METHYL BUTYL KETONE
10U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
10U	1,1,2,2-TETRACHLOROETHANE
10U	TOLUENE
10U	CHLOROBENZENE
10U	ETHYL BENZENE
10U	STYRENE
10U	TOTAL XYLENES

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89541 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 031-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0857 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK91

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13UJ	METHYL ISOBUTYL KETONE
13UJ	METHYL BUTYL KETONE
13UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13UJ	1,1,2,2-TETRACHLOROETHANE
13UJ	TOLUENE
13UJ	CHLOROBENZENE
13UJ	ETHYL BENZENE
13UJ	STYRENE
13UJ	TOTAL XYLENES
22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89542 SAMPLE TYPE: SURFACEWA
SOURCE: STEVENS JP & CO INC
STATION ID: 032-WW

CASE NO.: 22607 SAS NO.:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1405 STOP: 00/00/00

D. NO.: HK92

UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE
10U	BROMOMETHANE
10U	VINYL CHLORIDE
10U	CHLOROETHANE
10U	METHYLENE CHLORIDE
10U	ACETONE
10U	CARBON DISULFIDE
10U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
10U	1,1-DICHLOROETHANE
10U	1,2-DICHLOROETHENE (TOTAL)
10U	CHLOROFORM
10U	1,2-DICHLOROETHANE
10U	METHYL ETHYL KETONE
10U	1,1,1-TRICHLOROETHANE
10U	CARBON TETRACHLORIDE
10U	BROMODICHLOROMETHANE

UG/L	ANALYTICAL RESULTS
10U	1,2-DICHLOROPROPANE
10U	CIS-1,3-DICHLOROPROPENE
10U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	DIBROMOCHLOROMETHANE
10U	1,1,2-TRICHLOROETHANE
10U	BENZENE
10U	TRANS-1,3-DICHLOROPROPENE
10U	BROMOFORM
10U	METHYL ISOBUTYL KETONE
10U	METHYL BUTYL KETONE
10U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
10U	1,1,2,2-TETRACHLOROETHANE
10U	TOLUENE
10U	CHLOROBENZENE
10U	ETHYL BENZENE
10U	STYRENE
10U	TOTAL XYLENES

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89548 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 001-SS COLLECTION START: 08/31/94 0857 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ43

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
27	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89549 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 002-SS COLLECTION START: 08/31/94 0925 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ44

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12UJ	METHYL ISOBUTYL KETONE
12UJ	METHYL BUTYL KETONE
12UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12UJ	1,1,2,2-TETRACHLOROETHANE
12UJ	TOLUENE
12UJ	CHLOROBENZENE
12UJ	ETHYL BENZENE
12UJ	STYRENE
12UJ	TOTAL XYLENES
18	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89550 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 003-SS COLLECTION START: 08/31/94 0950 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ45

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
50U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13UJ	1,1,1-TRICHLOROETHANE
13UJ	CARBON TETRACHLORIDE
13UJ	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13UJ	1,2-DICHLOROPROPANE
13UJ	CIS-1,3-DICHLOROPROPENE
13UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
13UJ	DIBROMOCHLOROMETHANE
13UJ	1,1,2-TRICHLOROETHANE
13UJ	BENZENE
13UJ	TRANS-1,3-DICHLOROPROPENE
13UJ	BROMOFORM
13UJ	METHYL ISOBUTYL KETONE
13UJ	METHYL BUTYL KETONE
13UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13UJ	1,1,2,2-TETRACHLOROETHANE
13UJ	TOLUENE
13UJ	CHLOROBENZENE
13UJ	ETHYL BENZENE
13UJ	STYRENE
13UJ	TOTAL XYLENES
22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89551 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 004-SS COLLECTION START: 08/31/94 1015 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ46

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
20	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89552 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 005-SS COLLECTION START: 08/31/94 1033 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ47

UG/KG	ANALYTICAL RESULTS
14U	CHLOROMETHANE
14U	BROMOMETHANE
14U	VINYL CHLORIDE
14U	CHLOROETHANE
14U	METHYLENE CHLORIDE
14U	ACETONE
14U	CARBON DISULFIDE
14U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
14U	1,1-DICHLOROETHANE
14U	1,2-DICHLOROETHENE (TOTAL)
14U	CHLOROFORM
14U	1,2-DICHLOROETHANE
14U	METHYL ETHYL KETONE
14UJ	1,1,1-TRICHLOROETHANE
14UJ	CARBON TETRACHLORIDE
14UJ	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
14UJ	1,2-DICHLOROPROPANE
14UJ	CIS-1,3-DICHLOROPROPENE
14UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
14UJ	DIBROMOCHLOROMETHANE
14UJ	1,1,2-TRICHLOROETHANE
14UJ	BENZENE
14UJ	TRANS-1,3-DICHLOROPROPENE
14UJ	BROMOFORM
14UJ	METHYL ISOBUTYL KETONE
14UJ	METHYL BUTYL KETONE
14UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
14UJ	1,1,2,2-TETRACHLOROETHANE
14UJ	TOLUENE
14UJ	CHLOROBENZENE
14UJ	ETHYL BENZENE
14UJ	STYRENE
14UJ	TOTAL XYLENES
31	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89553 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 006-SS COLLECTION START: 08/31/94 1056 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ48

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
20	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89554 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 007-SS COLLECTION START: 08/31/94 1140 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ49

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
24	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89555 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 008-SS COLLECTION START: 08/31/94 1205 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ50

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
24	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89556 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 009-SS COLLECTION START: 08/31/94 1217 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ51

UG/KG	ANALYTICAL RESULTS
14U	CHLOROMETHANE
14U	BROMOMETHANE
14U	VINYL CHLORIDE
14U	CHLOROETHANE
14U	METHYLENE CHLORIDE
14U	ACETONE
14U	CARBON DISULFIDE
14U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
14U	1,1-DICHLOROETHANE
14U	1,2-DICHLOROETHENE (TOTAL)
14U	CHLOROFORM
14U	1,2-DICHLOROETHANE
14U	METHYL ETHYL KETONE
14UJ	1,1,1-TRICHLOROETHANE
14UJ	CARBON TETRACHLORIDE
14UJ	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
14UJ	1,2-DICHLOROPROPANE
14UJ	CIS-1,3-DICHLOROPROPENE
14UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
14UJ	DIBROMOCHLOROMETHANE
14UJ	1,1,2-TRICHLOROETHANE
14UJ	BENZENE
14UJ	TRANS-1,3-DICHLOROPROPENE
14UJ	BROMOFORM
14UJ	METHYL ISOBUTYL KETONE
14UJ	METHYL BUTYL KETONE
14UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
14UJ	1,1,2,2-TETRACHLOROETHANE
14UJ	TOLUENE
14UJ	CHLOROBENZENE
14UJ	ETHYL BENZENE
14UJ	STYRENE
14UJ	TOTAL XYLENES
31	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89557 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 010-SS COLLECTION START: 08/31/94 1233 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ52

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
16	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89558 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 011-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1235 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ53

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89560 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 013-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1323 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ55

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89561 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 014-SD COLLECTION START: 08/31/94 1225 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ56

UG/KG	ANALYTICAL RESULTS
11U	CHLOROMETHANE
11U	BROMOMETHANE
11U	VINYL CHLORIDE
11U	CHLOROETHANE
11U	METHYLENE CHLORIDE
11U	ACETONE
11U	CARBON DISULFIDE
11U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
11U	1,1-DICHLOROETHANE
11U	1,2-DICHLOROETHENE (TOTAL)
11U	CHLOROFORM
11U	1,2-DICHLOROETHANE
11U	METHYL ETHYL KETONE
11U	1,1,1-TRICHLOROETHANE
11U	CARBON TETRACHLORIDE
11U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
11U	1,2-DICHLOROPROPANE
11U	CIS-1,3-DICHLOROPROPENE
11U	TRICHLOROETHENE(TRICHLOROETHYLENE)
11U	DIBROMOCHLOROMETHANE
11U	1,1,2-TRICHLOROETHANE
11U	BENZENE
11U	TRANS-1,3-DICHLOROPROPENE
11U	BROMOFORM
11U	METHYL ISOBUTYL KETONE
11U	METHYL BUTYL KETONE
11U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
11U	1,1,2,2-TETRACHLOROETHANE
11U	TOLUENE
11U	CHLOROBENZENE
11U	ETHYL BENZENE
11U	STYRENE
11U	TOTAL XYLENES
16	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89562 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 015-SD COLLECTION START: 08/31/94 1250 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ57

UG/KG	ANALYTICAL RESULTS
15U	CHLOROMETHANE
15U	BROMOMETHANE
15U	VINYL CHLORIDE
15U	CHLOROETHANE
15U	METHYLENE CHLORIDE
15U	ACETONE
15U	CARBON DISULFIDE
15U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
15U	1,1-DICHLOROETHANE
15U	1,2-DICHLOROETHENE (TOTAL)
15U	CHLOROFORM
15U	1,2-DICHLOROETHANE
15U	METHYL ETHYL KETONE
15U	1,1,1-TRICHLOROETHANE
15U	CARBON TETRACHLORIDE
15U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
15U	1,2-DICHLOROPROPANE
15U	CIS-1,3-DICHLOROPROPENE
15U	TRICHLOROETHENE(TRICHLOROETHYLENE)
15U	DIBROMOCHLOROMETHANE
15U	1,1,2-TRICHLOROETHANE
15U	BENZENE
15U	TRANS-1,3-DICHLOROPROPENE
15U	BROMOFORM
15U	METHYL ISOBUTYL KETONE
15U	METHYL BUTYL KETONE
15U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
15U	1,1,2,2-TETRACHLOROETHANE
15U	TOLUENE
15U	CHLOROBENZENE
15U	ETHYL BENZENE
15U	STYRENE
15U	TOTAL XYLENES
36	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89563 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 016-SD COLLECTION START: 08/31/94 1145 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ58

UG/KG	ANALYTICAL RESULTS
14U	CHLOROMETHANE
14U	BROMOMETHANE
14U	VINYL CHLORIDE
14U	CHLOROETHANE
14U	METHYLENE CHLORIDE
14U	ACETONE
14U	CARBON DISULFIDE
14U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
14U	1,1-DICHLOROETHANE
14U	1,2-DICHLOROETHENE (TOTAL)
14U	CHLOROFORM
14U	1,2-DICHLOROETHANE
14U	METHYL ETHYL KETONE
14U	1,1,1-TRICHLOROETHANE
14U	CARBON TETRACHLORIDE
14U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
14U	1,2-DICHLOROPROPANE
14U	CIS-1,3-DICHLOROPROPENE
14U	TRICHLOROETHENE(TRICHLOROETHYLENE)
14U	DIBROMOCHLOROMETHANE
14U	1,1,2-TRICHLOROETHANE
14U	BENZENE
14U	TRANS-1,3-DICHLOROPROPENE
14U	BROMOFORM
14U	METHYL ISOBUTYL KETONE
14U	METHYL BUTYL KETONE
14U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
14U	1,1,2,2-TETRACHLOROETHANE
14U	TOLUENE
14U	CHLOROBENZENE
14U	ETHYL BENZENE
14U	STYRENE
14U	TOTAL XYLENES
29	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89564 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 017-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1200 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ59

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
15	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89565 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 018-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1310 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ60

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
28	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89566 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 019-SD COLLECTION START: 08/31/94 1100 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ61

UG/KG	ANALYTICAL RESULTS
13U	CHLOROMETHANE
13U	BROMOMETHANE
13U	VINYL CHLORIDE
13U	CHLOROETHANE
13U	METHYLENE CHLORIDE
13U	ACETONE
13U	CARBON DISULFIDE
13U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
13U	1,1-DICHLOROETHANE
13U	1,2-DICHLOROETHENE (TOTAL)
13U	CHLOROFORM
13U	1,2-DICHLOROETHANE
13U	METHYL ETHYL KETONE
13U	1,1,1-TRICHLOROETHANE
13U	CARBON TETRACHLORIDE
13U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
13U	1,2-DICHLOROPROPANE
13U	CIS-1,3-DICHLOROPROPENE
13U	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	DIBROMOCHLOROMETHANE
13U	1,1,2-TRICHLOROETHANE
13U	BENZENE
13U	TRANS-1,3-DICHLOROPROPENE
13U	BROMOFORM
13U	METHYL ISOBUTYL KETONE
13U	METHYL BUTYL KETONE
13U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
13U	1,1,2,2-TETRACHLOROETHANE
13U	TOLUENE
13U	CHLOROBENZENE
13U	ETHYL BENZENE
13U	STYRENE
13U	TOTAL XYLENES
26	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89567 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 020-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1033 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ62

UG/KG	ANALYTICAL RESULTS
17U	CHLOROMETHANE
17U	BROMOMETHANE
17U	VINYL CHLORIDE
17U	CHLOROETHANE
17U	METHYLENE CHLORIDE
17U	ACETONE
17U	CARBON DISULFIDE
17U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
17U	1,1-DICHLOROETHANE
17U	1,2-DICHLOROETHENE (TOTAL)
17U	CHLOROFORM
17U	1,2-DICHLOROETHANE
17U	METHYL ETHYL KETONE
17U	1,1,1-TRICHLOROETHANE
17U	CARBON TETRACHLORIDE
17U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
17U	1,2-DICHLOROPROPANE
17U	CIS-1,3-DICHLOROPROPENE
17U	TRICHLOROETHENE(TRICHLOROETHYLENE)
17U	DIBROMOCHLOROMETHANE
17U	1,1,2-TRICHLOROETHANE
17U	BENZENE
17U	TRANS-1,3-DICHLOROPROPENE
17U	BROMOFORM
17U	METHYL ISOBUTYL KETONE
17U	METHYL BUTYL KETONE
17U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
17U	1,1,2,2-TETRACHLOROETHANE
17U	TOLUENE
17U	CHLOROBENZENE
17U	ETHYL BENZENE
17U	STYRENE
17U	TOTAL XYLENES
41	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 021-SD COLLECTION START: 08/31/94 1115 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ63

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
20	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89569 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 022-SD COLLECTION START: 08/31/94 1145 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ64

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
14U	CHLOROMETHANE	14U	1,2-DICHLOROPROPANE
14U	BROMOMETHANE	14U	CIS-1,3-DICHLOROPROPENE
14U	VINYL CHLORIDE	14U	TRICHLOROETHENE(TRICHLOROETHYLENE)
14U	CHLOROETHANE	14U	DIBROMOCHLOROMETHANE
14U	METHYLENE CHLORIDE	14U	1,1,2-TRICHLOROETHANE
14U	ACETONE	14U	BENZENE
14U	CARBON DISULFIDE	14U	TRANS-1,3-DICHLOROPROPENE
14U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	14U	BROMOFORM
14U	1,1-DICHLOROETHANE	14U	METHYL ISOBUTYL KETONE
14U	1,2-DICHLOROETHENE (TOTAL)	14U	METHYL BUTYL KETONE
14U	CHLOROFORM	14U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
14U	1,2-DICHLOROETHANE	14U	1,1,2,2-TETRACHLOROETHANE
14U	METHYL ETHYL KETONE	14U	TOLUENE
14U	1,1,1-TRICHLOROETHANE	14U	CHLOROBENZENE
14U	CARBON TETRACHLORIDE	14U	ETHYL BENZENE
14U	BROMODICHLOROMETHANE	14U	STYRENE
		14U	TOTAL XYLENES
		27	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89570 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 023-SD COLLECTION START: 08/31/94 1113 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ65

UG/KG	ANALYTICAL RESULTS
14U	CHLOROMETHANE
14U	BROMOMETHANE
14U	VINYL CHLORIDE
14U	CHLOROETHANE
14U	METHYLENE CHLORIDE
14U	ACETONE
14U	CARBON DISULFIDE
14U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
14U	1,1-DICHLOROETHANE
14U	1,2-DICHLOROETHENE (TOTAL)
14U	CHLOROFORM
14U	1,2-DICHLOROETHANE
14U	METHYL ETHYL KETONE
14U	1,1,1-TRICHLOROETHANE
14U	CARBON TETRACHLORIDE
14U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
14U	1,2-DICHLOROPROPANE
14U	CIS-1,3-DICHLOROPROPENE
14U	TRICHLOROETHENE(TRICHLOROETHYLENE)
14U	DIBROMOCHLOROMETHANE
14U	1,1,2-TRICHLOROETHANE
14U	BENZENE
14U	TRANS-1,3-DICHLOROPROPENE
14U	BROMOFORM
14U	METHYL ISOBUTYL KETONE
14U	METHYL BUTYL KETONE
14U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
14U	1,1,2,2-TETRACHLOROETHANE
14U	TOLUENE
14U	CHLOROBENZENE
14U	ETHYL BENZENE
14U	STYRENE
14U	TOTAL XYLENES
33	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89571 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 024-SD COLLECTION START: 08/31/94 0940 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ66

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
19	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89572 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 025-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1003 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ67

UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE
12U	BROMOMETHANE
12U	VINYL CHLORIDE
12U	CHLOROETHANE
12U	METHYLENE CHLORIDE
12U	ACETONE
12U	CARBON DISULFIDE
12U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
12U	1,1-DICHLOROETHANE
12U	1,2-DICHLOROETHENE (TOTAL)
12U	CHLOROFORM
12U	1,2-DICHLOROETHANE
12U	METHYL ETHYL KETONE
12U	1,1,1-TRICHLOROETHANE
12U	CARBON TETRACHLORIDE
12U	BROMODICHLOROMETHANE

UG/KG	ANALYTICAL RESULTS
12U	1,2-DICHLOROPROPANE
12U	CIS-1,3-DICHLOROPROPENE
12U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	DIBROMOCHLOROMETHANE
12U	1,1,2-TRICHLOROETHANE
12U	BENZENE
12U	TRANS-1,3-DICHLOROPROPENE
12U	BROMOFORM
12U	METHYL ISOBUTYL KETONE
12U	METHYL BUTYL KETONE
12U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
12U	1,1,2,2-TETRACHLOROETHANE
12U	TOLUENE
12U	CHLOROBENZENE
12U	ETHYL BENZENE
12U	STYRENE
12U	TOTAL XYLENES
21	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89573 SAMPLE TYPE: WATER
SOURCE: STEVENS JP & CO INC
STATION ID: 038-TB

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1010 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK93

UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE
10U	BROMOMETHANE
10U	VINYL CHLORIDE
10U	CHLOROETHANE
10U	METHYLENE CHLORIDE
10U	ACETONE
10U	CARBON DISULFIDE
10U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
10U	1,1-DICHLOROETHANE
10U	1,2-DICHLOROETHENE (TOTAL)
10U	CHLOROFORM
10U	1,2-DICHLOROETHANE
10U	METHYL ETHYL KETONE
10U	1,1,1-TRICHLOROETHANE
10U	CARBON TETRACHLORIDE
10U	BROMODICHLOROMETHANE

UG/L	ANALYTICAL RESULTS
10U	1,2-DICHLOROPROPANE
10U	CIS-1,3-DICHLOROPROPENE
10U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	DIBROMOCHLOROMETHANE
10U	1,1,2-TRICHLOROETHANE
10U	BENZENE
10U	TRANS-1,3-DICHLOROPROPENE
10U	BROMOFORM
10U	METHYL ISOBUTYL KETONE
10U	METHYL BUTYL KETONE
10U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
10U	1,1,2,2-TETRACHLOROETHANE
10U	TOLUENE
10U	CHLOROBENZENE
10U	ETHYL BENZENE
10U	STYRENE
10U	TOTAL XYLENES

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89574 SAMPLE TYPE: WATER
SOURCE: STEVENS JP & CO INC
STATION ID: 039-TB

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1010 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK94

UG/L	ANALYTICAL RESULTS
NA	CHLOROMETHANE
NA	BROMOMETHANE
NA	VINYL CHLORIDE
NA	CHLOROETHANE
NA	METHYLENE CHLORIDE
NA	ACETONE
NA	CARBON DISULFIDE
NA	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
NA	1,1-DICHLOROETHANE
NA	1,2-DICHLOROETHENE (TOTAL)
NA	CHLOROFORM
NA	1,2-DICHLOROETHANE
NA	METHYL ETHYL KETONE
NA	1,1,1-TRICHLOROETHANE
NA	CARBON TETRACHLORIDE
NA	BROMODICHLOROMETHANE

UG/L	ANALYTICAL RESULTS
NA	1,2-DICHLOROPROPANE
NA	CIS-1,3-DICHLOROPROPENE
NA	TRICHLOROETHENE(TRICHLOROETHYLENE)
NA	DIBROMOCHLOROMETHANE
NA	1,1,2-TRICHLOROETHANE
NA	BENZENE
NA	TRANS-1,3-DICHLOROPROPENE
NA	BROMOFORM
NA	METHYL ISOBUTYL KETONE
NA	METHYL BUTYL KETONE
NA	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
NA	1,1,2,2-TETRACHLOROETHANE
NA	TOLUENE
NA	CHLOROBENZENE
NA	ETHYL BENZENE
NA	STYRENE
NA	TOTAL XYLENES

REMARKS
SAMPLE CONTAINER BROKEN WHEN RECEIVED

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS PURGEABLE ORGANICS -- DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89537	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 027-SD			COLLECTION START: 08/31/94 0957 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HK87 MD NO: HK87

ANALYTICAL RESULTS UG/KG

20JN	CAMPHENE
10JN	LIMONENE
500J	2 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89538	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 028-SD			COLLECTION START: 08/31/94 0930 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HK88 MD NO: HK88

ANALYTICAL RESULTS UG/KG

20J 1 UNIDENTIFIED COMPOUND

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89567	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 020-SD			COLLECTION START: 08/31/94 1033 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HZ62 MD NO: HZ62

ANALYTICAL RESULTS UG/KG

10JN	METHYLETHYLBENZENE	

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS PURGEABLE ORGANICS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89568	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 021-SD			COLLECTION START: 08/31/94 1115 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HZ63 MD NO: HZ63

ANALYTICAL RESULTS UG/KG

200J 6 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV
Environmental Services Division
College Station Road, Athens, Ga. 30613

*****MEMORANDUM******

DATE: 10/26/94

SUBJECT: Results of Extractable Organic Analysis;
94-0597 STEVENS JP & CO INC
CLEMSON SC
CASE NO: 22607

FROM: Charles H. Hooper
Chief, Laboratory Evaluation/Quality Assurance Section

TO: JOHN CRISWELL

Attached are the results of analysis of samples collected as part of the subject project.

As a result of the Quality Assurance Review, certain data qualifiers may have been placed on the data. Attached is a DATA QUALIFIER REPORT which explains the reasons that these qualifiers were required.

If you have any questions please contact me.

ATTACHMENT

ORGANIC DATA QUALIFIER REPORT

Case Number 22607 Project Number 94-0597 SAS Number

Site ID. Stevens JP & CO Inc. Clemson, SC

Affected Samples	Compound or Fraction	Flag Used	Reason
Volatiles			
89541,89549	4-methyl-2-pentanone	J	low internal standard recovery
	tetrachloroethene	J	low internal standard recovery
	1,1,2,2-tetrachloroethane	J	low internal standard recovery
	toluene	J	low internal standard recovery
	chlorobenzene	J	low internal standard recovery
	ethylbenzene	J	low internal standard recovery
	styrene	J	low internal standard recovery
	xylene	J	low internal standard recovery
89550,89552, 89556	1,1,1-trichloroethane	J	low internal standard recovery
	carbon tetrachloride	J	low internal standard recovery
	bromodichloromethane	J	low internal standard recovery
	1,2-dichloropropane	J	low internal standard recovery
	trans-1,3-dichloropropene	J	low internal standard recovery
	trichloroethene	J	low internal standard recovery
	dibromochloromethane	J	low internal standard recovery
	1,1,2-trichloroethane	J	low internal standard recovery
	benzene	J	low internal standard recovery
	cis-1,3-dichloropropene	J	low internal standard recovery
	bromoform	J	low internal standard recovery
	2-hexanone	J	low internal standard recovery
	4-methyl-2-pentanone	J	low internal standard recovery
	tetrachloroethene	J	low internal standard recovery
	1,1,2,2-tetrachloroethane	J	low internal standard recovery
	toluene	J	low internal standard recovery
	chlorobenzene	J	low internal standard recovery
	ethylbenzene	J	low internal standard recovery
	styrene	J	low internal standard recovery
	xylene	J	low internal standard recovery
Extractables			
all soils	phenol	R	unacceptable blind spike recovery
	2,4-dimethylphenol	R	unacceptable blind spike recovery
	fluorene	J	low blind spike recovery
	pentachlorophenol	R	unacceptable blind spike recovery
89536	all compounds except phenol,2,4-dimethylphenol, fluorene,pentachlorophenol	J	excessive holding time
89542	all compounds	J	excessive holding time
89556	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
89559	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	benzo(a)anthracene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< qunatitation limit
	benzo(a)pyrene	J	< qunatitation limit
	benzo(g,h,i)perylene	J	< quantitation limit

ORGANIC DATA QUALIFIER REPORT
Case Number 22607

Affected Samples	Compound or Fraction	Flag Used	Reason
89561	naphthalene	J	< quantitation limit
	acenaphthene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	dibenz(a/h)anthracene	J	< quantitation limit
89562	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
89563	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
89564	4-methylphenol	J	< qunatitation limit
	2-methylnaphthalene	J	< quantitation limit
	acenaphthylene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
89566	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	dibenz(a,h)anthracene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit
89567	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit
89568	naphthalene	J	< quantitation limit
	2-methylnaphthalene	J	< quantitation limit
	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	benzo(a)anthracene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
89571	benzo(g,h,i)perylene	J	< quantitation limit
89572	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	dibenz(a,h)anthracene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit

ORGANIC DATA QUALIFIER REPORT

Case Number 22607

Affected Samples	Compound or Fraction	Flag Used	Reason
Pesticides			
89537	dieldrin	J N	< quantitation limit difference in column quantitations
89539	aroclor-1254	J	< quantitation limit
89556	aroclor-1260	J	< quantitation limit

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89536 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 026-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0900 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK86

UG/KG	ANALYTICAL RESULTS
420UR	PHENOL
420UJ	BIS(2-CHLOROETHYL) ETHER
420UJ	2-CHLOROPHENOL
420UJ	1,3-DICHLOROBENZENE
420UJ	1,4-DICHLOROBENZENE
420UJ	1,2-DICHLOROBENZENE
420UJ	2-METHYLPHENOL
420UJ	2,2'-CHLOROISOPROPYLETHER
420UJ	(3-AND/OR 4-)METHYLPHENOL
420UJ	N-NITROSODI-N-PROPYLAMINE
420UJ	HEXACHLOROETHANE
420UJ	NITROBENZENE
420UJ	ISOPHORONE
420UJ	2-NITROPHENOL
420UR	2,4-DIMETHYLPHENOL
420UJ	BIS(2-CHLOROETHOXY) METHANE
420UJ	2,4-DICHLOROPHENOL
420UJ	1,2,4-TRICHLOROBENZENE
420UJ	NAPHTHALENE
420UJ	4-CHLOROANILINE
420UJ	HEXACHLOROBUTADIENE
420UJ	4-CHLORO-3-METHYLPHENOL
420UJ	2-METHYLNAPHTHALENE
420UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)
420UJ	2,4,6-TRICHLOROPHENOL
1000UJ	2,4,5-TRICHLOROPHENOL
420UJ	2-CHLORONAPHTHALENE
1000UJ	2-NITROANILINE
420UJ	DIMETHYL PHTHALATE
420UJ	ACENAPHTHYLENE
420UJ	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1000UJ	3-NITROANILINE
420UJ	ACENAPHTHENE
1000UJ	2,4-DINITROPHENOL
1000UJ	4-NITROPHENOL
420UJ	DIBENZOFURAN
420UJ	2,4-DINITROTOLUENE
420UJ	DIETHYL PHTHALATE
420UJ	4-CHLOROPHENYL PHENYL ETHER
420UJ	FLUORENE
1000UJ	4-NITROANILINE
1000UJ	2-METHYL-4,6-DINITROPHENOL
420UJ	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
420UJ	4-BROMOPHENYL PHENYL ETHER
420UJ	HEXACHLOROBENZENE (HCB)
1000UR	PENTACHLOROPHENOL
420UJ	PHENANTHRENE
420UJ	ANTHRACENE
420UJ	CARBAZOLE
420UJ	DI-N-BUTYLPHTHALATE
420UJ	FLUORANTHENE
420UJ	PYRENE
420UJ	BENZYL BUTYL PHTHALATE
420UJ	3,3'-DICHLOROBENZIDINE
420UJ	BENZO(A)ANTHRACENE
420UJ	CHRYSENE
420UJ	BIS(2-ETHYLHEXYL) PHTHALATE
420UJ	DI-N-OCTYLPHTHALATE
420UJ	BENZO(B AND/OR K)FLUORANTHENE
420UJ	BENZO-A-PYRENE
420UJ	INDENO (1,2,3-CD) PYRENE
420UJ	DIBENZO(A,H)ANTHRACENE
420UJ	BENZO(GHI)PERYLENE
22	PERCENT MOISTURE

REMARKS
EXCESSIVE HOLDING TIME

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89537 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 027-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0957 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK87

UG/KG	ANALYTICAL RESULTS
490UR	PHENOL
490U	BIS(2-CHLOROETHYL) ETHER
490U	2-CHLOROPHENOL
490U	1,3-DICHLOROBENZENE
490U	1,4-DICHLOROBENZENE
490U	1,2-DICHLOROBENZENE
490U	2-METHYLPHENOL
490U	2,2'-CHLOROISOPROPYLETHER
490U	(3-AND/OR 4-)METHYLPHENOL
490U	N-NITROSODI-N-PROPYLAMINE
490U	HEXACHLOROETHANE
490U	NITROBENZENE
490U	ISOPHORONE
490U	2-NITROPHENOL
490UR	2,4-DIMETHYLPHENOL
490U	BIS(2-CHLOROETHOXY) METHANE
490U	2,4-DICHLOROPHENOL
490U	1,2,4-TRICHLOROBENZENE
490U	NAPHTHALENE
490U	4-CHLOROANILINE
490U	HEXACHLOROBUTADIENE
490U	4-CHLORO-3-METHYLPHENOL
490U	2-METHYLNAPHTHALENE
490U	HEXACHLOROCYCLOPENTADIENE (HCCP)
490U	2,4,6-TRICHLOROPHENOL
1200U	2,4,5-TRICHLOROPHENOL
490U	2-CHLORONAPHTHALENE
1200U	2-NITROANILINE
490U	DIMETHYL PHTHALATE
490U	ACENAPHTHYLENE
490U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1200U	3-NITROANILINE
490U	ACENAPHTHENE
1200U	2,4-DINITROPHENOL
1200U	4-NITROPHENOL
490U	DIBENZOFURAN
490U	2,4-DINITROTOLUENE
490U	DIETHYL PHTHALATE
490U	4-CHLOROPHENYL PHENYL ETHER
490UJ	FLUORENE
1200U	4-NITROANILINE
1200U	2-METHYL-4,6-DINITROPHENOL
490U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
490U	4-BROMOPHENYL PHENYL ETHER
490U	HEXACHLOROBENZENE (HCB)
1200UR	PENTACHLOROPHENOL
490U	PHENANTHRENE
490U	ANTHRACENE
490U	CARBAZOLE
490U	DI-N-BUTYLPHTHALATE
490U	FLUORANTHENE
490U	PYRENE
490U	BENZYL BUTYL PHTHALATE
490U	3,3'-DICHLOROBENZIDINE
490U	BENZO(A)ANTHRACENE
490U	CHRYSENE
490U	BIS(2-ETHYLHEXYL) PHTHALATE
490U	DI-N-OCTYLPHTHALATE
490U	BENZO(B AND/OR K)FLUORANTHENE
490U	BENZO-A-PYRENE
490U	INDENO (1,2,3-CD) PYRENE
490U	DIBENZO(A,H)ANTHRACENE
490U	BENZO(GHI)PERYLENE
33	PERCENT MOISTURE

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89538 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 028-SD COLLECTION START: 08/31/94 0930 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK88

UG/KG	ANALYTICAL RESULTS
430UR	PHENOL
430U	BIS(2-CHLOROETHYL) ETHER
430U	2-CHLOROPHENOL
430U	1,3-DICHLOROBENZENE
430U	1,4-DICHLOROBENZENE
430U	1,2-DICHLOROBENZENE
430U	2-METHYLPHENOL
430U	2,2'-CHLOROISOPROPYLETHER
430U	(3-AND/OR 4-)METHYLPHENOL
430U	N-NITROSODI-N-PROPYLAMINE
430U	HEXACHLOROETHANE
430U	NITROBENZENE
430U	ISOPHORONE
430U	2-NITROPHENOL
430UR	2,4-DIMETHYLPHENOL
430U	BIS(2-CHLOROETHOXY) METHANE
430U	2,4-DICHLOROPHENOL
430U	1,2,4-TRICHLOROBENZENE
430U	NAPHTHALENE
430U	4-CHLOROANILINE
430U	HEXACHLOROBUTADIENE
430U	4-CHLORO-3-METHYLPHENOL
430U	2-METHYLNAPHTHALENE
430U	HEXACHLOROCYCLOPENTADIENE (HCCP)
430U	2,4,6-TRICHLOROPHENOL
1000U	2,4,5-TRICHLOROPHENOL
430U	2-CHLORONAPHTHALENE
1000U	2-NITROANILINE
430U	DIMETHYL PHTHALATE
430U	ACENAPHTHYLENE
430U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1000U	3-NITROANILINE
430U	ACENAPHTHENE
1000U	2,4-DINITROPHENOL
1000U	4-NITROPHENOL
430U	DIBENZOFURAN
430U	2,4-DINITROTOLUENE
430U	DIETHYL PHTHALATE
430U	4-CHLOROPHENYL PHENYL ETHER
430UJ	FLUORENE
1000U	4-NITROANILINE
1000U	2-METHYL-4,6-DINITROPHENOL
430U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
430U	4-BROMOPHENYL PHENYL ETHER
430U	HEXACHLOROBENZENE (HCB)
1000UR	PENTACHLOROPHENOL
430U	PHENANTHRENE
430U	ANTHRACENE
430U	CARBAZOLE
430U	DI-N-BUTYLPHTHALATE
430U	FLUORANTHENE
430U	PYRENE
430U	BENZYL BUTYL PHTHALATE
430U	3,3'-DICHLOROBENZIDINE
430U	BENZO(A)ANTHRACENE
430U	CHRYSENE
430U	BIS(2-ETHYLHEXYL) PHTHALATE
430U	DI-N-OCTYLPHTHALATE
430U	BENZO(B AND/OR K)FLUORANTHENE
430U	BENZO-A-PYRENE
430U	INDENO (1,2,3-CD) PYRENE
430U	DIBENZO(A,H)ANTHRACENE
430U	BENZO(GHI)PERYLENE
24	PERCENT MOISTURE

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89539 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 029-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1025 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK89

UG/KG	ANALYTICAL RESULTS
460UR	PHENOL
460U	BIS(2-CHLOROETHYL) ETHER
460U	2-CHLOROPHENOL
460U	1,3-DICHLOROBENZENE
460U	1,4-DICHLOROBENZENE
460U	1,2-DICHLOROBENZENE
460U	2-METHYLPHENOL
460U	2,2'-CHLOROISOPROPYLETHER
460U	(3-AND/OR 4-)METHYLPHENOL
460U	N-NITROSODI-N-PROPYLAMINE
460U	HEXACHLOROETHANE
460U	NITROBENZENE
460U	ISOPHORONE
460U	2-NITROPHENOL
460UR	2,4-DIMETHYLPHENOL
460U	BIS(2-CHLOROETHOXY) METHANE
460U	2,4-DICHLOROPHENOL
460U	1,2,4-TRICHLOROBENZENE
460U	NAPHTHALENE
460U	4-CHLOROANILINE
460U	HEXACHLOROBUTADIENE
460U	4-CHLORO-3-METHYLPHENOL
460U	2-METHYLNAPHTHALENE
460U	HEXACHLOROCYCLOPENTADIENE (HCCP)
460U	2,4,6-TRICHLOROPHENOL
1100U	2,4,5-TRICHLOROPHENOL
460U	2-CHLORONAPHTHALENE
1100U	2-NITROANILINE
460U	DIMETHYL PHTHALATE
460U	ACENAPHTHYLENE
460U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1100U	3-NITROANILINE
460U	ACENAPHTHENE
1100U	2,4-DINITROPHENOL
1100U	4-NITROPHENOL
460U	DIBENZOFURAN
460U	2,4-DINITROTOLUENE
460U	DIETHYL PHTHALATE
460U	4-CHLOROPHENYL PHENYL ETHER
460UJ	FLUORENE
1100U	4-NITROANILINE
1100U	2-METHYL-4,6-DINITROPHENOL
460U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
460U	4-BROMOPHENYL PHENYL ETHER
460U	HEXACHLOROBENZENE (HCB)
1100UR	PENTACHLOROPHENOL
460U	PHENANTHRENE
460U	ANTHRACENE
460U	CARBAZOLE
460U	DI-N-BUTYLPHTHALATE
460U	FLUORANTHENE
460U	PYRENE
460U	BENZYL BUTYL PHTHALATE
460U	3,3'-DICHLOROBENZIDINE
460U	BENZO(A)ANTHRACENE
460U	CHRYSENE
460U	BIS(2-ETHYLHEXYL) PHTHALATE
460U	DI-N-OCTYLPHTHALATE
460U	BENZO(B AND/OR K)FLUORANTHENE
460U	BENZO-A-PYRENE
460U	INDENO (1,2,3-CD) PYRENE
460U	DIBENZO(A,H)ANTHRACENE
460U	BENZO(GHI)PERYLENE
30	PERCENT MOISTURE

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89540 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 030-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK90

UG/L	ANALYTICAL RESULTS
10U	PHENOL
10U	BIS(2-CHLOROETHYL) ETHER
10U	2-CHLOROPHENOL
10U	1,3-DICHLOROBENZENE
10U	1,4-DICHLOROBENZENE
10U	1,2-DICHLOROBENZENE
10U	2-METHYLPHENOL
10U	2,2'-CHLOROISOPROPYLETHER
10U	(3-AND/OR 4-)METHYLPHENOL
10U	N-NITROSODI-N-PROPYLAMINE
10U	HEXACHLOROETHANE
10U	NITROBENZENE
10U	ISOPHORONE
10U	2-NITROPHENOL
10U	2,4-DIMETHYLPHENOL
10U	BIS(2-CHLOROETHOXY) METHANE
10U	2,4-DICHLOROPHENOL
10U	1,2,4-TRICHLOROBENZENE
10U	NAPHTHALENE
10U	4-CHLOROANILINE
10U	HEXACHLOROBUTADIENE
10U	4-CHLORO-3-METHYLPHENOL
10U	2-METHYLNAPHTHALENE
10U	HEXACHLOROCYCLOPENTADIENE (HCCP)
10U	2,4,6-TRICHLOROPHENOL
25U	2,4,5-TRICHLOROPHENOL
10U	2-CHLORONAPHTHALENE
25U	2-NITROANILINE
10U	DIMETHYL PHTHALATE
10U	ACENAPHTHYLENE
10U	2,6-DINITROTOLUENE

UG/L	ANALYTICAL RESULTS
25U	3-NITROANILINE
10U	ACENAPHTHENE
25U	2,4-DINITROPHENOL
25U	4-NITROPHENOL
10U	DIBENZOFURAN
10U	2,4-DINITROTOLUENE
10U	DIETHYL PHTHALATE
10U	4-CHLOROPHENYL PHENYL ETHER
10U	FLUORENE
25U	4-NITROANILINE
25U	2-METHYL-4,6-DINITROPHENOL
10U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
10U	4-BROMOPHENYL PHENYL ETHER
10U	HEXACHLOROBENZENE (HCB)
25U	PENTACHLOROPHENOL
10U	PHENANTHRENE
10U	ANTHRACENE
10U	CARBAZOLE
10U	DI-N-BUTYLPHTHALATE
10U	FLUORANTHENE
10U	PYRENE
10U	BENZYL BUTYL PHTHALATE
10U	3,3'-DICHLOROBENZIDINE
10U	BENZO(A)ANTHRACENE
10U	CHRYSENE
10U	BIS(2-ETHYLHEXYL) PHTHALATE
10U	DI-N-OCTYLPHTHALATE
10U	BENZO(B AND/OR K)FLUORANTHENE
10U	BENZO-A-PYRENE
10U	INDENO (1,2,3-CD) PYRENE
10U	DIBENZO(A,H)ANTHRACENE
10U	BENZO(GHI)PERYLENE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89541 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 031-SS COLLECTION START: 08/31/94 0857 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK91

UG/KG	ANALYTICAL RESULTS
390UR	PHENOL
390U	BIS(2-CHLOROETHYL) ETHER
390U	2-CHLOROPHENOL
390U	1,3-DICHLOROBENZENE
390U	1,4-DICHLOROBENZENE
390U	1,2-DICHLOROBENZENE
390U	2-METHYLPHENOL
390U	2,2'-CHLOROISOPROPYLETHER
390U	(3-AND/OR 4-)METHYLPHENOL
390U	N-NITROSODI-N-PROPYLAMINE
390U	HEXACHLOROETHANE
390U	NITROBENZENE
390U	ISOPHORONE
390U	2-NITROPHENOL
390UR	2,4-DIMETHYLPHENOL
390U	BIS(2-CHLOROETHOXY) METHANE
390U	2,4-DICHLOROPHENOL
390U	1,2,4-TRICHLOROBENZENE
390U	NAPHTHALENE
390U	4-CHLOROANILINE
390U	HEXACHLOROBUTADIENE
390U	4-CHLORO-3-METHYLPHENOL
390U	2-METHYLNAPHTHALENE
390U	HEXACHLOROCYCLOPENTADIENE (HCCP)
390U	2,4,6-TRICHLOROPHENOL
960U	2,4,5-TRICHLOROPHENOL
390U	2-CHLORONAPHTHALENE
960U	2-NITROANILINE
390U	DIMETHYL PHTHALATE
390U	ACENAPHTHYLENE
390U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
960U	3-NITROANILINE
390U	ACENAPHTHENE
960U	2,4-DINITROPHENOL
960U	4-NITROPHENOL
390U	DIBENZOFURAN
390U	2,4-DINITROTOLUENE
390U	DIETHYL PHTHALATE
390U	4-CHLOROPHENYL PHENYL ETHER
390UJ	FLUORENE
960U	4-NITROANILINE
960U	2-METHYL-4,6-DINITROPHENOL
390U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
390U	4-BROMOPHENYL PHENYL ETHER
390U	HEXACHLOROBENZENE (HCB)
960UR	PENTACHLOROPHENOL
390U	PHENANTHRENE
390U	ANTHRACENE
390U	CARBAZOLE
390U	DI-N-BUTYLPHTHALATE
390U	FLUORANTHENE
390U	PYRENE
390U	BENZYL BUTYL PHTHALATE
390U	3,3'-DICHLOROBENZIDINE
390U	BENZO(A)ANTHRACENE
390U	CHRYSENE
390U	BIS(2-ETHYLHEXYL) PHTHALATE
390U	DI-N-OCTYLPHTHALATE
390U	BENZO(B AND/OR K)FLUORANTHENE
390U	BENZO-A-PYRENE
390U	INDENO (1,2,3-CD) PYRENE
390U	DIBENZO(A,H)ANTHRACENE
390U	BENZO(GHI)PERYLENE
18	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89542 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 032-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HK92

UG/L	ANALYTICAL RESULTS
10UJ	PHENOL
10U	BIS(2-CHLOROETHYL) ETHER
10U	2-CHLOROPHENOL
10U	1,3-DICHLOROBENZENE
10U	1,4-DICHLOROBENZENE
10U	1,2-DICHLOROBENZENE
10U	2-METHYLPHENOL
10U	2,2'-CHLOROISOPROPYLETHER
10U	(3-AND/OR 4-)METHYLPHENOL
10U	N-NITROSODI-N-PROPYLAMINE
10U	HEXACHLOROETHANE
10U	NITROBENZENE
10U	ISOPHORONE
10U	2-NITROPHENOL
10U	2,4-DIMETHYLPHENOL
10U	BIS(2-CHLOROETHOXY) METHANE
10U	2,4-DICHLOROPHENOL
10U	1,2,4-TRICHLOROBENZENE
10U	NAPHTHALENE
10U	4-CHLOROANILINE
10U	HEXACHLOROBUTADIENE
10U	4-CHLORO-3-METHYLPHENOL
10U	2-METHYLNAPHTHALENE
10U	HEXACHLOROCYCLOPENTADIENE (HCCP)
10U	2,4,6-TRICHLOROPHENOL
25U	2,4,5-TRICHLOROPHENOL
10U	2-CHLORONAPHTHALENE
25U	2-NITROANILINE
10U	DIMETHYL PHTHALATE
10U	ACENAPHTHYLENE
10U	2,6-DINITROTOLUENE

UG/L	ANALYTICAL RESULTS
25U	3-NITROANILINE
10U	ACENAPHTHENE
25UJ	2,4-DINITROPHENOL
25UJ	4-NITROPHENOL
10UJ	DIBENZOFURAN
10UJ	2,4-DINITROTOLUENE
10UJ	DIETHYL PHTHALATE
10UJ	4-CHLOROPHENYL PHENYL ETHER
10UJ	FLUORENE
25UJ	4-NITROANILINE
25UJ	2-METHYL-4,6-DINITROPHENOL
10UJ	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
10UJ	4-BROMOPHENYL PHENYL ETHER
10UJ	HEXACHLOROBENZENE (HCB)
25UJ	PENTACHLOROPHENOL
10UJ	PHENANTHRENE
10UJ	ANTHRACENE
10UJ	CARBAZOLE
10UJ	DI-N-BUTYLPHTHALATE
10UJ	FLUORANTHENE
10UJ	PYRENE
10UJ	BENZYL BUTYL PHTHALATE
10UJ	3,3'-DICHLOROBENZIDINE
10UJ	BENZO(A)ANTHRACENE
10UJ	CHRYSENE
10UJ	BIS(2-ETHYLHEXYL) PHTHALATE
10UJ	DI-N-OCTYLPHTHALATE
10UJ	BENZO(B AND/OR K)FLUORANTHENE
10UJ	BENZO-A-PYRENE
10UJ	INDENO (1,2,3-CD) PYRENE
10UJ	DIBENZO(A,H)ANTHRACENE
10UJ	BENZO(GHI)PERYLENE

REMARKS
HOLDING TIMES EXCEEDED(40 CFR 136,OCTOBER 26,1984)

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89548 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 001-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0857 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ43

UG/KG	ANALYTICAL RESULTS
420UR	PHENOL
420U	BIS(2-CHLOROETHYL) ETHER
420U	2-CHLOROPHENOL
420U	1,3-DICHLOROBENZENE
420U	1,4-DICHLOROBENZENE
420U	1,2-DICHLOROBENZENE
420U	2-METHYLPHENOL
420U	2,2'-CHLOROISOPROPYLETHER
420U	(3-AND/OR 4-)METHYLPHENOL
420U	N-NITROSODI-N-PROPYLAMINE
420U	HEXACHLOROETHANE
420U	NITROBENZENE
420U	ISOPHORONE
420U	2-NITROPHENOL
420UR	2,4-DIMETHYLPHENOL
420U	BIS(2-CHLOROETHOXY) METHANE
420U	2,4-DICHLOROPHENOL
420U	1,2,4-TRICHLOROBENZENE
420U	NAPHTHALENE
420U	4-CHLOROANILINE
420U	HEXACHLOROBUTADIENE
420U	4-CHLORO-3-METHYLPHENOL
420U	2-METHYLNAPHTHALENE
420U	HEXACHLOROCYCLOPENTADIENE (HCCP)
420U	2,4,6-TRICHLOROPHENOL
1000U	2,4,5-TRICHLOROPHENOL
420U	2-CHLORONAPHTHALENE
1000U	2-NITROANILINE
420U	DIMETHYL PHTHALATE
420U	ACENAPHTHYLENE
420U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1000U	3-NITROANILINE
420U	ACENAPHTHENE
1000U	2,4-DINITROPHENOL
1000U	4-NITROPHENOL
420U	DIBENZOFURAN
420U	2,4-DINITROTOLUENE
420U	DIETHYL PHTHALATE
420U	4-CHLOROPHENYL PHENYL ETHER
420UJ	FLUORENE
1000U	4-NITROANILINE
1000U	2-METHYL-4,6-DINITROPHENOL
420U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
420U	4-BROMOPHENYL PHENYL ETHER
420U	HEXACHLOROBENZENE (HCB)
1000UR	PENTACHLOROPHENOL
420U	PHENANTHRENE
420U	ANTHRACENE
420U	CARBAZOLE
420U	DI-N-BUTYLPHTHALATE
420U	FLUORANTHENE
420U	PYRENE
420U	BENZYL BUTYL PHTHALATE
420U	3,3'-DICHLOROBENZIDINE
420U	BENZO(A)ANTHRACENE
420U	CHRYSENE
420U	BIS(2-ETHYLHEXYL) PHTHALATE
420U	DI-N-OCTYLPHTHALATE
420U	BENZO(B AND/OR K)FLUORANTHENE
420U	BENZO-A-PYRENE
420U	INDENO (1,2,3-CD) PYRENE
420U	DIBENZO(A,H)ANTHRACENE
420U	BENZO(GHI)PERYLENE
21	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89549 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 002-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0925 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ44

UG/KG	ANALYTICAL RESULTS
390UR	PHENOL
390U	BIS(2-CHLOROETHYL) ETHER
390U	2-CHLOROPHENOL
390U	1,3-DICHLOROBENZENE
390U	1,4-DICHLOROBENZENE
390U	1,2-DICHLOROBENZENE
390U	2-METHYLPHENOL
390U	2,2'-CHLOROISOPROPYLETHER
390U	(3-AND/OR 4-)METHYLPHENOL
390U	N-NITROSODI-N-PROPYLAMINE
390U	HEXACHLOROETHANE
390U	NITROBENZENE
390U	ISOPHORONE
390U	2-NITROPHENOL
390UR	2,4-DIMETHYLPHENOL
390U	BIS(2-CHLOROETHOXY) METHANE
390U	2,4-DICHLOROPHENOL
390U	1,2,4-TRICHLOROBENZENE
390U	NAPHTHALENE
390U	4-CHLOROANILINE
390U	HEXACHLOROBUTADIENE
390U	4-CHLORO-3-METHYLPHENOL
390U	2-METHYLNAPHTHALENE
390U	HEXACHLOROCYCLOPENTADIENE (HCCP)
390U	2,4,6-TRICHLOROPHENOL
940U	2,4,5-TRICHLOROPHENOL
390U	2-CHLORONAPHTHALENE
940U	2-NITROANILINE
390U	DIMETHYL PHTHALATE
390U	ACENAPHTHYLENE
390U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
940U	3-NITROANILINE
390U	ACENAPHTHENE
940U	2,4-DINITROPHENOL
940U	4-NITROPHENOL
390U	DIBENZOFURAN
390U	2,4-DINITROTOLUENE
390U	DIETHYL PHTHALATE
390U	4-CHLOROPHENYL PHENYL ETHER
390UJ	FLUORENE
940U	4-NITROANILINE
940U	2-METHYL-4,6-DINITROPHENOL
390U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
390U	4-BROMOPHENYL PHENYL ETHER
390U	HEXACHLOROBENZENE (HCB)
940UR	PENTACHLOROPHENOL
390U	PHENANTHRENE
390U	ANTHRACENE
390U	CARBAZOLE
390U	DI-N-BUTYLPHTHALATE
390U	FLUORANTHENE
390U	PYRENE
390U	BENZYL BUTYL PHTHALATE
390U	3,3'-DICHLOROBENZIDINE
390U	BENZO(A)ANTHRACENE
390U	CHRYSENE
940U	BIS(2-ETHYLHEXYL) PHTHALATE
390U	DI-N-OCTYLPHTHALATE
390U	BENZO(B AND/OR K)FLUORANTHENE
390U	BENZO-A-PYRENE
390U	INDENO (1,2,3-CD) PYRENE
390U	DIBENZO(A,H)ANTHRACENE
390U	BENZO(GHI)PERYLENE
17	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89550 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 003-SS COLLECTION START: 08/31/94 0950 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ45

UG/KG	ANALYTICAL RESULTS
420UR	PHENOL
420U	BIS(2-CHLOROETHYL) ETHER
420U	2-CHLOROPHENOL
420U	1,3-DICHLOROBENZENE
420U	1,4-DICHLOROBENZENE
420U	1,2-DICHLOROBENZENE
420U	2-METHYLPHENOL
420U	2,2'-CHLOROISOPROPYLETHER
420U	(3-AND/OR 4-)METHYLPHENOL
420U	N-NITROSODI-N-PROPYLAMINE
420U	HEXACHLOROETHANE
420U	NITROBENZENE
420U	ISOPHORONE
420U	2-NITROPHENOL
420UR	2,4-DIMETHYLPHENOL
420U	BIS(2-CHLOROETHOXY) METHANE
420U	2,4-DICHLOROPHENOL
420U	1,2,4-TRICHLOROBENZENE
420U	NAPHTHALENE
420U	4-CHLOROANILINE
420U	HEXACHLOROBUTADIENE
420U	4-CHLORO-3-METHYLPHENOL
420U	2-METHYLNAPHTHALENE
420U	HEXACHLOROCYCLOPENTADIENE (HCCP)
420U	2,4,6-TRICHLOROPHENOL
1000U	2,4,5-TRICHLOROPHENOL
420U	2-CHLORONAPHTHALENE
1000U	2-NITROANILINE
420U	DIMETHYL PHTHALATE
420U	ACENAPHTHYLENE
420U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1000U	3-NITROANILINE
420U	ACENAPHTHENE
1000U	2,4-DINITROPHENOL
1000U	4-NITROPHENOL
420U	DIBENZOFURAN
420U	2,4-DINITROTOLUENE
420U	DIETHYL PHTHALATE
420U	4-CHLOROPHENYL PHENYL ETHER
420UJ	FLUORENE
1000U	4-NITROANILINE
1000U	2-METHYL-4,6-DINITROPHENOL
420U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
420U	4-BROMOPHENYL PHENYL ETHER
420U	HEXACHLOROBENZENE (HCB)
1000UR	PENTACHLOROPHENOL
420U	PHENANTHRENE
420U	ANTHRACENE
420U	CARBAZOLE
420U	DI-N-BUTYLPHTHALATE
420U	FLUORANTHENE
420U	PYRENE
420U	BENZYL BUTYL PHTHALATE
420U	3,3'-DICHLOROBENZIDINE
420U	BENZO(A)ANTHRACENE
420U	CHRYSENE
550U	BIS(2-ETHYLHEXYL) PHTHALATE
420U	DI-N-OCTYLPHTHALATE
420U	BENZO(B AND/OR K)FLUORANTHENE
420U	BENZO-A-PYRENE
420U	INDENO (1,2,3-CD) PYRENE
420U	DIBENZO(A,H)ANTHRACENE
420U	BENZO(GHI)PERYLENE
22	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89551 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 004-SS COLLECTION START: 08/31/94 1015 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ46

UG/KG	ANALYTICAL RESULTS
410UR	PHENOL
410U	BIS(2-CHLOROETHYL) ETHER
410U	2-CHLOROPHENOL
410U	1,3-DICHLOROBENZENE
410U	1,4-DICHLOROBENZENE
410U	1,2-DICHLOROBENZENE
410U	2-METHYLPHENOL
410U	2,2'-CHLOROISOPROPYLETHER
410U	(3-AND/OR 4-)METHYLPHENOL
410U	N-NITROSODI-N-PROPYLAMINE
410U	HEXACHLOROETHANE
410U	NITROBENZENE
410U	ISOPHORONE
410U	2-NITROPHENOL
410UR	2,4-DIMETHYLPHENOL
410U	BIS(2-CHLOROETHOXY) METHANE
410U	2,4-DICHLOROPHENOL
410U	1,2,4-TRICHLOROBENZENE
410U	NAPHTHALENE
410U	4-CHLOROANILINE
410U	HEXACHLOROBUTADIENE
410U	4-CHLORO-3-METHYLPHENOL
410U	2-METHYLNAPHTHALENE
410U	HEXACHLOROCYCLOPENTADIENE (HCCP)
410U	2,4,6-TRICHLOROPHENOL
1000U	2,4,5-TRICHLOROPHENOL
410U	2-CHLORONAPHTHALENE
1000U	2-NITROANILINE
410U	DIMETHYL PHTHALATE
410U	ACENAPHTHYLENE
410U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1000U	3-NITROANILINE
410U	ACENAPHTHENE
1000U	2,4-DINITROPHENOL
1000U	4-NITROPHENOL
410U	DIBENZOFURAN
410U	2,4-DINITROTOLUENE
410U	DIETHYL PHTHALATE
410U	4-CHLOROPHENYL PHENYL ETHER
410UJ	FLUORENE
1000U	4-NITROANILINE
1000U	2-METHYL-4,6-DINITROPHENOL
410U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
410U	4-BROMOPHENYL PHENYL ETHER
410U	HEXACHLOROBENZENE (HCB)
1000UR	PENTACHLOROPHENOL
410U	PHENANTHRENE
410U	ANTHRACENE
410U	CARBAZOLE
410U	DI-N-BUTYLPHTHALATE
410U	FLUORANTHENE
410U	PYRENE
410U	BENZYL BUTYL PHTHALATE
410U	3,3'-DICHLOROBENZIDINE
410U	BENZO(A)ANTHRACENE
410U	CHRYSENE
410U	BIS(2-ETHYLHEXYL) PHTHALATE
410U	DI-N-OCTYLPHTHALATE
410U	BENZO(B AND/OR K)FLUORANTHENE
410U	BENZO-A-PYRENE
410U	INDENO (1,2,3-CD) PYRENE
410U	DIBENZO(A,H)ANTHRACENE
410U	BENZO(GHI)PERYLENE
20	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89552 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 005-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1033 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ47

UG/KG	ANALYTICAL RESULTS
460UR	PHENOL
460U	BIS(2-CHLOROETHYL) ETHER
460U	2-CHLOROPHENOL
460U	1,3-DICHLOROBENZENE
460U	1,4-DICHLOROBENZENE
460U	1,2-DICHLOROBENZENE
460U	2-METHYLPHENOL
460U	2,2'-CHLOROISOPROPYLETHER
460U	(3-AND/OR 4-)METHYLPHENOL
460U	N-NITROSODI-N-PROPYLAMINE
460U	HEXACHLOROETHANE
460U	NITROBENZENE
460U	ISOPHORONE
460U	2-NITROPHENOL
460UR	2,4-DIMETHYLPHENOL
460U	BIS(2-CHLOROETHOXY) METHANE
460U	2,4-DICHLOROPHENOL
460U	1,2,4-TRICHLOROBENZENE
460U	NAPHTHALENE
460U	4-CHLOROANILINE
460U	HEXACHLOROBUTADIENE
460U	4-CHLORO-3-METHYLPHENOL
460U	2-METHYLNAPHTHALENE
460U	HEXACHLOROCYCLOPENTADIENE (HCCP)
460U	2,4,6-TRICHLOROPHENOL
1100U	2,4,5-TRICHLOROPHENOL
460U	2-CHLORONAPHTHALENE
1100U	2-NITROANILINE
460U	DIMETHYL PHTHALATE
460U	ACENAPHTHYLENE
460U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1100U	3-NITROANILINE
460U	ACENAPHTHENE
1100U	2,4-DINITROPHENOL
1100U	4-NITROPHENOL
460U	DIBENZOFURAN
460U	2,4-DINITROTOLUENE
460U	DIETHYL PHTHALATE
460U	4-CHLOROPHENYL PHENYL ETHER
460UJ	FLUORENE
1100U	4-NITROANILINE
1100U	2-METHYL-4,6-DINITROPHENOL
460U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
460U	4-BROMOPHENYL PHENYL ETHER
460U	HEXACHLOROBENZENE (HCB)
1100UR	PENTACHLOROPHENOL
460U	PHENANTHRENE
460U	ANTHRACENE
460U	CARBAZOLE
460U	DI-N-BUTYLPHTHALATE
460U	FLUORANTHENE
460U	PYRENE
460U	BENZYL BUTYL PHTHALATE
460U	3,3'-DICHLOROBENZIDINE
460U	BENZO(A)ANTHRACENE
460U	CHRYSENE
460U	BIS(2-ETHYLHEXYL) PHTHALATE
460U	DI-N-OCTYLPHTHALATE
460U	BENZO(B AND/OR K)FLUORANTHENE
460U	BENZO-A-PYRENE
460U	INDENO (1,2,3-CD) PYRENE
460U	DIBENZO(A,H)ANTHRACENE
460U	BENZO(GHI)PERYLENE
30	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89553 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 006-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1056 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ48

UG/KG	ANALYTICAL RESULTS
410UR	PHENOL
410U	BIS(2-CHLOROETHYL) ETHER
410U	2-CHLOROPHENOL
410U	1,3-DICHLOROBENZENE
410U	1,4-DICHLOROBENZENE
410U	1,2-DICHLOROBENZENE
410U	2-METHYLPHENOL
410U	2,2'-CHLOROISOPROPYLETHER
410U	(3-AND/OR 4-)METHYLPHENOL
410U	N-NITROSODI-N-PROPYLAMINE
410U	HEXACHLOROETHANE
410U	NITROBENZENE
410U	ISOPHORONE
410U	2-NITROPHENOL
410UR	2,4-DIMETHYLPHENOL
410U	BIS(2-CHLOROETHOXY) METHANE
410U	2,4-DICHLOROPHENOL
410U	1,2,4-TRICHLOROBENZENE
410U	NAPHTHALENE
410U	4-CHLOROANILINE
410U	HEXACHLOROBUTADIENE
410U	4-CHLORO-3-METHYLPHENOL
410U	2-METHYLNAPHTHALENE
410U	HEXACHLOROCYCLOPENTADIENE (HCCP)
410U	2,4,6-TRICHLOROPHENOL
990U	2,4,5-TRICHLOROPHENOL
410U	2-CHLORONAPHTHALENE
990U	2-NITROANILINE
410U	DIMETHYL PHTHALATE
410U	ACENAPHTHYLENE
410U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
990U	3-NITROANILINE
410U	ACENAPHTHENE
990U	2,4-DINITROPHENOL
990U	4-NITROPHENOL
410U	DIBENZOFURAN
410U	2,4-DINITROTOLUENE
410U	DIETHYL PHTHALATE
410U	4-CHLOROPHENYL PHENYL ETHER
410UJ	FLUORENE
990U	4-NITROANILINE
990U	2-METHYL-4,6-DINITROPHENOL
410U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
410U	4-BROMOPHENYL PHENYL ETHER
410U	HEXACHLOROBENZENE (HCB)
990UR	PENTACHLOROPHENOL
410U	PHENANTHRENE
410U	ANTHRACENE
410U	CARBAZOLE
410U	DI-N-BUTYLPHTHALATE
410U	FLUORANTHENE
410U	PYRENE
410U	BENZYL BUTYL PHTHALATE
410U	3,3'-DICHLOROBENZIDINE
410U	BENZO(A)ANTHRACENE
410U	CHRYSENE
300J	BIS(2-ETHYLHEXYL) PHTHALATE
410U	DI-N-OCTYLPHTHALATE
410U	BENZO(B AND/OR K)FLUORANTHENE
410U	BENZO-A-PYRENE
410U	INDENO (1,2,3-CD) PYRENE
410U	DIBENZO(A,H)ANTHRACENE
410U	BENZO(GHI)PERYLENE
20	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89554 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 007-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1140 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ49

UG/KG	ANALYTICAL RESULTS
430UR	PHENOL
430U	BIS(2-CHLOROETHYL) ETHER
430U	2-CHLOROPHENOL
430U	1,3-DICHLOROBENZENE
430U	1,4-DICHLOROBENZENE
430U	1,2-DICHLOROBENZENE
430U	2-METHYLPHENOL
430U	2,2'-CHLOROISOPROPYLETHER
430U	(3-AND/OR 4-)METHYLPHENOL
430U	N-NITROSODI-N-PROPYLAMINE
430U	HEXACHLOROETHANE
430U	NITROBENZENE
430U	ISOPHORONE
430U	2-NITROPHENOL
430UR	2,4-DIMETHYLPHENOL
430U	BIS(2-CHLOROETHOXY) METHANE
430U	2,4-DICHLOROPHENOL
430U	1,2,4-TRICHLOROBENZENE
430U	NAPHTHALENE
430U	4-CHLOROANILINE
430U	HEXACHLOROBUTADIENE
430U	4-CHLORO-3-METHYLPHENOL
430U	2-METHYLNAPHTHALENE
430U	HEXACHLOROCYCLOPENTADIENE (HCCP)
430U	2,4,6-TRICHLOROPHENOL
1000U	2,4,5-TRICHLOROPHENOL
430U	2-CHLORONAPHTHALENE
1000U	2-NITROANILINE
430U	DIMETHYL PHTHALATE
430U	ACENAPHTHYLENE
430U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1000U	3-NITROANILINE
430U	ACENAPHTHENE
1000U	2,4-DINITROPHENOL
1000U	4-NITROPHENOL
430U	DIBENZOFURAN
430U	2,4-DINITROTOLUENE
430U	DIETHYL PHTHALATE
430U	4-CHLOROPHENYL PHENYL ETHER
430UJ	FLUORENE
1000U	4-NITROANILINE
1000U	2-METHYL-4,6-DINITROPHENOL
430U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
430U	4-BROMOPHENYL PHENYL ETHER
430U	HEXACHLOROBENZENE (HCB)
1000UR	PENTACHLOROPHENOL
430U	PHENANTHRENE
430U	ANTHRACENE
430U	CARBAZOLE
430U	DI-N-BUTYLPHTHALATE
430U	FLUORANTHENE
430U	PYRENE
430U	BENZYL BUTYL PHTHALATE
430U	3,3'-DICHLOROBENZIDINE
430U	BENZO(A)ANTHRACENE
430U	CHRYSENE
430U	BIS(2-ETHYLHEXYL) PHTHALATE
430U	DI-N-OCTYLPHTHALATE
430U	BENZO(B AND/OR K)FLUORANTHENE
430U	BENZO-A-PYRENE
430U	INDENO (1,2,3-CD) PYRENE
430U	DIBENZO(A,H)ANTHRACENE
430U	BENZO(GHI)PERYLENE
24	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89555 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 008-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1205 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ50

UG/KG	ANALYTICAL RESULTS
420UR	PHENOL
420U	BIS(2-CHLOROETHYL) ETHER
420U	2-CHLOROPHENOL
420U	1,3-DICHLOROBENZENE
420U	1,4-DICHLOROBENZENE
420U	1,2-DICHLOROBENZENE
420U	2-METHYLPHENOL
420U	2,2'-CHLOROISOPROPYLETHER
420U	(3-AND/OR 4-)METHYLPHENOL
420U	N-NITROSODI-N-PROPYLAMINE
420U	HEXACHLOROETHANE
420U	NITROBENZENE
420U	ISOPHORONE
420U	2-NITROPHENOL
420UR	2,4-DIMETHYLPHENOL
420U	BIS(2-CHLOROETHOXY) METHANE
420U	2,4-DICHLOROPHENOL
420U	1,2,4-TRICHLOROBENZENE
420U	NAPHTHALENE
420U	4-CHLOROANILINE
420U	HEXACHLOROBUTADIENE
420U	4-CHLORO-3-METHYLPHENOL
420U	2-METHYLNAPHTHALENE
420U	HEXACHLOROCYCLOPENTADIENE (HCCP)
420U	2,4,6-TRICHLOROPHENOL
1000U	2,4,5-TRICHLOROPHENOL
420U	2-CHLORONAPHTHALENE
1000U	2-NITROANILINE
420U	DIMETHYL PHTHALATE
420U	ACENAPHTHYLENE
420U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1000U	3-NITROANILINE
420U	ACENAPHTHENE
1000U	2,4-DINITROPHENOL
1000U	4-NITROPHENOL
420U	DIBENZOFURAN
420U	2,4-DINITROTOLUENE
420U	DIETHYL PHTHALATE
420U	4-CHLOROPHENYL PHENYL ETHER
420UJ	FLUORENE
1000U	4-NITROANILINE
1000U	2-METHYL-4,6-DINITROPHENOL
420U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
420U	4-BROMOPHENYL PHENYL ETHER
420U	HEXACHLOROBENZENE (HCB)
1000UR	PENTACHLOROPHENOL
420U	PHENANTHRENE
420U	ANTHRACENE
420U	CARBAZOLE
420U	DI-N-BUTYLPHTHALATE
420U	FLUORANTHENE
420U	PYRENE
420U	BENZYL BUTYL PHTHALATE
420U	3,3'-DICHLOROBENZIDINE
420U	BENZO(A)ANTHRACENE
420U	CHRYSENE
420U	BIS(2-ETHYLHEXYL) PHTHALATE
420U	DI-N-OCTYLPHTHALATE
420U	BENZO(B AND/OR K)FLUORANTHENE
420U	BENZO-A-PYRENE
420U	INDENO (1,2,3-CD) PYRENE
420U	DIBENZO(A,H)ANTHRACENE
420U	BENZO(GHI)PERYLENE
22	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89556 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 009-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1217 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ51

UG/KG	ANALYTICAL RESULTS
470UR	PHENOL
470U	BIS(2-CHLOROETHYL) ETHER
470U	2-CHLOROPHENOL
470U	1,3-DICHLOROBENZENE
470U	1,4-DICHLOROBENZENE
470U	1,2-DICHLOROBENZENE
470U	2-METHYLPHENOL
470U	2,2'-CHLOROISOPROPYLETHER
470U	(3-AND/OR 4-)METHYLPHENOL
470U	N-NITROSODI-N-PROPYLAMINE
470U	HEXACHLOROETHANE
470U	NITROBENZENE
470U	ISOPHORONE
470U	2-NITROPHENOL
470UR	2,4-DIMETHYLPHENOL
470U	BIS(2-CHLOROETHOXY) METHANE
470U	2,4-DICHLOROPHENOL
470U	1,2,4-TRICHLOROBENZENE
470U	NAPHTHALENE
470U	4-CHLOROANILINE
470U	HEXACHLOROBUTADIENE
470U	4-CHLORO-3-METHYLPHENOL
470U	2-METHYLNAPHTHALENE
470U	HEXACHLOROCYCLOPENTADIENE (HCCP)
470U	2,4,6-TRICHLOROPHENOL
1100U	2,4,5-TRICHLOROPHENOL
470U	2-CHLORONAPHTHALENE
1100U	2-NITROANILINE
470U	DIMETHYL PHTHALATE
470U	ACENAPHTHYLENE
470U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1100U	3-NITROANILINE
470U	ACENAPHTHENE
1100U	2,4-DINITROPHENOL
1100U	4-NITROPHENOL
470U	DIBENZOFURAN
470U	2,4-DINITROTOLUENE
470U	DIETHYL PHTHALATE
470U	4-CHLOROPHENYL PHENYL ETHER
470UJ	FLUORENE
1100U	4-NITROANILINE
1100U	2-METHYL-4,6-DINITROPHENOL
470U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
470U	4-BROMOPHENYL PHENYL ETHER
470U	HEXACHLOROBENZENE (HCB)
1100UR	PENTACHLOROPHENOL
110J	PHENANTHRENE
470U	ANTHRACENE
470U	CARBAZOLE
470U	DI-N-BUTYLPHTHALATE
170J	FLUORANTHENE
150J	PYRENE
470U	BENZYL BUTYL PHTHALATE
470U	3,3'-DICHLOROBENZIDINE
470U	BENZO(A)ANTHRACENE
110J	CHRYSENE
470U	BIS(2-ETHYLHEXYL) PHTHALATE
470U	DI-N-OCTYLPHTHALATE
120J	BENZO(B AND/OR K)FLUORANTHENE
470U	BENZO-A-PYRENE
470U	INDENO (1,2,3-CD) PYRENE
470U	DIBENZO(A,H)ANTHRACENE
470U	BENZO(GHI)PERYLENE
31	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89557 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 010-SS

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1233 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ52

UG/KG	ANALYTICAL RESULTS
390UR	PHENOL
390U	BIS(2-CHLOROETHYL) ETHER
390U	2-CHLOROPHENOL
390U	1,3-DICHLOROBENZENE
390U	1,4-DICHLOROBENZENE
390U	1,2-DICHLOROBENZENE
390U	2-METHYLPHENOL
390U	2,2'-CHLOROISOPROPYLETHER
390U	(3-AND/OR 4-)METHYLPHENOL
390U	N-NITROSODI-N-PROPYLAMINE
390U	HEXACHLOROETHANE
390U	NITROBENZENE
390U	ISOPHORONE
390U	2-NITROPHENOL
390UR	2,4-DIMETHYLPHENOL
390U	BIS(2-CHLOROETHOXY) METHANE
390U	2,4-DICHLOROPHENOL
390U	1,2,4-TRICHLOROBENZENE
390U	NAPHTHALENE
390U	4-CHLOROANILINE
390U	HEXACHLOROBUTADIENE
390U	4-CHLORO-3-METHYLPHENOL
390U	2-METHYLNAPHTHALENE
390U	HEXACHLOROCYCLOPENTADIENE (HCCP)
390U	2,4,6-TRICHLOROPHENOL
930U	2,4,5-TRICHLOROPHENOL
390U	2-CHLORONAPHTHALENE
930U	2-NITROANILINE
390U	DIMETHYL PHTHALATE
390U	ACENAPHTHYLENE
390U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
930U	3-NITROANILINE
390U	ACENAPHTHENE
930U	2,4-DINITROPHENOL
930U	4-NITROPHENOL
390U	DIBENZOFURAN
390U	2,4-DINITROTOLUENE
390U	DIETHYL PHTHALATE
390U	4-CHLOROPHENYL PHENYL ETHER
390UJ	FLUORENE
930U	4-NITROANILINE
930U	2-METHYL-4,6-DINITROPHENOL
390U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
390U	4-BROMOPHENYL PHENYL ETHER
390U	HEXACHLOROBENZENE (HCB)
930UR	PENTACHLOROPHENOL
390U	PHENANTHRENE
390U	ANTHRACENE
390U	CARBAZOLE
390U	DI-N-BUTYLPHTHALATE
390U	FLUORANTHENE
390U	PYRENE
390U	BENZYL BUTYL PHTHALATE
390U	3,3'-DICHLOROBENZIDINE
390U	BENZO(A)ANTHRACENE
390U	CHRYSENE
390U	BIS(2-ETHYLHEXYL) PHTHALATE
390U	DI-N-OCTYLPHTHALATE
390U	BENZO(B AND/OR K)FLUORANTHENE
390U	BENZO-A-PYRENE
390U	INDENO (1,2,3-CD) PYRENE
390U	DIBENZO(A,H)ANTHRACENE
390U	BENZO(GHI)PERYLENE
16	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89558 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 011-SD COLLECTION START: 08/31/94 1235 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ53

UG/KG	ANALYTICAL RESULTS
420UR	PHENOL
420U	BIS(2-CHLOROETHYL) ETHER
420U	2-CHLOROPHENOL
420U	1,3-DICHLOROBENZENE
420U	1,4-DICHLOROBENZENE
420U	1,2-DICHLOROBENZENE
420U	2-METHYLPHENOL
420U	2,2'-CHLOROISOPROPYLETHER
420U	(3-AND/OR 4-)METHYLPHENOL
420U	N-NITROSODI-N-PROPYLAMINE
420U	HEXACHLOROETHANE
420U	NITROBENZENE
420U	ISOPHORONE
420U	2-NITROPHENOL
420UR	2,4-DIMETHYLPHENOL
420U	BIS(2-CHLOROETHOXY) METHANE
420U	2,4-DICHLOROPHENOL
420U	1,2,4-TRICHLOROBENZENE
420U	NAPHTHALENE
420U	4-CHLOROANILINE
420U	HEXACHLOROBUTADIENE
420U	4-CHLORO-3-METHYLPHENOL
420U	2-METHYLNAPHTHALENE
420U	HEXACHLOROCYCLOPENTADIENE (HCCP)
420U	2,4,6-TRICHLOROPHENOL
1000U	2,4,5-TRICHLOROPHENOL
420U	2-CHLORONAPHTHALENE
1000U	2-NITROANILINE
420U	DIMETHYL PHTHALATE
420U	ACENAPHTHYLENE
420U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1000U	3-NITROANILINE
420U	ACENAPHTHENE
1000U	2,4-DINITROPHENOL
1000U	4-NITROPHENOL
420U	DIBENZOFURAN
420U	2,4-DINITROTOLUENE
420U	DIETHYL PHTHALATE
420U	4-CHLOROPHENYL PHENYL ETHER
420UJ	FLUORENE
1000U	4-NITROANILINE
1000U	2-METHYL-4,6-DINITROPHENOL
420U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
420U	4-BROMOPHENYL PHENYL ETHER
420U	HEXACHLOROBENZENE (HCB)
1000UR	PENTACHLOROPHENOL
420U	PHENANTHRENE
420U	ANTHRACENE
420U	CARBAZOLE
420U	DI-N-BUTYLPHTHALATE
420U	FLUORANTHENE
420U	PYRENE
420U	BENZYL BUTYL PHTHALATE
420U	3,3'-DICHLOROBENZIDINE
420U	BENZO(A)ANTHRACENE
420U	CHRYSENE
420U	BIS(2-ETHYLHEXYL) PHTHALATE
420U	DI-N-OCTYLPHTHALATE
420U	BENZO(B AND/OR K)FLUORANTHENE
420U	BENZO-A-PYRENE
420U	INDENO (1,2,3-CD) PYRENE
420U	DIBENZO(A,H)ANTHRACENE
420U	BENZO(GHI)PERYLENE
22	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89559 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 012-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1300 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ54

UG/KG	ANALYTICAL RESULTS
450UR	PHENOL
450U	BIS(2-CHLOROETHYL) ETHER
450U	2-CHLOROPHENOL
450U	1,3-DICHLOROBENZENE
450U	1,4-DICHLOROBENZENE
450U	1,2-DICHLOROBENZENE
450U	2-METHYLPHENOL
450U	2,2'-CHLOROISOPROPYLETHER
450U	(3-AND/OR 4-)METHYLPHENOL
450U	N-NITROSODI-N-PROPYLAMINE
450U	HEXACHLOROETHANE
450U	NITROBENZENE
450U	ISOPHORONE
450U	2-NITROPHENOL
450UR	2,4-DIMETHYLPHENOL
450U	BIS(2-CHLOROETHOXY) METHANE
450U	2,4-DICHLOROPHENOL
450U	1,2,4-TRICHLOROBENZENE
450U	NAPHTHALENE
450U	4-CHLOROANILINE
450U	HEXACHLOROBUTADIENE
450U	4-CHLORO-3-METHYLPHENOL
450U	2-METHYLNAPHTHALENE
450U	HEXACHLOROCYCLOPENTADIENE (HCCP)
450U	2,4,6-TRICHLOROPHENOL
1100U	2,4,5-TRICHLOROPHENOL
450U	2-CHLORONAPHTHALENE
1100U	2-NITROANILINE
450U	DIMETHYL PHTHALATE
450U	ACENAPHTHYLENE
450U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1100U	3-NITROANILINE
450U	ACENAPHTHENE
1100U	2,4-DINITROPHENOL
1100U	4-NITROPHENOL
450U	DIBENZOFURAN
450U	2,4-DINITROTOLUENE
450U	DIETHYL PHTHALATE
450U	4-CHLOROPHENYL PHENYL ETHER
450UJ	FLUORENE
1100U	4-NITROANILINE
1100U	2-METHYL-4,6-DINITROPHENOL
450U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
450U	4-BROMOPHENYL PHENYL ETHER
450U	HEXACHLOROBENZENE (HCB)
1100UR	PENTACHLOROPHENOL
450U	PHENANTHRENE
450U	ANTHRACENE
450U	CARBAZOLE
450U	DI-N-BUTYLPHTHALATE
68J	FLUORANTHENE
75J	PYRENE
450U	BENZYL BUTYL PHTHALATE
450U	3,3'-DICHLOROBENZIDINE
160J	BENZO(A)ANTHRACENE
210J	CHRYSENE
450U	BIS(2-ETHYLHEXYL) PHTHALATE
450U	DI-N-OCTYLPHTHALATE
270J	BENZO(B AND/OR K)FLUORANTHENE
53J	BENZO-A-PYRENE
450U	INDENO (1,2,3-CD) PYRENE
450U	DIBENZO(A,H)ANTHRACENE
73J	BENZO(GHI)PERYLENE
27	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89560 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 013-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1323 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ55

UG/KG	ANALYTICAL RESULTS
410UR	PHENOL
410U	BIS(2-CHLOROETHYL) ETHER
410U	2-CHLOROPHENOL
410U	1,3-DICHLOROBENZENE
410U	1,4-DICHLOROBENZENE
410U	1,2-DICHLOROBENZENE
410U	2-METHYLPHENOL
410U	2,2'-CHLOROISOPROPYLETHER
410U	(3-AND/OR 4-)METHYLPHENOL
410U	N-NITROSODI-N-PROPYLAMINE
410U	HEXACHLOROETHANE
410U	NITROBENZENE
410U	ISOPHORONE
410U	2-NITROPHENOL
410UR	2,4-DIMETHYLPHENOL
410U	BIS(2-CHLOROETHOXY) METHANE
410U	2,4-DICHLOROPHENOL
410U	1,2,4-TRICHLOROBENZENE
410U	NAPHTHALENE
410U	4-CHLOROANILINE
410U	HEXACHLOROBUTADIENE
410U	4-CHLORO-3-METHYLPHENOL
410U	2-METHYLNAPHTHALENE
410U	HEXACHLOROCYCLOPENTADIENE (HCCP)
410U	2,4,6-TRICHLOROPHENOL
990U	2,4,5-TRICHLOROPHENOL
410U	2-CHLORONAPHTHALENE
990U	2-NITROANILINE
410U	DIMETHYL PHTHALATE
410U	ACENAPHTHYLENE
410U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
990U	3-NITROANILINE
410U	ACENAPHTHENE
990U	2,4-DINITROPHENOL
990U	4-NITROPHENOL
410U	DIBENZOFURAN
410U	2,4-DINITROTOLUENE
410U	DIETHYL PHTHALATE
410U	4-CHLOROPHENYL PHENYL ETHER
410UJ	FLUORENE
990U	4-NITROANILINE
990U	2-METHYL-4,6-DINITROPHENOL
410U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
410U	4-BROMOPHENYL PHENYL ETHER
410U	HEXACHLOROBENZENE (HCB)
990UR	PENTACHLOROPHENOL
410U	PHENANTHRENE
410U	ANTHRACENE
410U	CARBAZOLE
410U	DI-N-BUTYLPHTHALATE
410U	FLUORANTHENE
410U	PYRENE
410U	BENZYL BUTYL PHTHALATE
410U	3,3'-DICHLOROBENZIDINE
410U	BENZO(A)ANTHRACENE
410U	CHRYSENE
870U	BIS(2-ETHYLHEXYL) PHTHALATE
410U	DI-N-OCTYLPHTHALATE
410U	BENZO(B AND/OR K)FLUORANTHENE
410U	BENZO-A-PYRENE
410U	INDENO (1,2,3-CD) PYRENE
410U	DIBENZO(A,H)ANTHRACENE
410U	BENZO(GHI)PERYLENE
20	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89561 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 014-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1225 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ56

UG/KG	ANALYTICAL RESULTS
380UR	PHENOL
380U	BIS(2-CHLOROETHYL) ETHER
380U	2-CHLOROPHENOL
380U	1,3-DICHLOROBENZENE
380U	1,4-DICHLOROBENZENE
380U	1,2-DICHLOROBENZENE
380U	2-METHYLPHENOL
380U	2,2'-CHLOROISOPROPYLETHER
380U	(3-AND/OR 4-)METHYLPHENOL
380U	N-NITROSODI-N-PROPYLAMINE
380U	HEXACHLOROETHANE
380U	NITROBENZENE
380U	ISOPHORONE
380U	2-NITROPHENOL
380UR	2,4-DIMETHYLPHENOL
380U	BIS(2-CHLOROETHOXY) METHANE
380U	2,4-DICHLOROPHENOL
380U	1,2,4-TRICHLOROBENZENE
52J	NAPHTHALENE
380U	4-CHLOROANILINE
380U	HEXACHLOROBUTADIENE
380U	4-CHLORO-3-METHYLPHENOL
380U	2-METHYLNAPHTHALENE
380U	HEXACHLOROCYCLOPENTADIENE (HCCP)
380U	2,4,6-TRICHLOROPHENOL
920U	2,4,5-TRICHLOROPHENOL
380U	2-CHLORONAPHTHALENE
920U	2-NITROANILINE
380U	DIMETHYL PHTHALATE
380U	ACENAPHTHYLENE
380U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
920U	3-NITROANILINE
120J	ACENAPHTHENE
920U	2,4-DINITROPHENOL
920U	4-NITROPHENOL
380U	DIBENZOFURAN
380U	2,4-DINITROTOLUENE
380U	DIETHYL PHTHALATE
380U	4-CHLOROPHENYL PHENYL ETHER
140J	FLUORENE
920U	4-NITROANILINE
920U	2-METHYL-4,6-DINITROPHENOL
380U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
380U	4-BROMOPHENYL PHENYL ETHER
380U	HEXACHLOROBENZENE (HCB)
920UR	PENTACHLOROPHENOL
2500	PHENANTHRENE
410	ANTHRACENE
400	CARBAZOLE
380U	DI-N-BUTYLPHTHALATE
5400	FLUORANTHENE
4200	PYRENE
380U	BENZYL BUTYL PHTHALATE
380U	3,3'-DICHLOROBENZIDINE
2100	BENZO(A)ANTHRACENE
2200	CHRYSENE
380U	BIS(2-ETHYLHEXYL) PHTHALATE
380U	DI-N-OCTYLPHTHALATE
2900J	BENZO(B AND/OR K)FLUORANTHENE
2100	BENZO-A-PYRENE
870	INDENO (1,2,3-CD) PYRENE
220J	DIBENZO(A,H)ANTHRACENE
580	BENZO(GHI)PERYLENE
14	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89562 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 015-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1250 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ57

UG/KG	ANALYTICAL RESULTS
450UR	PHENOL
450U	BIS(2-CHLOROETHYL) ETHER
450U	2-CHLOROPHENOL
450U	1,3-DICHLOROBENZENE
450U	1,4-DICHLOROBENZENE
450U	1,2-DICHLOROBENZENE
450U	2-METHYLPHENOL
450U	2,2'-CHLOROISOPROPYLETHER
450U	(3-AND/OR 4-)METHYLPHENOL
450U	N-NITROSODI-N-PROPYLAMINE
450U	HEXACHLOROETHANE
450U	NITROBENZENE
450U	ISOPHORONE
450U	2-NITROPHENOL
450UR	2,4-DIMETHYLPHENOL
450U	BIS(2-CHLOROETHOXY) METHANE
450U	2,4-DICHLOROPHENOL
450U	1,2,4-TRICHLOROBENZENE
450U	NAPHTHALENE
450U	4-CHLOROANILINE
450U	HEXACHLOROBUTADIENE
450U	4-CHLORO-3-METHYLPHENOL
450U	2-METHYLNAPHTHALENE
450U	HEXACHLOROCYCLOPENTADIENE (HCCP)
450U	2,4,6-TRICHLOROPHENOL
1100U	2,4,5-TRICHLOROPHENOL
450U	2-CHLORONAPHTHALENE
1100U	2-NITROANILINE
450U	DIMETHYL PHTHALATE
450U	ACENAPHTHYLENE
450U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1100U	3-NITROANILINE
450U	ACENAPHTHENE
1100U	2,4-DINITROPHENOL
1100U	4-NITROPHENOL
450U	DIBENZOFURAN
450U	2,4-DINITROTOLUENE
450U	DIETHYL PHTHALATE
450U	4-CHLOROPHENYL PHENYL ETHER
450UJ	FLUORENE
1100U	4-NITROANILINE
1100U	2-METHYL-4,6-DINITROPHENOL
450U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
450U	4-BROMOPHENYL PHENYL ETHER
450U	HEXACHLOROBENZENE (HCB)
1100UR	PENTACHLOROPHENOL
65J	PHENANTHRENE
450U	ANTHRACENE
450U	CARBAZOLE
450U	DI-N-BUTYLPHTHALATE
59J	FLUORANTHENE
67J	PYRENE
450U	BENZYL BUTYL PHTHALATE
450U	3,3'-DICHLOROBENZIDINE
450U	BENZO(A)ANTHRACENE
450U	CHRYSENE
520U	BIS(2-ETHYLHEXYL) PHTHALATE
450U	DI-N-OCTYLPHTHALATE
450U	BENZO(B AND/OR K)FLUORANTHENE
450U	BENZO-A-PYRENE
450U	INDENO (1,2,3-CD) PYRENE
450U	DIBENZO(A,H)ANTHRACENE
450U	BENZO(GHI)PERYLENE
29	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89563 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 016-SD COLLECTION START: 08/31/94 1145 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ58

UG/KG	ANALYTICAL RESULTS
420UR	PHENOL
420U	BIS(2-CHLOROETHYL) ETHER
420U	2-CHLOROPHENOL
420U	1,3-DICHLOROBENZENE
420U	1,4-DICHLOROBENZENE
420U	1,2-DICHLOROBENZENE
420U	2-METHYLPHENOL
420U	2,2'-CHLOROISOPROPYLETHER
420U	(3-AND/OR 4-)METHYLPHENOL
420U	N-NITROSODI-N-PROPYLAMINE
420U	HEXACHLOROETHANE
420U	NITROBENZENE
420U	ISOPHORONE
420U	2-NITROPHENOL
420UR	2,4-DIMETHYLPHENOL
420U	BIS(2-CHLOROETHOXY) METHANE
420U	2,4-DICHLOROPHENOL
420U	1,2,4-TRICHLOROBENZENE
420U	NAPHTHALENE
420U	4-CHLOROANILINE
420U	HEXACHLOROBUTADIENE
420U	4-CHLORO-3-METHYLPHENOL
420U	2-METHYLNAPHTHALENE
420U	HEXACHLOROCYCLOPENTADIENE (HCCP)
420U	2,4,6-TRICHLOROPHENOL
1000U	2,4,5-TRICHLOROPHENOL
420U	2-CHLORONAPHTHALENE
1000U	2-NITROANILINE
420U	DIMETHYL PHTHALATE
420U	ACENAPHTHYLENE
420U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1000U	3-NITROANILINE
420U	ACENAPHTHENE
1000U	2,4-DINITROPHENOL
1000U	4-NITROPHENOL
420U	DIBENZOFURAN
420U	2,4-DINITROTOLUENE
420U	DIETHYL PHTHALATE
420U	4-CHLOROPHENYL PHENYL ETHER
420UJ	FLUORENE
1000U	4-NITROANILINE
1000U	2-METHYL-4,6-DINITROPHENOL
420U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
420U	4-BROMOPHENYL PHENYL ETHER
420U	HEXACHLOROBENZENE (HCB)
1000UR	PENTACHLOROPHENOL
57J	PHENANTHRENE
420U	ANTHRACENE
420U	CARBAZOLE
420U	DI-N-BUTYLPHTHALATE
110J	FLUORANTHENE
170J	PYRENE
420U	BENZYL BUTYL PHTHALATE
420U	3,3'-DICHLOROBENZIDINE
420U	BENZO(A)ANTHRACENE
110J	CHRYSENE
420U	BIS(2-ETHYLHEXYL) PHTHALATE
420U	DI-N-OCTYLPHTHALATE
190J	BENZO(B AND/OR K)FLUORANTHENE
58J	BENZO-A-PYRENE
49J	INDENO (1,2,3-CD) PYRENE
420U	DIBENZO(A,H)ANTHRACENE
420U	BENZO(GHI)PERYLENE
22	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89564 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 017-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1200 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ59

UG/KG	ANALYTICAL RESULTS
390UR	PHENOL
390U	BIS(2-CHLOROETHYL) ETHER
390U	2-CHLOROPHENOL
390U	1,3-DICHLOROBENZENE
390U	1,4-DICHLOROBENZENE
390U	1,2-DICHLOROBENZENE
390U	2-METHYLPHENOL
390U	2,2'-CHLOROISOPROPYLETHER
69J	(3-AND/OR 4-)METHYLPHENOL
390U	N-NITROSODI-N-PROPYLAMINE
390U	HEXACHLOROETHANE
390U	NITROBENZENE
390U	ISOPHORONE
390U	2-NITROPHENOL
390UR	2,4-DIMETHYLPHENOL
390U	BIS(2-CHLOROETHOXY) METHANE
390U	2,4-DICHLOROPHENOL
390U	1,2,4-TRICHLOROBENZENE
540	NAPHTHALENE
390U	4-CHLOROANILINE
390U	HEXACHLOROBUTADIENE
390U	4-CHLORO-3-METHYLPHENOL
350J	2-METHYLNAPHTHALENE
390U	HEXACHLOROCYCLOPENTADIENE (HCCP)
390U	2,4,6-TRICHLOROPHENOL
940U	2,4,5-TRICHLOROPHENOL
390U	2-CHLORONAPHTHALENE
940U	2-NITROANILINE
390U	DIMETHYL PHTHALATE
160J	ACENAPHTHYLENE
390U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
940U	3-NITROANILINE
1000	ACENAPHTHENE
940U	2,4-DINITROPHENOL
940U	4-NITROPHENOL
710	DIBENZOFURAN
390U	2,4-DINITROTOLUENE
390U	DIETHYL PHTHALATE
390U	4-CHLOROPHENYL PHENYL ETHER
1800J	FLUORENE
940U	4-NITROANILINE
940U	2-METHYL-4,6-DINITROPHENOL
390U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
390U	4-BROMOPHENYL PHENYL ETHER
390U	HEXACHLOROBENZENE (HCB)
940UR	PENTACHLOROPHENOL
28000	PHENANTHRENE
8300	ANTHRACENE
7500	CARBAZOLE
390U	DI-N-BUTYLPHTHALATE
36000	FLUORANTHENE
28000	PYRENE
390U	BENZYL BUTYL PHTHALATE
390U	3,3'-DICHLOROBENZIDINE
19000	BENZO(A)ANTHRACENE
18000	CHRYSENE
390U	BIS(2-ETHYLHEXYL) PHTHALATE
390U	DI-N-OCTYLPHTHALATE
14000J	BENZO(B AND/OR K)FLUORANTHENE
12000	BENZO-A-PYRENE
2500	INDENO (1,2,3-CD) PYRENE
690	DIBENZO(A,H)ANTHRACENE
1600	BENZO(GHI)PERYLENE
16	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89565 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 018-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1310 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ60

UG/KG	ANALYTICAL RESULTS
450UR	PHENOL
450U	BIS(2-CHLOROETHYL) ETHER
450U	2-CHLOROPHENOL
450U	1,3-DICHLOROBENZENE
450U	1,4-DICHLOROBENZENE
450U	1,2-DICHLOROBENZENE
450U	2-METHYLPHENOL
450U	2,2'-CHLOROISOPROPYLETHER
450U	(3-AND/OR 4-)METHYLPHENOL
450U	N-NITROSODI-N-PROPYLAMINE
450U	HEXACHLOROETHANE
450U	NITROBENZENE
450U	ISOPHORONE
450U	2-NITROPHENOL
450UR	2,4-DIMETHYLPHENOL
450U	BIS(2-CHLOROETHOXY) METHANE
450U	2,4-DICHLOROPHENOL
450U	1,2,4-TRICHLOROBENZENE
450U	NAPHTHALENE
450U	4-CHLOROANILINE
450U	HEXACHLOROBUTADIENE
450U	4-CHLORO-3-METHYLPHENOL
450U	2-METHYLNAPHTHALENE
450U	HEXACHLOROCYCLOPENTADIENE (HCCP)
450U	2,4,6-TRICHLOROPHENOL
1100U	2,4,5-TRICHLOROPHENOL
450U	2-CHLORONAPHTHALENE
1100U	2-NITROANILINE
450U	DIMETHYL PHTHALATE
450U	ACENAPHTHYLENE
450U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1100U	3-NITROANILINE
450U	ACENAPHTHENE
1100U	2,4-DINITROPHENOL
1100U	4-NITROPHENOL
450U	DIBENZOFURAN
450U	2,4-DINITROTOLUENE
450U	DIETHYL PHTHALATE
450U	4-CHLOROPHENYL PHENYL ETHER
450UJ	FLUORENE
1100U	4-NITROANILINE
1100U	2-METHYL-4,6-DINITROPHENOL
450U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
450U	4-BROMOPHENYL PHENYL ETHER
450U	HEXACHLOROBENZENE (HCB)
1100UR	PENTACHLOROPHENOL
450U	PHENANTHRENE
450U	ANTHRACENE
450U	CARBAZOLE
450U	DI-N-BUTYLPHTHALATE
450U	FLUORANTHENE
450U	PYRENE
450U	BENZYL BUTYL PHTHALATE
450U	3,3'-DICHLOROBENZIDINE
450U	BENZO(A)ANTHRACENE
450U	CHRYSENE
1500U	BIS(2-ETHYLHEXYL) PHTHALATE
450U	DI-N-OCTYLPHTHALATE
450U	BENZO(B AND/OR K)FLUORANTHENE
450U	BENZO-A-PYRENE
450U	INDENO (1,2,3-CD) PYRENE
450U	DIBENZO(A,H)ANTHRACENE
450U	BENZO(GHI)PERYLENE
29	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89566 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 019-SD COLLECTION START: 08/31/94 1100 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ61

UG/KG	ANALYTICAL RESULTS
470UR	PHENOL
470U	BIS(2-CHLOROETHYL) ETHER
470U	2-CHLOROPHENOL
470U	1,3-DICHLOROBENZENE
470U	1,4-DICHLOROBENZENE
470U	1,2-DICHLOROBENZENE
470U	2-METHYLPHENOL
470U	2,2'-CHLOROISOPROPYLETHER
470U	(3-AND/OR 4-)METHYLPHENOL
470U	N-NITROSODI-N-PROPYLAMINE
470U	HEXACHLOROETHANE
470U	NITROBENZENE
470U	ISOPHORONE
470U	2-NITROPHENOL
470UR	2,4-DIMETHYLPHENOL
470U	BIS(2-CHLOROETHOXY) METHANE
470U	2,4-DICHLOROPHENOL
470U	1,2,4-TRICHLOROBENZENE
470U	NAPHTHALENE
470U	4-CHLOROANILINE
470U	HEXACHLOROBUTADIENE
470U	4-CHLORO-3-METHYLPHENOL
470U	2-METHYLNAPHTHALENE
470U	HEXACHLOROCYCLOPENTADIENE (HCCP)
470U	2,4,6-TRICHLOROPHENOL
1100U	2,4,5-TRICHLOROPHENOL
470U	2-CHLORONAPHTHALENE
1100U	2-NITROANILINE
470U	DIMETHYL PHTHALATE
470U	ACENAPHTHYLENE
470U	2,6-DINITROTOLUENE
1100U	3-NITROANILINE
99J	ACENAPHTHENE
1100U	2,4-DINITROPHENOL
1100U	4-NITROPHENOL
470U	DIBENZOFURAN
470U	2,4-DINITROTOLUENE
470U	DIETHYL PHTHALATE
470U	4-CHLOROPHENYL PHENYL ETHER
130J	FLUORENE
1100U	4-NITROANILINE
1100U	2-METHYL-4,6-DINITROPHENOL
470U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
470U	4-BROMOPHENYL PHENYL ETHER
470U	HEXACHLOROBENZENE (HCB)
1100UR	PENTACHLOROPHENOL
2100	PHENANTHRENE
330J	ANTHRACENE
310J	CARBAZOLE
470U	DI-N-BUTYLPHTHALATE
2200	FLUORANTHENE
2700	PYRENE
470U	BENZYL BUTYL PHTHALATE
470U	3,3'-DICHLOROBENZIDINE
1500	BENZO(A)ANTHRACENE
1300	CHRYSENE
470U	BIS(2-ETHYLHEXYL) PHTHALATE
470U	DI-N-OCTYLPHTHALATE
1000J	BENZO(B AND/OR K)FLUORANTHENE
1100	BENZO-A-PYRENE
450J	INDENO (1,2,3-CD) PYRENE
140J	DIBENZO(A,H)ANTHRACENE
300J	BENZO(GHI)PERYLENE
31	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89567 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 020-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1033 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ62

UG/KG	ANALYTICAL RESULTS
500UR	PHENOL
500U	BIS(2-CHLOROETHYL) ETHER
500U	2-CHLOROPHENOL
500U	1,3-DICHLOROBENZENE
500U	1,4-DICHLOROBENZENE
500U	1,2-DICHLOROBENZENE
500U	2-METHYLPHENOL
500U	2,2'-CHLOROISOPROPYLETHER
500U	(3-AND/OR 4-)METHYLPHENOL
500U	N-NITROSODI-N-PROPYLAMINE
500U	HEXACHLOROETHANE
500U	NITROBENZENE
500U	ISOPHORONE
500U	2-NITROPHENOL
500UR	2,4-DIMETHYLPHENOL
500U	BIS(2-CHLOROETHOXY) METHANE
500U	2,4-DICHLOROPHENOL
500U	1,2,4-TRICHLOROBENZENE
500U	NAPHTHALENE
500U	4-CHLOROANILINE
500U	HEXACHLOROBUTADIENE
500U	4-CHLORO-3-METHYLPHENOL
500U	2-METHYLNAPHTHALENE
500U	HEXACHLOROCYCLOPENTADIENE (HCCP)
500U	2,4,6-TRICHLOROPHENOL
1200U	2,4,5-TRICHLOROPHENOL
500U	2-CHLORONAPHTHALENE
1200	2-NITROANILINE
500U	DIMETHYL PHTHALATE
500U	ACENAPHTHYLENE
500U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1200U	3-NITROANILINE
100J	ACENAPHTHENE
1200U	2,4-DINITROPHENOL
1200U	4-NITROPHENOL
500U	DIBENZOFURAN
500U	2,4-DINITROTOLUENE
500U	DIETHYL PHTHALATE
500U	4-CHLOROPHENYL PHENYL ETHER
110J	FLUORENE
1200U	4-NITROANILINE
1200U	2-METHYL-4,6-DINITROPHENOL
500U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
500U	4-BROMOPHENYL PHENYL ETHER
500U	HEXACHLOROBENZENE (HCB)
1200UR	PENTACHLOROPHENOL
1300	PHENANTHRENE
270J	ANTHRACENE
210J	CARBAZOLE
500U	DI-N-BUTYLPHTHALATE
1800	FLUORANTHENE
1300	PYRENE
500U	BENZYL BUTYL PHTHALATE
500U	3,3'-DICHLOROBENZIDINE
860	BENZO(A)ANTHRACENE
930	CHRYSENE
500U	BIS(2-ETHYLHEXYL) PHTHALATE
500U	DI-N-OCTYLPHTHALATE
750J	BENZO(B AND/OR K)FLUORANTHENE
650	BENZO-A-PYRENE
230J	INDENO (1,2,3-CD) PYRENE
500U	DIBENZO(A,H)ANTHRACENE
180J	BENZO(GHI)PERYLENE
35	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT — 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 021-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1115 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ63

UG/KG	ANALYTICAL RESULTS
430UR	PHENOL
430U	BIS(2-CHLOROETHYL) ETHER
430U	2-CHLOROPHENOL
430U	1,3-DICHLOROBENZENE
430U	1,4-DICHLOROBENZENE
430U	1,2-DICHLOROBENZENE
430U	2-METHYLPHENOL
430U	2,2'-CHLOROISOPROPYLETHER
430U	(3-AND/OR 4-)METHYLPHENOL
430U	N-NITROSODI-N-PROPYLAMINE
430U	HEXACHLOROETHANE
430U	NITROBENZENE
430U	ISOPHORONE
430U	2-NITROPHENOL
430UR	2,4-DIMETHYLPHENOL
430U	BIS(2-CHLOROETHOXY) METHANE
430U	2,4-DICHLOROPHENOL
430U	1,2,4-TRICHLOROBENZENE
51J	NAPHTHALENE
430U	4-CHLOROANILINE
430U	HEXACHLOROBUTADIENE
430U	4-CHLORO-3-METHYLPHENOL
96J	2-METHYLNAPHTHALENE
430U	HEXACHLOROCYCLOPENTADIENE (HCCP)
430U	2,4,6-TRICHLOROPHENOL
1000U	2,4,5-TRICHLOROPHENOL
430U	2-CHLORONAPHTHALENE
1000U	2-NITROANILINE
430U	DIMETHYL PHTHALATE
430U	ACENAPHTHYLENE
430U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1000U	3-NITROANILINE
430U	ACENAPHTHENE
1000U	2,4-DINITROPHENOL
1000U	4-NITROPHENOL
430U	DIBENZOFURAN
430U	2,4-DINITROTOLUENE
430U	DIETHYL PHTHALATE
430U	4-CHLOROPHENYL PHENYL ETHER
430UJ	FLUORENE
1000U	4-NITROANILINE
1000U	2-METHYL-4,6-DINITROPHENOL
430U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
430U	4-BROMOPHENYL PHENYL ETHER
430U	HEXACHLOROBENZENE (HCB)
1000UR	PENTACHLOROPHENOL
100J	PHENANTHRENE
430U	ANTHRACENE
430U	CARBAZOLE
430U	DI-N-BUTYLPHTHALATE
120J	FLUORANTHENE
170J	PYRENE
430U	BENZYL BUTYL PHTHALATE
430U	3,3'-DICHLOROBENZIDINE
94J	BENZO(A)ANTHRACENE
110J	CHRYSENE
430U	BIS(2-ETHYLHEXYL) PHTHALATE
430U	DI-N-OCTYLPHTHALATE
84J	BENZO(B AND/OR K)FLUORANTHENE
77J	BENZO-A-PYRENE
430U	INDENO (1,2,3-CD) PYRENE
430U	DIBENZO(A,H)ANTHRACENE
430U	BENZO(GHI)PERYLENE
24	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89569 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 022-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1145 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ64

UG/KG	ANALYTICAL RESULTS
450UR	PHENOL
450U	BIS(2-CHLOROETHYL) ETHER
450U	2-CHLOROPHENOL
450U	1,3-DICHLOROBENZENE
450U	1,4-DICHLOROBENZENE
450U	1,2-DICHLOROBENZENE
450U	2-METHYLPHENOL
450U	2,2'-CHLOROISOPROPYLETHER
450U	(3-AND/OR 4-)METHYLPHENOL
450U	N-NITROSODI-N-PROPYLAMINE
450U	HEXACHLOROETHANE
450U	NITROBENZENE
450U	ISOPHORONE
450U	2-NITROPHENOL
450UR	2,4-DIMETHYLPHENOL
450U	BIS(2-CHLOROETHOXY) METHANE
450U	2,4-DICHLOROPHENOL
450U	1,2,4-TRICHLOROBENZENE
450U	NAPHTHALENE
450U	4-CHLOROANILINE
450U	HEXACHLOROBUTADIENE
450U	4-CHLORO-3-METHYLPHENOL
450U	2-METHYLNAPHTHALENE
450U	HEXACHLOROCYCLOPENTADIENE (HCCP)
450U	2,4,6-TRICHLOROPHENOL
1100U	2,4,5-TRICHLOROPHENOL
450U	2-CHLORONAPHTHALENE
1100U	2-NITROANILINE
450U	DIMETHYL PHTHALATE
450U	ACENAPHTHYLENE
450U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1100U	3-NITROANILINE
450U	ACENAPHTHENE
1100U	2,4-DINITROPHENOL
1100U	4-NITROPHENOL
450U	DIBENZOFURAN
450U	2,4-DINITROTOLUENE
450U	DIETHYL PHTHALATE
450U	4-CHLOROPHENYL PHENYL ETHER
450UJ	FLUORENE
1100U	4-NITROANILINE
1100U	2-METHYL-4,6-DINITROPHENOL
450U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
450U	4-BROMOPHENYL PHENYL ETHER
450U	HEXACHLOROBENZENE (HCB)
1100UR	PENTACHLOROPHENOL
450U	PHENANTHRENE
450U	ANTHRACENE
450U	CARBAZOLE
450U	DI-N-BUTYLPHTHALATE
450U	FLUORANTHENE
450U	PYRENE
450U	BENZYL BUTYL PHTHALATE
450U	3,3'-DICHLOROBENZIDINE
450U	BENZO(A)ANTHRACENE
450U	CHRYSENE
450U	BIS(2-ETHYLHEXYL) PHTHALATE
450U	DI-N-OCTYLPHTHALATE
450U	BENZO(B AND/OR K)FLUORANTHENE
450U	BENZO-A-PYRENE
450U	INDENO (1,2,3-CD) PYRENE
450U	DIBENZO(A,H)ANTHRACENE
450U	BENZO(GHI)PERYLENE
28	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89570 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 023-SD COLLECTION START: 08/31/94 1113 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ65

UG/KG	ANALYTICAL RESULTS
470UR	PHENOL
470U	BIS(2-CHLOROETHYL) ETHER
470U	2-CHLOROPHENOL
470U	1,3-DICHLOROBENZENE
470U	1,4-DICHLOROBENZENE
470U	1,2-DICHLOROBENZENE
470U	2-METHYLPHENOL
470U	2,2'-CHLOROISOPROPYLETHER
470U	(3-AND/OR 4-)METHYLPHENOL
470U	N-NITROSODI-N-PROPYLAMINE
470U	HEXACHLOROETHANE
470U	NITROBENZENE
470U	ISOPHORONE
470U	2-NITROPHENOL
470UR	2,4-DIMETHYLPHENOL
470U	BIS(2-CHLOROETHOXY) METHANE
470U	2,4-DICHLOROPHENOL
470U	1,2,4-TRICHLOROBENZENE
470U	NAPHTHALENE
470U	4-CHLOROANILINE
470U	HEXACHLOROBUTADIENE
470U	4-CHLORO-3-METHYLPHENOL
470U	2-METHYLNAPHTHALENE
470U	HEXACHLOROCYCLOPENTADIENE (HCCP)
470U	2,4,6-TRICHLOROPHENOL
1100U	2,4,5-TRICHLOROPHENOL
470U	2-CHLORONAPHTHALENE
1100U	2-NITROANILINE
470U	DIMETHYL PHTHALATE
470U	ACENAPHTHYLENE
470U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1100U	3-NITROANILINE
470U	ACENAPHTHENE
1100U	2,4-DINITROPHENOL
1100U	4-NITROPHENOL
470U	DIBENZOFURAN
470U	2,4-DINITROTOLUENE
470U	DIETHYL PHTHALATE
470U	4-CHLOROPHENYL PHENYL ETHER
470UJ	FLUORENE
1100U	4-NITROANILINE
1100U	2-METHYL-4,6-DINITROPHENOL
470U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
470U	4-BROMOPHENYL PHENYL ETHER
470U	HEXACHLOROBENZENE (HCB)
1100UR	PENTACHLOROPHENOL
470U	PHENANTHRENE
470U	ANTHRACENE
470U	CARBAZOLE
470U	DI-N-BUTYLPHTHALATE
470U	FLUORANTHENE
470U	PYRENE
470U	BENZYL BUTYL PHTHALATE
470U	3,3'-DICHLOROBENZIDINE
470U	BENZO(A)ANTHRACENE
470U	CHRYSENE
470U	BIS(2-ETHYLHEXYL) PHTHALATE
470U	DI-N-OCTYLPHTHALATE
470U	BENZO(B AND/OR K)FLUORANTHENE
470U	BENZO-A-PYRENE
470U	INDENO (1,2,3-CD) PYRENE
470U	DIBENZO(A,H)ANTHRACENE
470U	BENZO(GHI)PERYLENE
30	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89571 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 024-SD

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0940 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ66

UG/KG	ANALYTICAL RESULTS
400UR	PHENOL
400U	BIS(2-CHLOROETHYL) ETHER
400U	2-CHLOROPHENOL
400U	1,3-DICHLOROBENZENE
400U	1,4-DICHLOROBENZENE
400U	1,2-DICHLOROBENZENE
400U	2-METHYLPHENOL
400U	2,2'-CHLOROISOPROPYLETHER
400U	(3-AND/OR 4-)METHYLPHENOL
400U	N-NITROSODI-N-PROPYLAMINE
400U	HEXACHLOROETHANE
400U	NITROBENZENE
400U	ISOPHORONE
400U	2-NITROPHENOL
400UR	2,4-DIMETHYLPHENOL
400U	BIS(2-CHLOROETHOXY) METHANE
400U	2,4-DICHLOROPHENOL
400U	1,2,4-TRICHLOROBENZENE
400U	NAPHTHALENE
400U	4-CHLOROANILINE
400U	HEXACHLOROBUTADIENE
400U	4-CHLORO-3-METHYLPHENOL
400U	2-METHYLNAPHTHALENE
400U	HEXACHLOROCYCLOPENTADIENE (HCCP)
400U	2,4,6-TRICHLOROPHENOL
970U	2,4,5-TRICHLOROPHENOL
400U	2-CHLORONAPHTHALENE
970U	2-NITROANILINE
400U	DIMETHYL PHTHALATE
400U	ACENAPHTHYLENE
400U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
970U	3-NITROANILINE
400U	ACENAPHTHENE
970U	2,4-DINITROPHENOL
970U	4-NITROPHENOL
400U	DIBENZOFURAN
400U	2,4-DINITROTOLUENE
400U	DIETHYL PHTHALATE
400U	4-CHLOROPHENYL PHENYL ETHER
400UJ	FLUORENE
970U	4-NITROANILINE
970U	2-METHYL-4,6-DINITROPHENOL
400U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
400U	4-BROMOPHENYL PHENYL ETHER
400U	HEXACHLOROBENZENE (HCB)
970UR	PENTACHLOROPHENOL
400U	PHENANTHRENE
400U	ANTHRACENE
400U	CARBAZOLE
400U	DI-N-BUTYLPHTHALATE
400U	FLUORANTHENE
400U	PYRENE
400U	BENZYL BUTYL PHTHALATE
400U	3,3'-DICHLOROBENZIDINE
400U	BENZO(A)ANTHRACENE
400U	CHRYSENE
650U	BIS(2-ETHYLHEXYL) PHTHALATE
400U	DI-N-OCTYLPHTHALATE
400U	BENZO(B AND/OR K)FLUORANTHENE
400U	BENZO-A-PYRENE
400U	INDENO (1,2,3-CD) PYRENE
400U	DIBENZO(A,H)ANTHRACENE
97J	BENZO(GHI)PERYLENE
20	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89572 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 025-SD COLLECTION START: 08/31/94 1003 STOP: 00/00/00

CASE NO.: 22607 SAS NO.: D. NO.: HZ67

UG/KG	ANALYTICAL RESULTS
420UR	PHENOL
420U	BIS(2-CHLOROETHYL) ETHER
420U	2-CHLOROPHENOL
420U	1,3-DICHLOROBENZENE
420U	1,4-DICHLOROBENZENE
420U	1,2-DICHLOROBENZENE
420U	2-METHYLPHENOL
420U	2,2'-CHLOROISOPROPYLETHER
420U	(3-AND/OR 4-)METHYLPHENOL
420U	N-NITROSODI-N-PROPYLAMINE
420U	HEXACHLOROETHANE
420U	NITROBENZENE
420U	ISOPHORONE
420U	2-NITROPHENOL
420UR	2,4-DIMETHYLPHENOL
420U	BIS(2-CHLOROETHOXY) METHANE
420U	2,4-DICHLOROPHENOL
420U	1,2,4-TRICHLOROBENZENE
420U	NAPHTHALENE
420U	4-CHLOROANILINE
420U	HEXACHLOROBUTADIENE
420U	4-CHLORO-3-METHYLPHENOL
420U	2-METHYLNAPHTHALENE
420U	HEXACHLOROCYCLOPENTADIENE (HCCP)
420U	2,4,6-TRICHLOROPHENOL
1000U	2,4,5-TRICHLOROPHENOL
420U	2-CHLORONAPHTHALENE
1000U	2-NITROANILINE
420U	DIMETHYL PHTHALATE
420U	ACENAPHTHYLENE
420U	2,6-DINITROTOLUENE
1000U	3-NITROANILINE
57J	ACENAPHTHENE
1000U	2,4-DINITROPHENOL
1000U	4-NITROPHENOL
420U	DIBENZOFURAN
420U	2,4-DINITROTOLUENE
420U	DIETHYL PHTHALATE
420U	4-CHLOROPHENYL PHENYL ETHER
58J	FLUORENE
1000U	4-NITROANILINE
1000U	2-METHYL-4,6-DINITROPHENOL
420U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
420U	4-BROMOPHENYL PHENYL ETHER
420U	HEXACHLOROBENZENE (HCB)
1000UR	PENTACHLOROPHENOL
730	PHENANTHRENE
110J	ANTHRACENE
120J	CARBAZOLE
420U	DI-N-BUTYLPHTHALATE
650	FLUORANTHENE
870	PYRENE
420U	BENZYL BUTYL PHTHALATE
420U	3,3'-DICHLOROBENZIDINE
570	BENZO(A)ANTHRACENE
560	CHRYSENE
1400U	BIS(2-ETHYLHEXYL) PHTHALATE
420U	DI-N-OCTYLPHTHALATE
810J	BENZO(B AND/OR K)FLUORANTHENE
400J	BENZO-A-PYRENE
170J	INDENO (1,2,3-CD) PYRENE
46J	DIBENZO(A,H)ANTHRACENE
110J	BENZO(GHI)PERYLENE
23	PERCENT MOISTURE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89537 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 027-SD COLLECTION START: 08/31/94 0957 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK87 MD NO: HK87

ANALYTICAL RESULTS UG/KG

1000JN	CARYOPHYLLENE
4000JN	CINNAMYLCINNAMATE
600J	1 UNIDENTIFIED COMPOUND

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89538	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 028-SD			COLLECTION START: 08/31/94 0930 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HK88 MD NO: HK88

ANALYTICAL RESULTS UG/KG

1000J	2 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89539 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 029-SD COLLECTION START: 08/31/94 1025 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK89 MD NO: HK89

ANALYTICAL RESULTS UG/KG

3000J 5 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89540 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 030-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK90 MD NO: HK90

ANALYTICAL RESULTS UG/L

70J	3	UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89541 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 031-SS COLLECTION START: 08/31/94 0857 STOP: 00/00/00
CASE NO.: 22607 SAS NO.: D. NO.: HK91 MD NO: HK91

ANALYTICAL RESULTS UG/KG

4000J	4 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89542 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 032-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HK92 MD NO: HK92

ANALYTICAL RESULTS UG/L

50J 2 UNIDENTIFIED COMPOUNDS

REMARKS
HOLDING TIMES EXCEEDED(40 CFR 136,OCTOBER 26,1984)

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89548 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 001-SS COLLECTION START: 08/31/94 0857 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ43 MD NO: HZ43

ANALYTICAL RESULTS UG/KG

2000J	2 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89549	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 002-SS			COLLECTION START: 08/31/94 0925 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HZ44 MD NO: HZ44

ANALYTICAL RESULTS UG/KG

2000J	1 UNIDENTIFIED COMPOUND

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89552	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 005-SS			COLLECTION START: 08/31/94 1033 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HZ47 MD NO: HZ47

ANALYTICAL RESULTS UG/KG

6000J	5 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89553	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 006-SS			COLLECTION START: 08/31/94 1056 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HZ48 MD NO: HZ48

ANALYTICAL RESULTS UG/KG

6000J	3 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89554	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 007-SS			COLLECTION START: 08/31/94 1140 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HZ49 MD NO: HZ49

ANALYTICAL RESULTS UG/KG

2000J 1 UNIDENTIFIED COMPOUND

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89556	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 009-SS			COLLECTION START: 08/31/94 1217 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HZ51 MD NO: HZ51

ANALYTICAL RESULTS UG/KG

3000J	3 UNIDENTIFIED COMPOUNDS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89561 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 014-SD COLLECTION START: 08/31/94 1225 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ56 MD NO: HZ56

ANALYTICAL RESULTS UG/KG

90JN	CYCLOPENTAPHENANTHRENE
300JN	BENZOFLUORENE (2 ISOMERS)
400J	1 UNIDENTIFIED COMPOUND

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89564 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 017-SD COLLECTION START: 08/31/94 1200 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ59 MD NO: HZ59

ANALYTICAL RESULTS UG/KG

90JN	METHYLANTHRACENE
100JN	CYCLOPENTAPHENANTHRENE
1000JN	BENZOFLUORENE
1000JN	BENZANTHRACENONE
1000JN	BENZONAPHTHOTHIOPHENE
1000JN	CYCLOPENTAPYRENE
10000JN	BENZOFLUORANTHENE(3 ISOMERS NOT B OR K)
8000J	10 UNIDENTIFIED COMPOUNDS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89566 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 019-SD COLLECTION START: 08/31/94 1100 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ61 MD NO: HZ61

ANALYTICAL RESULTS UG/KG

100JN	BENZOFLUORENE
900J	1 UNIDENTIFIED COMPOUND

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89567 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 020-SD COLLECTION START: 08/31/94 1033 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ62 MD NO: HZ62

ANALYTICAL RESULTS UG/KG

300JN	BENZOFLUORANTHENE (NOT B OR K)
500J	1 UNIDENTIFIED COMPOUND

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 021-SD COLLECTION START: 08/31/94 1115 STOP: 00/00/00
CASE.NO.: 22607 SAS NO.: D. NO.: HZ63 MD NO: HZ63

ANALYTICAL RESULTS UG/KG

400J 1 UNIDENTIFIED COMPOUND

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89569	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 022-SD			COLLECTION START: 08/31/94 1145 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HZ64 MD NO: HZ64

ANALYTICAL RESULTS UG/KG

500J 1 UNIDENTIFIED COMPOUND

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 94-0597	SAMPLE NO. 89572	SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC			CITY: CLEMSON ST: SC
STATION ID: 025-SD			COLLECTION START: 08/31/94 1003 STOP: 00/00/00
CASE.NO.: 22607	SAS NO.:		D. NO.: HZ67 MD NO: HZ67

ANALYTICAL RESULTS UG/KG

600JN	BENZOFLUORANTHENE (2 ISOMERS, NOT B OR K)

FOOTNOTES
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV
Environmental Services Division
College Station Road, Athens, Ga. 30613

*****MEMORANDUM******

DATE: 10/26/94

SUBJECT: Results of Pesticide/PCB Analysis;
94-0597 STEVENS JP & CO INC
CLEMSON SC
CASE NO: 22607

FROM: Charles H. Hooper
Chief, Laboratory Evaluation/Quality Assurance Section

TO: JOHN CRISWELL

Attached are the results of analysis of samples collected as part of the subject project.

As a result of the Quality Assurance Review, certain data qualifiers may have been placed on the data. Attached is a DATA QUALIFIER REPORT which explains the reasons that these qualifiers were required.

If you have any questions please contact me.

ATTACHMENT

ORGANIC DATA QUALIFIER REPORT

Case Number 22607 Project Number 94-0597 SAS Number

Site ID. Stevens JP & CO Inc. Clemson, SC

Affected Samples	Compound or Fraction	Flag Used	Reason
Volatiles			
89541,89549	4-methyl-2-pentanone	J	low internal standard recovery
	tetrachloroethene	J	low internal standard recovery
	1,1,2,2-tetrachloroethane	J	low internal standard recovery
	toluene	J	low internal standard recovery
	chlorobenzene	J	low internal standard recovery
	ethylbenzene	J	low internal standard recovery
	styrene	J	low internal standard recovery
	xylene	J	low internal standard recovery
89550,89552, 89556	1,1,1-trichloroethane	J	low internal standard recovery
	carbon tetrachloride	J	low internal standard recovery
	bromodichloromethane	J	low internal standard recovery
	1,2-dichloropropane	J	low internal standard recovery
	trans-1,3-dichloropropene	J	low internal standard recovery
	trichloroethene	J	low internal standard recovery
	dibromochloromethane	J	low internal standard recovery
	1,1,2-trichloroethane	J	low internal standard recovery
	benzene	J	low internal standard recovery
	cis-1,3-dichloropropene	J	low internal standard recovery
	bromoform	J	low internal standard recovery
	2-hexanone	J	low internal standard recovery
	4-methyl-2-pentanone	J	low internal standard recovery
	tetrachloroethene	J	low internal standard recovery
	1,1,2,2-tetrachloroethane	J	low internal standard recovery
	toluene	J	low internal standard recovery
	chlorobenzene	J	low internal standard recovery
	ethylbenzene	J	low internal standard recovery
	styrene	J	low internal standard recovery
	xylene	J	low internal standard recovery
Extractables			
all soils	phenol	R	unacceptable blind spike recovery
	2,4-dimethylphenol	R	unacceptable blind spike recovery
	fluorene	J	low blind spike recovery
	pentachlorophenol	R	unacceptable blind spike recovery
89536	all compounds except phenol,2,4-dimethylphenol, fluorene,pentachlorophenol	J	excessive holding time
89542	all compounds	J	excessive holding time
89556	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
89559	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	benzo(a)anthracene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< qunatitation limit
	benzo(a)pyrene	J	< qunatitation limit
	benzo(g,h,i)perylene	J	< quantitation limit

ORGANIC DATA QUALIFIER REPORT
Case Number 22607

Affected Samples	Compound or Fraction	Flag Used	Reason
89561	naphthalene	J	< quantitation limit
	acenaphthene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	dibenz(a/h)anthracene	J	< quantitation limit
89562	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
89563	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
89564	4-methylphenol	J	< qunatitation limit
	2-methylnaphthalene	J	< quantitation limit
	acenaphthylene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
89566	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	dibenz(a,h)anthracene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit
89567	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit
89568	naphthalene	J	< quantitation limit
	2-methylnaphthalene	J	< quantitation limit
	phenanthrene	J	< quantitation limit
	fluoranthene	J	< quantitation limit
	pyrene	J	< quantitation limit
	benzo(a)anthracene	J	< quantitation limit
	chrysene	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
89571	benzo(g,h,i)perylene	J	< quantitation limit
89572	acenaphthene	J	< quantitation limit
	anthracene	J	< quantitation limit
	carbazole	J	< quantitation limit
	benzo(b/k)fluoranthene	J	< quantitation limit
	benzo(a)pyrene	J	< quantitation limit
	indeno(1,2,3-cd)pyrene	J	< quantitation limit
	dibenz(a,h)anthracene	J	< quantitation limit
	benzo(g,h,i)perylene	J	< quantitation limit

ORGANIC DATA QUALIFIER REPORT

Case Number 22607

Affected Samples	Compound or Fraction	Flag Used	Reason
Pesticides			
89537	dieldrin	J N	< quantitation limit difference in column quantitations
89539	aroclor-1254	J	< quantitation limit
89556	aroclor-1260	J	< quantitation limit

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89536 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 026-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0900 STOP: 00/00/00
D. NUMBER: HK86

UG/KG	ANALYTICAL RESULTS		UG/KG	ANALYTICAL RESULTS
2.2U	ALPHA-BHC		22U	METHOXYCHLOR
2.2U	BETA-BHC		4.2U	ENDRIN KETONE
2.2U	DELTA-BHC		4.2U	ENDRIN ALDEHYDE
2.2U	GAMMA-BHC (LINDANE)	--		CHLORDANE (TECH. MIXTURE) /1
2.2U	HEPTACHLOR		2.2U	GAMMA-CHLORDANE /2
2.2U	ALDRIN		2.2U	ALPHA-CHLORDANE /2
2.2U	HEPTACHLOR EPOXIDE		22OU	TOXAPHENE
2.2U	ENDOSULFAN I (ALPHA)		42U	PCB-1016 (AROCLOR 1016)
4.2U	DIELDRIN		86U	PCB-1221 (AROCLOR 1221)
4.2U	4,4'-DDE (P,P'-DDE)		42U	PCB-1232 (AROCLOR 1232)
4.2U	ENDRIN		42U	PCB-1242 (AROCLOR 1242)
4.2U	ENDOSULFAN II (BETA)		42U	PCB-1248 (AROCLOR 1248)
4.2U	4,4'-DDD (P,P'-DDD)		42U	PCB-1254 (AROCLOR 1254)
4.2U	ENDOSULFAN SULFATE		42U	PCB-1260 (AROCLOR 1260)
4.2U	4,4'-DDT (P,P'-DDT)		22	PERCENT MOISTURE

REMARKS

REMARKS

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*C-CONFIRMED BY GCMS
1. WHEN NO VALUE IS REPORTED. SEE CHLORDANE CONSTITUENTS.
2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89537 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 027-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0957 STOP: 00/00/00
D. NUMBER: HK87

UG/KG	ANALYTICAL RESULTS
2.5U	ALPHA-BHC
2.5U	BETA-BHC
2.5U	DELTA-BHC
2.5U	GAMMA-BHC (LINDANE)
2.5U	HEPTACHLOR
2.5U	ALDRIN
2.5U	HEPTACHLOR EPOXIDE
2.5U	ENDOSULFAN I (ALPHA)
3.6JN	DIELDRIN
4.9U	4,4'-DDE (P,P'-DDE)
4.9U	ENDRIN
4.9U	ENDOSULFAN II (BETA)
4.9U	4,4'-DDD (P,P'-DDD)
4.9U	ENDOSULFAN SULFATE
4.9U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
25U	METHOXYCHLOR
4.9U	ENDRIN KETONE
4.9U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.5U	GAMMA-CHLORDANE /2
2.5U	ALPHA-CHLORDANE /2
250U	TOXAPHENE
49U	PCB-1016 (AROCLOR 1016)
99U	PCB-1221 (AROCLOR 1221)
49U	PCB-1232 (AROCLOR 1232)
49U	PCB-1242 (AROCLOR 1242)
49U	PCB-1248 (AROCLOR 1248)
49U	PCB-1254 (AROCLOR 1254)
49U	PCB-1260 (AROCLOR 1260)
33	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89538 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 028-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0930 STOP: 00/00/00
D. NUMBER: HK88

UG/KG	ANALYTICAL RESULTS
2.2U	ALPHA-BHC
2.2U	BETA-BHC
2.2U	DELTA-BHC
2.2U	GAMMA-BHC (LINDANE)
2.2U	HEPTACHLOR
2.2U	ALDRIN
2.2U	HEPTACHLOR EPOXIDE
2.2U	ENDOSULFAN I (ALPHA)
4.3U	DIELDRIN
4.3U	4,4'-DDE (P,P'-DDE)
4.3U	ENDRIN
4.3U	ENDOSULFAN II (BETA)
4.3U	4,4'-DDD (P,P'-DDD)
4.3U	ENDOSULFAN SULFATE
4.3U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
22U	METHOXYCHLOR
4.3U	ENDRIN KETONE
4.3U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.2U	GAMMA-CHLORDANE /2
2.2U	ALPHA-CHLORDANE /2
220U	TOXAPHENE
43U	PCB-1016 (AROCLOR 1016)
86U	PCB-1221 (AROCLOR 1221)
43U	PCB-1232 (AROCLOR 1232)
43U	PCB-1242 (AROCLOR 1242)
43U	PCB-1248 (AROCLOR 1248)
43U	PCB-1254 (AROCLOR 1254)
43U	PCB-1260 (AROCLOR 1260)
24	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.
*C-CONFIRMED BY GCMS
1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.
2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89539 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 029-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1025 STOP: 00/00/00
D. NUMBER: HK89

UG/KG	ANALYTICAL RESULTS
2.4U	ALPHA-BHC
2.4U	BETA-BHC
2.4U	DELTA-BHC
2.4U	GAMMA-BHC (LINDANE)
2.4U	HEPTACHLOR
2.4U	ALDRIN
2.4U	HEPTACHLOR EPOXIDE
2.4U	ENDOSULFAN I (ALPHA)
4.7U	DIELDRIN
4.7U	4,4'-DDE (P,P'-DDE)
4.7U	ENDRIN
4.7U	ENDOSULFAN II (BETA)
4.7U	4,4'-DDD (P,P'-DDD)
4.7U	ENDOSULFAN SULFATE
4.7U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
24U	METHOXYCHLOR
4.7U	ENDRIN KETONE
4.7U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.4U	GAMMA-CHLORDANE /2
2.4U	ALPHA-CHLORDANE /2
240U	TOXAPHENE
47U	PCB-1016 (AROCLOR 1016)
95U	PCB-1221 (AROCLOR 1221)
47U	PCB-1232 (AROCLOR 1232)
47U	PCB-1242 (AROCLOR 1242)
47U	PCB-1248 (AROCLOR 1248)
26J	PCB-1254 (AROCLOR 1254)
47U	PCB-1260 (AROCLOR 1260)
30	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89540 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 030-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: D. NUMBER: HK90

UG/L	ANALYTICAL RESULTS
0.050U	ALPHA-BHC
0.050U	BETA-BHC
0.050U	DELTA-BHC
0.050U	GAMMA-BHC (LINDANE)
0.050U	HEPTACHLOR
0.050U	ALDRIN
0.050U	HEPTACHLOR EPOXIDE
0.050U	ENDOSULFAN I (ALPHA)
0.10U	DIELDRIN
0.10U	4,4'-DDE (P,P'-DDE)
0.10U	ENDRIN
0.10U	ENDOSULFAN II (BETA)
0.10U	4,4'-DDD (P,P'-DDD)
0.10U	ENDOSULFAN SULFATE
0.10U	4,4'-DDT (P,P'-DDT)

UG/L	ANALYTICAL RESULTS
0.50U	METHOXYCHLOR
0.10U	ENDRIN KETONE
0.10U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
0.050U	GAMMA-CHLORDANE /2
0.050U	ALPHA-CHLORDANE /2
5.0U	TOXAPHENE
1.0U	PCB-1016 (AROCLOR 1016)
2.0U	PCB-1221 (AROCLOR 1221)
1.0U	PCB-1232 (AROCLOR 1232)
1.0U	PCB-1242 (AROCLOR 1242)
1.0U	PCB-1248 (AROCLOR 1248)
1.0U	PCB-1254 (AROCLOR 1254)
1.0U	PCB-1260 (AROCLOR 1260)

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89541 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 031-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0857 STOP: 00/00/00
D. NUMBER: HK91

UG/KG	ANALYTICAL RESULTS		UG/KG	ANALYTICAL RESULTS	
2.1U	ALPHA-BHC		21U	METHOXYCHLOR	
2.1U	BETA-BHC		4.0U	ENDRIN KETONE	
2.1U	DELTA-BHC		4.0U	ENDRIN ALDEHYDE	
2.1U	GAMMA-BHC (LINDANE)	—		CHLORDANE (TECH. MIXTURE)	/1
2.1U	HEPTACHLOR		2.1U	GAMMA-CHLORDANE	/2
2.1U	ALDRIN		2.1U	ALPHA-CHLORDANE	/2
2.1U	HEPTACHLOR EPOXIDE		210U	TOXAPHENE	
2.1U	ENDOSULFAN I (ALPHA)		40U	PCB-1016 (AROCLOR 1016)	
4.0U	DIELDRIN		81U	PCB-1221 (AROCLOR 1221)	
4.0U	4,4'-DDE (P,P'-DDE)		40U	PCB-1232 (AROCLOR 1232)	
4.0U	ENDRIN		40U	PCB-1242 (AROCLOR 1242)	
4.0U	ENDOSULFAN II (BETA)		40U	PCB-1248 (AROCLOR 1248)	
4.0U	4,4'-DDD (P,P'-DDD)		40U	PCB-1254 (AROCLOR 1254)	
4.0U	ENDOSULFAN SULFATE		40U	PCB-1260 (AROCLOR 1260)	
4.0U	4,4'-DDT (P,P'-DDT)		18	PERCENT MOISTURE	

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89542 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 032-WW COLLECTION START: 08/31/94 1405 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: D. NUMBER: HK92

UG/L	ANALYTICAL RESULTS
0.050U	ALPHA-BHC
0.050U	BETA-BHC
0.050U	DELTA-BHC
0.050U	GAMMA-BHC (LINDANE)
0.050U	HEPTACHLOR
0.050U	ALDRIN
0.050U	HEPTACHLOR EPOXIDE
0.050U	ENDOSULFAN I (ALPHA)
0.10U	DIELDRIN
0.10U	4,4'-DDE (P,P'-DDE)
0.10U	ENDRIN
0.10U	ENDOSULFAN II (BETA)
0.10U	4,4'-DDD (P,P'-DDD)
0.10U	ENDOSULFAN SULFATE
0.10U	4,4'-DDT (P,P'-DDT)

UG/L	ANALYTICAL RESULTS
0.50U	METHOXYCHLOR
0.10U	ENDRIN KETONE
0.10U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
0.050U	GAMMA-CHLORDANE /2
0.050U	ALPHA-CHLORDANE /2
5.0U	TOXAPHENE
1.0U	PCB-1016 (AROCLOR 1016)
2.0U	PCB-1221 (AROCLOR 1221)
1.0U	PCB-1232 (AROCLOR 1232)
1.0U	PCB-1242 (AROCLOR 1242)
1.0U	PCB-1248 (AROCLOR 1248)
1.0U	PCB-1254 (AROCLOR 1254)
1.0U	PCB-1260 (AROCLOR 1260)

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89548 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 001-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0857 STOP: 00/00/00
D. NUMBER: HZ43

UG/KG	ANALYTICAL RESULTS
2.1U	ALPHA-BHC
2.1U	BETA-BHC
2.1U	DELTA-BHC
2.1U	GAMMA-BHC (LINDANE)
2.1U	HEPTACHLOR
2.1U	ALDRIN
2.1U	HEPTACHLOR EPOXIDE
2.1U	ENDOSULFAN I (ALPHA)
4.1U	DIELDRIN
4.1U	4,4'-DDE (P,P'-DDE)
4.1U	ENDRIN
4.1U	ENDOSULFAN II (BETA)
4.1U	4,4'-DDD (P,P'-DDD)
4.1U	ENDOSULFAN SULFATE
4.1U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.1U	ENDRIN KETONE
4.1U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
41U	PCB-1016 (AROCLOR 1016)
84U	PCB-1221 (AROCLOR 1221)
41U	PCB-1232 (AROCLOR 1232)
41U	PCB-1242 (AROCLOR 1242)
41U	PCB-1248 (AROCLOR 1248)
41U	PCB-1254 (AROCLOR 1254)
41U	PCB-1260 (AROCLOR 1260)
21	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89549 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 002-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0925 STOP: 00/00/00
D. NUMBER: HZ44

UG/KG	ANALYTICAL RESULTS
2.0U	ALPHA-BHC
2.0U	BETA-BHC
2.0U	DELTA-BHC
2.0U	GAMMA-BHC (LINDANE)
2.0U	HEPTACHLOR
2.0U	ALDRIN
2.0U	HEPTACHLOR EPOXIDE
2.0U	ENDOSULFAN I (ALPHA)
3.9U	DIELDRIN
3.9U	4,4'-DDE (P,P'-DDE)
3.9U	ENDRIN
3.9U	ENDOSULFAN II (BETA)
3.9U	4,4'-DDD (P,P'-DDD)
3.9U	ENDOSULFAN SULFATE
3.9U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
20U	METHOXYCHLOR
3.9U	ENDRIN KETONE
3.9U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.0U	GAMMA-CHLORDANE /2
2.0U	ALPHA-CHLORDANE /2
200U	TOXAPHENE
39U	PCB-1016 (AROCLOR 1016)
80U	PCB-1221 (AROCLOR 1221)
39U	PCB-1232 (AROCLOR 1232)
39U	PCB-1242 (AROCLOR 1242)
39U	PCB-1248 (AROCLOR 1248)
39U	PCB-1254 (AROCLOR 1254)
39U	PCB-1260 (AROCLOR 1260)
17	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89550 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 003-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 0950 STOP: 00/00/00
D. NUMBER: HZ45

UG/KG	ANALYTICAL RESULTS
2.2U	ALPHA-BHC
2.2U	BETA-BHC
2.2U	DELTA-BHC
2.2U	GAMMA-BHC (LINDANE)
2.2U	HEPTACHLOR
2.2U	ALDRIN
2.2U	HEPTACHLOR EPOXIDE
2.2U	ENDOSULFAN I (ALPHA)
4.2U	DIELDRIN
4.2U	4,4'-DDE (P,P'-DDE)
4.2U	ENDRIN
4.2U	ENDOSULFAN II (BETA)
4.2U	4,4'-DDD (P,P'-DDD)
4.2U	ENDOSULFAN SULFATE
4.2U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
22U	METHOXYCHLOR
4.2U	ENDRIN KETONE
4.2U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.2U	GAMMA-CHLORDANE /2
2.2U	ALPHA-CHLORDANE /2
220U	TOXAPHENE
42U	PCB-1016 (AROCLOR 1016)
85U	PCB-1221 (AROCLOR 1221)
42U	PCB-1232 (AROCLOR 1232)
42U	PCB-1242 (AROCLOR 1242)
42U	PCB-1248 (AROCLOR 1248)
42U	PCB-1254 (AROCLOR 1254)
42U	PCB-1260 (AROCLOR 1260)
22	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89551 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 004-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1015 STOP: 00/00/00
D. NUMBER: HZ46

UG/KG	ANALYTICAL RESULTS
2.1U	ALPHA-BHC
2.1U	BETA-BHC
2.1U	DELTA-BHC
2.1U	GAMMA-BHC (LINDANE)
2.1U	HEPTACHLOR
2.1U	ALDRIN
2.1U	HEPTACHLOR EPOXIDE
2.1U	ENDOSULFAN I (ALPHA)
4.0U	DIELDRIN
4.0U	4,4'-DDE (P,P'-DDE)
4.0U	ENDRIN
4.0U	ENDOSULFAN II (BETA)
4.0U	4,4'-DDD (P,P'-DDD)
4.0U	ENDOSULFAN SULFATE
4.0U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.0U	ENDRIN KETONE
4.0U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
40U	PCB-1016 (AROCLOR 1016)
82U	PCB-1221 (AROCLOR 1221)
40U	PCB-1232 (AROCLOR 1232)
40U	PCB-1242 (AROCLOR 1242)
40U	PCB-1248 (AROCLOR 1248)
40U	PCB-1254 (AROCLOR 1254)
40U	PCB-1260 (AROCLOR 1260)
20	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89552 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 005-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1033 STOP: 00/00/00
D. NUMBER: HZ47

UG/KG	ANALYTICAL RESULTS
2.4U	ALPHA-BHC
2.4U	BETA-BHC
2.4U	DELTA-BHC
2.4U	GAMMA-BHC (LINDANE)
2.4U	HEPTACHLOR
2.4U	ALDRIN
2.4U	HEPTACHLOR EPOXIDE
2.4U	ENDOSULFAN I (ALPHA)
4.7U	DIELDRIN
4.7U	4,4'-DDE (P,P'-DDE)
4.7U	ENDRIN
4.7U	ENDOSULFAN II (BETA)
4.7U	4,4'-DDD (P,P'-DDD)
4.7U	ENDOSULFAN SULFATE
4.7U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
24U	METHOXYCHLOR
4.7U	ENDRIN KETONE
4.7U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.4U	GAMMA-CHLORDANE /2
2.4U	ALPHA-CHLORDANE /2
240U	TOXAPHENE
47U	PCB-1016 (AROCLOR 1016)
95U	PCB-1221 (AROCLOR 1221)
47U	PCB-1232 (AROCLOR 1232)
47U	PCB-1242 (AROCLOR 1242)
47U	PCB-1248 (AROCLOR 1248)
47U	PCB-1254 (AROCLOR 1254)
47U	PCB-1260 (AROCLOR 1260)
30	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.
*C-CONFIRMED BY GCMS
1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.
2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89553 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 006-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1056 STOP: 00/00/00
D. NUMBER: HZ48

UG/KG	ANALYTICAL RESULTS
2.1U	ALPHA-BHC
2.1U	BETA-BHC
2.1U	DELTA-BHC
2.1U	GAMMA-BHC (LINDANE)
2.1U	HEPTACHLOR
2.1U	ALDRIN
2.1U	HEPTACHLOR EPOXIDE
2.1U	ENDOSULFAN I (ALPHA)
4.0U	DIELDRIN
4.0U	4,4'-DDE (P,P'-DDE)
4.0U	ENDRIN
4.0U	ENDOSULFAN II (BETA)
4.0U	4,4'-DDD (P,P'-DDD)
4.0U	ENDOSULFAN SULFATE
4.0U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.0U	ENDRIN KETONE
4.0U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
40U	PCB-1016 (AROCLOR 1016)
82U	PCB-1221 (AROCLOR 1221)
40U	PCB-1232 (AROCLOR 1232)
40U	PCB-1242 (AROCLOR 1242)
40U	PCB-1248 (AROCLOR 1248)
40U	PCB-1254 (AROCLOR 1254)
40U	PCB-1260 (AROCLOR 1260)
19	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89554 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 007-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1140 STOP: 00/00/00
D. NUMBER: HZ49

UG/KG	ANALYTICAL RESULTS
4.4U	ALPHA-BHC
4.4U	BETA-BHC
4.4U	DELTA-BHC
4.4U	GAMMA-BHC (LINDANE)
4.4U	HEPTACHLOR
4.4U	ALDRIN
4.4U	HEPTACHLOR EPOXIDE
4.4U	ENDOSULFAN I (ALPHA)
8.5U	DIELDRIN
8.5U	4,4'-DDE (P,P'-DDE)
8.5U	ENDRIN
8.5U	ENDOSULFAN II (BETA)
8.5U	4,4'-DDD (P,P'-DDD)
8.5U	ENDOSULFAN SULFATE
8.5U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
44U	METHOXYCHLOR
8.5U	ENDRIN KETONE
8.5U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
4.4U	GAMMA-CHLORDANE /2
4.4U	ALPHA-CHLORDANE /2
440U	TOXAPHENE
85U	PCB-1016 (AROCLOR 1016)
170U	PCB-1221 (AROCLOR 1221)
85U	PCB-1232 (AROCLOR 1232)
85U	PCB-1242 (AROCLOR 1242)
85U	PCB-1248 (AROCLOR 1248)
85U	PCB-1254 (AROCLOR 1254)
85U	PCB-1260 (AROCLOR 1260)
23	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89555 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 008-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1205 STOP: 00/00/00
D. NUMBER: HZ50

UG/KG	ANALYTICAL RESULTS
2.1U	ALPHA-BHC
2.1U	BETA-BHC
2.1U	DELTA-BHC
2.1U	GAMMA-BHC (LINDANE)
2.1U	HEPTACHLOR
2.1U	ALDRIN
2.1U	HEPTACHLOR EPOXIDE
2.1U	ENDOSULFAN I (ALPHA)
4.2U	DIELDRIN
4.2U	4,4'-DDE (P,P'-DDE)
4.2U	ENDRIN
4.2U	ENDOSULFAN II (BETA)
4.2U	4,4'-DDD (P,P'-DDD)
4.2U	ENDOSULFAN SULFATE
4.2U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.2U	ENDRIN KETONE
4.2U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
42U	PCB-1016 (AROCLOR 1016)
85U	PCB-1221 (AROCLOR 1221)
42U	PCB-1232 (AROCLOR 1232)
42U	PCB-1242 (AROCLOR 1242)
42U	PCB-1248 (AROCLOR 1248)
42U	PCB-1254 (AROCLOR 1254)
42U	PCB-1260 (AROCLOR 1260)
22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89556 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 009-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1217 STOP: 00/00/00
D. NUMBER: HZ51

UG/KG	ANALYTICAL RESULTS
5.0U	ALPHA-BHC
5.0U	BETA-BHC
5.0U	DELTA-BHC
5.0U	GAMMA-BHC (LINDANE)
5.0U	HEPTACHLOR
5.0U	ALDRIN
5.0U	HEPTACHLOR EPOXIDE
5.0U	ENDOSULFAN I (ALPHA)
9.7U	DIELDRIN
9.7U	4,4'-DDE (P,P'-DDE)
9.7U	ENDRIN
9.7U	ENDOSULFAN II (BETA)
9.7U	4,4'-DDD (P,P'-DDD)
9.7U	ENDOSULFAN SULFATE
9.7U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
50U	METHOXYCHLOR
9.7U	ENDRIN KETONE
9.7U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
5.0U	GAMMA-CHLORDANE /2
5.0U	ALPHA-CHLORDANE /2
500U	TOXAPHENE
97U	PCB-1016 (AROCLOR 1016)
200U	PCB-1221 (AROCLOR 1221)
97U	PCB-1232 (AROCLOR 1232)
97U	PCB-1242 (AROCLOR 1242)
97U	PCB-1248 (AROCLOR 1248)
97U	PCB-1254 (AROCLOR 1254)
61J	PCB-1260 (AROCLOR 1260)
33	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89557 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 010-SS
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1233 STOP: 00/00/00
D. NUMBER: HZ52

UG/KG	ANALYTICAL RESULTS
2.0U	ALPHA-BHC
2.0U	BETA-BHC
2.0U	DELTA-BHC
2.0U	GAMMA-BHC (LINDANE)
2.0U	HEPTACHLOR
2.0U	ALDRIN
2.0U	HEPTACHLOR EPOXIDE
2.0U	ENDOSULFAN I (ALPHA)
3.8U	DIELDRIN
3.8U	4,4'-DDE (P,P'-DDE)
3.8U	ENDRIN
3.8U	ENDOSULFAN II (BETA)
3.8U	4,4'-DDD (P,P'-DDD)
3.8U	ENDOSULFAN SULFATE
3.8U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
20U	METHOXYCHLOR
3.8U	ENDRIN KETONE
3.8U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.0U	GAMMA-CHLORDANE /2
2.0U	ALPHA-CHLORDANE /2
200U	TOXAPHENE
38U	PCB-1016 (AROCLOR 1016)
78U	PCB-1221 (AROCLOR 1221)
38U	PCB-1232 (AROCLOR 1232)
38U	PCB-1242 (AROCLOR 1242)
38U	PCB-1248 (AROCLOR 1248)
38U	PCB-1254 (AROCLOR 1254)
38U	PCB-1260 (AROCLOR 1260)
16	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89558 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 011-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1235 STOP: 00/00/00
D. NUMBER: HZ53

UG/KG	ANALYTICAL RESULTS
2.1U	ALPHA-BHC
2.1U	BETA-BHC
2.1U	DELTA-BHC
2.1U	GAMMA-BHC (LINDANE)
2.1U	HEPTACHLOR
2.1U	ALDRIN
2.1U	HEPTACHLOR EPOXIDE
2.1U	ENDOSULFAN I (ALPHA)
4.2U	DIELDRIN
4.2U	4,4'-DDE (P,P'-DDE)
4.2U	ENDRIN
4.2U	ENDOSULFAN II (BETA)
4.2U	4,4'-DDD (P,P'-DDD)
4.2U	ENDOSULFAN SULFATE
4.2U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.2U	ENDRIN KETONE
4.2U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
42U	PCB-1016 (AROCLOR 1016)
85U	PCB-1221 (AROCLOR 1221)
42U	PCB-1232 (AROCLOR 1232)
42U	PCB-1242 (AROCLOR 1242)
42U	PCB-1248 (AROCLOR 1248)
42U	PCB-1254 (AROCLOR 1254)
42U	PCB-1260 (AROCLOR 1260)
22	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89559 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 012-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1300 STOP: 00/00/00
D. NUMBER: HZ54

UG/KG	ANALYTICAL RESULTS
2.3U	ALPHA-BHC
2.3U	BETA-BHC
2.3U	DELTA-BHC
2.3U	GAMMA-BHC (LINDANE)
2.3U	HEPTACHLOR
2.3U	ALDRIN
2.3U	HEPTACHLOR EPOXIDE
2.3U	ENDOSULFAN I (ALPHA)
4.4U	DIELDRIN
4.4U	4,4'-DDE (P,P'-DDE)
4.4U	ENDRIN
4.4U	ENDOSULFAN II (BETA)
4.4U	4,4'-DDD (P,P'-DDD)
4.4U	ENDOSULFAN SULFATE
4.4U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
23U	METHOXYCHLOR
4.4U	ENDRIN KETONE
4.4U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.3U	GAMMA-CHLORDANE /2
2.3U	ALPHA-CHLORDANE /2
230U	TOXAPHENE
44U	PCB-1016 (AROCLOR 1016)
90U	PCB-1221 (AROCLOR 1221)
44U	PCB-1232 (AROCLOR 1232)
44U	PCB-1242 (AROCLOR 1242)
44U	PCB-1248 (AROCLOR 1248)
44U	PCB-1254 (AROCLOR 1254)
44U	PCB-1260 (AROCLOR 1260)
27	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89560 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 013-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1323 STOP: 00/00/00
D. NUMBER: HZ55

UG/KG	ANALYTICAL RESULTS
2.1U	ALPHA-BHC
2.1U	BETA-BHC
2.1U	DELTA-BHC
2.1U	GAMMA-BHC (LINDANE)
2.1U	HEPTACHLOR
2.1U	ALDRIN
2.1U	HEPTACHLOR EPOXIDE
2.1U	ENDOSULFAN I (ALPHA)
4.1U	DIELDRIN
4.1U	4,4'-DDE (P,P'-DDE)
4.1U	ENDRIN
4.1U	ENDOSULFAN II (BETA)
4.1U	4,4'-DDD (P,P'-DDD)
4.1U	ENDOSULFAN SULFATE
4.1U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.1U	ENDRIN KETONE
4.1U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
41U	PCB-1016 (AROCLOR 1016)
83U	PCB-1221 (AROCLOR 1221)
41U	PCB-1232 (AROCLOR 1232)
41U	PCB-1242 (AROCLOR 1242)
41U	PCB-1248 (AROCLOR 1248)
41U	PCB-1254 (AROCLOR 1254)
41U	PCB-1260 (AROCLOR 1260)
20	PERCENT MOISTURE

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89561 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 014-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1225 STOP: 00/00/00
D. NUMBER: HZ56

UG/KG	ANALYTICAL RESULTS
19U	ALPHA-BHC
19U	BETA-BHC
19U	DELTA-BHC
19U	GAMMA-BHC (LINDANE)
19U	HEPTACHLOR
19U	ALDRIN
19U	HEPTACHLOR EPOXIDE
19U	ENDOSULFAN I (ALPHA)
38U	DIELDRIN
38U	4,4'-DDE (P,P'-DDE)
38U	ENDRIN
38U	ENDOSULFAN II (BETA)
38U	4,4'-DDD (P,P'-DDD)
38U	ENDOSULFAN SULFATE
38U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
190U	METHOXYCHLOR
38U	ENDRIN KETONE
38U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
19U	GAMMA-CHLORDANE /2
19U	ALPHA-CHLORDANE /2
1900U	TOXAPHENE
380U	PCB-1016 (AROCLOR 1016)
760U	PCB-1221 (AROCLOR 1221)
380U	PCB-1232 (AROCLOR 1232)
380U	PCB-1242 (AROCLOR 1242)
380U	PCB-1248 (AROCLOR 1248)
380U	PCB-1254 (AROCLOR 1254)
380U	PCB-1260 (AROCLOR 1260)
14	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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*C-CONFIRMED BY GCMS
1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.
2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89562 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 015-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1250 STOP: 00/00/00
D. NUMBER: HZ57

UG/KG	ANALYTICAL RESULTS
2.4U	ALPHA-BHC
2.4U	BETA-BHC
2.4U	DELTA-BHC
2.4U	GAMMA-BHC (LINDANE)
2.4U	HEPTACHLOR
2.4U	ALDRIN
2.4U	HEPTACHLOR EPOXIDE
2.4U	ENDOSULFAN I (ALPHA)
4.6U	DIELDRIN
4.6U	4,4'-DDE (P,P'-DDE)
4.6U	ENDRIN
4.6U	ENDOSULFAN II (BETA)
4.6U	4,4'-DDD (P,P'-DDD)
4.6U	ENDOSULFAN SULFATE
4.6U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
24U	METHOXYCHLOR
4.6U	ENDRIN KETONE
4.6U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.4U	GAMMA-CHLORDANE /2
2.4U	ALPHA-CHLORDANE /2
240U	TOXAPHENE
46U	PCB-1016 (AROCLOR 1016)
94U	PCB-1221 (AROCLOR 1221)
46U	PCB-1232 (AROCLOR 1232)
46U	PCB-1242 (AROCLOR 1242)
46U	PCB-1248 (AROCLOR 1248)
46U	PCB-1254 (AROCLOR 1254)
46U	PCB-1260 (AROCLOR 1260)
29	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89563 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 016-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1145 STOP: 00/00/00
D. NUMBER: HZ58

UG/KG	ANALYTICAL RESULTS
2.2U	ALPHA-BHC
2.2U	BETA-BHC
2.2U	DELTA-BHC
2.2U	GAMMA-BHC (LINDANE)
2.2U	HEPTACHLOR
2.2U	ALDRIN
2.2U	HEPTACHLOR EPOXIDE
2.2U	ENDOSULFAN I (ALPHA)
4.2U	DIELDRIN
4.2U	4,4'-DDE (P,P'-DDE)
4.2U	ENDRIN
4.2U	ENDOSULFAN II (BETA)
4.2U	4,4'-DDD (P,P'-DDD)
4.2U	ENDOSULFAN SULFATE
4.2U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
22U	METHOXYCHLOR
4.2U	ENDRIN KETONE
4.2U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.2U	GAMMA-CHLORDANE /2
2.2U	ALPHA-CHLORDANE /2
220U	TOXAPHENE
42U	PCB-1016 (AROCLOR 1016)
86U	PCB-1221 (AROCLOR 1221)
42U	PCB-1232 (AROCLOR 1232)
42U	PCB-1242 (AROCLOR 1242)
42U	PCB-1248 (AROCLOR 1248)
42U	PCB-1254 (AROCLOR 1254)
90U	PCB-1260 (AROCLOR 1260)
22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89564 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 017-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1200 STOP: 00/00/00
D. NUMBER: HZ59

UG/KG	ANALYTICAL RESULTS
20U	ALPHA-BHC
20U	BETA-BHC
20U	DELTA-BHC
20U	GAMMA-BHC (LINDANE)
20U	HEPTACHLOR
20U	ALDRIN
20U	HEPTACHLOR EPOXIDE
20U	ENDOSULFAN I (ALPHA)
38U	DIELDRIN
38U	4,4'-DDE (P,P'-DDE)
38U	ENDRIN
38U	ENDOSULFAN II (BETA)
38U	4,4'-DDD (P,P'-DDD)
38U	ENDOSULFAN SULFATE
38U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
200U	METHOXYCHLOR
38U	ENDRIN KETONE
38U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
20U	GAMMA-CHLORDANE /2
20U	ALPHA-CHLORDANE /2
2000U	TOXAPHENE
380U	PCB-1016 (AROCLOR 1016)
770U	PCB-1221 (AROCLOR 1221)
380U	PCB-1232 (AROCLOR 1232)
380U	PCB-1242 (AROCLOR 1242)
380U	PCB-1248 (AROCLOR 1248)
380U	PCB-1254 (AROCLOR 1254)
380U	PCB-1260 (AROCLOR 1260)
15	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89565 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 018-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1310 STOP: 00/00/00
D. NUMBER: HZ60

UG/KG	ANALYTICAL RESULTS
2.4U	ALPHA-BHC
2.4U	BETA-BHC
2.4U	DELTA-BHC
2.4U	GAMMA-BHC (LINDANE)
2.4U	HEPTACHLOR
2.4U	ALDRIN
2.4U	HEPTACHLOR EPOXIDE
2.4U	ENDOSULFAN I (ALPHA)
4.6U	DIELDRIN
4.6U	4,4'-DDE (P,P'-DDE)
4.6U	ENDRIN
4.6U	ENDOSULFAN II (BETA)
4.6U	4,4'-DDD (P,P'-DDD)
4.6U	ENDOSULFAN SULFATE
4.6U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
24U	METHOXYCHLOR
4.6U	ENDRIN KETONE
4.6U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.4U	GAMMA-CHLORDANE /2
2.4U	ALPHA-CHLORDANE /2
240U	TOXAPHENE
46U	PCB-1016 (AROCLOR 1016)
94U	PCB-1221 (AROCLOR 1221)
46U	PCB-1232 (AROCLOR 1232)
46U	PCB-1242 (AROCLOR 1242)
46U	PCB-1248 (AROCLOR 1248)
46U	PCB-1254 (AROCLOR 1254)
46U	PCB-1260 (AROCLOR 1260)
29	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89566 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 019-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1100 STOP: 00/00/00
D. NUMBER: HZ61

UG/KG	ANALYTICAL RESULTS		UG/KG	ANALYTICAL RESULTS	
24U	ALPHA-BHC		240U	METHOXYCHLOR	
24U	BETA-BHC		46U	ENDRIN KETONE	
24U	DELTA-BHC		46U	ENDRIN ALDEHYDE	
24U	GAMMA-BHC (LINDANE)	--		CHLORDANE (TECH. MIXTURE)	/1
24U	HEPTACHLOR		39	GAMMA-CHLORDANE	/2
24U	ALDRIN		40U	ALPHA-CHLORDANE	/2
24U	HEPTACHLOR EPOXIDE		2400U	TOXAPHENE	
24U	ENDOSULFAN I (ALPHA)		460U	PCB-1016 (AROCLOR 1016)	
46U	DIELDRIN		940U	PCB-1221 (AROCLOR 1221)	
46U	4,4'-DDE (P,P'-DDE)		460U	PCB-1232 (AROCLOR 1232)	
46U	ENDRIN		460U	PCB-1242 (AROCLOR 1242)	
46U	ENDOSULFAN II (BETA)		460U	PCB-1248 (AROCLOR 1248)	
46U	4,4'-DDD (P,P'-DDD)		460U	PCB-1254 (AROCLOR 1254)	
46U	ENDOSULFAN SULFATE		460U	PCB-1260 (AROCLOR 1260)	
46U	4,4'-DDT (P,P'-DDT)		31	PERCENT MOISTURE	

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89567 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 020-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1033 STOP: 00/00/00
D. NUMBER: HZ62

UG/KG	ANALYTICAL RESULTS		UG/KG	ANALYTICAL RESULTS	
26U	ALPHA-BHC		260U	METHOXYCHLOR	
26U	BETA-BHC		50U	ENDRIN KETONE	
26U	DELTA-BHC		50U	ENDRIN ALDEHYDE	
26U	GAMMA-BHC (LINDANE)	--		CHLORDANE (TECH. MIXTURE)	/1
26U	HEPTACHLOR		26U	GAMMA-CHLORDANE	/2
26U	ALDRIN		26U	ALPHA-CHLORDANE	/2
26U	HEPTACHLOR EPOXIDE		2600U	TOXAPHENE	
26U	ENDOSULFAN I (ALPHA)		500U	PCB-1016 (AROCLOR 1016)	
50U	DIELDRIN		1000U	PCB-1221 (AROCLOR 1221)	
50U	4,4'-DDE (P,P'-DDE)		500U	PCB-1232 (AROCLOR 1232)	
50U	ENDRIN		500U	PCB-1242 (AROCLOR 1242)	
50U	ENDOSULFAN II (BETA)		500U	PCB-1248 (AROCLOR 1248)	
50U	4,4'-DDD (P,P'-DDD)		500U	PCB-1254 (AROCLOR 1254)	
50U	ENDOSULFAN SULFATE		500U	PCB-1260 (AROCLOR 1260)	
50U	4,4'-DDT (P,P'-DDT)		35	PERCENT MOISTURE	

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89568 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 021-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1115 STOP: 00/00/00
D. NUMBER: HZ63

UG/KG	ANALYTICAL RESULTS		UG/KG	ANALYTICAL RESULTS
2.2U	ALPHA-BHC		22U	METHOXYCHLOR
2.2U	BETA-BHC		4.2U	ENDRIN KETONE
2.2U	DELTA-BHC		4.2U	ENDRIN ALDEHYDE
2.2U	GAMMA-BHC (LINDANE)	--		CHLORDANE (TECH. MIXTURE) /1
2.2U	HEPTACHLOR		2.2U	GAMMA-CHLORDANE /2
2.2U	ALDRIN		2.2U	ALPHA-CHLORDANE /2
2.2U	HEPTACHLOR EPOXIDE		220U	TOXAPHENE
2.2U	ENDOSULFAN I (ALPHA)		42U	PCB-1016 (AROCLOR 1016)
4.2U	DIELDRIN		86U	PCB-1221 (AROCLOR 1221)
4.2U	4,4'-DDE (P,P'-DDE)		42U	PCB-1232 (AROCLOR 1232)
4.2U	ENDRIN		42U	PCB-1242 (AROCLOR 1242)
4.2U	ENDOSULFAN II (BETA)		42U	PCB-1248 (AROCLOR 1248)
4.2U	4,4'-DDD (P,P'-DDD)		42U	PCB-1254 (AROCLOR 1254)
4.2U	ENDOSULFAN SULFATE		50U	PCB-1260 (AROCLOR 1260)
4.2U	4,4'-DDT (P,P'-DDT)		24	PERCENT MOISTURE

REMARKS ***REMARKS***

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89569 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 022-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1145 STOP: 00/00/00
D. NUMBER: HZ64

UG/KG	ANALYTICAL RESULTS
2.3U	ALPHA-BHC
2.3U	BETA-BHC
2.3U	DELTA-BHC
2.3U	GAMMA-BHC (LINDANE)
2.3U	HEPTACHLOR
2.3U	ALDRIN
2.3U	HEPTACHLOR EPOXIDE
2.3U	ENDOSULFAN I (ALPHA)
4.5U	DIELDRIN
4.5U	4,4'-DDE (P,P'-DDE)
4.5U	ENDRIN
4.5U	ENDOSULFAN II (BETA)
4.5U	4,4'-DDD (P,P'-DDD)
4.5U	ENDOSULFAN SULFATE
4.5U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
23U	METHOXYCHLOR
4.5U	ENDRIN KETONE
4.5U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.3U	GAMMA-CHLORDANE /2
2.3U	ALPHA-CHLORDANE /2
230U	TOXAPHENE
45U	PCB-1016 (AROCLOR 1016)
92U	PCB-1221 (AROCLOR 1221)
45U	PCB-1232 (AROCLOR 1232)
45U	PCB-1242 (AROCLOR 1242)
45U	PCB-1248 (AROCLOR 1248)
45U	PCB-1254 (AROCLOR 1254)
45U	PCB-1260 (AROCLOR 1260)
28	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89570 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 023-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1113 STOP: 00/00/00
D. NUMBER: HZ65

UG/KG	ANALYTICAL RESULTS
2.4U	ALPHA-BHC
2.4U	BETA-BHC
2.4U	DELTA-BHC
2.4U	GAMMA-BHC (LINDANE)
2.4U	HEPTACHLOR
2.4U	ALDRIN
2.4U	HEPTACHLOR EPOXIDE
2.4U	ENDOSULFAN I (ALPHA)
4.6U	DIELDRIN
4.6U	4,4'-DDE (P,P'-DDE)
4.6U	ENDRIN
4.6U	ENDOSULFAN II (BETA)
1.6U	4,4'-DDD (P,P'-DDD)
4.6U	ENDOSULFAN SULFATE
4.6U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
24U	METHOXYCHLOR
4.6U	ENDRIN KETONE
4.6U	ENDRIN ALDEHYDE
—	CHLORDANE (TECH. MIXTURE) /1
2.4U	GAMMA-CHLORDANE /2
2.4U	ALPHA-CHLORDANE /2
240U	TOXAPHENE
46U	PCB-1016 (AROCLOR 1016)
94U	PCB-1221 (AROCLOR 1221)
46U	PCB-1232 (AROCLOR 1232)
46U	PCB-1242 (AROCLOR 1242)
46U	PCB-1248 (AROCLOR 1248)
46U	PCB-1254 (AROCLOR 1254)
46U	PCB-1260 (AROCLOR 1260)
30	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.
*C-CONFIRMED BY GCMS
1. WHEN NO VALUE IS REPORTED. SEE CHLORDANE CONSTITUENTS.
2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 10/25/94

PROJECT NO. 94-0597 SAMPLE NO. 89571 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: F.M. CARNS
SOURCE: STEVENS JP & CO INC CITY: CLEMSON ST: SC
STATION ID: 024-SD COLLECTION START: 08/31/94 0940 STOP: 00/00/00
CASE NUMBER: 22607 SAS NUMBER: D. NUMBER: HZ66

UG/KG	ANALYTICAL RESULTS
2.1U	ALPHA-BHC
2.1U	BETA-BHC
2.1U	DELTA-BHC
2.1U	GAMMA-BHC (LINDANE)
2.1U	HEPTACHLOR
2.1U	ALDRIN
2.1U	HEPTACHLOR EPOXIDE
2.1U	ENDOSULFAN I (ALPHA)
4.1U	DIELDRIN
4.1U	4,4'-DDE (P,P'-DDE)
4.1U	ENDRIN
4.1U	ENDOSULFAN II (BETA)
4.1U	4,4'-DDD (P,P'-DDD)
4.1U	ENDOSULFAN SULFATE
4.1U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
21U	METHOXYCHLOR
4.1U	ENDRIN KETONE
4.1U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.1U	GAMMA-CHLORDANE /2
2.1U	ALPHA-CHLORDANE /2
210U	TOXAPHENE
41U	PCB-1016 (AROCLOR 1016)
83U	PCB-1221 (AROCLOR 1221)
41U	PCB-1232 (AROCLOR 1232)
41U	PCB-1242 (AROCLOR 1242)
41U	PCB-1248 (AROCLOR 1248)
41U	PCB-1254 (AROCLOR 1254)
41U	PCB-1260 (AROCLOR 1260)
20	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.
*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED. SEE CHLORDANE CONSTITUENTS.
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 10/25/94

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 94-0597 SAMPLE NO. 89572 SAMPLE TYPE: SOIL
SOURCE: STEVENS JP & CO INC
STATION ID: 025-SD
CASE NUMBER: 22607 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: F.M. CARNS
CITY: CLEMSON ST: SC
COLLECTION START: 08/31/94 1003 STOP: 00/00/00
D. NUMBER: HZ67

UG/KG	ANALYTICAL RESULTS
2.2U	ALPHA-BHC
2.2U	BETA-BHC
2.2U	DELTA-BHC
2.2U	GAMMA-BHC (LINDANE)
2.2U	HEPTACHLOR
2.2U	ALDRIN
2.2U	HEPTACHLOR EPOXIDE
2.2U	ENDOSULFAN I (ALPHA)
4.2U	DIELDRIN
5.0U	4,4'-DDE (P,P'-DDE)
4.2U	ENDRIN
4.2U	ENDOSULFAN II (BETA)
4.2U	4,4'-DDD (P,P'-DDD)
4.2U	ENDOSULFAN SULFATE
4.2U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
22U	METHOXYCHLOR
4.2U	ENDRIN KETONE
4.2U	ENDRIN ALDEHYDE
--	CHLORDANE (TECH. MIXTURE) /1
2.2U	GAMMA-CHLORDANE /2
2.2U	ALPHA-CHLORDANE /2
220U	TOXAPHENE
42U	PCB-1016 (AROCLOR 1016)
85U	PCB-1221 (AROCLOR 1221)
42U	PCB-1232 (AROCLOR 1232)
42U	PCB-1242 (AROCLOR 1242)
42U	PCB-1248 (AROCLOR 1248)
42U	PCB-1254 (AROCLOR 1254)
180U	PCB-1260 (AROCLOR 1260)
23	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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*C-CONFIRMED BY GCMS
1. WHEN NO VALUE IS REPORTED. SEE CHLORDANE CONSTITUENTS.
2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE

DYNAMAC
CORPORATION
Environmental Services

Peachtree Center Tower
230 Peachtree Street, N.W.
Suite 500
Atlanta, GA 30303

Telephone: 404-681-0933
Fax: 404-681-0894

January 6, 1994

Mr. Narindar Kumar, Acting Chief
Site Assessment Section
U.S. EPA, Region IV
345 Courtland Street, NE
Atlanta, Georgia 30365

Re: Work Assignment No. C04119 - Site Inspection Prioritization Report - J.P. Stevens and Company, Inc., Clemson, Oconee County, South Carolina
Document Control No. C04119-SIP-LC-449

Dear Narindar:

Enclosed please find one copy of the confidential pages and SI Worksheets for J.P. Stevens and Company, Inc., in Clemson, Oconee County, South Carolina which were previously submitted to EPA on November 29, 1993. This submittal is in response to a written request which Dynamac Corporation received from Earl L. Bozeman, Jr., of your staff on December 17, 1993.

If you have any questions, please contact us at (404) 681-0933.

Sincerely,

DYNAMAC CORPORATION

Lori C. Conway
Site Manager

David L. Rusher
Regional Manager

cc: Ken Meyer, EPA Region IV Project Officer
Jack Silvey, Dynamac TES Program Manager
Deborah Vaughn-Wright, EPA Region IV Work Assignment Manager
Katharine Siders Franklin, Dynamac Work Assignment Manager
Earl L. Bozeman, Jr., Senior Site Assessment Manager
TES WA File

CONFIDENTIAL

HAZARD RANKING SYSTEM PRELIMINARY SCORE FOR J.P. STEVENS AND COMPANY SENECA, OCONEE COUNTY, SOUTH CAROLINA EPA ID NO. SCD003345097 WASTELAN NO. 3240

Pathways evaluated using the Site Inspection (SI) Worksheets were groundwater migration, surface water migration, soil exposure and air migration pathways.

Scenario I

S_{gw} = 5.28
S_{sw} = 1.16
S_{soil} = 0.63
S_{air} = 6.79

OVERALL SCORE 4.35

Scenario II

S_{gw} = 5.28
S_{sw} = 97.16
S_{soil} = 0.63
S_{air} = 6.79

OVERALL SCORE 48.77

Sources and Waste Characteristics

Both of the preceding scores reflect a hazardous waste quantity (HWQ) score of 100 for groundwater migration, surface water migration and air migration pathways. The HWQ value was determined based on the total area (605,000 square feet) of three permitted industrial waste landfills used for the disposal of coal-fired boiler fly ash waste and sludge from a wastewater treatment plant (WWTP). An HWQ value of 10 was calculated for the soil exposure pathway. Although the total area of the landfills was also used to calculated the HWQ for the soil exposure pathway, this pathway has a higher divisor for some HWQ categories, thus yielding a lower HWQ. File material indicates that wastes have been deposited directly onto the ground and are not completely covered. If these three disposal areas were evaluated as waste piles rather than as landfills, the HWQ would increase to 10,000; however, this approach is not completely documented because it is unknown whether all the waste placed in these sources was hazardous.

Elevated levels of organic and inorganic analytes were detected in the fly ash and WWTP sludge samples collected from all three landfills during a 1990 Screening Site Investigation (SSI) conducted by the South Carolina Department of Health and Environmental Control (SCDHEC). 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/control sample.

Groundwater Migration Pathway

The groundwater migration pathway was evaluated based on an observed release. An elevated level of barium was detected in a groundwater sample collected from an onsite monitoring well near one of the landfills. The background groundwater sample was collected from a private well offsite, and it is unknown if the depth of this private well was comparable to the monitoring well onsite. Thus, the observed release is not documented, but was scored to present a "worst-case" scenario.

The groundwater migration pathway score was limited by low target values. The majority of people living within 4 miles of J.P. Stevens obtain drinking water from municipal systems which utilize surface water intakes. The total number of groundwater users within 4 miles is approximately 1,491 persons.

Surface Water Migration Pathway

The primary migration pathway of concern for this facility is surface water. The J.P. Stevens facility is located on the shores of Hartwell Lake, and runoff from two of the landfills could potentially enter the lake. In particular, one landfill is located only 250 feet from the lake, and Aroclor-1260, a polychlorinated biphenyl (PCB), was detected in a subsurface soil sample collected from this source area.

Hartwell Lake is used extensively for recreational fishing, swimming and boating. No drinking water intakes or wetlands are located along the 15-mile migration pathway, which ends in Hartwell Lake in Anderson County, approximately 3 miles upstream of the Georgia state line. Endangered or threatened species may exist along the 15-mile migration pathway, but specific locations of habitats are not known.

In Scenario I, the surface water pathway was evaluated based on potential to release. No samples have been collected in Hartwell Lake or any runoff pathways to support an observed release. Due to the large size of Hartwell Lake and the flow rates (greater than 100 cubic feet per second) of the surface water bodies which feed the lake, the surface water pathway does not score high enough to bring the overall site score above the cutoff value. As demonstrated in Scenario II, however, if an observed release of PCBs (or another qualifying contaminant) were documented, the surface water migration pathway score would be 97.16, yielding an overall site score of 48.77.

Soil Exposure and Air Migration Pathways

The soil exposure pathway was scored based on the elevated levels of inorganic and organic constituents detected in surface soil samples collected during the SSI. No ambient air samples were collected during the SSI; therefore, the air pathway is evaluated on potential to release.

Both of these pathways were limited by low target values. An estimated 253 people reside within 1 mile and an estimated 15,382 people reside within 4 miles of J.P. Stevens. The ranges of several federally designated endangered and threatened species include Oconee County; however, the specific locations for these habits have not been identified. No other sensitive environments were identified within 4 miles of J.P. Stevens.

Conclusion/Recommendations

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 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 and the distance to nearby residences. The 4-mile radius is mainly rural, and a total of 15,382 people reside within 4 miles of the facility.

Based on the potential release of 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.

CERCLA Eligibility Form

Site Name: J.P. Stevens & Company, Inc.

City/County/State: Clemson, Oconee, County, South Carolina

EPA ID Number: SCD003345097

Type of Facility: Generator ___ Transporter ___ Disposal ✓
Treatment ___ Storage (more than 90 days) ___

	Yes	No
Has this facility treated, stored or disposed of a RCRA hazardous waste since Nov. 19, 1980?	___	✓
Has a RCRA Facility Assessment (FA) been performed on this site?	___	✓
Does the facility have a RCRA operating or post-closure permit? If so, date issued	___	✓
Did the facility file a RCRA Part A application?	✓	___
If so:		
1) Does the facility currently have interim status?	___	✓
2) Did the facility withdraw its interim status?	✓	___
3) Is the facility a known or possible protective filer?	✓	___
Is the facility a late (after Nov. 19, 1980) or non-filer that has been identified by EPA or the State?	___	✓
Is the site a Federal Facility?	___	✓
Is there at least one source onsite which is not covered by CERCLA Petroleum Exclusion Legislation?	✓	___
Is the facility owned by an entity that has filed for bankruptcy under federal or State laws?	___	✓
Has the facility lost authorization to operate or had its interim status revoked?	___	✓
Has the facility been involved in any other RCRA enforcement action?	___	✓

Site Name: J.P. Stevens & Company, Inc. **DRAFT**
Location: Clemson, Oconee County, South Carolina

GROUNDWATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

	Likelihood of Release to an Aquifer	Maximum Value	Value Assigned	
1.	Observed Release	550	550	
2.	Potential to Release			
	2a. Containment	10	-	
	2b. Net Precipitation	10	-	
	2c. Depth to Aquifer	5	-	
	2d. Travel Time	35	-	
	2e. Potential to Release (lines 2a x [2b + 2c + 2d])	500	-	
3.	Likelihood of Release (higher of lines 1 and 2e)	550		550
	Waste Characteristics			
4.	Toxicity/Mobility	[a]	2,000	
5.	Hazardous Waste Quantity	[a]	100	
6.	Waste Characteristics	100		18
	Targets			
7.	Nearest Well	50	20	
8.	Population			
	8a. Level I Concentrations	[b]	-	
	8b. Level II Concentrations	[b]	-	
	8c. Potential Contamination	[b]	19	
	8d. Population (lines 8a + 8b + 8c)	[b]	19	
9.	Resources	5	5	
10.	Wellhead Protection Area	20	0	
11.	Targets (lines 7 + 8d + 9 + 10)	[b]		44
	Groundwater Migration Score for an Aquifer			
12.	Aquifer Score ([lines 3 x 6 x 11]/82,500)[c]	100		5.28
	Groundwater Migration Pathway Score			
13.	Groundwater Migration Pathway Score (S_{gw})[c] (highest value from line 12 for all aquifers evaluated)	100		5.28

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.
* Default value.
\- Not evaluated.

Site Name: J.P. Stevens & Company, Inc. **DRAFT** Scenario I
Location: Clemson, Oconee County, South Carolina

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor Categories and Factors	Maximum Value	Value Assigned	
DRINKING WATER THREAT			
Likelihood of Release			
1. Observed Release	550	0	
2. Potential to Release by Overland Flow			
2a. Containment	10	-	
2b. Runoff	25	-	
2c. Distance to Surface Water	25	-	
2d. Potential to Release by Overland Flow (lines 2a x [2b + 2c])	500	500*	
3. Potential to Release by Flood			
3a. Containment (Flood)	10	-	
3b. Flood Frequency	50	-	
3c. Potential to Release by Flood (lines 3a x 3b)	500	-	
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	500*	
5. Likelihood of Release (higher of lines 1 and 4)	550		500*
Waste Characteristics			
6. Toxicity/Persistence	[a]	10,000	
7. Hazardous Waste Quantity	[a]	100	
8. Waste Characteristics	100		32
Targets			
9. Nearest Intake	50	0	
10. Population			
10a. Level I Concentrations	[b]	0	
10b. Level II Concentrations	[b]	0	
10c. Potential Contamination	[b]	0	
10d. Population (lines 10a + 10b + 10c)	[b]	0	
11. Resources	5	5	
12. Targets (lines 9 + 10d + 11)	[b]		5
Drinking Water Threat Score			
13. Drinking Water Threat Score ([lines 5 x 8 x 12]/82,500, subject to a maximum of 100)	100		1.16

Site Name: J.P. Stevens & Company, Inc. **DRAFT** Scenario I
Location: Clemson, Oconee County, South Carolina

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Continued

Factor Categories and Factors		Maximum Value	Value Assigned	
HUMAN FOOD CHAIN THREAT				
	Likelihood of Release			
14.	Likelihood of Release (value from line 5)	550		500*
	Waste Characteristics			
15.	Toxicity/Persistence/Bioaccumulation	[a]	$5x10^8$	
16.	Hazardous Waste Quantity	[a]	100	
17.	Waste Characteristics	1,000		320
	Targets			
18.	Food Chain Individual	50	0	
19.	Population			
	19a. Level I Concentrations	[b]	0	
	19b. Level II Concentrations	[b]	0	
	19c. Potential Human Food Chain Contamination	[b]	0	
	19d. Population (lines 19a + 19b + 19c)	[b]	0	
20.	Targets (lines 18 + 19d)	[b]		0
	Human Food Chain Threat Score			
21.	Human Food Chain Threat Score ([lines 14 x 17 x 20]/82,500, subject to a maximum of 100)	100		0.00
ENVIRONMENTAL THREAT				
	Likelihood of Release			
22.	Likelihood of Release (value from line 5)	550		500*
	Waste Characteristics			
23.	Ecosystem Toxicity/Persistence/ Bioaccumulation	[a]	$5x10^8$	
24.	Hazardous Waste Quantity	[a]	100	
25.	Waste Characteristics	1,000		320

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Concluded

Factor Categories and Factors	Maximum Value	Value Assigned	
ENVIRONMENTAL THREAT (concluded)			
Targets			
26. Sensitive Environments			
26a. Level I Concentrations	[b]	0	
26b. Level II Concentrations	[b]	0	
26c. Potential Contamination	[b]	0	
26d. Sensitive Environments (lines 26a + 26b + 26c)	[b]	0	
27. Targets (value from line 26d)	[b]		0
Environmental Threat Score			
28. Environmental Threat Score ([lines 22 x 25 x 27]/82,500, subject to a maximum of 60)	60		0
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE FOR A WATERSHED			
29. Watershed Score[c] (lines 13 + 21 + 28, subject to a maximum of 100)	100		1.16
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE			
30. Component Score (S_{of})[c] (highest score from line 29 for all watersheds evaluated, subject to a maximum of 100)	100		1.16

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.
* Default value.
\- Not evaluated.

Site Name: J.P. Stevens & Company, Inc. **DRAFT** Scenario II
Location: Clemson, Oconee County, South Carolina

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor Categories and Factors	Maximum Value	Value Assigned	
DRINKING WATER THREAT			
Likelihood of Release			
1. Observed Release	550	550	
2. Potential to Release by Overland Flow			
2a. Containment	10	-	
2b. Runoff	25	-	
2c. Distance to Surface Water	25	-	
2d. Potential to Release by Overland Flow (lines 2a x [2b + 2c])	500	-	
3. Potential to Release by Flood			
3a. Containment (Flood)	10	-	
3b. Flood Frequency	50	-	
3c. Potential to Release by Flood (lines 3a x 3b)	500	-	
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	-	
5. Likelihood of Release (higher of lines 1 and 4)	550		550
Waste Characteristics			
6. Toxicity/Persistence	[a]	10,000	
7. Hazardous Waste Quantity	[a]	100	
8. Waste Characteristics	100		32
Targets			
9. Nearest Intake	50	0	
10. Population			
10a. Level I Concentrations	[b]	0	
10b. Level II Concentrations	[b]	0	
10c. Potential Contamination	[b]	0	
10d. Population (lines 10a + 10b + 10c)	[b]	0	
11. Resources	5	5	
12. Targets (lines 9 + 10d + 11)	[b]		5
Drinking Water Threat Score			
13. Drinking Water Threat Score ([lines 5 x 8 x 12]/82,500, subject to a maximum of 100)	100		1.16

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Continued

Factor Categories and Factors	Maximum Value	Value Assigned	
HUMAN FOOD CHAIN THREAT			
Likelihood of Release			
14. Likelihood of Release (value from line 5)	550		550
Waste Characteristics			
15. Toxicity/Persistence/Bioaccumulation	[a]	$5x10^8$	
16. Hazardous Waste Quantity	[a]	100	
17. Waste Characteristics	1,000		320
Targets			
18. Food Chain Individual	50	0	
19. Population			
19a. Level I Concentrations	[b]	0	
19b. Level II Concentrations	[b]	45	
19c. Potential Human Food Chain Contamination	[b]	-	
19d. Population (lines 19a + 19b + 19c)	[b]	45	
20. Targets (lines 18 + 19d)	[b]		45
Human Food Chain Threat Score			
21. Human Food Chain Threat Score ([lines 14 x 17 x 20]/82,500, subject to a maximum of 100)	100		96.00
ENVIRONMENTAL THREAT			
Likelihood of Release			
22. Likelihood of Release (value from line 5)	550		550
Waste Characteristics			
23. Ecosystem Toxicity/Persistence/ Bioaccumulation	[a]	$5x10^8$	
24. Hazardous Waste Quantity	[a]	100	
25. Waste Characteristics	1,000		320

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Concluded

Factor Categories and Factors	Maximum Value	Value Assigned	
ENVIRONMENTAL THREAT (concluded)			
Targets			
26. Sensitive Environments			
26a. Level I Concentrations	[b]	0	
26b. Level II Concentrations	[b]	0	
26c. Potential Contamination	[b]	0	
26d. Sensitive Environments (lines 26a + 26b + 26c)	[b]	0	
27. Targets (value from line 26d)	[b]		0
Environmental Threat Score			
28. Environmental Threat Score ([lines 22 x 25 x 27]/82,500, subject to a maximum of 60)	60		0
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE FOR A WATERSHED			
29. Watershed Score[c] (lines 13 + 21 + 28, subject to a maximum of 100)	100		97.16
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE			
30. Component Score (S_{of})[c] (highest score from line 29 for all watersheds evaluated, subject to a maximum of 100)	100		97.16

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.
* Default value.
\- Not evaluated.

Site Name: J.P. Stevens & Company, Inc. **DRAFT**
Location: Clemson, Oconee County, South Carolina

SOIL EXPOSURE PATHWAY SCORESHEET

Factor Categories and Factors		Maximum Value	Value Assigned	
RESIDENT POPULATION THREAT				
	Likelihood of Exposure			
1.	Likelihood of Exposure	550		550
	Waste Characteristics			
2.	Toxicity	[a]	10,000	
3.	Hazardous Waste Quantity	[a]	10	
4.	Waste Characteristics	100		18
	Targets			
5.	Resident Individual	50	0	
6.	Resident Population			
	6a. Level I Concentrations	[b]	0	
	6b. Level II Concentrations	[b]	0	
	6c. Resident Population (lines 6a + 6b)	[b]	0	
7.	Workers	15	5	
8.	Resources	5	0	
9.	Terrestrial Sensitive Environments	[d]	0	
10.	Targets (lines 5 + 6c + 7 + 8 + 9)	[b]		5
	Resident Population Threat Score			
11.	Resident Population Threat ([lines 1 x 4 x 10]/82,500)	[b]		0.60
NEARBY POPULATION THREAT				
	Likelihood of Exposure			
12.	Attractiveness/Accessibility	100	10	
13.	Area of Contamination	100	100	
14.	Likelihood of Exposure	500		125
	Waste Characteristics			
15.	Toxicity	[a]	10,000	
16.	Hazardous Waste Quantity	[a]	10	
17.	Waste Characteristics	100		18

Site Name: J.P. Stevens & Company, Inc. **DRAFT**
Location: Clemson, Oconee County, South Carolina

SOIL EXPOSURE PATHWAY SCORESHEET, Concluded

Factor Categories and Factors	Maximum Value	Value Assigned	
NEARBY POPULATION THREAT (Concluded)			
Targets			
18. Nearby Individual	1	1	
19. Population Within 1 Mile	[b]	0	
20. Targets (lines 18 + 19)	[b]		1
Nearby Population Threat Score			
21. Nearby Population Threat ([lines 14 x 17 x 20]/82,500)	[b]		0.03
SOIL EXPOSURE PATHWAY SCORE			
22. Soil Exposure Pathway Score (S_{soil})[d] (lines 11 + 21, subject to a maximum of 100)	100		0.63

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.
[d] No specific maximum value applies to factor. However, a pathway score based solely on sensitive environments is limited to a maximum value of 60.
- Not evaluated.

Site Name: J.P. Stevens & Company, Inc. **DRAFT**
Location: Clemson, Oconee County, South Carolina

AIR MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

	Likelihood of Release	Maximum Value	Value Assigned	
1.	Observed Release	550	0	
2.	Potential to Release			
	2a. Gas Potential to Release	500	-	
	2b. Particulate Potential to Release	500	-	
	2c. Potential to release higher of lines 2a and 2b)	500	500*	
3.	Likelihood of Release (higher of lines 1 and 2c)	550		500*
	Waste Characteristics			
4.	Toxicity/Mobility	[a]	10,000	
5.	Hazardous Waste Quantity	[a]	100	
6.	Waste Characteristics	100		32
	Targets			
7.	Nearest Individual	50	20	
8.	Population			
	8a. Level I Concentrations	[b]	0	
	8b. Level II Concentrations	[b]	0	
	8c. Potential Contamination	[b]	10	
	8d. Population (lines 8a + 8b + 8c)	[b]	10	
9.	Resources	5	5	
10.	Sensitive Environments			
	10a. Actual Contamination	[d]	0	
	10b. Potential Contamination	[d]	0	
	10c. Sensitive Environments (lines 10a + 10b)	[d]	0	
11.	Targets (lines 7 + 8d + 9 + 10c)	[b]		35
	Air Migration Pathway Score			
12.	Air Migration Pathway Score (S_{air})[c] ([lines 3 x 6 x 11]/82,500)	100		6.79

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.
[d] No specific maximum value applies to factor. However, a pathway score based solely on sensitive environments is limited to a maximum value of 60.
* Default value.
\- Not evaluated.

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SITE INSPECTION WORKSHEETS

CERCLIS IDENTIFICATION NUMBER
SCD ØØ3345Ø97

SITE LOCATION			
SITE NAME: LEGAL, COMMON, OR DESCRIPTIVE NAME OF SITE J. P. Stevens + Company			
STREET ADDRESS, ROUTE, OR SPECIFIC LOCATION IDENTIFIER Cherry Road, Oconee Co., S.C.			
CITY Clemson	STATE SC	ZIP CODE 29631	TELEPHONE ( )
COORDINATES: LATITUDE and LONGITUDE 34°37'37.3" Lat, 82°52'24.4" w. long	TOWNSHIP, RANGE, AND SECTION		

OWNER/OPERATOR IDENTIFICATION					
OWNER (Purchased in 1988) Westpoint Pepperell, Inc.			OPERATOR Westpoint Pepperell - Clemson Plant		
OWNER ADDRESS P.O. Box 71			OPERATOR ADDRESS Cherry Rd		
CITY Westpoint			CITY Clemson, S.C. 29631		
STATE Georgia	ZIP CODE 31833	TELEPHONE (404) 645-4112	STATE SC	ZIP CODE 29631	TELEPHONE ( )

SITE EVALUATION		
AGENCY/ORGANIZATION Dynamac Corporation		
INVESTIGATOR V. Renée Harris		
CONTACT Katharine Sisters Franklin		
ADDRESS 230 Peachtree St., Ste 500		
CITY Atlanta	STATE Georgia	ZIP CODE 30303
TELEPHONE (404) 681-0933		

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GENERAL INFORMATION

Site Description and Operational History: Provide a brief description of the site and its operational history. State the site name, owner, operator, type of facility and operations, size of property, active or inactive status, and years of waste generation. Summarize waste treatment, storage, or disposal activities that have or may have occurred at the site; note whether these activities are documented or alleged. Identify all source types and prior spills, floods, or fires. Summarize highlights of the PA and other investigations. Cite references.

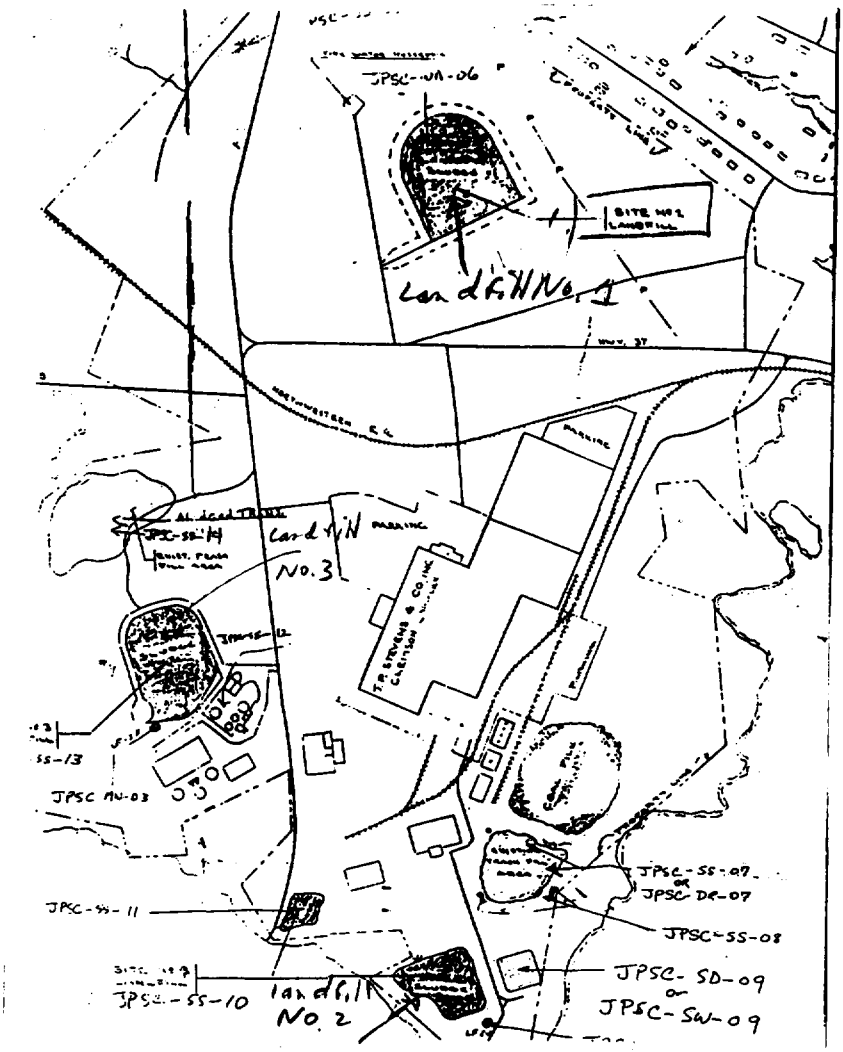
J.P. Stevens is located off Cherry Rd, approximately 2.5 miles Southwest of Clemson, Oconee Co, S.C. J.P. Stevens is located by the shore of Lake Hartwell. J.P. Stevens was constructed in 1951. (SSI, p.5). The company manufactured and finished textile products. These operations included bleaching, printing and fabrication of textile products. West Point Pepperell, Inc, purchased the property from J.P. Stevens in 1988.

In 1957 J.P. Stevens obtained a permit to discharge industrial wastewater to the Seneca River. In 1976 J.P. Stevens received a permit for a wastewater treatment (WWT) system. The treatment system included a series of collection & treatment basins. J.P. Stevens operated three landfills that were used for disposal of sludge from the WWT plant and also for flyash disposal, landfills No. 1, 2 and 3. During a site Recon, SC DHEC observed an old landfill (unused for ~ 25 years), two trash disposal areas and a old, unused wastewater treatment pond. (not used for ~30 years). During the SSI, surface soil samples, groundwater samples & flyash & WWT plant sludge samples were collected for analysis.

(References: SSI, SC DHEC, 6/1990, topographic Maps)

GENERAL INFORMATION (continued)

Site Sketch: Provide a sketch of the site. Indicate all pertinent features of the site and nearby environments including sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, fences, fields, drainage patterns, water bodies, vegetation, wells, sensitive environments, and other features.



J. P. Stevens disposed of flyash & WWTP plant sludge in three permitted landfills, North No. 1, South No. 2, and Landfill No. 3. Two trash & construction debris areas and a waste water treatment pond are also onsite, as well as an old landfill (not in use for many years). Landfill No. 1 is currently used for flyash disposal. Landfill 2 is currently being used as a WWTP sludge staging area, Landfill No. 3 is currently being used as a WWTP sludge drying area.

Ref. : SCDHEC, SSI 6/90

GENERAL INFORMATION (continued)

Source Descriptions: Describe all sources at the site. Identify source type and relate to waste disposal operations. Provide source dimensions and the best available waste quantity information. Describe the condition of sources and all containment structures. Cite references.

SOURCE TYPES

Landfill: A man-made (by excavation or construction) or natural hole in the ground into which wastes have come to be disposed by backfilling, or by contemporaneous soil deposition with waste disposal.

Surface Impoundment: A natural topographic depression, man-made excavation, or diked area, primarily formed from earthen materials (lined or unlined) and designed to hold an accumulation of liquid wastes, wastes containing free liquids, or sludges not backfilled or otherwise covered; depression may be wet with exposed liquid or dry if deposited liquid has evaporated, volatilized or leached; structures that may be described as lagoon, pond, aeration pit, settling pond, tailings pond, sludge pit; also a surface impoundment that has been covered with soil after the final deposition of waste materials (i.e., buried or backfilled).

Drum: A portable container designed to hold a standard 55-gallon volume of wastes.

Tank and Non-Drum Container: Any device, other than a drum, designed to contain an accumulation of waste that provides structural support and is constructed primarily of fabricated materials (such as wood, concrete, steel, or plastic); any portable or mobile device in which waste is stored or otherwise handled.

Contaminated Soil: An area or volume of soil onto which hazardous substances have been spilled, spread, disposed, or deposited.

Pile: Any non-containerized accumulation above the ground surface of solid, non-flowing wastes; includes open dumps. Some types of waste piles are:

- Chemical Waste Pile: A pile consisting primarily of discarded chemical products, by-products, radioactive wastes, or used or unused feedstocks.
- Scrap Metal or Junk Pile: A pile consisting primarily of scrap metal or discarded durable goods (such as appliances, automobiles, auto parts, batteries, etc.) composed of materials containing hazardous substances.
- Tailings Pile: A pile consisting primarily of any combination of overburden from a mining operation and tailings from a mineral mining, beneficiation, or processing operation.
- Trash Pile: A pile consisting primarily of paper, garbage, or discarded non-durable goods containing hazardous substances.

Land Treatment: Landfarming or other method of waste management in which liquid wastes or sludges are spread over land and tilled, or liquids are injected at shallow depths into soils.

Other: Sources not in categories listed above.

GENERAL INFORMATION (continued)

Source Description: Include description of containment per pathway for ground water (see HRS Table 3-2), surface water (see HRS Table 4-2), and air (see HRS Tables 6-3 and 6-9).

J. P. Stevens disposed of flyash & wastewater treatment plant sludge and flyash in three permitted landfills. In addition, two trash & construction debris disposal areas and an old wastewater treatment pond were observed during a site recon. A ravine, located next to one of the trash/disposal areas, may have been used for disposal of debris from an explosion that ocurred in the plant.

Hazardous Waste Quantity (HWQ) Calculation: SI Tables 1 and 2 (See HRS Tables 2-5, 2-6, and 5-2).

Landfill 1 (200,000 ft²)/3400 = 58.82
Landfill 2 (180,000, ft²)/3400 = 52.94
Landfill 3 (225,000 ft²)/3400 = 66.18
177.94 site waste quantity

Tier D, multiple source area. ∴ HWQ = 100

Note, a "old landfill" (2 acres)
trash disposal area 1 (1 acre
trash, disposal area 2 (3 acres) and
a ravine, and a waste water treatment pond was not included because of the nature of wastes in these areas was not known.

Note: If landfill 1, 2, 3 combined for single source, HWQ is 100

HWQ.
Default of 10 used for Soil exposure pathway

Ref. 7 SCDHC 6/1990

see pp. C-7A +

Attach additional pages, if necessary

HWQ = 100

10 - Soil Exp.

[See page C-7a)

for clarification of source areas

SI TABLE 1: HAZARDOUS WASTE QUANTITY (HWQ) SCORES FOR SINGLE SOURCE SITES AND FORMULAS FOR MULTIPLE SOURCE SITES

		Single Source Sites (assigned HWQ scores)	
(Column 1) TIER	(Column 2) Source Type	(Column 3) HWQ = 10	(Column 4) HWQ = 100
A Hazardous Constituent Quantity	N/A	HWQ = 1 if Hazardous Constituent Quantity data are complete HWQ = 10 if Hazardous Constituent Quantity data are not complete	>100 to 10,000 lbs
B Hazardous Wastestream Quantity	N/A	≤ 500,000 lbs	>500,000 to 50 million lbs
C Volume	Landfill	≤ 6.75 million ft^3 ≤ 250,000 yd^3	>6.75 million to 675 million ft^3 >250,000 to 25 million yd^3
	Surface impoundment	≤6,750 ft^3 ≤250 yd^3	>6,750 to 675,000 ft^3 >250 to 25,000 yd^3
	Drums	≤1,000 drums	>1,000 to 100,000 drums
	Tanks and non-drum containers	≤50,000 gallons	>50,000 to 5 million gallons
	Contaminated soil	≤6.75 million ft^3 ≤250,000 yd^3	>6.75 million to 675 million ft^3 >250,000 to 25 million yd^3
	Pile	≤6,750 ft^3 ≤250 yd^3	>6,750 to 675,000 ft^3 >250 to 25,000 yd^3
	Other	≤6,750 ft^3 ≤250 yd^3	>6,750 to 675,000 ft^3 >250 to 25,000 yd^3
D Area	Landfill	≤340,000 ft^2 ≤7.8 acres	>340,000 to 34 million ft^2 >7.8 to 780 acres
	Surface impoundment	≤1,300 ft^2 ≤0.029 acres	>1,300 to 130,000 ft^2 >0.029 to 2.9 acres
	Contaminated soil	≤3.4 million ft^2 ≤78 acres	> 3.4 million to 340 million ft^2 > 78 to 7,800 acres
	Pile	≤1,300 ft^2 ≤0.029 acres	>1,300 to 130,000 ft^2 >0.029 to 2.9 acres
	Land treatment	≤27,000 ft^2 ≤0.62 acres	>27,000 to 2.7 million ft^2 >0.62 to 62 acres

for soil exp.

1 ton = 2,000 pounds = 1 cubic yard = 4 drums = 200 gallons

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Source Areas

	Size	Waste received
evaluated as waste piles see p. C-7B		
Landfill 1	200,000 ft²	flyash, WWTP sludge
Landfill 2	180,000 ft²	flyash, WWTP sludge
Landfill 3	225,000 ft²	flyash, WWTP sludge
Old waste water treatment plant (WWTP) pond	size unknown	
Old landfill	1.5 acres ~~2 acres~~	unknown (possibly haz. CERCLA 103(c) Not.
Trash Fill Area II [South-southeast of main facility]	1.5 acres	construction material, cardboard, bridges metal, drum
Trash Fill Area I [North-northwest of Landfill No. 3]	3 acres	construction debris, (bricks, blocks)
Ravine (west of Trash Fill Area II).	unknown	Reportedly, debris from explosic that had occurred in the plant was disposed in the ravine
Sludge Drying Area (aka Landfill #3)		WWTP Sludge

HWQ Calculation — Scenario II – Landfills as Waste Piles

	Area	Capacity (Volume)	
Landfill #1	200,000 ft²	1,000,000 ft³	Ref. 1 (SCDHEC SSI) p. 7
#2	180,000 ft²	580,000 ft³	
#3	225,000 ft²	1,687,500 ft³	
	605,000 ft²	3,267,500 ft³	

Using either area or volume, when evaluated as waste piles, the HWQ is 10,000.

HWQ = 10,000 for GW, SW, Air pathways

For soil exposure

$$\text{Area of waste pile} = \frac{605{,}000\ \text{ft}^2}{34} = 17{,}794$$ thus **HWQ = 10,000**

SAMPLE NUMBER	TYPE OF SAMPLE	SAMPLE LOCATION	ANALYTICAL RESULTS		REFERENCE(S)
JPSC-SS-11	Dried sludge (4 inches bls)	Small sludge drying area approximately 550 feet northwest of Landfill No. 2.	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	Wastewater treatment plant sludge waste (4 inches bls)	Landfill No. 3, sludge staging area approximately 800 feet south-southeast of the main plant	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.
JPSC-SS-05 (Background)	Surface Soil (4 inches bls)	50 yards north of Landfill No. 1	Arsenic Lead PCB-1260 Phenol	0.3 (U) mg/kg 11 mg/kg 0.01 (U) mg/kg 0.3 (U) mg/kg	7, p. 5; 9, p. 4.
JPSC-SS-07	Surface Soil (4 inches bls)	West end of trash fill area approximately 800 feet south-southeast of the main plant	Arsenic Barium Chromium Copper Lead Selenium Phenol	49 mg/kg 50 mg/kg 30 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 (2.5 feet bls)	Southern end of trash fill area ~~near approximately 800 feet south-southeast of the main plant~~ Hartwell Lake	PCB-1260	0.03 mg/kg	1, pp. 13, 17; 7, p. 36
JPSC-PW-01 (Background offsite private well)	Groundwater	1/3 mile west-northwest of the site	Barium Manganese	~~0.05~~ 0.50 (U) mg/l 0.01 ~~10~~ mg/l	1, p. 11; 10, pp. 16.
JPSC-MW-03 (Onsite monitor well)	Groundwater	1100 feet west-southwest of the main plant	Barium Manganese	0.10 mg/l 0.49 mg/l	1, p. 7; 7, pp. 5-6, 8-10.

no bold

U = constituent was analyzed for, but not detected; the number given is the minimum quantitation limit
bls = below land surface
ug/l = micrograms per liter
mg/kg = milligrams per kilogram

No surface water samples or sediment samples from Lake Hartwell were collected,

TABLE 1

J.P. STEVENS & COMPANY, INC
CLEMSON, OCONEE COUNTY, SOUTH CAROLINA

Investigation Summary

DATE	AGENCY	EVENT	DESCRIPTION	REFERENCE(S)
Undated	SCDHEC	Updated Preliminary Assessment	no samples collected 1 SB sample	21
06/05/90 06/19/90	SCDHEC	Site Screening Investigation	8 SS samples, 1 SW sample, 3 GW samples and 3 waste samples	1, p. 10

SS = Surface soil
SW = Surface water
GW = Groundwater
SCDHEC = South Carolina Department of Health and Environmental Control

TABLE 2

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	Flyash Waste (4 inches bls)	Landfill No. 1	Arsenic	170 mg/kg	7, p. 5, 8-10; 8, p. 4; 9, p. 5.
			Barium	270 mg/kg	
			Cadmium	1.8 mg/kg	
			Chromium	26 mg/kg	
			Lead	30 mg/kg	
			Nickel	24 mg/kg	
			Selenium	8 mg/kg	
			Anthracene	1.77 mg/kg	
			Benzo(a)anthracene	4.84 mg/kg	
			Benzo(k)fluoranthene	3.72 mg/kg	
			Benzo(b)fluoranthene	3.76 mg/kg	
			Benzo(a)pyrene	3.52 mg/kg	
			Chrysene	5.39 mg/kg	
			Fluoranthene	13.1 mg/kg	
			Phenanthrene	8.09 mg/kg	
			Pyrene	9.93 mg/kg	

TABLE 1 (CONTINUED)

Single Source Sites (assigned HWQ scores)		Multiple Source Sites		
(Column 5) HWQ = 10,000	(Column 6) HWQ = 1,000,000	(Column 7) Divisors for Assigning Source WQ Values	(Column 2) Source Type	(Column 1) TIER
>10,000 to 1 million lbs	> 1 million lbs	lbs ÷ 1	N/A	A Hazardous Constituent Quantity
>50 million to 5 billion lbs	> 5 billion lbs	lbs ÷ 5,000	N/A	B Hazardous Wastestream Quantity
>675 million to 67.5 billion ft^3 >25 million to 2.5 billion yd^3	> 67.5 billion ft^3 > 2.5 billion yd^3	ft^3 ÷ 67,500 yd^3 ÷ 2,500	Landfill	C Volume
>675,000 to 67.5 million ft^3 >25,000 to 2.5 million yd^3	> 67.5 million ft^3 > 2.5 million yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5	Surface Impoundment	
>100,000 to 10 million drums	> 10 million drums	drums ÷ 10	Drums	
>5 million to 500 million gallons	> 500 million gallons	gallons ÷ 500	Tanks and non-drum containers	
>675 million to 67.5 billion ft^3 >25 million to 2.5 billion yd^3	> 67.5 billion ft^3 > 2.5 billion yd^3	ft^3 ÷ 67,500 yd^3 ÷ 2,500	Contaminated Soil	
>675,000 to 67.5 million ft^3 >25,000 to 2.5 million yd^3	> 67.5 million ft^3 > 2.5 million yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5	Pile	
>675,000 to 67.5 million ft^3 >25,000 to 2.5 million yd^3	> 67.5 million ft^3 > 2.5 million yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5	Other	
>34 million to 3.4 billion ft^2 >780 to 78,000 acres	> 3.4 billion ft^2 >78,000 acres	ft^2 ÷ 3,400 acres ÷ 0.078	Landfill	D Area
>130,000 to 13 million ft^2 >2.9 to 290 acres	> 13 million ft^2 > 290 acres	ft^2 ÷ 13 acres ÷ 0.00029	Surface Impoundment	
> 340 million to 34 billion ft^2 > 7,800 to 780,000 acres	> 34 billion ft^2 > 780,000 acres	ft^2 ÷ 34,000 acres ÷ 0.78	Contaminated Soil	
> 130,000 to 13 million ft^2 > 2.9 to 290 acres	> 13 million ft^2 > 290 acres	ft^2 ÷ 13 acres ÷ 0.00029	Pile	
>2.7 million to 270 million ft^2 >62 to 6,200 acres	> 270 million ft^2 > 6,200 acres	ft^2 ÷ 270 acres ÷ 0.0062	Land Treatment	

1 ton = 2,000 pounds = 1 cubic yard = 4 drums = 200 gallons

Ground Water Observed Release Substances Summary Table

On SI Table 4, list the hazardous substances associated with the site detected in ground water samples for that aquifer. Include only those substances directly observed or with concentrations significantly greater than background levels. Obtain toxicity values from the Superfund Chemical Data Matrix (SCDM). Assign mobility a value of 1 for all observed release substances regardless of the aquifer being evaluated. For each substance, multiply the toxicity by the mobility to obtain the toxicity/mobility factor value; enter the highest toxicity/mobility value for the aquifer in the space provided.

Ground Water Actual Contamination Targets Summary Table

If there is an observed release at a drinking water well, enter each hazardous substance meeting the requirements for an observed release by well and sample ID on SI Table 5 and record the detected concentration. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population using the well as a Level I target. If these percentages are less than 100% or all are N/A, evaluate the population using the well as a Level II target for that aquifer.

HAZARDOUS WASTE QUANTITY (HWQ) CALCULATION

For each migration pathway, evaluate HWQ associated with sources that are available (i.e., incompletely contained) to migrate to that pathway. (Note: If *Actual Contamination Targets* exist for ground water, surface water, or air migration pathways, assign the calculated HWQ score or 100, whichever is greater, as the HWQ score for that pathway.) For each source, evaluate HWQ for one or more of the four tiers (SI Table 1; HRS Table 2-5) for which data exist: constituent quantity, wastestream quantity, source volume, and source area. Select the tier that gives the highest value as the source HWQ. Select the source volume HWQ rather than source area HWQ if data for both tiers are available.

Column 1 of SI Table 1 indicates the quantity tier. Column 2 lists source types for the four tiers. Columns 3, 4, 5, and 6 provide ranges of waste amount for sites with only one source, corresponding to HWQ scores at the tops of the columns. Column 7 provides formulas to obtain source waste quantity values at sites with multiple sources.

1. Identify each source type.
2. Examine all waste quantity data available for each source. Record constituent quantity and waste stream mass or volume. Record dimensions of each source.
3. Convert source measurements to appropriate units for each tier to be evaluated.
4. For each source, use the formulas in the last column of SI Table 1 to determine the waste quantity value for each tier that can be evaluated. Use the waste quantity value obtained from the highest tier as the quantity value for the source.
5. Sum the values assigned to each source to determine the total site waste quantity.
6. Assign HWQ score from SI Table 2 (HRS Table 2-6).

Note these exceptions to evaluate soil exposure pathway HWQ (see HRS Table 5-2):

- The divisor for the area (square feet) of a landfill is 34,000.
- The divisor for the area (square feet) of a pile is 34.
- Wet surface impoundments and tanks and non-drum containers are the only sources for which volume measurements are evaluated for the soil exposure pathway.

SI TABLE 2: HWQ SCORES FOR SITES

Site WQ Total	HWQ Score
0	0
1[a] to 100	1[b]
> 100 to 10,000	100
> 10,000 to 1 million	10,000
> 1 million	1,000,000

[a] If the WQ total is between 0 and 1, round it to 1.
[b] If the hazardous constituent quantity data are not complete, assign the score of 10.

SI TABLE 3: WASTE CHARACTERIZATION WORKSHEET

Site Name: J.P. Stevens & Co.

References SCDM, SSI (SCDHEC, 6/90)

Sources:

1. Landfill 1
2. Landfill 2
3. Landfill 3
4. WWT pond (former)
5. Trash Fill Area II
6. Sludge Drying Area NW of LF #2
7.
8.
9.

SOURCE	HAZARDOUS SUBSTANCE	TOXICITY	GROUND WATER PATHWAY		SURFACE WATER PATHWAY											AIR Pathway
					OVERLAND/FLOOD MIGRATION							GROUND WATER TO SURFACE WATER				
		SCDM	GW Mobility (HRS Table 3-8)	Tox/ Mobility Value (HRS Table 3-9)	Per (HRS Tables 4-10 and 4-11)	Tox/Per Value (HRS Table 4-12)	Bioac Pot (HRS Table 4-15)	Tox/ Pers/ Bioac Value (HRS Table 4-18)	Ecotox (HRS Table 4-19)	Ecotox/ Pers (HRS Table 4-20)	Ecotox/ Pers/ Bioacc Value (HRS Table 4-21)	Tox/ Mob/ Pers Value (HRS Table 4-26)	Tox/ Mob/ Pers/ Bioacc Value (HRS Table 4-28)	Ecotox/ Mob/ Pers Value (HRS Table 4-29)	Ecotox/ Mob/ Pers/ Bioacc Value (HRS Table 4-30)	Toxicity mobility — Particulates
1,3,6,5	Arsenic	10,000	1E-02	100	1.00	10,000	5.0	50,000	10	10	50					= 0.00008
1,3,6,5	barium	10	1E-02	0.10	1.00	1.0	0.50	0.50	1	1	0.50					= 0.00008
1	cadmium	10,000	2E-01	2000	1.00	10,000	5000	50,000,000	1000	1000	5,000,000					= 0.00008
1,3,6,5	chromium	10,000	1E-02	100	1.00	10,000	5.0	50,000	10,000	10,000	50,000					= 0.00008
1,3,6,5	lead	10,000	— *	— *	1.00	10,000	0.50	5000	1000	1000	500					= 0.00008
1	nickel	10,000	2E-05	0.2	1.00	10,000	0.50	5000	10	10	5					= 0.00008
1,5	selenium	100	1E-02	1.0	1.00	100	5000	500000	100	100	500000					= 0.00008
1	anthracene	10	2E-07	2E-06	0.40	4.0	5000	20,0000	10000	4000	20,000000					0.0002 0.00008
1	benzo(a) anthracene	1000	2E-09		1.00		50,000		10,000							0.0002 0.00008
1	benzo(k) fluoranthene	— *	— *	— *	1.00	— *	50000	— *	— *	— *	— *					0.0002 0.00008
1	benzo(g) fluoranthene															
1	benzo(a) pyrene	10,000	2E-09	2E-05	1.00	10,000	50,000	500,000,000	10,000	10,000	5E+08					0.0002 0.00008
1	chrysene	— *	2E-09	— *	1.00	— *	—	— *	— *	— *	— *					0.0002 0.00008
1	fluoranthene	100	2E-07	2E-05	1.00	2E-05	5000	1E-01	10,000	10,000	5E+07					0.0002 0.00008

— * No value is listed for in SCDM for this constituent

(1)(4) (4)(5) (100-(c))(4)

partic 0.00008

10,000 × 50,000

Source: SCDM SSI (SCDHEC, 6/90)

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SI TABLE 3: WASTE CHARACTERIZATION WORKSHEET

Site Name: J.P. Stevens & Co.

References SCDM, SSI (SCDHEC, 6/90)

Sources:

1. Landfill 1
2. Landfill 2
3. Landfill 3
4. WWTP Pond (former)
5. Trash Fill Area # 2 (aka "existing trash fill area")
6. Sludge Drying Bed (Northwest of Landfill 2)
7.
9.

SOURCE	HAZARDOUS SUBSTANCE	TOXICITY (SCDM)	GROUND WATER PATHWAY		SURFACE WATER PATHWAY											AIR Pathway
					OVERLAND/FLOOD MIGRATION							GROUND WATER TO SURFACE WATER				
			GW Mobility (HRS Table 3-8)	Tox/ Mobility Value (HRS Table 3-9)	Per (HRS Tables 4-10 and 4-11)	Tox/Per Value (HRS Table 4-12)	Bioac Pot (HRS Table 4-15)	Tox/ Pers/ Bioac Value (HRS Table 4-16)	Ecotox (HRS Table 4-19)	Ecotox/ Pers (HRS Table 4-20)	Ecotox/ Pers/ Bioacc Value (HRS Table 4-21)	Tox/ Mob/ Pers Value (HRS Table 4-26)	Tox/ Mob/ Pers/ Bioacc Value (HRS Table 4-28)	Ecotox/ Mob/ Pers Value (HRS Table 4-29)	Ecotox/ Mob/ Pers/ Bioacc Value (HRS Table 4-30)	~~Toxicity~~ mobility
1	phenanthrene	1.0	2E-05	2E-05	0.4	0.4	50	20	1000	400	20000	8E-06	4E-04	8E-03	4E-01	0.02 / 0.00008
1	pyrene	100	2E-09	2E-07	1.00	100	50	5000	— *	— *	— *	2E-07	1E-05	— *	—	0.002 / 0.00007
6	benzoic acid	1.0	1E-00	1.00	1.00	1.00	5	5	1	1	5	1	5	1	5	0.2 / 0.00007
6	bis(2-ethyl hexyl)phthalate	100	2E-07	2E-05	1.00		5000		1000	1000	5000000	2E-05	1E-01	2E-04	1	0.002 / 0.00008
3	4-methyl phenol. (Cresol)	10	1E-02	1E-01	0.4	4.0	5.0	20	100	40	200	0.04	0.2	0.4	2.0	1.00 / —
3	toluene	10	1E-02	0.10	0.4	4	50	200	100	40	2000	4E-02	2.0	1	50	1.00 / —
1,2,3,6	Manganese	10,000	1E-02	100	1	10,000	0.5	5000	—	—	—					NA / 0.00008
1,2,3,6	Copper	—	1E-02	—	1	—	50,000	—	100	100	5×10^6					NA / 0.00008
1,2,3,6	Zinc	10	2E-03	2E-02	1	10	500	5000	10	10	5000	**				NA / 0.00008
5	PCBs	10,000	2E-07	2E-03	1	10,000	50,000	5×10^8	10,000	10,000	5×10^8					1 / NA
1,2,3,6	Cyanide	100	—	—	0.07	7	0.5	3.5	1000	70	35					NA / 0.00008

Source: SCDM, SSI (SCDHEC, 6/90)

— * No value is listed

** GW to SW not scored.

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Mn and Barium, MW-03

SI TABLE 4: GROUND WATER OBSERVED RELEASE SUBSTANCES (BY AQUIFER)

Sample ID	Hazardous Substance	Bckgrd. Conc.	Toxicity/ Mobility	References
~~PSC-MW-03~~	Manganese (0.49 ppm)	0.01		
" " "	Barium (0.1 ppm)	0.05 W	0.01	
		Highest Toxicity/Mobility		

SI TABLE 5: GROUND WATER ACTUAL CONTAMINATION TARGETS

Well ID: _____ Level I _____ Level II _____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

Well ID: _____ Level I _____ Level II _____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

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Ref. SSI, (SCDHE, 6/90) and Harry Legrand, "Region 21, Piedmont and Blue Ridge," The Geology of North America, Vol O-2, Hydrogeology, 1988?

GROUND WATER PATHWAY
GROUND WATER USE DESCRIPTION

Describe Ground Water Use within 4 Miles of the Site:
Describe generalized stratigraphy, aquifers, municipal and private wells

Three municipal systems serve potable water to residents within 4 miles: city of Seneca, city of Clemson, and Duke Power. Clemson buys water from Duke Power. Seneca and Duke Power obtain water from surface water intakes. Residents not served by one of these three systems are believed to use private wells. Distribution of population using private wells shown below. The geologic units of the area include a mantle of regolith, over underlying crystalline rocks consisting of biotite gneiss and migmatite. The groundwater occurs in interconnected zones of the regolith and fractured bedrock. The water table is usually at the regolith-bedrock interface. There is no Karst activity or landforms in the area of J.P. Stevens.

Show Calculations of Ground Water Drinking Water Populations for each Aquifer:
Provide apportionment calculations for blended supply systems.
County average number of persons per household: _____ Reference topo maps, CPH-1

RADIAL DISTANCE	HOUSEHOLDS A	HOUSEHOLDS B	HOUSEHOLDS C	POPULATION* A	POPULATION* B	POPULATION* C	POPULATION* TOTAL	
0 - 0.25 mile	--	3	--	--	7.65	--	~~7.65~~	8
0.25 - 0.50 mile	--	14	--	--	35.7	--	~~35.7~~	36
0.50 - 1 mile	--	20	1	--	51	2.58	~~53.6~~	54
1 - 2 mile	--	28	43	--	71.4	111	182	
2 - 3 mile	21	103	17	54.4	263	43.9	361	
3 - 4 mile	8	294	31	20.7	750	80.0	850	
						Total	1491	

* 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

Source: House count from topo maps within 4-mile radius of J.P. Stevens, Proof Table (1990, U.S. Dept. of Commerce), and Public Water Distribution Map

Ref: Navy Regional's Region 21, Piedmont ... of North America, Vol. O-2, Hydrogeology, 1988.

GROUND WATER PATHWAY WORKSHEET

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LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to the aquifer, assign a score of 550. Record observed release substances on SI Table 4.	550 *	H	SCDHEC SI
2. POTENTIAL TO RELEASE: Depth to aquifer: 250 feet. If sampling data do not support a release to the aquifer, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Optionally, evaluate potential to release according to HRS Section 3.			
	LR = 550		

No karst, unconfined aquifer in regolith + fractured bedrock. The depth to water table is estimated to be less than 50 feet below land surface, this area.

TARGETS			
Are any wells part of a blended system? Yes____ No X If yes, attach a page to show apportionment calculations.			
3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates that any target drinking water well for the aquifer has been exposed to a hazardous substance from the site, evaluate the factor score for the number of people served (SI Table 5). Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ Total =	_____	No OR to drinking water well	
4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water wells for the aquifer or overlying aquifers that are not exposed to a hazardous substance from the site; record the population for each distance category in SI Table 6a or 6b. Sum the population values and multiply by 0.1.	194 x (0.1) = 19.4	Public water dist. Map, House count from topo maps.	
5. NEAREST WELL: Assign a score of 50 for any Level I Actual Contamination Targets for the aquifer or overlying aquifer. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Targets exist, assign the Nearest Well score from SI Table 6a or 6b. If no drinking water wells exist within 4 miles, assign 0.	20	Public water dist. Map, House count from topo maps.	
6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA for the aquifer, or if a ground water observed release has occurred within a WHPA, assign a score of 20; assign 5 if neither condition applies but a WHPA is within 4 miles; otherwise assign 0.	* 0	Ref. SSI	*
7. RESOURCES: Assign a score of 5 if one or more ground water resource applies; assign 0 if none applies. • Irrigation (5 acre minimum) of commercial food crops or commercial forage crops • Watering of commercial livestock • Ingredient in commercial food preparation • Supply for commercial aquaculture • Supply for a major or designated water recreation area, excluding drinking water use	5		SSI, p.18 (Irrigation well operated by Clemson Univ.)
Sum of Targets T=	44		

* No WHPA designated in Region IV

as compared to the Utgard. this was elevated, but it is unknown if the Liquid (private well) is of comparable depth; therefore,

* Only OR was barium (0.1ppm) C-15 monitoring in one well; OR was scored mainly to present a worst-case scenario.

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SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS

SI Table 6a: Other Than Karst Aquifers

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000	Pop. Value	Ref.
0 to 1/4 mile	8	(20)	(4)	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	4	
> 1/4 to 1/2 mile	36	18	2	11	(33)	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122	33	
> 1/2 to 1 mile	54	9	1	5	(17)	52	167	523	1,669	5,224	16,684	52,239	166,835	522,385	17	
> 1 to 2 miles	182	5	0.7	3	10	(30)	94	294	939	2,939	9,385	29,384	93,845	293,842	30	
> 2 to 3 miles	361	3	0.5	2	7	21	(68)	212	678	2,122	6,778	21,222	67,777	212,219	68	
>3 to 4 miles	850	2	0.3	1	4	13	(42)	131	417	1,306	4,171	13,060	41,709	130,596	42	
Nearest Well =		20												Sum =	194	

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RADIAL DISTANCE	HOUSEHOLDS A	B	C	POPULATION* A	B	C	TOTAL	
0 - 0.25 mile	--	3	--	--	7.65	--	~~7.65~~	8
0.25 - 0.50 mile	--	14	--	--	35.7	--	~~35.7~~	36
0.50 - 1 mile	--	20	1	--	51	2.58	~~53.6~~	54
1 - 2 mile	--	28	43	--	71.4	111	182	
2 - 3 mile	21	103	17	54.4	263	43.9	361	
3 - 4 mile	8	294	31	20.7	750	80.0	850	
						Total	1491	

* 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

Ref. → House count from topo map with water distribution system for Anderson, Oconee & Pickens counties & county conversion factors.

Also: Proof table; U.S. Dept. of Commerce, Summary Population & Housing Characteristics, (April, 1991)

Ref: Harry Legrand, "Region 21, Piedmont to Blue Ridge," The Geology of North America, Vol. O-2, Hydrogeology, 1988.

GROUND WATER PATHWAY WORKSHEET

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LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to the aquifer, assign a score of 550. Record observed release substances on SI Table 4.	550 *	H	SCOHEC SI
2. POTENTIAL TO RELEASE: Depth to aquifer: 250 feet. If sampling data do not support a release to the aquifer, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Optionally, evaluate potential to release according to HRS Section 3.			
	LR = 550		

No karst, unconfined aquifer in regolith + fractured bedrock. No depth to water table estimated to be less than 50 feet below land surface, this or

TARGETS			
Are any wells part of a blended system? Yes____ No X If yes, attach a page to show apportionment calculations.			
3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates that any target drinking water well for the aquifer has been exposed to a hazardous substance from the site, evaluate the factor score for the number of people served (SI Table 5). Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ Total =	_____	No or to drinking water well	
4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water wells for the aquifer or overlying aquifers that are not exposed to a hazardous substance from the site; record the population for each distance category in SI Table 6a or 6b. Sum the population values and multiply by 0.1.	194 x (0.1) = 19.4	Public water dist. Map, House count from topo maps.	
5. NEAREST WELL: Assign a score of 50 for any Level I Actual Contamination Targets for the aquifer or overlying aquifer. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Targets exist, assign the Nearest Well score from SI Table 6a or 6b. If no drinking water wells exist within 4 miles, assign 0.	20	Public water dist. Ma, House count from topo maps.	
6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA for the aquifer, or if a ground water observed release has occurred within a WHPA, assign a score of 20; assign 5 if neither condition applies but a WHPA is within 4 miles; otherwise assign 0.	* 0	Ref. 55E	*
7. RESOURCES: Assign a score of 5 if one or more ground water resource applies; assign 0 if none applies. • Irrigation (5 acre minimum) of commercial food crops or commercial forage crops • Watering of commercial livestock • Ingredient in commercial food preparation • Supply for commercial aquaculture • Supply for a major or designated water recreation area, excluding drinking water use	5		SCI, p.18 (Irrigation well operated by Clemson Univ.)
Sum of Targets T=	44		

* No WHPA designated in Region IV

as compared to the liquid this was elevated, but it is unknown if the liquid (prim well) is of comparable depth therefore,

* Only OR was barium (0.1ppm) C-15 monitoring in one well; OR was scored mainly to represent a worst-case scenario.

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SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS

SI Table 6a: Other Than Karst Aquifers

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000	Pop. Value	Ref.
0 to $\frac{1}{4}$ mile	8	(20)	(4)	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	4	
> $\frac{1}{4}$ to $\frac{1}{2}$ mile	36	18	2	11	(33)	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122	33	
> $\frac{1}{2}$ to 1 mile	54	9	1	5	(17)	52	167	523	1,669	5,224	16,684	52,239	166,835	522,385	17	
> 1 to 2 miles	182	5	0.7	3	10	(30)	94	294	939	2,939	9,385	29,384	93,845	293,842	30	
> 2 to 3 miles	361	3	0.5	2	7	21	(68)	212	678	2,122	6,778	21,222	67,777	212,219	68	
>3 to 4 miles	850	2	0.3	1	4	13	(42)	131	417	1,306	4,171	13,060	41,709	130,596	42	
Nearest Well =		20												**Sum =**	194	

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RADIAL DISTANCE	HOUSEHOLDS A	HOUSEHOLDS B	HOUSEHOLDS C	POPULATION* A	POPULATION* B	POPULATION* C	TOTAL	
0 - 0.25 mile	--	3	--	--	7.65	--	~~7.65~~	8
0.25 - 0.50 mile	--	14	--	--	35.7	--	~~35.7~~	36
0.50 - 1 mile	--	20	1	--	51	2.58	~~53.6~~	54
1 - 2 mile	--	28	43	--	71.4	111	182	
2 - 3 mile	21	103	17	54.4	263	43.9	361	
3 - 4 mile	8	294	31	20.7	750	80.0	850	
						Total	1491	

* 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

Ref. → House count from topomap with water distribution system for Anderson, Oconee & Pickens counties & county conversion factors.

A 15°: Proof table; U.S. Dept. of commerce, Summary Population & Housing Characteristics, (April, 1991)

GROUND WATER PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS	Score	Data Type	Does not Apply
8. If any Actual Contamination Targets exist for the aquifer or overlying aquifers, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if no Actual Contamination Targets exist, assign the hazardous waste quantity score calculated for sources available to migrate to ground water.	100		
9. Assign the highest ground water toxicity/mobility value from SI Table 3 or 4.	2000		
10. Multiply the ground water toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: (from HRS Table 2-7)	(100) x (2000) = 200,000 → 18		
WC =	18		

Ref. SSI (ScDHEC, 6/90)

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 or greater	100

Multiply LR by T and by WC. Divide the product by 82,500 to obtain the ground water pathway score for each aquifer. Select the highest aquifer score. If the pathway score is greater than 100, assign 100.

GROUND WATER PATHWAY SCORE: $\frac{LR \times T \times WC}{82,500}$ = 5.28 (Maximum of 100)

LR = ~~500~~ 550
T = ~~3.44~~
WC = 18

$\frac{(550)(44)(18)}{82,500} = 5.28$

Ref: Harry Legrand, "Region 21, Piedmont Blue Ridge," The Geology of North America, Vol O-2, Hydrogeology

SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS (continued)

No Karst

SI Table 6b: Karst Aquifers

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category												Pop. Value	Ref.
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000		
0 to $\frac{1}{4}$ mile		20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455		
> $\frac{1}{4}$ to $\frac{1}{2}$ mile		20	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122		
> $\frac{1}{2}$ to 1 mile		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
> 1 to 2 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
> 2 to 3 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
>3 to 4 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		

Nearest Well = [ ]

Sum = [ ]

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Runoff from LF #1 would flow ~ 1000ft. north and enter a perennial stream which flows east 1000ft and enters L. Hartwell. Landfill #2 is located ~ 550 feet from L. Hartwell + Slope at this LF is ~ 4%.

SURFACE WATER PATHWAY

Runoff from Landfill #3 enters a retention pond and is diverted to the WWTP.

Sketch of the Surface Water Migration Route:
Label all surface water bodies. Include runoff route and drainage direction, probable point of entry, and 15-mile target distance limit. Mark sample locations, intakes, fisheries, and sensitive environments. Indicate flow directions, tidal influence, and rate.

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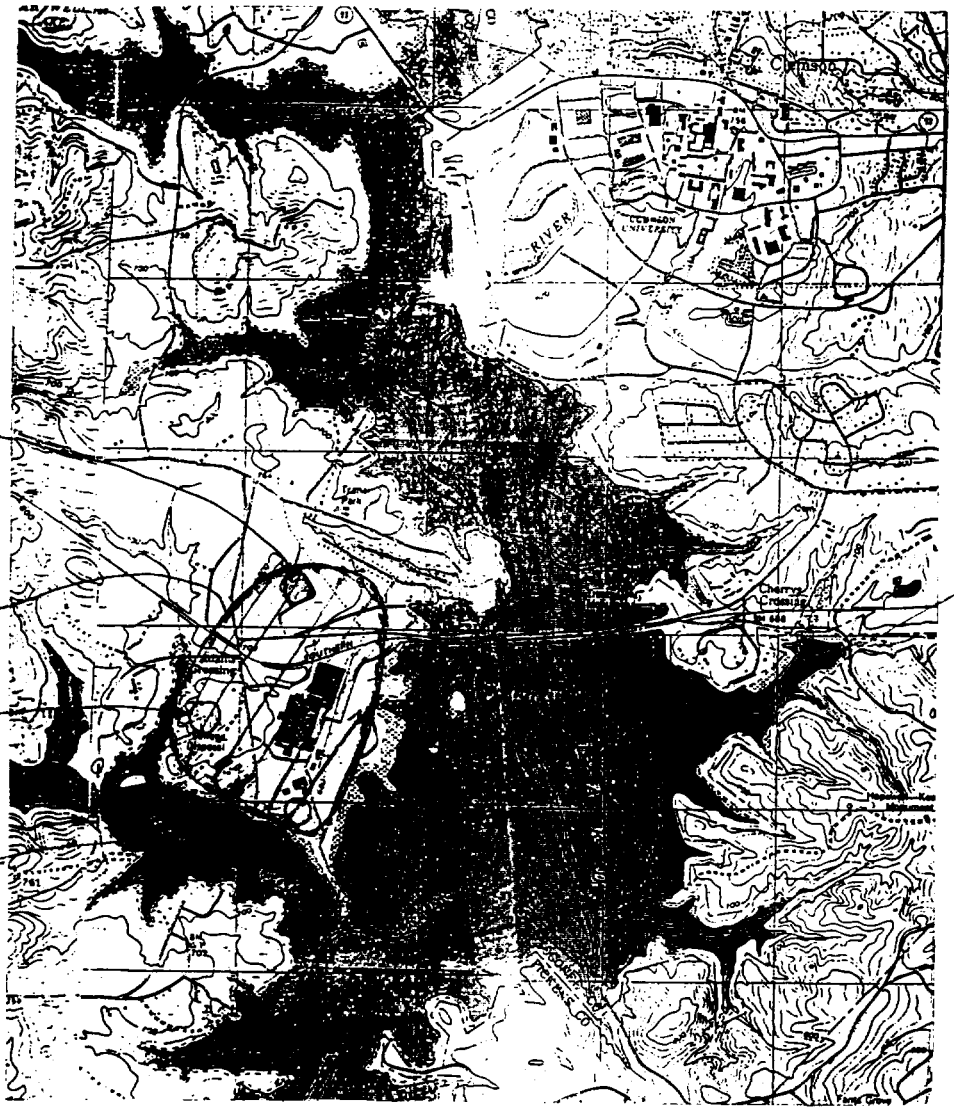

J. P. Stevens is located on the western shore of Lake Hartwell. Lake Hartwell is formed by the dammed Seneca River and its tributaries. The lake follows the River valley of the Seneca River. Portions of the facility are bounded by special flood hazard areas. The nearest intake is located approximately 2.8 miles upstream of J. P. Stevens.

References: 55I, (SCDHEC, 6/90), topographic Maps

Runoff is most likely to enter L. Hartwell from Landfill #2 or #1 Landfill #3 has a retention pond to catch runoff, which is then diverted to the WWTP.

No observed release (No samples collected from streams or Lake Hartwell.

Ref: SSI (SCDHEC, 6/90)

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SI TABLE 7: SURFACE WATER OBSERVED RELEASE SUBSTANCES

Sample ID	and concentrations Hazardous Substance	Bckgrd. Conc.	Toxicity/ Persistence	Toxicity/ Persis./ Bioaccum	Ecotoxicity/ Persis/ Ecobioaccum	References
		Highest Values				

SI TABLE 8: SURFACE WATER DRINKING WATER ACTUAL CONTAMINATION TARGETS

Intake ID: _____ Sample Type _____ Level I _____ Level II _____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

Intake ID: _____ Sample Type _____ Level I _____ Level II _____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

SURFACE WATER PATHWAY

Surface Water Observed Release Substances Summary Table

On SI Table 7, list the hazardous substances detected in surface water samples for the watershed, which can be attributed to the site. Include only those substances in observed releases (direct observation) or with concentration levels significantly above background levels. Obtain toxicity, persistence, bioaccumulation potential, and ecotoxicity values from SCDM. Enter the highest toxicity/persistence, toxicity/persistence/bioaccumulation, and ecotoxicity/persistence/ecobioaccumulation values in the spaces provided.

- TP = Toxicity x Persistence
- TPB = TP x bioaccumulation
- ETPB = EP x bioaccumulation (EP = ecotoxicity x persistence)

Drinking Water Actual Contamination Targets Summary Table

For an observed release at or beyond a drinking water intake, on SI Table 8 enter each hazardous substance by sample ID and the detected concentration. For surface water sediment samples detecting a hazardous substance at or beyond an intake, evaluate the intake as Level II contamination. Obtain benchmark, cancer risk, and reference dose concentrations for each substance from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages of the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population served by the intake as a Level I target. If the percentages are less than 100% or all are N/A, evaluate the population served by the intake as a Level II target.

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SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET

LIKELIHOOD OF RELEASE– OVERLAND/FLOOD MIGRATION	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.	—		
2. POTENTIAL TO RELEASE: Distance to surface water: 200 (feet) If sampling data do not support a release to surface water in the watershed, use the table below to assign a score from the table below based on distance to surface water and flood frequency.		Ref,	SSI (CSCDHEC, 6/90)
LR =	500		

Distance to surface water <2500 feet	500 ←
Distance to surface water >2500 feet, and:	
Site in annual or 10-yr floodplain	500
Site in 100-yr floodplain	400
Site in 500-yr floodplain	300
Site outside 500-yr floodplain	100

Optionally, evaluate surface water potential to release according to HRS Section 4.1.2.1.2

LIKELIHOOD OF RELEASE GROUND WATER TO SURFACE WATER MIGRATION	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7. NOTE: Evaluate ground water to surface water migration only for a surface water body that meets all of the following conditions: 1) A portion of the surface water is within 1 mile of site sources having a containment factor greater than 0. 2) No aquifer discontinuity is established between the source and the above portion of the surface water body. 3) The top of the uppermost aquifer is at or above the bottom of the surface water. Elevation of top of uppermost aquifer _____ Elevation of bottom of surface water body _____		Ref,	SSI, (CSCDHEC 6/90)
2. POTENTIAL TO RELEASE: Use the ground water potential to release. Optionally, evaluate surface water potential to release according to HRS Section 3.1.2.			
LR =			

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SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET (CONTINUED)

DRINKING WATER THREAT TARGETS	Score	Data Type	Refs
Record the water body type, flow, and number of people served by each drinking water intake within the target distance limit in the watershed. If there is no drinking water intake within the target distance limit, assign 0 to factors 3, 4, and 5. Intake Name / Water Body Type / Flow / People Served _____ / _____ / _____ / _____ _____ / _____ / _____ / _____ _____ / _____ / _____ / _____ Are any intakes part of a blended system? Yes _____ No X If yes, attach a page to show apportionment calculations. 3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates a drinking water intake has been exposed to a hazardous substance from the site, list the intake name and evaluate the factor score for the drinking water population (SI Table 8). _____ , _____ Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ Total =	_____		
4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water intakes for the watershed that have not been exposed to a hazardous substance from the site. Assign the population values from SI Table 9. Sum the values and multiply by 0.1.	0	H	SC Water Resources Commission telecon 11/2/93 topo map
5. NEAREST INTAKE: Assign a score of 50 for any Level I Actual Contamination Drinking Water Targets for the watershed. Assign a score of 45 if there are Level II targets for the watershed, but no Level I targets. If no Actual Contamination Drinking Water Targets exist, assign a score for the intake nearest the PPE from SI Table 9. If no drinking water intakes exist, assign 0.	0	H	SC Water Resource Commission telecon 11/2/93 topo map
6. RESOURCES: Assign a score of 5 if one or more surface water resource applies; assign 0 if none applies. • Irrigation (5 acre minimum) of commercial food crops or commercial forage crops • Watering of commercial livestock • Ingredient in commercial food preparation ✓ • Major or designated water recreation area, excluding drinking water use	5	Ref.	SSI, SCDHEC, 6/90 — pg. 19-20 Clemson Univ. irrigation intakes
SUM OF TARGETS T=	5		

SI TABLE 9 (From HRS Table 4-14): DILUTION-WEIGHTED POPULATION VALUES FOR POTENTIAL CONTAMINATION FOR SURFACE WATER MIGRATION PATHWAY

Type of Surface Water Body	Pop.	Nearest Intake	Number of people									Pop. Value
			0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	
Minimal Stream (<10 cfs)		20	0	4	17	53	164	522	1,633	5,214	16,325	
Small to moderate stream (10 to 100 cfs)		2	0	0.4	2	5	16	52	163	521	1,633	
Moderate to large stream (> 100 to 1,000 cfs)		0	0	0.04	0.2	0.5	2	5	16	52	163	
Large Stream to river (>1,000 to 10,000 cfs)		0	0	0.004	0.02	0.05	0.2	0.5	2	5	16	
Large River (> 10,000 to 100,000 cfs)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	16	
Very Large River (>100,000 cfs)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	
Shallow ocean zone or Great Lake (depth < 20 feet)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	2	
Moderate ocean zone or Great Lake (Depth 20 to 200 feet)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	
Deep ocean zone or Great Lake (depth > 200 feet)		0	0	0	0	0	0.001	0.003	0.008	0.03	0.08	
3-mile mixing zone in quiet flowing river (≥ 10 cfs)		10	0	2	9	26	82	261	817	2,607	8,163	
	Nearest Intake =										Sum =	

References _____

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SURFACE WATER PATHWAY

Human Food Chain Actual Contamination Targets Summary Table

On SI Table 10, list the hazardous substances detected in sediment, aqueous, sessile benthic organism tissue, or fish tissue samples (taken from fish caught within the boundaries of the observed release) by sample ID and concentration. Evaluate fisheries within the boundaries of observed releases detected by sediment or aqueous samples as Level II, if at least one observed release substance has a bioaccumulation potential factor value of 500 or greater (see SI Table 7). Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For FDAAL benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate this portion of the fishery as subject to Level I concentrations. If the percentages are less than 100% or all are N/A, evaluate the fishery as a Level II target.

Sensitive Environment Actual Contamination Targets Summary Table

On SI Table 11, list each hazardous substance detected in aqueous or sediment samples at or beyond wetlands or a surface water sensitive environment by sample ID. Record the concentration. If contaminated sediments or tissues are detected at or beyond a sensitive environment, evaluate the sensitive environment as Level II. Obtain benchmark concentrations from SCDM. For AWQC/AALAC benchmarks, determine the highest percentage of benchmark of the substances detected in aqueous samples. If benchmark concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage equals or exceeds 100%, evaluate that part of the sensitive environment subject to Level I concentrations. If the percentage is less than 100%, or all are N/A, evaluate the sensitive environment as Level II.

SURFACE WATER PATHWAY (continued)
HUMAN FOOD CHAIN THREAT WORKSHEET

HUMAN FOOD CHAIN THREAT TARGETS	Score	Data Type	Refs

Record the water body type and flow for each fishery within the target distance limit. If there is no fishery within the target distance limit, assign a score of 0 at the bottom of this page.

Fishery Name_____ Water Body_____ Flow_____cfs

Species_____ Production_____lbs/yr
Species_____ Production_____lbs/yr

Fishery Name_____ Water Body_____ Flow_____cfs

Species_____ Production_____lbs/yr
Species_____ Production_____lbs/yr

Fishery Name_____ Water Body_____ Flow_____cfs

Species_____ Production_____lbs/yr
Species_____ Production_____lbs/yr

FOOD CHAIN INDIVIDUAL

7. ACTUAL CONTAMINATION FISHERIES:

If analytical evidence indicates that a fishery has been exposed to a hazardous substance with a bioaccumulation factor greater than or equal to 500 (SI Table 10), assign a score of 50 if there is a Level I fishery. Assign 45 if there is a Level II fishery, but no Level I fishery.

45* Scenario II — if O.R. of PCB or benzo-a-pyrene were documented.

8. POTENTIAL CONTAMINATION FISHERIES:

If there is a release of a substance with a bioaccumulation factor greater than or equal to 500 to a watershed containing fisheries within the target distance limit, but there are no Level I or Level II fisheries, assign a score of 20.

If there is no observed release to the watershed, assign a value for potential contamination fisheries from the table below using the lowest flow at all fisheries within the target distance limit:

Lowest Flow	FCI Value
<10 cfs	20
10 to 100 cfs	2
>100 cfs, coastal tidal waters, oceans, or Great Lakes	0
3-mile mixing zone in quiet flowing river	10

FCI Value = 0

SUM OF TARGETS T = 0 /45*

Note; assume fishing is allowed in Northwell Lake, within target distance

SSI, [SCDHEC, 6/90, pg 20]

No observed release (NO samples collected) Ref: SSI, SCDHEC, 6/90

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SI TABLE 10: HUMAN FOOD CHAIN ACTUAL CONTAMINATION TARGETS FOR WATERSHED

Fishery ID: _____ Sample Type _____ Level I _____ Level II _____ References _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Benchmark Concentration (FDAAL)	% of Benchmark	Cancer Risk Concentration.	% of Cancer Risk Concentration	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

SI TABLE 11: SENSITIVE ENVIRONMENT ACTUAL CONTAMINATION TARGETS FOR WATERSHED

Environment ID: _____ Sample Type _____ Level I _____ Level II _____ Environment Value _____

Sample ID	Hazardous Substance	Conc.. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
			Highest Percent		

Environment ID: _____ Sample Type _____ Level I _____ Level II _____ Environment Value _____

Sample ID	Hazardous Substance	Conc.. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
			Highest Percent		

Avg. cfs

Twelve-Mile Creek – 198 cfs Avg. Discharge
* Keowee River – not available
Little River – 175 cfs Avg. discharge

} Water Resources Data SC

198
+175
373 cfs

→ Keowee River - no gaging stations

These water bodies contribute major portion of inflow to Lake Hartwell. Values were added to determine representative "flow" of Lake.

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SURFACE WATER PATHWAY (continued)
ENVIRONMENTAL THREAT WORKSHEET

When measuring length of wetlands that are located on both sides of a surface water body, sum both frontage lengths. For a sensitive environment that is more than one type, assign a value for each type.

ENVIRONMENTAL THREAT TARGETS	Score	Data Type	Refs

Record the water body type and flow for each surface water sensitive environment within the target distance (see SI Table 12). If there is no sensitive environment within the target distance limit, assign a score of 0 at the bottom of the page.

Environment Name	Water Body Type	Flow
		cfs
		cfs
		cfs
		cfs
		cfs

Ref: U.S. Fish & Wildlife Service, Endangered & Threatened Species of the Southeastern United States, (Atlanta, GA 1992)

[Also, Topo maps do not show any wetlands along Lake Hartwell.]

9. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: If sampling data or direct observation indicate any sensitive environment has been exposed to a hazardous substance from the site, record this information on SI Table 11, and assign a factor value for the environment (SI Tables 13 and 14).

Environment Name	Environment Type and Value (SI Tables 13 & 14)	Multiplier (10 for Level I, 1 for Level II)	Product
		x =	
		x =	
		x =	
		x =	
		Sum =	

10. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS:

Flow	Dilution Weight (SI Table 12)	Environment Type and Value (SI Tables 13 & 14)	Pot. Cont.	Product
cfs	x	x	0.1 =	
cfs	x	x	0.1 =	
cfs	x	x	0.1 =	
cfs	x	x	0.1 =	
cfs	x	x	0.1 =	
			Sum =	

Ref. U.S. Fish & Wildlife Service, Endangered & Threatened Species of the United States, (Atlanta, GA, 1992)

[Topo maps do not show wetlands along Lake Hartwell]

T.=

Note although environmental threat targets may exist along the 15-mile migration pathway, the actual locations of these habitats are not known.

Ref. 20 (Endangered & Threatened Species of the SE. United States.

SI TABLE 13 (HRS TABLE 4-23): SURFACE WATER AND AIR SENSITIVE ENVIRONMENTS VALUES

SENSITIVE ENVIRONMENT	ASSIGNED VALUE
Critical habitat for Federal designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument (air pathway only) National Seashore Recreation Area National Lakeshore Recreation Area	100
Habitat known to be used by Federal designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Coastal Barrier (undeveloped) Federal land designated for the protection of natural ecosystems Administratively Proposed Federal Wilderness Area Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay, or estuary Migratory pathways and feeding areas critical for the maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time Terrestrial areas utilized by large or dense aggregations of vertebrate animals (semi-aquatic foragers) for breeding National river reach designated as recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for the protection of maintenance of aquatic life under the Clean Water Act	5
Wetlands — See SI Table 14 (Surface Water Pathway) or SI Table 23 (Air Pathway)	

SI TABLE 14 (HRS TABLE 4-24): SURFACE WATER WETLANDS FRONTAGE VALUES

Total Length of Wetlands	Assigned Value
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

SI TABLE 12 (HRS Table 4-13): SURFACE WATER DILUTION WEIGHTS

Type of Surface Water Body		Assigned Dilution Weight
Descriptor	Flow Characteristics	
Minimal stream	< 10 cfs	1
Small to moderate stream	10 to 100 cfs	0.1
Moderate to large stream	> 100 to 1,000 cfs	0.01
Large stream to river	> 1,000 to 10,000 cfs	0.001
Large river	> 10,000 to 100,000 cfs	0.0001
Very large river	> 100,000 cfs	0.00001
Coastal tidal waters	Flow not applicable; depth not applicable	0.001
Shallow ocean zone or Great Lake	Flow not applicable; depth less than 20 feet	0.001
Moderate depth ocean zone or Great Lake	Flow not applicable; depth 20 to 200 feet	0.0001
Deep ocean zone or Great Lake	Flow not applicable; depth greater than 200 feet	0.000005
3-mile mixing zone in quiet flowing river	10 cfs or greater	0.5

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SURFACE WATER PATHWAY (concluded)
WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY

WASTE CHARACTERISTICS No observed release Score (No samples collected)

14. If an Actual Contamination Target (drinking water, human food chain, or environmental threat) exists for the watershed, assign the calculated hazardous waste quantity score, or a score of 100, whichever is greater.	Ref: SSI, (SCDHEC, 6/90)
15. Assign the highest value from SI Table 7 (observed release) or SI Table 3 (no observed release) for the hazardous substance waste characterization factors below. Multiply each by the surface water hazardous waste quantity score and determine the waste characteristics score for each threat.	

	Substance Value		HWQ		Product	WC Score (from Table) (Maximum-of-100)
Drinking Water Threat Toxicity/Persistence	10,000 Cd Cr	x	100	=	1000000	32 (max = 100)
Food Chain Threat Toxicity/Persistence Bioaccumulation	5×10^8 benzo-a-pyrene	x	100	=	5×10^{10}	320 (max = 1000)
Environmental Threat Ecotoxicity/Persistence/ Ecobioaccumulation	5E+08 benzo-a-pyrene	x	100	=	5E+10	320 (max = 1000)

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 to <1E + 09	100
1E + 09 to <1E + 10	180
1E + 10 to <1E + 11	320
1E + 11 to <1E + 12	560
1E + 12 or greater	1000

SURFACE WATER PATHWAY THREAT SCORES

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score $\frac{LR \times T \times WC}{82,500}$
Drinking Water	500	6	32	(maximum of 100) 1.16
Human Food Chain	500/550*	0/45*	320	(maximum of 100) 0.00/96.00*
Environmental	500	0	320	(maximum of 60) 0

SURFACE WATER PATHWAY SCORE (Drinking Water Threat + Human Food Chain Threat + Environmental Threat) (maximum of 100) 1.16 / 97.16*

* Scenario II based on observed release of a subst w/ a BCF value >5000-33 to Hartwell Lake.

SOIL EXPOSURE PATHWAY

If there is no observed contamination (e.g., ground water plume with no known surface source), do not evaluate the soil exposure pathway. Discuss evidence for no soil exposure pathway.

Soil Exposure Resident Population Targets Summary

For each property (duplicate page 35 as necessary):

If there is an area of observed contamination on the property and within 200 feet of a residence, school, or day care center, enter on Table 15 each hazardous substance by sample ID. Record the detected concentration. Obtain cancer risk, and reference dose concentrations from SCDM. Sum the cancer risk and reference dose percentages for the substances listed. If cancer risk or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the residents and students as Level I. If both percentages are less than 100% or all are N/A, evaluate the targets as Level II.

(SSI, SCDHEC, 6/90)

No Samples were collected at residence, school or day care center.

SI TABLE 15: SOIL EXPOSURE RESIDENT POPULATION TARGETS

Residence ID: _____ Level I ____ Level II ____ Population _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

Residence ID: _____ Level I ____ Level II ____ Population _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

Residence ID: _____ Level I ____ Level II ____ Population _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

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SOIL EXPOSURE PATHWAY WORKSHEET
RESIDENT POPULATION THREAT

LIKELIHOOD OF EXPOSURE	Score	Data Type	Refs
1. OBSERVED CONTAMINATION: If evidence indicates presence of observed contamination (depth of 2 feet or less), assign a score of 550; otherwise, assign a 0. Note that a likelihood of exposure score of 0 results in a soil exposure pathway score of 0.			
LE =	550		

SSI, (SCDHEC 6/90)

TARGETS

2. RESIDENT POPULATION: Determine the number of people living or attending school or day care on a property with an area of observed contamination and whose residence, school, or day care center, respectively, is on or within 200 feet of the area of observed contamination. Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ Sum =	No resident population, schools or day care centers Ref., SSI (SCDHEC, 6/90) Ø		
3. RESIDENT INDIVIDUAL: Assign a score of 50 if any Level I resident population exists. Assign a score of 45 if there are Level II targets but no Level I targets. If no resident population exists (*i.e.*, no Level I or Level II targets), assign 0 (HRS Section 5.1.3).	Ø	SSI	(SCDHEC, 6/90)
4. WORKERS: Assign a score from the table below for the total number of workers at the site and nearby facilities with areas of observed contamination associated with the site.	Active facility, assume 1 to 100. 5	Ref: SSI, (SCDHEC, 6/90	
5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Assign a value for each terrestrial sensitive environment (SI Table 16) in an area of observed contamination.	No, onsite sensitive environments Refs. SSI, SCDHEC, 6/90 Also, Endangered + Threatened Species of the U.S. Ø		
6. RESOURCES: Assign a score of 5 if any one or more of the following resources is present on an area of observed contamination at the site; assign 0 if none applies. • Commercial agriculture • Commercial silviculture • Commercial livestock production or commercial livestock grazing	Ø	Ref: SSI, SCDHEC, 6/90)	
Total of Targets T=	5		

Number of Workers	Score
0	0
1 to 100	5
101 to 1,000	10
>1,000	15

Terrestrial Sensitive Environment Type	Value

Sum =

SI TABLE 16 (HRS TABLE 5-5): SOIL EXPOSURE PATHWAY TERRESTRIAL SENSITIVE ENVIRONMENT VALUES

TERRESTRIAL SENSITIVE ENVIRONMENT	*ASSIGNED VALUE*
Terrestrial critical habitat for Federal designated endangered or threatened species National Park Designated Federal Wilderness Area National Monument	100
Terrestrial habitat known to be used by Federal designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	75
Terrestrial habitat used by State designated endangered or threatened species Terrestrial habitat used by species under review for Federal designated endangered or threatened status	50
State lands designated for wildlife or game management State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

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SOIL EXPOSURE PATHWAY WORKSHEET
NEARBY POPULATION THREAT

LIKELIHOOD OF EXPOSURE	Score	Data Type	Ref.
7. Attractiveness/Accessibility (from SI Table 17 or HRS Table 5-6) Value 10			
Area of Contamination (from SI Table 18 or HRS Table 5-7) Value 100			
605,000 ft² " Landfills 1, 2, 3 — Likelihood of Exposure (from SI Table 19 or HRS Table 5-8)			
LE =	125		

SSI, SCDHEC, 6/90

TARGETS	Score	Data Type	Ref.
8. Assign a score of 0 if Level I or Level II resident individual has been evaluated or if no individuals live within 1/4 mile travel distance of an area of observed contamination. Assign a score of 1 if nearby population is within 1/4 mile travel distance and no Level I or Level II resident population has been evaluated.	1		
9. Determine the population within 1 mile travel distance that is not exposed to a hazardous substance from the site (*i.e.*, properties that are not determined to be Level I or Level II); record the population for each distance category in SI Table 20 (HRS Table 5-10). Sum the population values and multiply by 0.1. (5)(.1)	2.7(.1) = .27		
T =	1.27	= 1	

Topo Map SCDHEC, 6/90.

	# people
0 - 1/4	109.6
1/4 - 1/2	96.9
1/2 - 1	89.3
1 - 2	1956
2 - 3	6729
3 - 4	6444

15,424.8 ~ 15,425

SI TABLE 17 (HRS TABLE 5-6): ATTRACTIVENESS/ACCESSIBILITY VALUES

Area of Observed Contamination	Assigned Value
Designated recreational area	100
Regularly used for public recreation (for example, vacant lots in urban area)	75
Accessible and unique recreational area (for example, vacant lots in urban area)	75
Moderately accessible (may have some access improvements–for example, gravel road) with some public recreation use	50
Slightly accessible (for example, extremely rural area with no road improvement) with some public recreation use	25
→ Accessible with no public recreation use	(10)
Surrounded by maintained fence or combination of maintained fence and natural barriers	5
Physically inaccessible to public, with no evidence of public recreation use	0

Ref. SSI, SCDHEC, 6/90 Pg. 21

SI TABLE 18 (HRS TABLE 5-7): AREA OF CONTAMINATION FACTOR VALUES

Total area of the areas of observed contamination (square feet)	Assigned Value
≤ to 5,000	5
> 5,000 to 125,000	20
> 125,000 to 250,000	40
> 250,000 to 375,000	60
> 375,000 to 500,000	80
→ > 500,000	100

Ref: (SSI, SCDHEC, 6/90)

Area of contamination: Landfill 1: 200,000 ft²
Landfill 2: 180,000 ft²
Landfill 3: 225,000 ft²
605,000 ft² total
Square ft of Landfills 1, 2, 3

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SI TABLE 19 (HRS TABLE 5-8): NEARBY POPULATION LIKELIHOOD OF SSI EXPOSURE FACTOR VALUES

Ref: SCDHEC, 6/90)

AREA OF CONTAMINATION FACTOR VALUE	ATTRACTIVENESS/ACCESSIBILITY FACTOR VALUE						
	100	75	50	25	10	5	0
100	500	500	375	250	125	50	0
80	500	375	250	125	50	25	0
60	375	250	125	50	25	5	0
40	250	125	50	25	5	5	0
20	125	50	25	5	5	5	0
5	50	25	5	5	5	5	0

SI TABLE 20 (HRS TABLE 5-10): DISTANCE-WEIGHTED POPULATION VALUES FOR NEARBY POPULATION THREAT

Travel Distance Category (miles)	Pop.	Number of people within the travel distance category												Pop. Value
		0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,001	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	
Greater than 0 to 1/4	79	0	0.1	0.4	1.0	4	13	41	130	408	1,303	4,081	13,034	1.0
Greater than 1/4 to 1/2	69	0	0.05	0.2	0.7	2	7	20	65	204	652	2,041	6,517	0.7
Greater than 1/2 to 1	105	0	0.02	0.1	0.3	1	3	10	33	102	326	1,020	3,258	1.0

0 - 1/4 → 31 houses x 2.55 (Oconee Co.) = 79.05 Reference(s): _____ Sum = 2.7

1/4 → 1/2 → 27 houses x 2.55 (Oconee Co.) = 68.85 people

1/2 → 1 → 41 houses x 2.55 (Oconee Co.) = 104.55 people

Refs. Topo Maps; U.S. Dept. of Commerce, Proof Table, Summary Population Housing Characteristics

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SOIL EXPOSURE PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS

10. Assign the hazardous waste quantity score calculated for soil exposure (Ref: SSI, SCDHEC, 6/90) Landfills 1, 2 and 3	10 *
11. Assign the highest toxicity value from SI Table 16 toxicity value from Table 3. Cr, Cd, etc.	10,000
12. Multiply the toxicity and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: 100	WC = 18

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 or greater	100

RESIDENT POPULATION THREAT SCORE: (550) (5) (32) LE X T X WC ~~82,500~~ — 0.60

(Likelihood of Exposure, Question 1; Targets = Sum of Questions 2, 3, 4, 5, 6)

NEARBY POPULATION THREAT SCORE: (125) (1) (32) LE X T X WC ~~82,500~~ — 0.[illegible]

(Likelihood of Exposure, Question 7; Targets = Sum of Questions 8, 9)

SOIL EXPOSURE PATHWAY SCORE: 63

Resident Population Threat + Nearby Population Threat % 82,500 (Maximum of 100)

SE HWQ = 100

Total area of 3 landfills = $\frac{605,000 \text{ ft}^2}{34,000}$ = 17.79 thus HWQ = 10

* smaller HWQ used since only cont. at < 2 feet would be a threat to the SE pathway

AIR PATHWAY

Air Pathway Observed Substances Summary Table

On SI Table 21, list the hazardous substances detected in air samples of a release from the site. Include only those substances with concentrations significantly greater than background levels. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For NAAQS/NESHAPS benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate targets in the distance category from which the sample was taken and any closer distance categories as Level I. If the percentages are less than 100% or all are N/A, evaluate targets in that distance category and any closer distance categories that are not Level I as Level II.

SI TABLE 23 (HRS TABLE 6-18): AIR PATHWAY VALUES FOR WETLAND AREA

Wetland Area	Assigned Value
< 1 acre	0
1 to 50 acres	25
> 50 to 100 acres	75
> 100 to 150 acres	125
> 150 to 200 acres	175
> 200 to 300 acres	250
> 300 to 400 acres	350
> 400 to 500 acres	450
> 500 acres	500

SI TABLE 24: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS

Distance	Distance Weight	Sensitive Environment Type and Value (from SI Tables 13 and 20) 23	Product
On a Source	0.10	x	
		x	
0 to 1/4 mile	0.025	x	
		x	
		x	
1/4 to 1/2 mile	0.0054	x	
		x	
		x	
1/2 to 1 mile	0.0016	x	
		x	
		x	
1 to 2 miles	0.0005	x	
		x	
		x	
2 to 3 miles	0.00023	x	
		x	
		x	
3 to 4 miles	0.00014	x	
		x	
		x	
> 4 miles	0	x	
		Total Environments Score =	

Note!

Although sensitive environments may exist within a 4-mile radius of J. P. Stevens, the exact locations of these habitats are not known. (U.S. Fish & Wildlife service, Endangered & Threatened Species of the Southeastern United States. (Atlanta, Georgia 1992)

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SI TABLE 22 (From HRS TABLE 6-17): VALUES FOR POTENTIAL CONTAMINATION AIR TARGET POPULATIONS

Distance from Site	Pop.	Nearest Individual (choose highest)	Number of People within the Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000	Pop. Value
On a source	11 – 100 workers	20	4	17	(53)	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	53
0 to $\frac{1}{4}$ mile	79.1	*	1	4	(13)	41	131	408	1,304	4,081	13,034	40,812	130,340	408,114	13
> $\frac{1}{4}$ to $\frac{1}{2}$ mile	~~689~~ 69	2	0.2	0.9	(3)	9	28	88	282	882	2,815	8,815	28,153	88,153	3
> $\frac{1}{2}$ to 1 mile	~~104.6~~ 105	1	0.06	0.3	(0.9)	3	8	26	83	261	834	2,612	8,342	26,119	0.9
> 1 to 2 miles	195.6	0	0.02	0.09	0.3	0.8	3	(8)	27	83	266	833	2,659	8,326	8
> 2 to 3 miles	6729	0	0.009	0.04	0.1	0.4	1	4	(12)	38	120	375	1,199	3,755	12
>3 to 4 miles	6444	0	0.005	0.02	0.07	0.2	0.7	2	(7)	28	73	229	730	2,285	7
	Nearest Individual =	20												**Sum =**	96.9

Assume 11-100 workers, active facility

SI, SCORES, 6/90) C-45

References

* Score = 20 if the Nearest Individual is within $\frac{1}{8}$ mile of a source; score = 7 if the Nearest Individual is between $\frac{1}{8}$ and $\frac{1}{4}$ mile of a source.

0 - 1/4 mile radius 31 houses x 2.55 (oconee Co.) = 79.1
1/4 - 1/2 mile radius 27 houses x 2.55 (oconee Co.) = 69
1/2 - 1 mile radius 41 houses x 2.55 (oconee Co.) = 105

Refs: House count from Topo maps, U.S. Dept. of Commerce, Proof Table for 1990 Summary of Population + Housing Characteristics.

1 - 2 miles (GEMS Data base) 1956 persons
2 - 3 miles (GEMS Database) 6729 persons
3 - 4 miles (GEMS Data base) 6444 persons

U.S. EPA, GRAPHICAL Exposure Modeling System (GEMS) Data base, compiled from U.S. Bureau of Census Data.

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AIR PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to air, assign a score of 550. Record observed release substances on SI Table 21.	No air samples collected	SSI,	SCDHEC, 6/90
2. POTENTIAL TO RELEASE: If sampling data do not support a release to air, assign a score of 500. Optionally, evaluate air migration gaseous and particulate potential to release (HRS Section 6.1.2).	500		
LR =	500		

TARGETS

3. ACTUAL CONTAMINATION POPULATION: Determine the number of people within the target distance limit subject to exposure from a release of a hazardous substance to the air. a) Level I: _____ people x 10 = _____ b) Level II: _____ people x 1 = _____ Total =	____		
4. POTENTIAL TARGET POPULATION: Determine the number of people within the target distance limit not subject to exposure from a release of a hazardous substance to the air, and assign the total population score from SI Table 22. Sum the values and multiply the sum by 0.1.	96.9 (0.1) = 9.69		
5. NEAREST INDIVIDUAL: Assign a score of 50 if there are any Level I targets. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Population exists, assign the Nearest Individual score from SI Table 22.	20		
6. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (SI Table 13) and wetland acreage values (SI Table 23) for environments subject to exposure from the release of a hazardous substance to the air.	No wetlands are shown on Topographic Maps, Actual locations for Sensitive Environments are not known, (U.S. Fish & Wildlife Service Endangered & Threatened Species of the Southeastern United States.) 0		
7. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS: Use SI Table 24 to evaluate sensitive environments not subject to exposure from a release.	0	Ref. — see above	
8. RESOURCES: Assign a score of 5 if one or more air resources apply within 1/2 mile of a source; assign a 0 if none applies. • Commercial agriculture • Commercial silviculture • Major or designated recreation area — assume Hartwell is a recreational area	5		SSI, (SCDHEC, 6/90)
T =	~~34.7~~ 35		

Sensitive Environment Type	Value
Wetland Acreage	**Value**

8. Ref. SSI, SCDHEC, 6/90

No air samples were collected (Ref: SSI, SCDHEC, 6/90)

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SI TABLE 21: AIR PATHWAY OBSERVED RELEASE SUBSTANCES

Sample ID: _____ Level I _____ Level II _____ Distance from Sources (mi) ____ References _____

Hazardous Substance	Conc. (µg/m³)	Gaseous Particulate	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents	

Sample ID: _____ Level I _____ Level II _____ Distance from Sources (mi) ____ References _____

Hazardous Substance	Conc. (µg/m³)	Toxicity/ Mobility	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents	

Sample ID: _____ Level I _____ Level II _____ Distance from Sources (mi) ____ References _____

Hazardous Substance	Conc. (µg/m³)	Toxicity/ Mobility	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents	

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AIR PATHWAY (concluded)

WASTE CHARACTERISTICS

9. If any Actual Contamination Targets exist for the air pathway, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if there are no Actual Contamination Targets for the air pathway, assign the calculated HWQ score for sources available to air migration.	100
10. Assign the highest air toxicity/mobility value from SI Table 21. Benzo(a) pyrene (10,000)(0.0002) = 2 PCBs → 10,000	SSI (SCDHEC, 6/90) = 10,000
11. Multiply the air pathway toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: (100)(2) = 200	WC = 32

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 or greater	100

AIR PATHWAY SCORE: $\frac{LE \times T \times WC}{82,500}$ 6.79 (maximum of 100)

$$\frac{(500)(\cancel{34.5}\ 36)(\cancel{3}\ 32)}{82,500}$$

SITE SCORE CALCULATION	S	S^2
GROUND WATER PATHWAY SCORE (S_{GW})	5.28	27.88
SURFACE WATER PATHWAY SCORE (S_{SW})	1.16 / 97.16 *	1.35 / 9440.07
SOIL EXPOSURE (S_S)	0.63	0.40
AIR PATHWAY SCORE (S_A)	6.79	46.10
SITE SCORE $\sqrt{\frac{S_{GW}^2+S_{SW}^2+S_S^2+S_A^2}{4}}$ = * Scenario II (see below)		4.35 / 48.77 *

COMMENTS

Conclusion/Recommendations

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 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 and the distance to nearby residences. The 4-mile radius is mainly rural, and a total of 15,382 people reside within 4 miles of the facility.

Based on the potential release of 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.

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IV

Site Name: Stevens J.P. & Co Inc. **EPA ID#:** SCD003345097

Alias Site Names: _____

City: Clemson **County or Parish:** Oconee **State:** SC

Refer to Report Dated: 11/29/93 **Report type:** SIP

Report developed by: Dynamac

DECISION:

| | **1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:**

| | 1a. Site does not qualify for further remedial site assessment under CERCLA (Site Evaluation Accomplished - SEA)

| | 1b. Site may qualify for further action, but is deferred to: | | RCRA | | NRC

|XX| **2. Further Assessment Needed Under CERCLA:** 2a. (optional) Priority: | | Higher |XX| Lower

2b. Activity Type: | | PA | | SI |XX| ESI | | HRS evaluation

| | Other: _____

DISCUSSION/RATIONALE: Fly ash and WWTP sludge disposal landfills in close proximity to Lake Hartwell (250'). Worst case score is based on an observed release to Lake Hartwell of PCB from the landfill nearest the shore. Low priority ESI to determine impacts, if any, to Lake Hartwell. 12/10/93. E. Bozeman

1X

Report Reviewed and Approved by: Earl Bozeman Signature: Earl L Bozeman Jr Date: 12/10/93

Site Decision Made by: Earl Bozeman Signature: Earl L Bozeman Jr Date: 12/10/93

EPA Form # 9100-3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

4WD-WPB

Lori C. Conway
Dynamac Corporation
Environmental Services
Peachtree Center Tower
230 Peachtree Street NW
Suite 500
Atlanta, GA 30303

RE: J. P. Stevens & Company, Inc. SCD003345097
Site Inspection Prioritization (SIP)

Dear Ms. Conway:

I have reviewed the SIP report on the above referenced site and have the following comment:

1. Please send me one copy of the confidential pages and HRS score sheets for this site. There was only one copy included with your initial delivery of two copies of the report.

If you have any questions regarding this matter, please contact me at 347-5065.

Sincerely,

Earl L. Bozeman, Jr.
Senior Site Assessment Manager

cc:
Debbie Vaughn-Wright, WAM
Katherine Siders Franklin, Dynamac

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. Bozeman

EPA REGION:	IV
CONTRACT NO.:	68-W9-0005; TES VIII
EPA WAM:	DEBORAH VAUGHN-WRIGHT
TELEPHONE NO.:	(404) 347-5065
DYNAMAC WAM:	KATHARINE SIDERS FRANKLIN
TELEPHONE NO.:	(404) 681-0933

DOCUMENT CONTROL NO. C04119-SIP-LC-308

Submitted to

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION IV

by

DYNAMAC CORPORATION

November 29, 1993

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

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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

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.

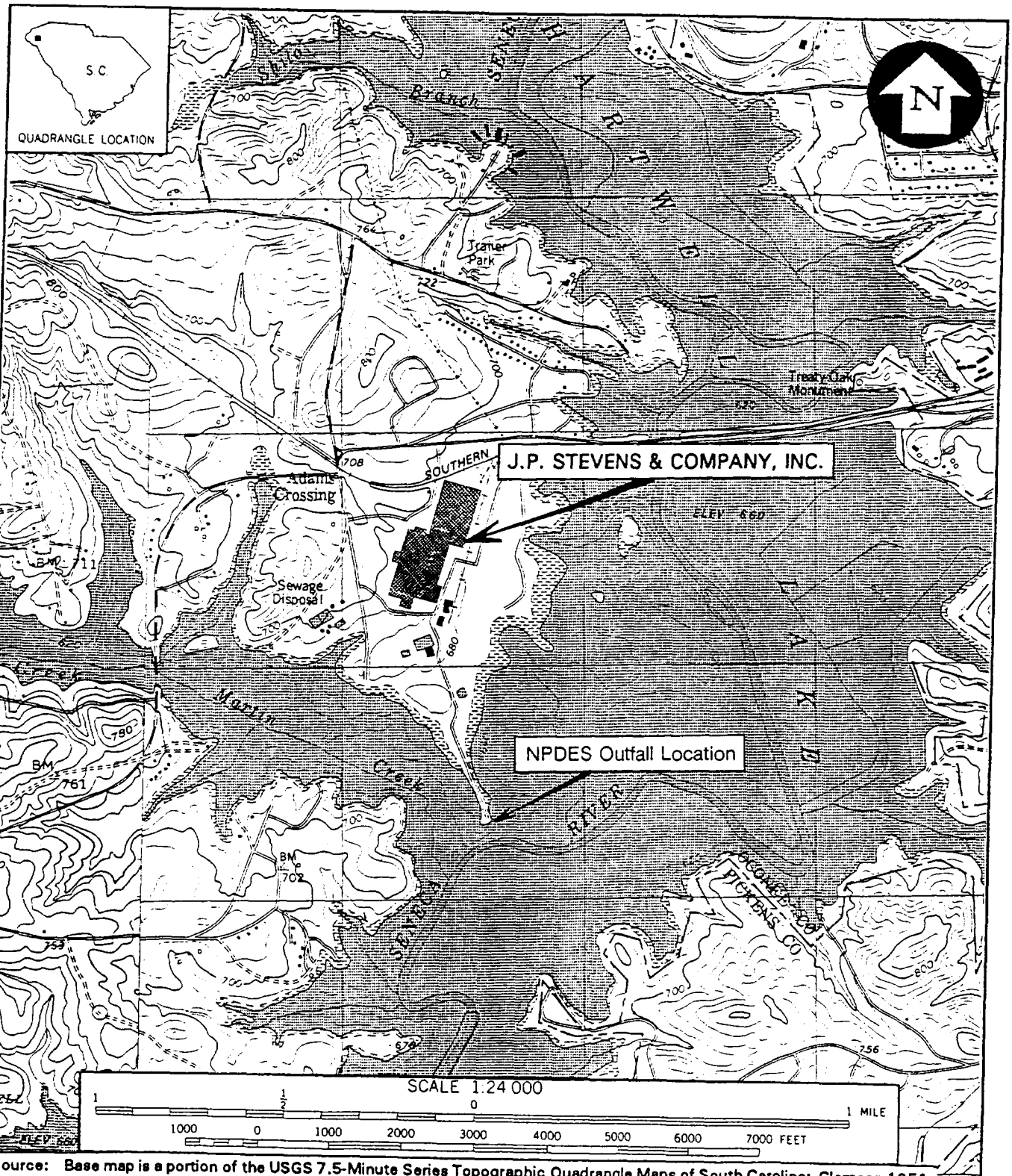
Site History and Description

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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Environmental Services

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).

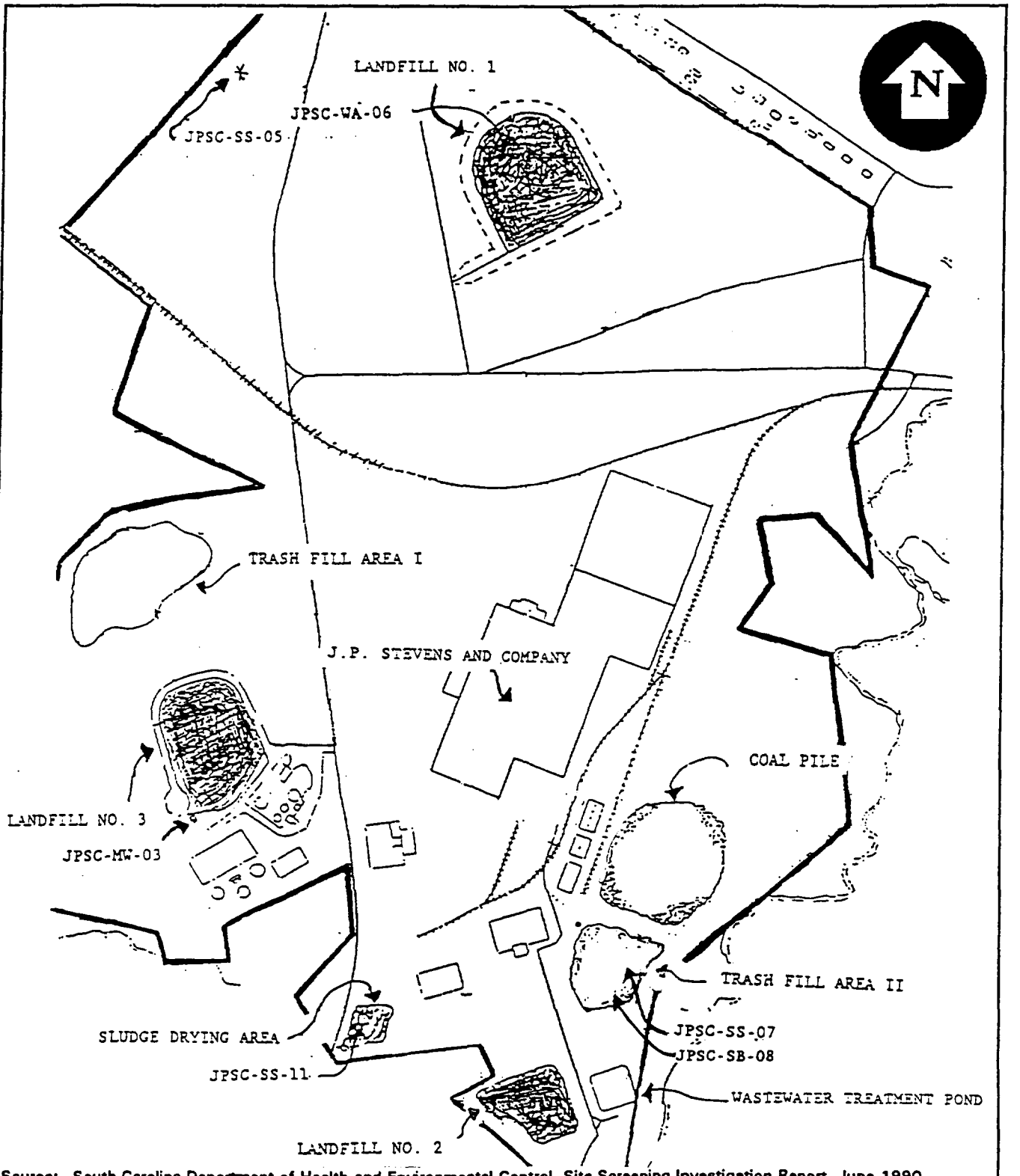
Westpoint Pepperell, Inc., which currently operates the facility, purchased the property from J.P. Stevens on May 6, 1988 (Refs. 5; 28). Westpoint Pepperell, Inc., currently uses Landfill No. 1 for fly ash disposal; however, WWTP sludge is no longer disposed onsite in Landfill Nos. 2 and 3. Landfill 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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Environmental Services

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.

13. Linda Aller, et al., DRASTIC: A Standardized System for Evaluating Ground Water Pollution Potential Using Hydrogeologic Settings, EPA-600/287-035 (Ada, Oklahoma: EPA, April 1987), excerpts, 13 pages.

14. W.C. Overstreet and Henry Bell III, Geologic Map of the Crystalline Rocks of South Carolina, Miscellaneous Geologic Investigations Map I-413 (Washington D.C.: U.S. Geologic Survey, 1965), excerpt, 4 pages and attachment.

15. Harry Legrand, "Region 21, Piedmont and Blue Ridge," The Geology of North America, Vol O-2, Hydrogeology (Washington D.C.: The Geological Society of America, 1988), excerpt, 12 pages.

16. United States Department of Agriculture, Soil Conservation Service, Soil Survey of Oconee County South Carolina (February 1963), excerpts, 2 pages and attachment.

17. U.S. Department of Commerce, Proof Copy of table generated for 1990 CPH-1: Summary Population and Housing Characteristics, issued by Bureau of the Census (April 1991), excerpt, 1 page.

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.

19. U.S. Environmental Protection Agency, Graphical Exposure Modeling System (GEMS) Data Base, compiled from U.S. Bureau of the Census data (1980).

20. U.S. Fish and Wildlife Service, Endangered and Threatened Species of the Southeastern United States, (Atlanta, Georgia 1992), excerpt, 4 pages.

21. Updated Preliminary Assessment for J.P. Stevens and Company, Inc. - Clemson Plant, Clemson, South Carolina, undated; obtained from South Carolina Department of Health and Environmental Control files.

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.

29. Renee Harris, Dynamac Corporation, project note to file for J.P. Stevens, November 3, 1993. Subject: Source of waterline information; taken from SCDHEC SSI report.

30. Jeffrey L. Newman, Environmental Quality Manager, Water Quality Assessment and Enforcement Division, South Carolina Department of Health and Environmental Control, letter to Terry Y. Treece, Westpoint Pepperell, February 28, 1990. Subject: Notice of Violation for J.P. Stevens/Clemson Plant, NPDES Permit #SC0000591.

31. U.S. Geological Survey, Water Resources Data, South Carolina, Water Year 1990, Water-Data Report SC-90-1, prepared in cooperation with the State of South Carolina and with other agencies (1990), excerpt, 2 pages.

CERCLA Eligibility Form

Site Name: J.P. Stevens & Company, Inc.

City/County/State: Clemson, Oconee, County, South Carolina

EPA ID Number: SCD003345097

Type of Facility: Generator ___ Transporter ___ Disposal ✓
Treatment ___ Storage (more than 90 days) ___

	Yes	No
Has this facility treated, stored or disposed of a RCRA hazardous waste since Nov. 19, 1980?	___	✓
Has a RCRA Facility Assessment (FA) been performed on this site?	___	✓
Does the facility have a RCRA operating or post-closure permit? If so, date issued	___	✓
Did the facility file a RCRA Part A application?	✓	___
If so:		
1) Does the facility currently have interim status?	___	✓
2) Did the facility withdraw its interim status?	✓	___
3) Is the facility a known or possible protective filer?	✓	___
Is the facility a late (after Nov. 19, 1980) or non-filer that has been identified by EPA or the State?	___	✓
Is the site a Federal Facility?	___	✓
Is there at least one source onsite which is not covered by CERCLA Petroleum Exclusion Legislation?	✓	___
Is the facility owned by an entity that has filed for bankruptcy under federal or State laws?	___	✓
Has the facility lost authorization to operate or had its interim status revoked?	___	✓
Has the facility been involved in any other RCRA enforcement action?	___	✓

DYNAMAC
CORPORATION
Environmental Services

Peachtree Center Tower
230 Peachtree Street, N.W.
Suite 500
Atlanta, GA 30303

Telephone: 404-681-0933
Fax: 404-681-0894

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EPA - REGION IV
ATLANTA, GA

November 29, 1993

Mr. Narindar Kumar, Acting Chief
Site Assessment Section
U.S. EPA, Region IV
345 Courtland Street, NE
Atlanta, Georgia 30365

Re: Work Assignment No. C04119 - Site Inspection Prioritization Report - J.P. Stevens and Company, Inc., Clemson, Oconee County, South Carolina
Document Control No. C04119-SIP-LC-308

Dear Narindar:

Enclosed please find the Site Inspection Prioritization Report for J.P. Stevens and Company, Inc., in Clemson, Oconee County, South Carolina. This report has been developed to partially fulfill the requirements for TES VIII Work Assignment No. C04119, Task 5. This submittal also includes a site map, supporting reference materials and a CERCLA Eligibility Form.

If you have any questions, please contact us at (404) 681-0933.

Sincerely,

DYNAMAC CORPORATION

Lori C. Conway
Site Manager

David L. Rusher
Regional Manager

cc: Ken Meyer, EPA Region IV Project Officer (w/o enclosures)
Jack Silvey, Dynamac TES Program Manager (w/o references)
Deborah Vaughn-Wright, EPA Region IV Work Assignment Manager
Katharine Siders Franklin, Dynamac Work Assignment Manager (w/o references)
TES WA File

SITE INSPECTION WORKSHEETS

CERCLIS IDENTIFICATION NUMBER
SCD 00 33 45 097

SITE LOCATION			
SITE NAME: LEGAL, COMMON, OR DESCRIPTIVE NAME OF SITE: J. P. Stevens + Company			
STREET ADDRESS, ROUTE, OR SPECIFIC LOCATION IDENTIFIER: Cherry Road Oconee Co., S.C.			
CITY: Clemson	STATE: SC	ZIP CODE: 29631	TELEPHONE: ( )
COORDINATES: LATITUDE and LONGITUDE: 34°37'37.3" Lat, 82°52'24.4" W. long	TOWNSHIP, RANGE, AND SECTION		

OWNER/OPERATOR IDENTIFICATION					
OWNER (Purchased in 1988): Westpoint Pepperell, Inc.			OPERATOR: Westpoint Pepperell - Clemson Plant		
OWNER ADDRESS: P.O. Box 71			OPERATOR ADDRESS: Cherry Rd		
CITY: Westpoint			CITY: Clemson, S.C. 29631		
STATE: [illegible]	ZIP CODE: 31833	TELEPHONE: (404) 645 4112	STATE: SC	ZIP CODE: 29631	TELEPHONE: ( )

SITE EVALUATION		
AGENCY/ORGANIZATION: Dynamac Corporation		
INVESTIGATOR: V. Renee Harris		
CONTACT: Katharine Sisler Franklin		
ADDRESS: 230 Peachtree St. Ste 500		
CITY: Atlanta	STATE: Georgia	ZIP CODE: 30303
TELEPHONE: (404) 681-0935		

CONFIDENTIAL

GENERAL INFORMATION

Site Description and Operational History: Provide a brief description of the site and its operational history. State the site name, owner, operator, type of facility and operations, size of property, active or inactive status, and years of waste generation. Summarize waste treatment, storage, or disposal activities that have or may have occurred at the site; note whether these activities are documented or alleged. Identify all source types and prior spills, floods, or fires. Summarize highlights of the PA and other investigations. Cite references.

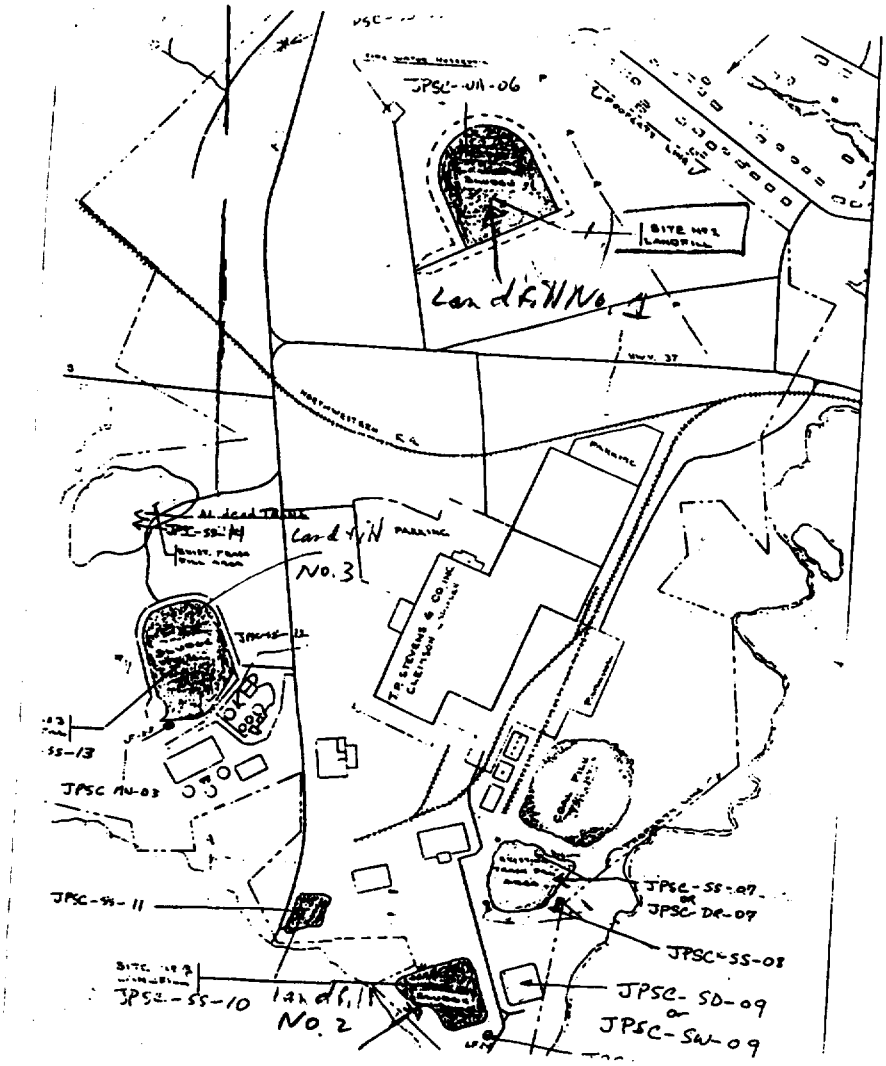
J.P. Stevens is located off Cherry Rd, approximately 2.5 miles Southwest of Clemson, Oconee Co, S.C. J.P. Stevens is located by the shore of Lake Hartwell. J.P. Stevens was constructed in 1951. (SSI, p. 5). The company manufactured and finished textile products. These operations included bleaching, printing and fabrication of textile products. West Point Pepperell, Inc, purchased the property from J.P. Stevens in 1988.

In 1957 J.P. Stevens obtained a permit to discharge industrial wastewater to the Seneca River. In 1976 J.P. Stevens received a permit for a wastewater treatment (WWT) system. The treatment system included a series of collection & treatment basins. J.P. Stevens operated three landfills that were used for disposal of sludge from the WWT plant and also for flyash disposal, landfills No. 1, 2 and 3. During a site Recon, SCDHEC observed an old landfill (unused for ~ 25 years), two trash disposal areas and a old, unused wastewater treatment pond (not used for ~ 30 years). During the SSI, surface soil samples, groundwater samples & flyash & WWT plant sludge samples were collected for analysis.

(References: SSI, SC DHEC, 6/1990, topographic Maps)

GENERAL INFORMATION (continued)

Site Sketch: Provide a sketch of the site. Indicate all pertinent features of the site and nearby environments including sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, fences, fields, drainage patterns, water bodies, vegetation, wells, sensitive environments, and other features.



J. P. Stevens disposed of flyash & WWTP plant sludge in three permitted landfills, North No. 1, South No. 2, and Landfill No. 3. Two trash & construction debris areas and a waste water treatment pond are also on site, as well as an old landfill (not in use for many years). Landfill No. 1 is currently used for flyash disposal. Landfill 2 is currently being used as a WWTP sludge drying area, Landfill No. 3 is currently being used as a WWTP sludge drying area.

Ref. SCDHEC SSI 5/90

GENERAL INFORMATION (continued)

Source Descriptions: Describe all sources at the site. Identify source type and relate to waste disposal operations. Provide source dimensions and the best available waste quantity information. Describe the condition of sources and all containment structures. Cite references.

SOURCE TYPES

Landfill: A man-made (by excavation or construction) or natural hole in the ground into which wastes have come to be disposed by backfilling, or by contemporaneous soil deposition with waste disposal.

Surface Impoundment: A natural topographic depression, man-made excavation, or diked area, primarily formed from earthen materials (lined or unlined) and designed to hold an accumulation of liquid wastes, wastes containing free liquids, or sludges not backfilled or otherwise covered; depression may be wet with exposed liquid or dry if deposited liquid has evaporated, volatilized or leached; structures that may be described as lagoon, pond, aeration pit, settling pond, tailings pond, sludge pit; also a surface impoundment that has been covered with soil after the final deposition of waste materials (i.e., buried or backfilled).

Drum: A portable container designed to hold a standard 55-gallon volume of wastes.

Tank and Non-Drum Container: Any device, other than a drum, designed to contain an accumulation of waste that provides structural support and is constructed primarily of fabricated materials (such as wood, concrete, steel, or plastic); any portable or mobile device in which waste is stored or otherwise handled.

Contaminated Soil: An area or volume of soil onto which hazardous substances have been spilled, spread, disposed, or deposited.

Pile: Any non-containerized accumulation above the ground surface of solid, non-flowing wastes; includes open dumps. Some types of waste piles are:

- Chemical Waste Pile: A pile consisting primarily of discarded chemical products, by-products, radioactive wastes, or used or unused feedstocks.
- Scrap Metal or Junk Pile: A pile consisting primarily of scrap metal or discarded durable goods (such as appliances, automobiles, auto parts, batteries, etc.) composed of materials containing hazardous substances.
- Tailings Pile: A pile consisting primarily of any combination of overburden from a mining operation and tailings from a mineral mining, beneficiation, or processing operation.
- Trash Pile: A pile consisting primarily of paper, garbage, or discarded non-durable goods containing hazardous substances.

Land Treatment: Landfarming or other method of waste management in which liquid wastes or sludges are spread over land and tilled, or liquids are injected at shallow depths into soils.

Other: Sources not in categories listed above.

GENERAL INFORMATION (continued)

Source Description: Include description of containment per pathway for ground water (see HRS Table 3-2), surface water (see HRS Table 4-2), and air (see HRS Tables 6-3 and 6-9).

J. P. Stevens disposed of flyash & wastewater treatment plant sludge and flyash in three permitted landfills. In addition, two trash & construction debris disposal areas and an old wastewater treatment pond were observed during a site recon. A ravine, located next to one of the trash/disposal areas, may have been used for disposal of debris from an explosion that occurred in the plant.

Hazardous Waste Quantity (HWQ) Calculation: SI Tables 1 and 2 (See HRS Tables 2-5, 2-6, and 5-2).

Landfill 1 (200,000 ft²)/3400 = 58.[illegible]
Landfill 2 (180,000, ft²)/3400 = 52.94
Landfill 3 (225,000 ft²)/3400 = 66.18
177.94 site waste quantity

Tier D, multiple source areas ∴ HWQ = 100

Note, a "old landfill" (2 acres)
trash disposal area 1 (1 acre)
trash, disposal area 2 (3 acres) and
a ravine, and a waste water treatment pond was not included because of the nature of wastes in these areas was not known.

note: If fl. fill 1, 2, 3 combined for single source HWQ = 100

HWQ.
Default of 10 used for Soil exposure pathway

Ref. [illegible] SCOAL 21990

Attach additional pages, if necessary

HWQ = 100

see pp. C-7A +

10 - Soil Exp.

[illegible]

for clarification of source areas

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SI TABLE 1: HAZARDOUS WASTE QUANTITY (HWQ) SCORES FOR SINGLE SOURCE SITES AND FORMULAS FOR MULTIPLE SOURCE SITES

		Single Source Sites (assigned HWQ scores)	
(Column 1) TIER	(Column 2) Source Type	(Column 3) HWQ = 10	(Column 4) HWQ = 100
A Hazardous Constituent Quantity	N/A	HWQ = 1 if Hazardous Constituent Quantity data are complete HWQ = 10 if Hazardous Constituent Quantity data are not complete	>100 to 10,000 lbs
B Hazardous Wastestream Quantity	N/A	≤ 500,000 lbs	>500,000 to 50 million lbs
C Volume	Landfill	≤ 6.75 million ft^3 ≤ 250,000 yd^3	>6.75 million to 675 million ft^3 >250,000 to 25 million yd^3
	Surface impoundment	≤6,750 ft^3 ≤250 yd^3	>6,750 to 675,000 ft^3 >250 to 25,000 yd^3
	Drums	≤1,000 drums	>1,000 to 100,000 drums
	Tanks and non-drum containers	≤50,000 gallons	>50,000 to 5 million gallons
	Contaminated soil	≤6.75 million ft^3 ≤250,000 yd^3	>6.75 million to 675 million ft^3 >250,000 to 25 million yd^3
	Pile	≤6,750 ft^3 ≤250 yd^3	>6,750 to 675,000 ft^3 >250 to 25,000 yd^3
	Other	≤6,750 ft^3 ≤250 yd^3	>6,750 to 675,000 ft^3 >250 to 25,000 yd^3
D Area	Landfill	≤340,000 ft^2 ≤7.8 acres	>340,000 to 34 million ft^2 >7.8 to 780 acres
	Surface impoundment	≤1,300 ft^2 ≤0.029 acres	>1,300 to 130,000 ft^2 >0.029 to 2.9 acres
	Contaminated soil	≤3.4 million ft^2 ≤78 acres	> 3.4 million to 340 million ft^2 > 78 to 7,800 acres
	Pile	≤1,300 ft^2 ≤0.029 acres	>1,300 to 130,000 ft^2 >0.029 to 2.9 acres
	Land treatment	≤27,000 ft^2 ≤0.62 acres	>27,000 to 2.7 million ft^2 >0.62 to 62 acres

for soil exp.

1 ton = 2,000 pounds = 1 cubic yard = 1 drums = 200 gallons

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Source Areas

	Size	Waste received
Evaluated as waste piles see p. C-7B		
Landfill 1	200,000 ft²	flyash, WWTP sludge
Landfill 2	189,000 ft²	flyash, WWTP sludge
Landfill 3	225,000 ft²	flyash, WWTP sludge
Old waste water treatment plant (WWTP) pond	size unknown	
Old landfill	~~2 acres~~ 1.5 acres	unknown (possibly haz. CERCLA 103(d) Not.)
Trash Fill Area II [South-southeast of main facility]	1.5 acres	construction material, cardboard, bridges metal, drums
Trash Fill Area I [South-northwest of Landfill No. 3]	3 acres	construction debris, (bricks, blocks)
Ravine (west of Trash Fill Area I).	unknown	Reportedly, debris from explosion that had occurred in the plant was disposed in the ravine
Sludge Drying Area (aka Landfill #3)		WWTP sludge

HWQ Calculation Scenario II - Landfills as Waste Piles

	Area	Capacity (Volume)	
Landfill #1	200,000 ft^2	1,000,000 ft^3	Ref. 1 (SCDHEC SOI) p. 7
#2	180,000 ft^2	580,000 ft^3	
#3	225,000 ft^2	1,687,500 ft^3	
	605,000 ft^2	3,267,500 ft^3	

Using either area or volume, when evaluated as waste piles, the HWQ is 10,000.

HWQ = 10,000 for GW, SW, Air pathways

For soil exposure

$$\text{Area of waste pile} = \frac{605{,}000\ ft^2}{34} = 17{,}794$$ thus **HWQ = [illegible]**

SAMPLE NUMBER	TYPE OF SAMPLE	SAMPLE LOCATION	ANALYTICAL RESULTS		REFERENCE(S)
JPSC-SS-11	Dried sludge (4 inches bls)	Small sludge drying area approximately 550 feet northwest of Landfill No. 2.	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	Wastewater treatment plant sludge waste (4 inches bls)	Landfill No. 3, sludge staging area approximately 800 feet south-southeast of the main plant	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.
JPSC-SS-05 (Background)	Surface Soil (4 inches bls)	50 yards north of Landfill No. 1	Arsenic Lead PCB-1260 Phenol	0.3 (U) mg/kg 11 mg/kg 0.01 (U) mg/kg 0.3 (U) mg/kg	7, p. 5; 9, p. 4.
JPSC-SS-07	Surface Soil (4 inches bls)	West end of trash fill area approximately 800 feet south-southeast of the main plant	Arsenic Barium Chromium Copper Lead Selenium Phenol	49 mg/kg 50 mg/kg 30 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 (2.5 feet bls)	Southern end of trash fill area ~~approximately 800 feet south-southeast of the main plant~~ near Hartwell Lake	PCB-1260	0.03 mg/kg	1, pp. 13, 17; 7, p. 36
JPSC-PW-01 (Background offsite private well)	Groundwater	1/3 mile west-northwest of the site	Barium Manganese	~~0.05~~ 0.50 (U) mg/l 0.01 ~~10~~ mg/l	1, p. 11; 10, pp. 16.
JPSC-MW-03 (Onsite monitor well)	Groundwater	1100 feet west-southwest of the main plant	Barium Manganese	0.10 mg/l 0.49 mg/l	1, p. 7; 7, pp. 5-6, 8-10.

no bold

U = constituent was analyzed for, but not detected; the number given is the minimum quantitation limit
bls = below land surface
ug/l = micrograms per liter
mg/kg = milligrams per kilogram

No surface water samples or sediment samples from Lake Hartwell were collected,

~~C-7B~~
C-7C

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TABLE 1

J.P. STEVENS & COMPANY, INC
CLEMSON, OCONEE COUNTY, SOUTH CAROLINA

Investigation Summary

DATE	AGENCY	EVENT	DESCRIPTION	REFERENCE(S)
Undated	SCDHEC	Updated Preliminary Assessment	no samples collected	21
06/05/90 06/19/90	SCDHEC	Site Screening Investigation	4 SS samples, 1 SW sample, 3 GW samples and 3 waste samples	1, p. 10

SS = Surface soil
SW = Surface water
GW = Groundwater
SCDHEC = South Carolina Department of Health and Environmental Control

TABLE 2

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	Flyash Waste (4 inches bls)	Landfill No. 1	Arsenic	170 mg/kg	7, p. 5, 8-10; 8, p. 4; 9, p. 5.
			Barium	270 mg/kg	
			Cadmium	1.8 mg/kg	
			Chromium	26 mg/kg	
			Lead	30 mg/kg	
			Nickel	24 mg/kg	
			Selenium	8 mg/kg	
			Anthracene	1.77 mg/kg	
			Benzo(a)anthracene	4.84 mg/kg	
			Benzo(k)fluoranthene	3.72 mg/kg	
			Benzo(b)fluoranthene	3.76 mg/kg	
			Benzo(a)pyrene	3.52 mg/kg	
			Chrysene	5.39 mg/kg	
			Fluoranthene	13.1 mg/kg	
			Phenanthrene	8.09 mg/kg	
			Pyrene	9.93 mg/kg	

TABLE 1 (CONTINUED)

Single Source Sites (assigned HWQ scores)		Multiple Source Sites		
(Column 5) HWQ = 10,000	(Column 6) HWQ = 1,000,000	(Column 7) Divisors for Assigning Source WQ Values	(Column 2) Source Type	(Column 1) TIER
>10,000 to 1 million lbs	> 1 million lbs	lbs ÷ 1	N/A	A Hazardous Constituent Quantity
>50 million to 5 billion lbs	> 5 billion lbs	lbs ÷ 5,000	N/A	B Hazardous Wastestream Quantity
>675 million to 67.5 billion ft^3 >25 million to 2.5 billion yd^3	> 67.5 billion ft^3 > 2.5 billion yd^3	ft^3 ÷ 67,500 yd^3 ÷ 2,500	Landfill	C Volume
>675,000 to 67.5 million ft^3 >25,000 to 2.5 million yd^3	> 67.5 million ft^3 > 2.5 million yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5	Surface Impoundment	
>100,000 to 10 million drums	> 10 million drums	drums ÷ 10	Drums	
>5 million to 500 million gallons	> 500 million gallons	gallons ÷ 500	Tanks and non-drum containers	
>675 million to 67.5 billion ft^3 >25 million to 2.5 billion yd^3	> 67.5 billion ft^3 > 2.5 billion yd^3	ft^3 ÷ 67,500 yd^3 ÷ 2,500	Contaminated Soil	
>675,000 to 67.5 million ft^3 >25,000 to 2.5 million yd^3	> 67.5 million ft^3 > 2.5 million yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5	Pile	
>675,000 to 67.5 million ft^3 >25,000 to 2.5 million yd^3	> 67.5 million ft^3 > 2.5 million yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5	Other	
>34 million to 3.4 billion ft^2 >780 to 78,000 acres	> 3.4 billion ft^2 >78,000 acres	ft^2 ÷ 3,400 acres ÷ 0.078	Landfill	D Area
>130,000 to 13 million ft^2 >2.9 to 290 acres	> 13 million ft^2 > 290 acres	ft^2 ÷ 13 acres ÷ 0.00029	Surface Impoundment	
> 340 million to 34 billion ft^2 > 7,800 to 780,000 acres	> 34 billion ft^2 > 780,000 acres	ft^2 ÷ 34,000 acres ÷ 0.78	Contaminated Soil	
> 130,000 to 13 million ft^2 > 2.9 to 290 acres	> 13 million ft^2 > 290 acres	ft^2 ÷ 13 acres ÷ 0.00029	Pile	
>2.7 million to 270 million ft^2 >62 to 6,200 acres	> 270 million ft^2 > 6,200 acres	ft^2 ÷ 270 acres ÷ 0.0062	Land Treatment	

1 ton = 2,000 pounds = 1 cubic yard = 4 drums = 200 gallons

Ground Water Observed Release Substances Summary Table

On SI Table 4, list the hazardous substances associated with the site detected in ground water samples for that aquifer. Include only those substances directly observed or with concentrations significantly greater than background levels. Obtain toxicity values from the Superfund Chemical Data Matrix (SCDM). Assign mobility a value of 1 for all observed release substances regardless of the aquifer being evaluated. For each substance, multiply the toxicity by the mobility to obtain the toxicity/mobility factor value; enter the highest toxicity/mobility value for the aquifer in the space provided.

Ground Water Actual Contamination Targets Summary Table

If there is an observed release at a drinking water well, enter each hazardous substance meeting the requirements for an observed release by well and sample ID on SI Table 5 and record the detected concentration. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population using the well as a Level I target. If these percentages are less than 100% or all are N/A, evaluate the population using the well as a Level II target for that aquifer.

HAZARDOUS WASTE QUANTITY (HWQ) CALCULATION

For each migration pathway, evaluate HWQ associated with sources that are available (i.e., incompletely contained) to migrate to that pathway. (Note: If *Actual Contamination Targets* exist for ground water, surface water, or air migration pathways, assign the calculated HWQ score or 100, whichever is greater, as the HWQ score for that pathway.) For each source, evaluate HWQ for one or more of the four tiers (SI Table 1; HRS Table 2-5) for which data exist: constituent quantity, wastestream quantity, source volume, and source area. Select the tier that gives the highest value as the source HWQ. Select the source volume HWQ rather than source area HWQ if data for both tiers are available.

Column 1 of SI Table 1 indicates the quantity tier. Column 2 lists source types for the four tiers. Columns 3, 4, 5, and 6 provide ranges of waste amount for sites with only one source, corresponding to HWQ scores at the tops of the columns. Column 7 provides formulas to obtain source waste quantity values at sites with multiple sources.

1. Identify each source type.
2. Examine all waste quantity data available for each source. Record constituent quantity and waste stream mass or volume. Record dimensions of each source.
3. Convert source measurements to appropriate units for each tier to be evaluated.
4. For each source, use the formulas in the last column of SI Table 1 to determine the waste quantity value for each tier that can be evaluated. Use the waste quantity value obtained from the highest tier as the quantity value for the source.
5. Sum the values assigned to each source to determine the total site waste quantity.
6. Assign HWQ score from SI Table 2 (HRS Table 2-6).

Note these exceptions to evaluate soil exposure pathway HWQ (see HRS Table 5-2):

- The divisor for the area (square feet) of a landfill is 34,000.
- The divisor for the area (square feet) of a pile is 34.
- Wet surface impoundments and tanks and non-drum containers are the only sources for which volume measurements are evaluated for the soil exposure pathway.

SI TABLE 2: HWQ SCORES FOR SITES

Site WQ Total	HWQ Score
0	0
1[a] to 100	1[b]
> 100 to 10,000	100
> 10,000 to 1 million	10,000
> 1 million	1,000,000

[a] If the WQ total is between 0 and 1, round it to 1.
[b] If the hazardous constituent quantity data are not complete, assign the score of 10.

SI TABLE 3: WASTE CHARACTERIZATION WORKSHEET

Site Name: J.P. Stevens & Co.

References: SCDM, SSI (ScDHEC, 6/90)

Sources:

1. Landfill 1
2. Landfill 2
3. Landfill 3
4. WWTP pond (former)
5. Trash Fill Area II
6. Sludge Drying Area NW of LF #2
7.
8.
9.

SOURCE	HAZARDOUS SUBSTANCE	TOXICITY	GROUND WATER PATHWAY		SURFACE WATER PATHWAY: OVERLAND/FLOOD MIGRATION							SURFACE WATER PATHWAY: GROUND WATER TO SURFACE WATER				AIR Pathway
		SCDM	GW Mobility (HRS Table 3-8)	Tox/ Mobility Value (HRS Table 3-9)	Per (HRS Tables 4-10 and 4-11)	Tox/Per Value (HRS Table 4-12)	Bioac Pot (HRS Table 4-15)	Tox/ Pers/ Bioac Value (HRS Table 4-16)	Ecotox (HRS Table 4-19)	Ecotox/ Pers (HRS Table 4-20)	Ecotox/ Pers/ Bioacc Value (HRS Table 4-21)	Tox/ Mob/ Pers Value (HRS Table 4-26)	Tox/ Mob/ Pers/ Bioacc Value (HRS Table 4-28)	Ecotox/ Mob/ Pers Value (HRS Table 4-29)	Ecotox/ Mob/ Per/ Bioacc Value (HRS Table 4-30)	Toxicity mobility Particulate
1,3,6,5	Arsenic	10,000	1E-02	100	1.00	10,000	5.0	50,000	10	10	50					— 0.00008
1,3,6,5	barium	10	1E-02	0.10	1.00	1.0	0.50	0.50	1	1	0.50					— 0.00008
1	cadmium	10,000	2E-01	2000	1.00	10,000	5000	50,000,000	1000	1000	5,000,000					— 0.00008
1,3,6,5	chromium	10,000	1E-02	100	1.00	10,000	5.0	50,000	10,000	10,000	50,000					— 0.00008
1,3,6,5	lead	10,000	— *	— *	1.00	10,000	0.50	5000	1000	1000	500					— 0.00008
1	nickel	10,000	2E-05	0.2	1.00	10,000	0.50	5000	10	10	5					— 0.00008
1,5	selenium	100	1E-02	1.0	1.00	100	5000	500,000	100	100	500000					— 0.00008
1	anthracene	10	2E-07	2E-06	0.40	4.0	5000	20,0000	10000	4000	20,000000					0.0002 0.00008
1	benzo(a) anthracene	1000	2E-09		1.00		50,000		10,000							0.0003 0.00008
1	benzo(k) fluoranthene	— *	— *	— *	1.00	— *	50000	— *	— *	— *	— *					0.0003 0.00008
1	benzo(b) fluoranthene															
1	benzo(a) pyrene	10,000	2E-09	2E-05	1.00	10,000	50,000	5m,000,000	10,000	10,000	5E+08					0.0002 0.00008
1	chrysene	— *	2E-09	— *	1.00	— *	00	— *	— *	— *	— *					0.0003 0.00008
1	fluoranthene	100	2E-07	2E-05	1.00	2E-05	5000	1E-01	10,000	10,000	5E+07					0.0002 0.00008

— * No value is listed for in SCDM for this constituent

(1)(4) (4)(5) (100-1)(.4)

particulate 0.0000

10,000 x 50,000

Source: SCDM, SSI (ScDHEC, 6/90)

C-11

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SI TABLE 3: WASTE CHARACTERIZATION WORKSHEET

Site Name: J.P. Stevens & Co.

References SCDM, SSI (SCDHEC, 6/90)

Sources:

1. Landfill 1
2. Landfill 2
3. Landfill 3
4. WWTP Pond (Common)
5. Trash Fill Areas #1 & 2 (aka "existing trash fill area")
6. Sludge Drying Bed (Northwest of Landfill 2)
7.
8.
9.

SOURCE	HAZARDOUS SUBSTANCE	TOXICITY SCDM	GROUND WATER PATHWAY: GW Mobility (HRS Table 3-8)	GROUND WATER PATHWAY: Tox/ Mobility Value (HRS Table 3-9)	SURFACE WATER PATHWAY: OVERLAND/FLOOD MIGRATION: Per (HRS Tables 4-10 and 4-11)	Tox/Per Value (HRS Table 4-12)	Bioac Pot. (HRS Table 4-15)	Tox/ Pers/ Bioac Value (HRS Table 4-16)	Ecotox (HRS Table 4-19)	Ecotox/ Pers (HRS Table 4-20)	Ecotox/ Pers/ Bioacc Value (HRS Table 4-21)	SURFACE WATER PATHWAY: GROUND WATER TO SURFACE WATER: Tox/ Mob/ Pers Value (HRS Table 4-26)	Tox/ Mob/ Pers/ Bioacc Value (HRS Table 4-28)	Ecotox/ Mob/ Pers Value (HRS Table 4-29)	Ecotox/ Mob/ Per/ Bioacc Value (HRS Table 4-30)	AIR Pathway: ~~Toxicity~~ mobility
1	phenanthrene	1.0	2E-05	2E-05	0.4	0.4	50	20	1000	400	20000	8E-06	4E-04	8E-03	4E-01	0.02 / 0.00008
1	pyrene	100	2E-09	2E-07	1.00	100	50	5000	— *	— *	— *	2E-07	1E-05	— *	—	0.002 / 0.00008
6	benzoic acid	1.0	1E+00	1.00	1.00	1.00	5	5	1	1	5	1	5	1	5	0.2 / 0.00008
6	bis(2-ethyl hexyl)phthalate	100	2E-07	2E-05	1.00		5000		1000	1000	5,000,000	2E-05	1E-01	2E-04	1	0.002 / 0.00008
3	4-methyl phenol.	10	1E-02	1E-01	0.4	4.0	5.0	20	100	40	200	0.04	0.2	0.4	2.0	1.00 / —
3	toluene	10	1E-02	0.10	0.4	4	50	200	100	40	2000	4E-02	2.0	1	50	1.00 / —
1,2,3,6	Manganese	10,000	1E-02	100	1	10,000	0.5	5000	—	—	—					NA / 0.00008
1,2,3,6	Copper	—	1E-02	—	1	—	50,000	—	100	100	5×10^6					NA / 0.00008
1,2,3,6	Zinc	10	2E-03	2E-02	1	10	500	5000	10	10	5000	**				NA / 0.00008
5	PCBs	10,000	2E-07	2E-03	1	10,000	50,000	5×10^8	10,000	10,000	5×10^8					1 / NA
1,2,3,6	Cyanide	100	—	—	0.07	7	0.5	3.5	1000	70	35					NA / 0.00008

C-11 (a)

P. Cresol

Source: SCDM, SSI (SCDHEC, 6/90)

— * No value is listed

** GW to SW not scored.

~~Mn~~ and Barium, MW-03

SI TABLE 4: GROUND WATER OBSERVED RELEASE SUBSTANCES (BY AQUIFER)

Sample ID	Hazardous Substance	Bckgrd. Conc.	Toxicity/ Mobility	References
PSC-MW-03	Manganese (0.49 ppm)	0.01		
" " "	Barium (0.1 ppm)	0.05 Ku	0.01	
	Highest Toxicity/Mobility			

SI TABLE 5: GROUND WATER ACTUAL CONTAMINATION TARGETS

Well ID: _____ Level I ____ Level II ____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

Well ID: _____ Level I ____ Level II ____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

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Ref. SSI, (SCDHE, 6/90) and Harry Legrand, "Region 21, Piedmont and Blue Ridge," The Geology of North America, Vol O-2, Hydrogeology, 1988

GROUND WATER PATHWAY
GROUND WATER USE DESCRIPTION

Describe Ground Water Use within 4 Miles of the Site:
Describe generalized stratigraphy, aquifers, municipal and private wells

Three municipal systems serve potable water to residents within 4 miles: city of Seneca, city of Clemson, and Duke Power. Clemson buys water from Duke Power. Seneca and Duke Power obtain water from surface water intakes. Residents not served by one of these three systems are believed to use private wells. Distribution of population using private wells shown below. The geologic units of the area include a mantle of regolith, over underlying crystalline rocks consisting of biotite gneiss and migmatite. The groundwater occurs in interconnected zones of the regolith and fractured bedrock. The water table is usually at the regolith-bedrock interface. There is no Karst activity or landforms in the area of J.P. Stevens

Show Calculations of Ground Water Drinking Water Populations for each Aquifer:
Provide apportionment calculations for blended supply systems.
County average number of persons per household: _____ Reference topo maps, CPH-1

RADIAL DISTANCE	HOUSEHOLDS A	HOUSEHOLDS B	HOUSEHOLDS C	POPULATION* A	POPULATION* B	POPULATION* C	POPULATION* TOTAL	
0 - 0.25 mile	--	3	--	--	7.65	--	~~7.65~~	8
0.25 - 0.50 mile	--	14	--	--	35.7	--	~~35.7~~	36
0.50 - 1 mile	--	20	1	--	51	2.58	~~53.6~~	54
1 - 2 mile	--	28	43	--	71.4	111	182	
2 - 3 mile	21	103	17	54.4	263	43.9	361	
3 - 4 mile	8	294	31	20.7	750	80.0	850	
						Total	1491	

* 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

Source: House count from topo maps within 4-mile radius of J.P. Stevens, Proof Table, (1990, U.S. Dept. of Commerce), and Public Water Distribution Map

Ref; Regional Hydrogeology, Piedmont ... Ridge, ... Coastal Plain of North America, Vol. O-2, Hydrogeology, 1988.

GROUND WATER PATHWAY WORKSHEET

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LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to the aquifer, assign a score of 550. Record observed release substances on SI Table 4.	550 *	H	SCDHEC SI
2. POTENTIAL TO RELEASE: Depth to aquifer: 250 feet. If sampling data do not support a release to the aquifer, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Optionally, evaluate potential to release according to HRS Section 3.			
	LR = 550		

No karst, unconfined aquifer in regolith & fractured bedrock. The depth to water table estimated to be less than 50 feet below land surface, this area.

TARGETS			
Are any wells part of a blended system? Yes____ No X If yes, attach a page to show apportionment calculations.			
3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates that any target drinking water well for the aquifer has been exposed to a hazardous substance from the site, evaluate the factor score for the number of people served (SI Table 5). Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ Total =	_____	No OR to drinking water well	
4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water wells for the aquifer or overlying aquifers that are not exposed to a hazardous substance from the site; record the population for each distance category in SI Table 6a or 6b. Sum the population values and multiply by 0.1.	194 x (0.1) = 19.4	Public water dist. Map, House count from topo maps.	
5. NEAREST WELL: Assign a score of 50 for any Level I Actual Contamination Targets for the aquifer or overlying aquifer. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Targets exist, assign the Nearest Well score from SI Table 6a or 6b. If no drinking water wells exist within 4 miles, assign 0.	20	Public water dist. Map, House count from topo maps.	
6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA for the aquifer, or if a ground water observed release has occurred within a WHPA, assign a score of 20; assign 5 if neither condition applies but a WHPA is within 4 miles; otherwise assign 0.	* 0	Ref. SSE	*
7. RESOURCES: Assign a score of 5 if one or more ground water resource applies; assign 0 if none applies. • Irrigation (5 acre minimum) of commercial food crops or commercial forage crops • Watering of commercial livestock • Ingredient in commercial food preparation • Supply for commercial aquaculture • Supply for a major or designated water recreation area, excluding drinking water use	5		SCI, p.18 (Irrigation well operated by [illegible] Farm.)
Sum of Targets T=	44		

* No WHPA designated in Region IV

as compared to the Urgent. this was shallow, but it is unk... the Limit (private well), is of comparable depths; therefore,

* Only OR was Barium (0.1ppm) in C-15 monitoring well; OR was scored mainly to present a worst-case scenario.

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SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS

SI Table 6a: Other Than Karst Aquifers

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000	Pop. Value	Ref.
0 to 1/4 mile	8	(20)	(4)	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	4	
> 1/4 to 1/2 mile	36	18	2	11	(33)	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122	33	
> 1/2 to 1 mile	54	9	1	5	(17)	52	167	523	1,669	5,224	16,684	52,239	166,835	522,385	17	
> 1 to 2 miles	182	5	0.7	3	10	(30)	94	294	939	2,939	9,385	29,384	93,845	293,842	30	
> 2 to 3 miles	361	3	0.5	2	7	21	(68)	212	678	2,122	6,778	21,222	67,777	212,219	68	
>3 to 4 miles	850	2	0.3	1	4	13	(42)	131	417	1,306	4,171	13,060	41,709	130,596	42	

Nearest Well = 20

Sum = 194

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RADIAL DISTANCE	HOUSEHOLDS A	B	C	POPULATION* A	B	C	TOTAL	
0 - 0.25 mile	--	3	--	--	7.65	--	~~7.65~~	8
0.25 - 0.50 mile	--	14	--	--	35.7	--	~~35.7~~	36
0.50 - 1 mile	--	20	1	--	51	2.58	~~53.6~~	54
1 - 2 mile	--	28	43	--	71.4	111	182	
2 - 3 mile	21	103	17	54.4	263	43.9	361	
3 - 4 mile	8	294	31	20.7	750	80.0	850	
						Total	1491	

* 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

Ref. → House count from topomap with water distribution system for Anderson, Oconee & Pickens counties & county conversion factors.

A 15°: Proof table; U.S. Dept. of Commerce, Summary Population & Housing Characteristics, (April, 1991)

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GROUND WATER PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS	Score	Data Type	Does not Apply
8. If any Actual Contamination Targets exist for the aquifer or overlying aquifers, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if no Actual Contamination Targets exist, assign the hazardous waste quantity score calculated for sources available to migrate to ground water.	100		
9. Assign the highest ground water toxicity/mobility value from SI Table 3 or 4.	2000		
10. Multiply the ground water toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: (from HRS Table 2-7)	(100) x (2000) = 200,000 → 18		

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 or greater	100

WC = 18

Ref. SSI (ScDHEC, 6/90)

Multiply LR by T and by WC. Divide the product by 82,500 to obtain the ground water pathway score for each aquifer. Select the highest aquifer score. If the pathway score is greater than 100, assign 100.

GROUND WATER PATHWAY SCORE: $\frac{LR \times T \times WC}{82,500}$ = 5.28 (Maximum of 100)

LR = ~~500~~ 550
T = ~~44~~ 44
WC = 18

$\frac{(550)(44)(18)}{82,500} = 5.28$

Ref: Harry Legrand, "Region 21, Piedmont & Blue Ridge," The Geology of North America, Vol O-2, Hydrogeology

SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS (continued)

No Karst

SI Table 6b: Karst Aquifers

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category												Pop. Value	Ref.
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000		
0 to $\frac{1}{4}$ mile		20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455		
> $\frac{1}{4}$ to $\frac{1}{2}$ mile		20	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122		
> $\frac{1}{2}$ to 1 mile		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
> 1 to 2 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
> 2 to 3 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
>3 to 4 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
Nearest Well =														Sum =		

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Runoff from LF #1 would flow [illegible] perennial stream which flows east 1000 ft and enters L. Hartwell. Landfill #2 is located ~ 550 feet from L. Hartwell + Slope at this LF is ~ 4%.

SURFACE WATER PATHWAY

Runoff from Landfill #3 enters a retention pond and is diverted to the LOWTP.

Sketch of the Surface Water Migration Route:
Label all surface water bodies. Include runoff route and drainage direction, probable point of entry, and 15-mile target distance limit. Mark sample locations, intakes, fisheries, and sensitive environments. Indicate flow directions, tidal influence, and rate.

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J. P. Stevens is located on the western shore of Lake Hartwell. Lake Hartwell is formed by the dammed Seneca River and its tributaries. The lake follows the River valley of the Seneca River. Portions of the facility are bounded by [illegible] areas. The nearest intake is located approximately 2.3 miles upstream of J. P. Stevens.

References: 55I, (SCDHEC, 6/90), topographic Maps

Runoff is most likely to enter L. Hartwell from Landfill #2 or #1. Landfill #3 has a retention pond to catch runoff, which is then diverted to the LOWTP.

No observed release (No samples collected from streams or Lake Hartwell.

Ref: SSI (SCDHEC, 6/90)

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SI TABLE 7: SURFACE WATER OBSERVED RELEASE SUBSTANCES

Sample ID	and concentration Hazardous Substance	Bckgrd. Conc.	Toxicity/ Persistence	Toxicity/ Persis./ Bioaccum	Ecotoxicity/ Persis/ Ecobioaccum	References
		Highest Values				

SI TABLE 8: SURFACE WATER DRINKING WATER ACTUAL CONTAMINATION TARGETS

Intake ID: _____ Sample Type _____ Level I _____ Level II _____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

Intake ID: _____ Sample Type _____ Level I _____ Level II _____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

SURFACE WATER PATHWAY

Surface Water Observed Release Substances Summary Table

On SI Table 7, list the hazardous substances detected in surface water samples for the watershed, which can be attributed to the site. Include only those substances in observed releases (direct observation) or with concentration levels significantly above background levels. Obtain toxicity, persistence, bioaccumulation potential, and ecotoxicity values from SCDM. Enter the highest toxicity/persistence, toxicity/persistence/bioaccumulation, and ecotoxicity/persistence/ecobioaccumulation values in the spaces provided.

- TP = Toxicity x Persistence
- TPB = TP x bioaccumulation
- ETPB = EP x bioaccumulation (EP = ecotoxicity x persistence)

Drinking Water Actual Contamination Targets Summary Table

For an observed release at or beyond a drinking water intake, on SI Table 8 enter each hazardous substance by sample ID and the detected concentration. For surface water sediment samples detecting a hazardous substance at or beyond an intake, evaluate the intake as Level II contamination. Obtain benchmark, cancer risk, and reference dose concentrations for each substance from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages of the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population served by the intake as a Level I target. If the percentages are less than 100% or all are N/A, evaluate the population served by the intake as a Level II target.

SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET

LIKELIHOOD OF RELEASE– OVERLAND/FLOOD MIGRATION	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.	—		
2. POTENTIAL TO RELEASE: Distance to surface water: 200 (feet) If sampling data do not support a release to surface water in the watershed, use the table below to assign a score from the table below based on distance to surface water and flood frequency.		Ref;	SSI (CSCDHEC, 6/90)
Optionally, evaluate surface water potential to release according to HRS Section 4.1.2.1.2			
LR =	500		

Distance to surface water <2500 feet	500
Distance to surface water >2500 feet, and:	
Site in annual or 10-yr floodplain	500
Site in 100-yr floodplain	400
Site in 500-yr floodplain	300
Site outside 500-yr floodplain	100

LIKELIHOOD OF RELEASE GROUND WATER TO SURFACE WATER MIGRATION	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.		Ref;	SSI, (CSCDHEC, 6/90)
NOTE: Evaluate ground water to surface water migration only for a surface water body that meets all of the following conditions:			
1) A portion of the surface water is within 1 mile of site sources having a containment factor greater than 0.			
2) No aquifer discontinuity is established between the source and the above portion of the surface water body.			
3) The top of the uppermost aquifer is at or above the bottom of the surface water.			
Elevation of top of uppermost aquifer _____			
Elevation of bottom of surface water body _____			
2. POTENTIAL TO RELEASE: Use the ground water potential to release. Optionally, evaluate surface water potential to release according to HRS Section 3.1.2.			
LR =			

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SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET (CONTINUED)

DRINKING WATER THREAT TARGETS	Score	Data Type	Refs
Record the water body type, flow, and number of people served by each drinking water intake within the target distance limit in the watershed. If there is no drinking water intake within the target distance limit, assign 0 to factors 3, 4, and 5. Intake Name / Water Body Type / Flow / People Served _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ Are any intakes part of a blended system? Yes _____ No X If yes, attach a page to show apportionment calculations. 3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates a drinking water intake has been exposed to a hazardous substance from the site, list the intake name and evaluate the factor score for the drinking water population (SI Table 8). _____ , _____ Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ Total = _____			
4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water intakes for the watershed that have not been exposed to a hazardous substance from the site. Assign the population values from SI Table 9. Sum the values and multiply by 0.1.	0	H	SC Water Resources Commission telecon 11/2/93 topo map
5. NEAREST INTAKE: Assign a score of 50 for any Level I Actual Contamination Drinking Water Targets for the watershed. Assign a score of 45 if there are Level II targets for the watershed, but no Level I targets. If no Actual Contamination Drinking Water Targets exist, assign a score for the intake nearest the PPE from SI Table 9. If no drinking water intakes exist, assign 0.	0	H	SC Water Resources Commission telecon 11/2/93 topo map
6. RESOURCES: Assign a score of 5 if one or more surface water resource applies; assign 0 if none applies. • Irrigation (5 acre minimum) of commercial food crops or commercial forage crops • Watering of commercial livestock • Ingredient in commercial food preparation ✓ • Major or designated water recreation area, excluding drinking water use	5	Ref.	SSI, SCDHEC, 6/9 — pg. 19-20 Clarendon Co. irrigation intakes
SUM OF TARGETS T=	5		

SI TABLE 9 (From HRS Table 4-14): DILUTION-WEIGHTED POPULATION VALUES FOR POTENTIAL CONTAMINATION FOR SURFACE WATER MIGRATION PATHWAY

Type of Surface Water Body	Pop.	Nearest Intake	Number of people									Pop. Value
			0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	
Minimal Stream (<10 cfs)		20	0	4	17	53	164	522	1,633	5,214	16,325	
Small to moderate stream (10 to 100 cfs)		2	0	0.4	2	5	16	52	163	521	1,633	
Moderate to large stream (> 100 to 1,000 cfs)		0	0	0.04	0.2	0.5	2	5	16	52	163	
Large Stream to river (>1,000 to 10,000 cfs)		0	0	0.004	0.02	0.05	0.2	0.5	2	5	16	
Large River (> 10,000 to 100,000 cfs)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	16	
Very Large River (>100,000 cfs)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	
Shallow ocean zone or Great Lake (depth < 20 feet)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	2	
Moderate ocean zone or Great Lake (Depth 20 to 200 feet)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	
Deep ocean zone or Great Lake (depth > 200 feet)		0	0	0	0	0	0.001	0.003	0.008	0.03	0.08	
3-mile mixing zone in quiet flowing river (≥ 10 cfs)		10	0	2	9	26	82	261	817	2,607	8,163	
	Nearest Intake =									Sum =		

References _____

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SURFACE WATER PATHWAY

Human Food Chain Actual Contamination Targets Summary Table

On SI Table 10, list the hazardous substances detected in sediment, aqueous, sessile benthic organism tissue, or fish tissue samples (taken from fish caught within the boundaries of the observed release) by sample ID and concentration. Evaluate fisheries within the boundaries of observed releases detected by sediment or aqueous samples as Level II, if at least one observed release substance has a bioaccumulation potential factor value of 500 or greater (see SI Table 7). Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For FDAAL benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate this portion of the fishery as subject to Level I concentrations. If the percentages are less than 100% or all are N/A, evaluate the fishery as a Level II target.

Sensitive Environment Actual Contamination Targets Summary Table

On SI Table 11, list each hazardous substance detected in aqueous or sediment samples at or beyond wetlands or a surface water sensitive environment by sample ID. Record the concentration. If contaminated sediments or tissues are detected at or beyond a sensitive environment, evaluate the sensitive environment as Level II. Obtain benchmark concentrations from SCDM. For AWQC/AALAC benchmarks, determine the highest percentage of benchmark of the substances detected in aqueous samples. If benchmark concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage equals or exceeds 100%, evaluate that part of the sensitive environment subject to Level I concentrations. If the percentage is less than 100%, or all are N/A, evaluate the sensitive environment as Level II.

SURFACE WATER PATHWAY (continued)
HUMAN FOOD CHAIN THREAT WORKSHEET

HUMAN FOOD CHAIN THREAT TARGETS	Score	Data Type	Refs

Record the water body type and flow for each fishery within the target distance limit. If there is no fishery within the target distance limit, assign a score of 0 at the bottom of this page.

Fishery Name_____ Water Body_____ Flow_____cfs

Species_____ Production_____lbs/yr
Species_____ Production_____lbs/yr

Fishery Name_____ Water Body_____ Flow_____cfs

Species_____ Production_____lbs/yr
Species_____ Production_____lbs/yr

Fishery Name_____ Water Body_____ Flow_____cfs

Species_____ Production_____lbs/yr
Species_____ Production_____lbs/yr

FOOD CHAIN INDIVIDUAL

7. ACTUAL CONTAMINATION FISHERIES:

If analytical evidence indicates that a fishery has been exposed to a hazardous substance with a bioaccumulation factor greater than or equal to 500 (SI Table 10), assign a score of 50 if there is a Level I fishery. Assign 45 if there is a Level II fishery, but no Level I fishery.

45* Scenario II — if O.R. of PCB or benzo-a-pyrene were documented.

8. POTENTIAL CONTAMINATION FISHERIES:

If there is a release of a substance with a bioaccumulation factor greater than or equal to 500 to a watershed containing fisheries within the target distance limit, but there are no Level I or Level II fisheries, assign a score of 20.

If there is no observed release to the watershed, assign a value for potential contamination fisheries from the table below using the lowest flow at all fisheries within the target distance limit:

Lowest Flow	FCI Value
<10 cfs	20
10 to 100 cfs	2
>100 cfs, coastal tidal waters, oceans, or Great Lakes	0
3-mile mixing zone in quiet flowing river	10

FCI Value = 0

SUM OF TARGETS T = 0 /45*

Note; assume fishing is allowed in Hartwell Lake, within target distance

SST, [SCDHEC, 6/90, pg 20]

No observed release (No samples collected) Ref: SSI, SCDHEC, 6/90

SI TABLE 10: HUMAN FOOD CHAIN ACTUAL CONTAMINATION TARGETS FOR WATERSHED

Fishery ID: _____ Sample Type _____ Level I _____ Level II _____ References _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Benchmark Concentration (FDAAL)	% of Benchmark	Cancer Risk Concentration.	% of Cancer Risk Concentration	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

SI TABLE 11: SENSITIVE ENVIRONMENT ACTUAL CONTAMINATION TARGETS FOR WATERSHED

Environment ID: _____ Sample Type _____ Level I _____ Level II _____ Environment Value _____

Sample ID	Hazardous Substance	Conc.. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
			Highest Percent		

Environment ID: _____ Sample Type _____ Level I _____ Level II _____ Environment Value _____

Sample ID	Hazardous Substance	Conc.. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
			Highest Percent		

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Avg. cfs

Twelve-Mile Creek – 198 cfs Avg. Discharge
* Keowee River – not available
Little River – 175 cfs Avg. discharge
} Water Resources Data SC

198
+175
373 cfs

→ Keowee River – no gaging stations

These water bodies contribute major portion of inflow to Lake Hartwell. Values were added to determine representative "flow" of Lake.

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SURFACE WATER PATHWAY (continued)
ENVIRONMENTAL THREAT WORKSHEET

When measuring length of wetlands that are located on both sides of a surface water body, sum both frontage lengths. For a sensitive environment that is more than one type, assign a value for each type.

ENVIRONMENTAL THREAT TARGETS

Score | Data Type | Refs

Record the water body type and flow for each surface water sensitive environment within the target distance (see SI Table 12). If there is no sensitive environment within the target distance limit, assign a score of 0 at the bottom of the page.

Environment Name	Water Body Type	Flow
		cfs
		cfs
		cfs
		cfs
		cfs

Ref: U.S. Fish & Wildlife Service Endangered & Threatened Species of the Southeastern United States, (Atlanta, GA 1992)

[Also, Topo maps do not show any wetlands along Lake Hartwell.]

9. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: If sampling data or direct observation indicate any sensitive environment has been exposed to a hazardous substance from the site, record this information on SI Table 11, and assign a factor value for the environment (SI Tables 13 and 14).

Environment Name	Environment Type and Value (SI Tables 13 & 14)	Multiplier (10 for Level I, 1 for Level II)	Product
		x =	
		x =	
		x =	
		x =	
		Sum =	

10. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS:

Flow	Dilution Weight (SI Table 12)	Environment Type and Value (SI Tables 13 & 14)	Pot. Cont.	Product
cfs	x	x	0.1 =	
cfs	x	x	0.1 =	
cfs	x	x	0.1 =	
cfs	x	x	0.1 =	
cfs	x	x	0.1 =	
			Sum =	

Ref. U.S. Fish & Wildlife Service, Endangered & Threatened Species of the United States, (Atlanta, GA, 1992)

[Topo maps do not show wetlands along Lake Hartwell]

T.=

Note although environmental threat targets may exist along the 15-mile migration pathway, the actual locations of these habitats are not known.

Ref. 20 (Endangered & Threatened Species of SE. United States.

SI TABLE 13 (HRS TABLE 4-23): SURFACE WATER AND AIR SENSITIVE ENVIRONMENTS VALUES

SENSITIVE ENVIRONMENT	ASSIGNED VALUE
Critical habitat for Federal designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument (air pathway only) National Seashore Recreation Area National Lakeshore Recreation Area	100
Habitat known to be used by Federal designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Coastal Barrier (undeveloped) Federal land designated for the protection of natural ecosystems Administratively Proposed Federal Wilderness Area Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay, or estuary Migratory pathways and feeding areas critical for the maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time Terrestrial areas utilized by large or dense aggregations of vertebrate animals (semi-aquatic foragers) for breeding National river reach designated as recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for the protection of maintenance of aquatic life under the Clean Water Act	5
Wetlands — See SI Table 14 (Surface Water Pathway) or SI Table 23 (Air Pathway)	

SI TABLE 14 (HRS TABLE 4-24): SURFACE WATER WETLANDS FRONTAGE VALUES

Total Length of Wetlands	Assigned Value
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

SI TABLE 12 (HRS Table 4-13): SURFACE WATER DILUTION WEIGHTS

Type of Surface Water Body		Assigned Dilution Weight
Descriptor	Flow Characteristics	
Minimal stream	< 10 cfs	1
Small to moderate stream	10 to 100 cfs	0.1
Moderate to large stream	> 100 to 1,000 cfs	0.01
Large stream to river	> 1,000 to 10,000 cfs	0.001
Large river	> 10,000 to 100,000 cfs	0.0001
Very large river	> 100,000 cfs	0.00001
Coastal tidal waters	Flow not applicable; depth not applicable	0.001
Shallow ocean zone or Great Lake	Flow not applicable; depth less than 20 feet	0.001
Moderate depth ocean zone or Great Lake	Flow not applicable; depth 20 to 200 feet	0.0001
Deep ocean zone or Great Lake	Flow not applicable; depth greater than 200 feet	0.000005
3-mile mixing zone in quiet flowing river	10 cfs or greater	0.5

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SURFACE WATER PATHWAY (concluded)
WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY

WASTE CHARACTERISTICS No observed release Score (No samples collected)

14. If an Actual Contamination Target (drinking water, human food chain, or environmental threat) exists for the watershed, assign the calculated hazardous waste quantity score, or a score of 100, whichever is greater.	Ref: SSI, (SCDHEC, 6/90)
15. Assign the highest value from SI Table 7 (observed release) or SI Table 3 (no observed release) for the hazardous substance waste characterization factors below. Multiply each by the surface water hazardous waste quantity score and determine the waste characteristics score for each threat.	WC Score (from Table) (Maximum-of-100)

	Substance Value		HWQ		Product	WC Score (from Table) (Maximum-of-100)
Drinking Water Threat Toxicity/Persistence	10,000	Cd Cr	x 100	=	1000000	32 (max = 100)
Food Chain Threat Toxicity/Persistence Bioaccumulation	5×10^8	benzo-a-pyrene	x 100	=	5×10^{10}	320 (max = 1000)
Environmental Threat Ecotoxicity/Persistence/ Ecobioaccumulation	5E+08	benzo-a-pyrene	x 100	=	5E+10	320 (max = 1000)

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 to <1E + 09	100
1E + 09 to <1E + 10	180
1E + 10 to <1E + 11	320
1E + 11 to <1E + 12	560
1E + 12 or greater	1000

SURFACE WATER PATHWAY THREAT SCORES

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score $\frac{LR \times T \times WC}{82{,}500}$ (maximum of 100)
Drinking Water	500	6	32	1.16
Human Food Chain	500/550*	0/45*	320	0.00/96.00*
Environmental	500	0	320	0 (maximum of 60)

SURFACE WATER PATHWAY SCORE (Drinking Water Threat + Human Food Chain Threat + Environmental Threat)

(maximum of 100) 1.16 / 97.16*

* Scenario II based on observed release of a substance w/ a BCF value >5000-33 to Hartwell Lake.

SOIL EXPOSURE PATHWAY

If there is no observed contamination (e.g., ground water plume with no known surface source), do not evaluate the soil exposure pathway. Discuss evidence for no soil exposure pathway.

Soil Exposure Resident Population Targets Summary

For each property (duplicate page 35 as necessary):

If there is an area of observed contamination on the property and within 200 feet of a residence, school, or day care center, enter on Table 15 each hazardous substance by sample ID. Record the detected concentration. Obtain cancer risk, and reference dose concentrations from SCDM. Sum the cancer risk and reference dose percentages for the substances listed. If cancer risk or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the residents and students as Level I. If both percentages are less than 100% or all are N/A, evaluate the targets as Level II.

(SSI, SCDHEC, 6/90)

No Samples were collected at residence, school or day care center.

SI TABLE 15: SOIL EXPOSURE RESIDENT POPULATION TARGETS

Residence ID: _____ Level I ____ Level II ____ Population _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

Residence ID: _____ Level I ____ Level II ____ Population _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

Residence ID: _____ Level I ____ Level II ____ Population _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

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SOIL EXPOSURE PATHWAY WORKSHEET
RESIDENT POPULATION THREAT

LIKELIHOOD OF EXPOSURE	Score	Data Type	Refs
1. OBSERVED CONTAMINATION: If evidence indicates presence of observed contamination (depth of 2 feet or less), assign a score of 550; otherwise, assign a 0. Note that a likelihood of exposure score of 0 results in a soil exposure pathway score of 0.			
LE =	550		

SSI, (SCDHEC, 6/90)

TARGETS

2. RESIDENT POPULATION: Determine the number of people living or attending school or day care on a property with an area of observed contamination and whose residence, school, or day care center, respectively, is on or within 200 feet of the area of observed contamination. Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ Sum =	No resident population, schools or day care centers Ref, SSI (SCDHEC, 6/90) 0		
3. RESIDENT INDIVIDUAL: Assign a score of 50 if any Level I resident population exists. Assign a score of 45 if there are Level II targets but no Level I targets. If no resident population exists (*i.e.*, no Level I or Level II targets), assign 0 (HRS Section 5.1.3).	0	SSI	(SCDHEC, 6/90)
4. WORKERS: Assign a score from the table below for the total number of workers at the site and nearby facilities with areas of observed contamination associated with the site.	Active facility, assume 1 to 100. 5	Ref: SSI, (SCDHEC, 6/90)	
5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Assign a value for each terrestrial sensitive environment (SI Table 16) in an area of observed contamination. Sum =	No, onsite sensitive environments. Refs. SSI, SCDHEC, 6/90 Also, Endangered + Threatened Species of the U.S. 0		
6. RESOURCES: Assign a score of 5 if any one or more of the following resources is present on an area of observed contamination at the site; assign 0 if none applies. • Commercial agriculture • Commercial silviculture • Commercial livestock production or commercial livestock grazing	0	Ref: SSI, SCDHEC, 6/90	
Total of Targets T=	5		

Number of Workers	Score
0	0
1 to 100	5
101 to 1,000	10
>1,000	15

Terrestrial Sensitive Environment Type	Value

SI TABLE 16 (HRS TABLE 5-5): SOIL EXPOSURE PATHWAY TERRESTRIAL SENSITIVE ENVIRONMENT VALUES

TERRESTRIAL SENSITIVE ENVIRONMENT	*ASSIGNED VALUE*
Terrestrial critical habitat for Federal designated endangered or threatened species National Park Designated Federal Wilderness Area National Monument	100
Terrestrial habitat known to be used by Federal designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	75
Terrestrial habitat used by State designated endangered or threatened species Terrestrial habitat used by species under review for Federal designated endangered or threatened status	50
State lands designated for wildlife or game management State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

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SOIL EXPOSURE PATHWAY WORKSHEET
NEARBY POPULATION THREAT

LIKELIHOOD OF EXPOSURE		Score	Data Type	Ref.
7. Attractiveness/Accessibility (from SI Table 17 or HRS Table 5-6)	Value 10			
Area of Contamination (from SI Table 18 or HRS Table 5-7)	Value 100			
605,000 ft² Landfills 1, 2, 3	Likelihood of Exposure (from SI Table 19 or HRS Table 5-8)			
	LE =	125		

SSI, SCDHEC, 6/90

TARGETS	Score	Data Type	Ref.
8. Assign a score of 0 if Level I or Level II resident individual has been evaluated or if no individuals live within 1/4 mile travel distance of an area of observed contamination. Assign a score of 1 if nearby population is within 1/4 mile travel distance and no Level I or Level II resident population has been evaluated.	1		
9. Determine the population within 1 mile travel distance that is not exposed to a hazardous substance from the site (*i.e.*, properties that are not determined to be Level I or Level II); record the population for each distance category in SI Table 20 (HRS Table 5-10). Sum the population values and multiply by 0.1. (5)(0.1)	2.7(.1) = .27		
	T = 1.27	= 1	

Topo Maps SCDHEC, 6/90.

0 - ¼	109.6
¼ - ½	96.9
½ - 1	89.3
1 - 2	1956
2 - 3	5729
3 - 4	6444

15,424.8 ~ 15,425

SI TABLE 17 (HRS TABLE 5-6): ATTRACTIVENESS/ACCESSIBILITY VALUES

Area of Observed Contamination	Assigned Value
Designated recreational area	100
Regularly used for public recreation (for example, vacant lots in urban area)	75
Accessible and unique recreational area (for example, vacant lots in urban area)	75
Moderately accessible (may have some access improvements–for example, gravel road) with some public recreation use	50
Slightly accessible (for example, extremely rural area with no road improvement) with some public recreation use	25
→ Accessible with no public recreation use	10
Surrounded by maintained fence or combination of maintained fence and natural barriers	5
Physically inaccessible to public, with no evidence of public recreation use	0

Ref. SSI, SCDHEC, 6/90 Pg. 21

SI TABLE 18 (HRS TABLE 5-7): AREA OF CONTAMINATION FACTOR VALUES

Total area of the areas of observed contamination (square feet)	Assigned Value
≤ to 5,000	5
> 5,000 to 125,000	20
> 125,000 to 250,000	40
> 250,000 to 375,000	60
> 375,000 to 500,000	80
→ > 500,000	100

Ref: (SSI, SCDHEC, 6/90)

Area of contamination: Landfill 1: 200,000 ft²
Landfill 2: 180,000 ft²
Landfill 3: 225,000 ft²
605,000 ft² total
Square ft of Landfills 1, 2, 3

SI TABLE 19 (HRS TABLE 5-8): NEARBY POPULATION LIKELIHOOD OF SSI EXPOSURE FACTOR VALUES

Ref. (SCDHEC, 6/90)

AREA OF CONTAMINATION FACTOR VALUE	ATTRACTIVENESS/ACCESSIBILITY FACTOR VALUE						
	100	75	50	25	↓ (10)	5	0
100	500	500	375	250	→ [125]	50	0
80	500	375	250	125	50	25	0
60	375	250	125	50	25	5	0
40	250	125	50	25	5	5	0
20	125	50	25	5	5	5	0
5	50	25	5	5	5	5	0

SI TABLE 20 (HRS TABLE 5-10): DISTANCE-WEIGHTED POPULATION VALUES FOR NEARBY POPULATION THREAT

Travel Distance Category (miles)	Pop.	Number of people within the travel distance category												Pop. Value
		0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,001	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	
Greater than 0 to $\frac{1}{4}$	79	0	0.1	0.4	(1.0)	4	13	41	130	408	1,303	4,081	13,034	1.0
Greater than $\frac{1}{4}$ to $\frac{1}{2}$	69	0	0.05	0.2	(0.7)	2	7	20	65	204	652	2,041	6,517	0.7
Greater than $\frac{1}{2}$ to 1	105	0	0.02	0.1	0.3	(1)	3	10	33	102	326	1,020	3,258	1.0

0 - 1/4 → 31 houses x 2.55 (Oconee Co.) = 79.05 Reference(s): _____ Sum = 2.7

1/4 → 1/2 → 27 houses x 2.55 (Oconee Co.) = 68.85 people

1/2 → 1 → 41 houses x 2.55 (Oconee Co.) = 104.55 people

Refs. Topo Maps; U.S. Dept. of Commerce, Proof Table, Summary Population & Housing Characteristics

SOIL EXPOSURE PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS

10. Assign the hazardous waste quantity score calculated for soil exposure (Ref: SSI, SCDHEC, 6/90) Landfills 1, 2 and 3	10 *
11. Assign the highest toxicity value from SI Table 16 toxicity value from Table 3. Cr, Cd, etc.	10,000
12. Multiply the toxicity and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: 100	WC =

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 or greater	100

RESIDENT POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 1; Targets = Sum of Questions 2, 3, 4, 5, 6)

(50) (5) (32)
LE X T X WC
~~82,500~~

NEARBY POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 7; Targets = Sum of Questions 8, 9)

(125) (1) ~~(125)~~ (32)
LE X T X WC
~~82,500~~

SOIL EXPOSURE PATHWAY SCORE:
Resident Population Threat + Nearby Population Threat ~~82,500~~ (Maximum of 100)

SE HWQ = 100

Total area of 3 landfills = $\frac{605{,}000\ ft^2}{34{,}000}$ = 17.79 thus HWQ = 10

* Smaller HWQ used since only cont. at < 2 feet would be a threat to the SE pathway

AIR PATHWAY

Air Pathway Observed Substances Summary Table

On SI Table 21, list the hazardous substances detected in air samples of a release from the site. Include only those substances with concentrations significantly greater than background levels. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For NAAQS/NESHAPS benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate targets in the distance category from which the sample was taken and any closer distance categories as Level I. If the percentages are less than 100% or all are N/A, evaluate targets in that distance category and any closer distance categories that are not Level I as Level II.

SI TABLE 23 (HRS TABLE 6-18): AIR PATHWAY VALUES FOR WETLAND AREA

Wetland Area	Assigned Value
< 1 acre	0
1 to 50 acres	25
> 50 to 100 acres	75
> 100 to 150 acres	125
> 150 to 200 acres	175
> 200 to 300 acres	250
> 300 to 400 acres	350
> 400 to 500 acres	450
> 500 acres	500

SI TABLE 24: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS

Distance	Distance Weight	Sensitive Environment Type and Value (from SI Tables 13 and 20) 23	Product
On a Source	0.10	x	
		x	
0 to 1/4 mile	0.025	x	
		x	
		x	
1/4 to 1/2 mile	0.0054	x	
		x	
		x	
1/2 to 1 mile	0.0016	x	
		x	
		x	
1 to 2 miles	0.0005	x	
		x	
		x	
2 to 3 miles	0.00023	x	
		x	
		x	
3 to 4 miles	0.00014	x	
		x	
		x	
> 4 miles	0	x	
		Total Environments Score =	

Note:

Although sensitive environments may exist within a 4-mile radius of J. P. Stevens, the exact locations of these habitats are not known. (U.S. Fish & Wildlife service, Endangered & Threatened Species of the Southeastern United States, (Atlanta, Georgia 1992)

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SI TABLE 22 (From HRS TABLE 6-17): VALUES FOR POTENTIAL CONTAMINATION AIR TARGET POPULATIONS

Distance from Site	Pop.	Nearest Individual (choose highest)	Number of People within the Distance Category												Pop. Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000	
On a source	11 – 100 workers	20	4	17	(53)	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	53
0 to $\frac{1}{4}$ mile	79.1	*	1	4	(13)	41	131	408	1,304	4,081	13,034	40,812	130,340	408,114	13
> $\frac{1}{4}$ to $\frac{1}{2}$ mile	~~689~~ 69	2	0.2	0.9	(3)	9	28	88	282	882	2,815	8,815	28,153	88,153	3
> $\frac{1}{2}$ to 1 mile	~~1046~~ 105	1	0.06	0.3	(0.9)	3	8	26	83	261	834	2,612	8,342	26,119	0.9
> 1 to 2 miles	195.6	0	0.02	0.09	0.3	0.8	3	(8)	27	83	266	833	2,659	8,326	8
> 2 to 3 miles	6729	0	0.009	0.04	0.1	0.4	1	4	(12)	38	120	375	1,199	3,755	12
>3 to 4 miles	6444	0	0.005	0.02	0.07	0.2	0.7	2	(7)	28	73	229	730	2,285	7
	Nearest Individual =	20											Sum =		96.9

assume 11-100 workers, active facility

SSI, (SCONEC, 6/90) C-45

References _____

* Score = 20 if the Nearest Individual is within $\frac{1}{8}$ mile of a source; score = 7 if the Nearest Individual is between $\frac{1}{8}$ and $\frac{1}{4}$ mile of a source.

0-¼ mile radius 31 houses x 2.55 (Oconee Co.) = 79.1
¼-½ mile radius 27 houses x 2.55 (Oconee Co.) = 69
½-1 mile radius 41 houses x 2.55 (Oconee Co.) = 105

Refs: House count from Topo maps, U.S. Dept. of Commerce, Proof Table for 1990 Summary of Population + Housing Characteristics.

1-2 miles (GEMS Data base) 1956 persons
2-3 miles (GEMS Data base) 6729 persons
3-4 miles (GEMS Data base) 6444 persons

U.S. EPA, GRAPHICAL Exposure Modeling System (GEMS) Data base, compiled from U.S. Bureau of Census Data.

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AIR PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to air, assign a score of 550. Record observed release substances on SI Table 21.	No air samples collected	SSI,	SCDHEC, 6/90
2. POTENTIAL TO RELEASE: If sampling data do not support a release to air, assign a score of 500. Optionally, evaluate air migration gaseous and particulate potential to release (HRS Section 6.1.2).	500		
LR =	500		

TARGETS			
3. ACTUAL CONTAMINATION POPULATION: Determine the number of people within the target distance limit subject to exposure from a release of a hazardous substance to the air. a) Level I: _____ people x 10 = _____ b) Level II: _____ people x 1 = _____ Total =	___		
4. POTENTIAL TARGET POPULATION: Determine the number of people within the target distance limit not subject to exposure from a release of a hazardous substance to the air, and assign the total population score from SI Table 22. Sum the values and multiply the sum by 0.1.	96.9 (0.1) = 9.69		
5. NEAREST INDIVIDUAL: Assign a score of 50 if there are any Level I targets. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Population exists, assign the Nearest Individual score from SI Table 22.	20		
6. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (SI Table 13) and wetland acreage values (SI Table 23) for environments subject to exposure from the release of a hazardous substance to the air.	No wetlands are shown on Topographic Maps, Actual locations for sensitive Environments are not known. (U.S. Fish & wildlife Service Endangered & Threatened Species of the southeastern United States.) Ø		
7. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS: Use SI Table 24 to evaluate sensitive environments not subject to exposure from a release.	Ø	Ref. - see above	
8. RESOURCES: Assign a score of 5 if one or more air resources apply within 1/2 mile of a source; assign a 0 if none applies. • Commercial agriculture • Commercial silviculture • Major or designated recreation area (assume Lake Hartwellis a recreational area)	5		SSI, SCDHEC, 6/90)
T =	~~34.7~~ 35		

Sensitive Environment Type	Value

Wetland Acreage	Value

8. Ref. SSI, SCDHEC, 6/90

No air samples were collected, (Ref: SCI, SCDHEC, 6/90)

SI TABLE 21: AIR PATHWAY OBSERVED RELEASE SUBSTANCES

Sample ID: _____ Level I _____ Level II _____ Distance from Sources (mi) ____ References_____

Hazardous Substance	Conc. (µg/m³)	Gaseous Particulate	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents	

Sample ID: _____ Level I _____ Level II _____ Distance from Sources (mi) ____ References_____

Hazardous Substance	Conc. (µg/m³)	Toxicity/ Mobility	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents	

Sample ID: _____ Level I _____ Level II _____ Distance from Sources (mi) ____ References_____

Hazardous Substance	Conc. (µg/m³)	Toxicity/ Mobility	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents	

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AIR PATHWAY (concluded)

WASTE CHARACTERISTICS

9. If any Actual Contamination Targets exist for the air pathway, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if there are no Actual Contamination Targets for the air pathway, assign the calculated HWQ score for sources available to air migration.	100
10. Assign the highest air toxicity/mobility value from SI Table 21. Benzo(a) pyrene (10,000)(0.0002) = 2 PCBs → 10,000	SSI(SCOHEC, 6/90) = 10,000
11. Multiply the air pathway toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: (100)(2) = 200	WC = 32

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 or greater	100

AIR PATHWAY SCORE: $\frac{LE \times T \times WC}{82,500}$ = 6.79 (maximum of 100)

$$\frac{(500)(\cancel{34}\ 32)(\cancel{3})}{82,500}$$

SITE SCORE CALCULATION	S	S^2
GROUND WATER PATHWAY SCORE (S_{GW})	5.28	27.88
SURFACE WATER PATHWAY SCORE (S_{SW})	1.16 / 97.16 *	1.35 / 9440.07
SOIL EXPOSURE (S_S)	0.63	0.40
AIR PATHWAY SCORE (S_A)	6.79	46.10
SITE SCORE $\sqrt{\frac{S_{GW}^2+S_{SW}^2+S_S^2+S_A^2}{4}}$ = * Scenario II (see below)		4.35 / 48.77 *

COMMENTS

Conclusion/Recommendations

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 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 and the distance to nearby residences. The 4-mile radius is mainly rural, and a total of 15,382 people reside within 4 miles of the facility.

Based on the potential release of 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.

[redacted]

REFERENCE NO. 1

approved 1/29/91 R Clemmons

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

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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 (aka Landfill #1)

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: labeled "SB"-08 in data table /c

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.

		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	<0.004	0.0098	0.01
Di-N-butyl-phthalate	<0.004	0.118	<0.004	<0.004	<0.004
1,1,1-Tri-chloroethane	<0.002	0.0054	<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	14	19	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	<0.004
PHENOL	0.03	<0.3	84.7	<0.004
4-METHYLPHENOL	<0.3	<0.3	4.03	<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	<0.002
1,1,1-TRICHLOROETHANE	<0.02	<0.02	8.46	<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. (APPENDIX B).

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).

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SCD	003345097

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
J. P. Stevens & Co. - Clemson Plt.	2.5 miles Southwest of Clemson, S. C. off Cherry Road.

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Clemson	SC	29631	Oconee	73	

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
34 37 37.3	082 52 24.4	☒ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
06 05 90 (MONTH DAY YEAR)	☒ ACTIVE ☐ INACTIVE	1951 (BEGINNING YEAR) Present (ENDING YEAR) ☐ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR _____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☒ E. STATE ☐ F. STATE CONTRACTOR _____ (Name of firm) ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Gerald Shealy	ENV. Quality Manager	SCDHEC	(803) 734-5200
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Pete Saussy	" " "	"	( ) "
June Bristol	ENV. Techn.	SCDHEC	(803) 734-5200
Pamela James	ENV. Techn.	SCDHEC	(") "
Jacob Baker	ENV. Techn	"	(") "
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Mark Preddy			( )
Robert E. MacPHEE	Hydrologist	4 Interchange Blvd. Greenville, 29607	(803) 288-5166
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	9:00 am	Sunny & hot with temperature in the 90's

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Gerald Stewart	SCDHEC / BSHWM	(803) 734-5220

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Gerald Stewart	SCDHEC	BSHWM	803-734-5220	12 31 90 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SCD	003 345 097

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [x] A. SOLID
- [ ] B. POWDER, FINES
- [x] C. SLUDGE
- [ ] D. OTHER (Specify)
- [ ] E. SLURRY
- [ ] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS
- CUBIC YARDS: Unknown
- NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

- [x] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [x] D. PERSISTENT
- [x] E. SOLUBLE
- [ ] F. INFECTIOUS
- [x] G. FLAMMABLE
- [ ] H. IGNITABLE
- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [x] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	Unknown		
OLW	OILY WASTE			
SOL	SOLVENTS	Unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	Unknown		
IOC	INORGANIC CHEMICALS	Unknown		
ACD	ACIDS	Unknown		
BAS	BASES	Unknown		
MES	HEAVY METALS	Unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	1,1,1-trichloroethane		Sludge disposal	8.46 ppm	ppm
OCC	Butylbenzyl phthalate		Unknown	0.197	ppm
MES	Arsenic		Ash disposal	170	ppm
OCC	Di-N-butylphthalate		Unknown	0.118	ppm

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

SCDHEC - CERCLA Files

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003 345 097

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 657
02 ☒ OBSERVED (DATE: June 5, 1990) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
1,1,1-trichloroethane was detected in groundwater and waste samples. Groundwater is a source of drinking for 657 people within three miles of the site.

01 ☒ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 15,000
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Hartwell Lake is located adjacent (within 250 feet) of sludge and waste disposal areas at the site.

01 ☒ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
See SSI Report, Section VI.

01 ☒ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
See Section VII-B.

01 ☒ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
See Section VII-A

01 ☒ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: _____ (Acres)
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
See Section III-C, Table 5.2 and Section VII A. of SSI Report.

01 ☒ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
See Sections IV-B+C and V-B & C.

01 ☒ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None known. However, individuals participating in excavation activities are potentially impacted & exposed to contaminants.

01 ☒ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None known,
See Section VII-A

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	005 345 097

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Unknown

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
Unknown

01 ☒ C CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Hartwell Lake is a major source of recreational fishing. See Section II-A & B.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
See Sections II-B & D of SSI-Report.

01 ☒ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None known.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None known

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None known

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: 15657

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)
SCDHEC - CERCLA Files.
Site Screening-Inuestigation Report - J. P. Stevens & Co.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SCD	003 345 097

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES	SC0000591	10/11/76		currently operating
☐ B. UIC				
☐ C. AIR	1880-0008	3/19/85		Current permit.
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				Withdrawn 9/82
☐ F. SPCC PLAN				
☐ G. STATE (Specify)	DWP-104, 135, 186			See Section II-C of SSI Report.
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☑ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☑ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☑ F. LANDFILL		
☐ G. LANDFARM		
☑ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)
☐ A. INCENERATION
☐ B. UNDERGROUND INJECTION
☑ C. CHEMICAL/PHYSICAL
☐ D. BIOLOGICAL
☐ E. WASTE OIL PROCESSING
☐ F. SOLVENT RECOVERY
☐ G. OTHER RECYCLING/RECOVERY
☐ H. OTHER (Specify)

05 OTHER
☑ A. BUILDINGS ON SITE

06 AREA OF SITE
14+ (Acres)

07 COMMENTS
See SSI Report - Sections II-B & D.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☑ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.
Unlined landfill and industrial permitted landfills. Drums and stained soil were observed during the site reconnaissance.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☑ NO

02 COMMENTS Access is restricted by gate and/or fence.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

SCDHEC, CERCLA - files
Site Screening Investigation - J. P. Stevens & Co.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SCD	003 345 097

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☒	B. ☐
NON-COMMUNITY	C. ☐	D. ☒

02 STATUS: Unknown

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☐
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE
A. 2.8 (mi)
B. 0.3 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one) –
☒ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER: 657
03 DISTANCE TO NEAREST DRINKING WATER WELL: 0.3 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-30 (ft)	East, West & South	0 (ft)	288,000 Bedrock (gpd)	☒ YES ☐ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)
14,400 - Saprolite
Two saprolite wells have been identified in the vicinity of the site. (SCDHEC-CERCLA Files, Memorandum from Judy Canova, May 29, 1990.

10 RECHARGE AREA		11 DISCHARGE AREA	
☒ YES ☐ NO	COMMENTS: Local	☒ YES ☐ NO	COMMENTS: Local

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)
☒ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Hartwell Lake	☐	0.038 (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 421 NO. OF PERSONS	B. 1519 NO. OF PERSONS	C. 4582 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: 0.12 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: Approx 40 excluding houses (x400).

04 DISTANCE TO NEAREST OFF-SITE BUILDING: 0.12 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)
See Section II-F. of the SSI-Report.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SCD	003 345 097

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☑ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☑ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
Approx 40 (ft)	Unknown (ft)		

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
13 (in)	3.5 (in)	≈ 4.0 %	Southeast	≈ 7.0 %

09 FLOOD POTENTIAL

SITE IS IN _____ YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

None

ESTUARINE A. _____ (mi)

OTHER B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

_____ (mi)

Regional Concern species have been reported

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A. 1.5 (mi)	B. 0.038 (mi)	C. 0.21 (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

See Section II-A of SSI-Report.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

SCDHEC - CERCLA - Files

Site Screening Investigation Report - J.P. Stevens & Company

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003 345 097

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO All Samples analyzed by SCDHEC Bureau of Laboratories	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	3		
SURFACE WATER	1*		
WASTE	3		
AIR			
RUNOFF			
SPILL			
SOIL	4		
VEGETATION			
OTHER	2 - Blanks		

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
None	

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☐ AERIAL None

02 IN CUSTODY OF _____ (Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS SCDHEC - CERCLA Files.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

None.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Site Screening Investigation - J. P. Stevens & Co. - Clemson Plant.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003 345 097

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER
Westpoint Pepperell	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
P.O. Box 71	
05 CITY	06 STATE / 07 ZIP CODE
Westpoint	Ga / 31833

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER
10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
12 CITY	13 STATE / 14 ZIP CODE

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

08 NAME	09 D+B NUMBER
10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
12 CITY	13 STATE / 14 ZIP CODE

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

08 NAME	09 D+B NUMBER
10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
12 CITY	13 STATE / 14 ZIP CODE

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

08 NAME	09 D+B NUMBER
10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
12 CITY	13 STATE / 14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER
J. P. Stevens & Co.	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	P.O. Box / 04 SIC CODE
400 East Stone Ave	2550
05 CITY	06 STATE / 07 ZIP CODE
Greenville	SC / 29602

01 NAME	02 D+B NUMBER
Utica and Mohawk Cotton Mill	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE
Utica (Utica)	NY

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

IV. REALTY OWNER(S) (If applicable, list most recent first)

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

SCDHEC - CERCLA Files.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SCD	003 345 097

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
Westpoint Pepperell - Clemson Plant	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
Cherry Road	

05 CITY	06 STATE	07 ZIP CODE
Clemson	S.C.	29631

08 YEARS OF OPERATION	09 NAME OF OWNER
1958 – Present	

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
J. P. Stevens & Co., Inc.			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
Cherry Road			

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
Clemson	S.C.	29631			

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
Utica Mohawk Mill			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

SCDHEC - CERCLA RI's.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003 345 097

II. ON-SITE GENERATOR — N/A

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003-245 097

II. PAST RESPONSE ACTIVITIES - None Known, See Section II-E of SSI Report.

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003 345 097

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

See Section II-C of SSI Report.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

SCDHEC - CERCLA Files.

EPA FORM 2070-13 (7-81)

SCREENING SITE INSPECTION
HAZARDOUS RANKING SYSTEM SCORING SUMMARY

FOR

SCD003345097

STEVENS, J.P. & CO INC

EPA REGION: IV

SCORE STATUS: In preparation

SCORED BY: GERALD STEWART
EMPLOYED BY: SCDHEC

DATE OF THIS REPORT:	01/09/91
DATE OF LAST MODIFICATION:	01/09/91

GROUND WATER ROUTE SCORE:	59.18
SURFACE WATER ROUTE SCORE:	35.96
AIR ROUTE SCORE:	0.00
MIGRATION SCORE:	40.03

COMMENTS

	CATAGORY/FACTOR	RAW DATA	ASN. VALUE		SCORE
1.	Observed release	Y	45		45
	Comments: The heavy metal results reported for the SSI may have been altered a metal pipe used to loosen a wedged bailer. However, semivolatiles indicate groundwater contamination.				
2.	Route Characteristics:				
	Depth to Water Table	15 feet			
	Comments:				
	Depth to Bottom of Waste	2 feet			
	Comments:				
	Depth to Aquifer of Concern	13 feet	0	X 2	0
	Precipitation	54.0 inches			
	Evaporation	40.0 inches			
	Net Precipitation	14 inches	0		0
	Permeability	1.0 x 10^{-4} cm/sec	0		0
	Comments:				
	Physical State		3		3
	Comments:				
	TOTAL ROUTE CHARACTERISTICS SCORE:				0
3.	Containment		0		0
	Comments:				
4.	Waste Characteristics:				
	Toxicity/Persistence Matrix Value		18		18
	Substance scored: DI-N-BUTYL-PHTHALATE				
	Comments: Di-N-butylphthalate and butylbenzyl phthalate have been detected in above background concentrations.				

(Continued)

CATAGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
4. Waste Characteristics: (Continued)			
Other substances present:			
1,1,1-TRICHLOROETHANE			
Waste Quantity:			
Cubic Yds	40750		
Drums	0		
Gallons	0		
Tons	0		
Total	40750 Cu. yds.	8	8

Comments: Waste quantity is based on the remaining capacity reported in 1987 by The Piedmont Group for JPSC. See SSI REPORT.

TOTAL WASTE CHARACTERISTICS SCORE: 26

5. Targets:

Ground Water Use (Three mile radius)		3 x 3	9
Comments:			
Groudwater is used as a sole source of drinking water.			
Distance to nearest well	1600 feet	4	
Population Within 3 Miles:			
Number of Houses	173 x 3.8		
Number of Persons	0		
Number of Connections	0 x 3.8		
Number Irrigated Acres	0 x 1.5		
Total Population Served	657.40	2	
Distance to Well/Population Served Matrix		20	20

TOTAL TARGETS SCORE: 29

6. If line 1 is 45, multiply 1 x 4 x 5, & divide by 57.33 or if line 1 is 0, multiply 2 x 3 x 4 x 5, & divide by 57.33 to get Sgw

GROUND WATER ROUTE SCORE (Sgw) = 59.18

SITE NAME: STEVENS, J.P. & CO INC
HRS SURFACE WATER ROUTE SCORE

CATAGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. Observed release	N	0	0

Comments:
No samples collected . See SSI Report.

2. Route Characteristics:

Site Located in S/W	.F.		
Site Within Closed Basin	.F.		
Facility Slope	4.0 %		
Intervening Slope	7.0 %		
Facility slope and intervening terrain		2	2
24-Hour Rainfall	3.5 inches	3	3
Distance to Nearest S/W	250 feet	3 x 2	6
Physical State of Waste		3	3

Comments: Sludges

TOTAL ROUTE CHARACTERISTICS SCORE: 14

3. Containment		3	3

Comments:
Several areas do not contain runoff containment systems.

4. Waste Characteristics:

Toxicity/Persistence Matrix Value		18	18

Substance scored: ARSENIC

Comments: Arsenic is present in waste handling areas.

Other substances present:
LEAD
PHENOL
1,1,1-TRICHLOROETHANE

(Continued)

CATAGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
4. Waste Characteristics: (Continued)			
Waste Quantity:			
Cubic Yds	1		
Drums	0		
Gallons	0		
Tons	0		
Total	1 Cu. yds.	1	1

Comments: The waste quantity available to migrate to surface water is unknown.

TOTAL WASTE CHARACTERISTICS SCORE: 19

5. Targets:

Surface Water use			
(Three miles Downstream)		3 x 3	9

Comments:
Clemson University operates a surface water intake located approx-mately 2.8 miles north of the site.

Distance to:		
Coastal Wetlands	> 10,560	feet
Fresh-water Wetlands	> 5,280	feet
Critical Habitat	> 5,280	feet
Species Evaluated:		

Sensitive Environments Score		0 x 2	0
Distance on Static Water	250 feet		
Distance Water Supply Intake	14784 feet		
Number of Houses	0 x 3.8		
Number of Persons	15000		
Number of Connections	145 x 3.8		
Number of Irrigated Acres	0 x 1.5		
Total Population Served	15551		
Distance Water Intake/Population Matrix		20	20

TOTAL TARGETS SCORE: 29

(Continued)

6. If line 1 is 45, multiply 1 x 4 x 5, & divide by 64.35 or
if line 1 is 0, multiply 2 x 3 x 4 x 5, & divide by 64.35 to get Ssw

SURFACE WATER ROUTE SCORE (Ssw) = 35.96

SITE NAME: STEVENS, J.P. & CO INC
HRS AIR ROUTE SCORE

CATAGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. Observed release	X	0	0

Comments:
Not Scored.

2. Waste Characteristics:

Reactivity
Comments:

Incompatibility
Comments:

Toxicity:

Waste Quanity:
- Cubic Yds
- Drums
- Gallons
- Tons

Total _____ Cu. yds.

TOTAL WASTE CHARACTERISTICS SCORE:

3. Targets

Population Within 4-mile Radius
- 0 to 0.25 mile
- 0 to 0.50 mile
- 0 to 1.00 mile
- 0 to 4.0 miles

Distance to Sensitive Environments:
- Coastal Wetlands feet
- Fresh-Water Wetlands feet
- Critical Habitat feet

Distance to Land uses:
- Commercial/Industrial feet
- Park/Forest/Residential feet
- Agricultural Land feet
- Prime Farmland feet
- Historic Site Within View?

SITE NAME: STEVENS, J.P. & CO INC

HRS AIR ROUTE SCORE

(Continued)

CATAGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
TOTAL TARGETS SCORE:			

4. Multiply 1 x 2 x 3

5. Divide line 4 by 35,100 and multiply by 100 to get Sa

AIR ROUTE SCORE Sa = 0.00

HAZARDOUS RANKING SYSTEM SCORING CALCULATIONS

FOR

STEVENS, J.P. & CO INC
AS OF: 01/09/91

Ground Water Route Score

Observed Release	45
Route Characteristics	0
Containment	0
Waste Characteristics	26
Targets	29

33930 / 57,330 x 100 = 59.18 Sgw

Surface Water Route Score

Observed Release	0
Route Characteristics	14
Containment	3
Waste Characteristics	19
Targets	29

23142 / 64,350 x 100 = 35.96 Ssw

Air Route Score

Observed Release	0
Waste Characteristics	
Targets	

0 / 35,100 x 100 = 0.00 Sa

Summary of Migration Score Calculations

	S	S^2
Ground Water Route Score (Sgw)	59.18	3502.27
Surface Water Route Score (Ssw)	35.96	1293.12
Air Route Score (Sa)	0.00	0
$Sgw^2 + Ssw^2 + Sa^2$		4795.39
Square Route of $[Sgw^2 + Ssw^2 + Sa^2]$		69.25

$$\frac{\text{Square Route of } [Sgw^2 + Ssw^2 + Sa^2]}{1.73} = \text{Sm: } 40.03$$

OVERSIZED

DOCUMENT

REFERENCE NO. 3

CLIMATIC ATLAS OF THE UNITED STATES

onmental Science Services Administration . Environmenta

U.S. DEPARTMENT OF COMMERCE
C. R. Smith, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
Robert M. White, Administrator

ENVIRONMENTAL DATA SERVICE
Woodrow C. Jacobs, Director

JUNE 1968

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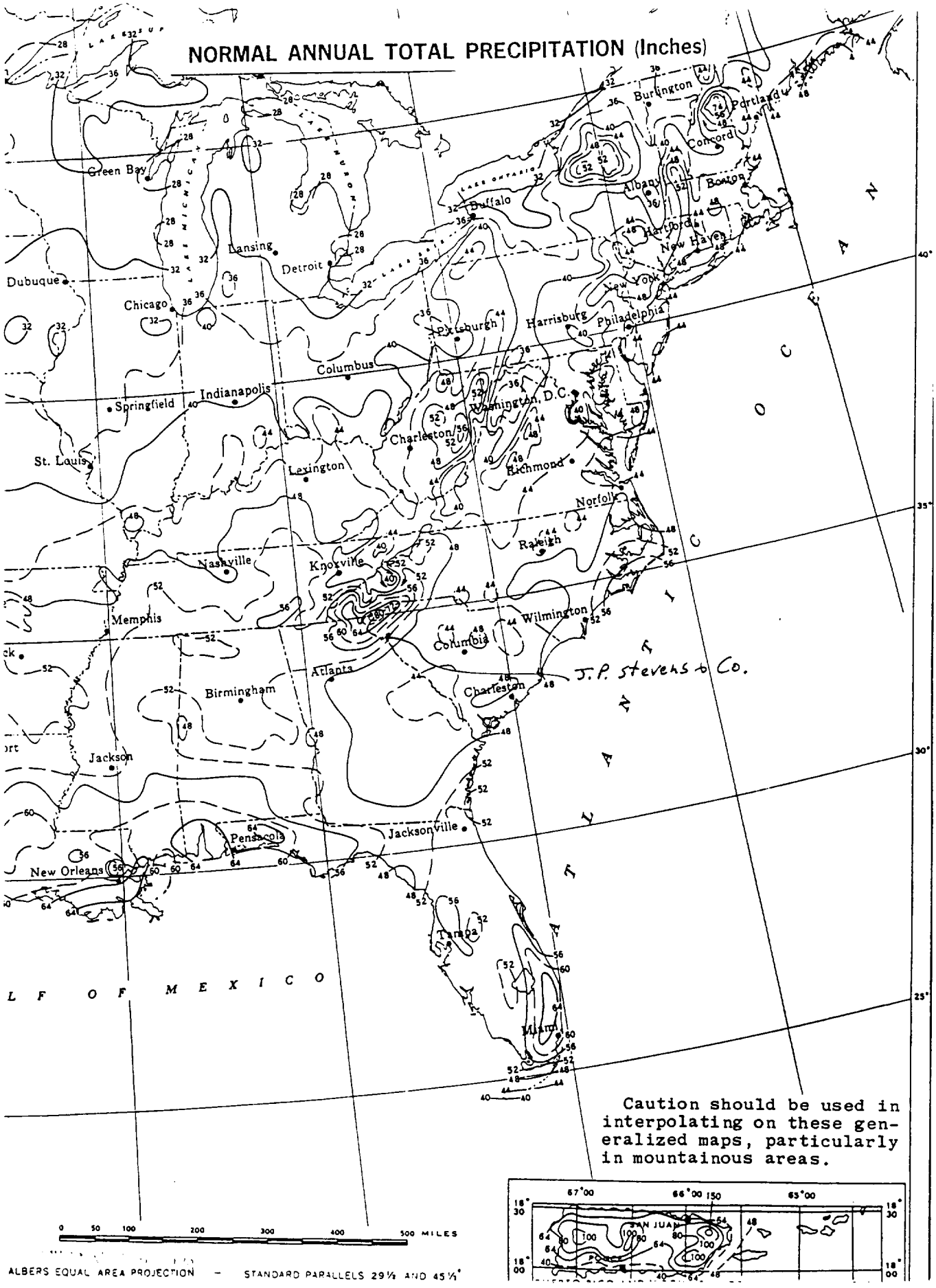
1983


NORMAL ANNUAL TOTAL PRECIPITATION (Inches)
Green Bay
Lansing
Detroit
Dubuque
Chicago
Buffalo
Burlington
Portland
Concord
Albany
Boston
Hartford
New Haven
New York
Harrisburg
Philadelphia
Pittsburgh
Columbus
Springfield
Indianapolis
Washington, D.C.
Charleston
St. Louis
Lexington
Richmond
Norfolk
Raleigh
Nashville
Knoxville
Memphis
Wilmington
Columbia
Atlanta
Charleston
Birmingham
Jackson
Jacksonville
Pensacola
New Orleans
Tampa
Miami
J.P. Stevens & Co.
Caution should be used in interpolating on these generalized maps, particularly in mountainous areas.
0 50 100 200 300 400 500 MILES
ALBERS EQUAL AREA PROJECTION — STANDARD PARALLELS 29½ AND 45½°
SAN JUAN

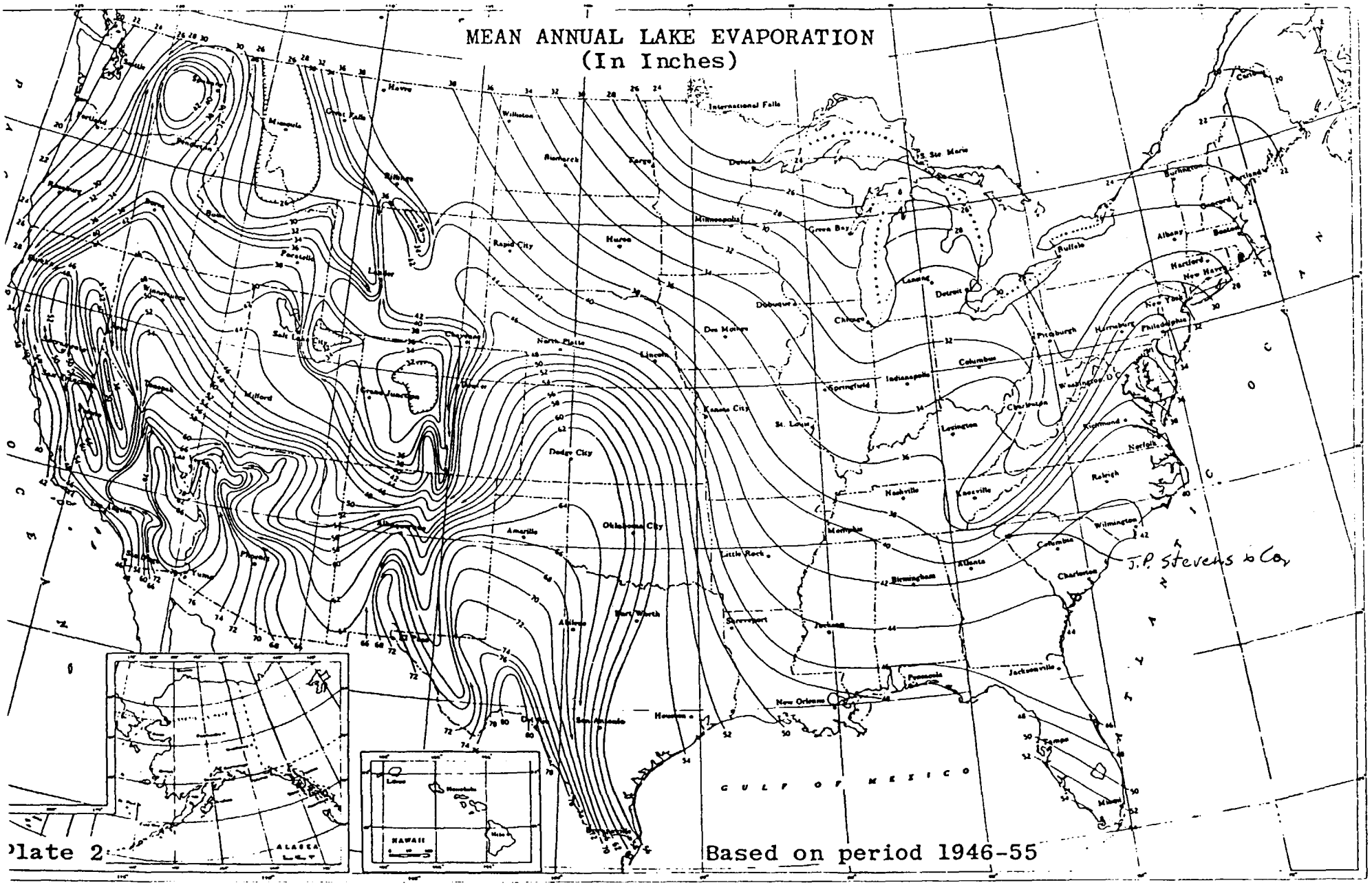

MEAN ANNUAL LAKE EVAPORATION
(In Inches)
Based on period 1946-55
J.P. Stevens & Co.
GULF OF MEXICO
ALASKA
HAWAII

Plate 2

U.S. DEPARTMENT OF COMMERCE
Luther H. Hodges, Secretary

WEATHER BUREAU
F. W. Reichelderfer, Chief

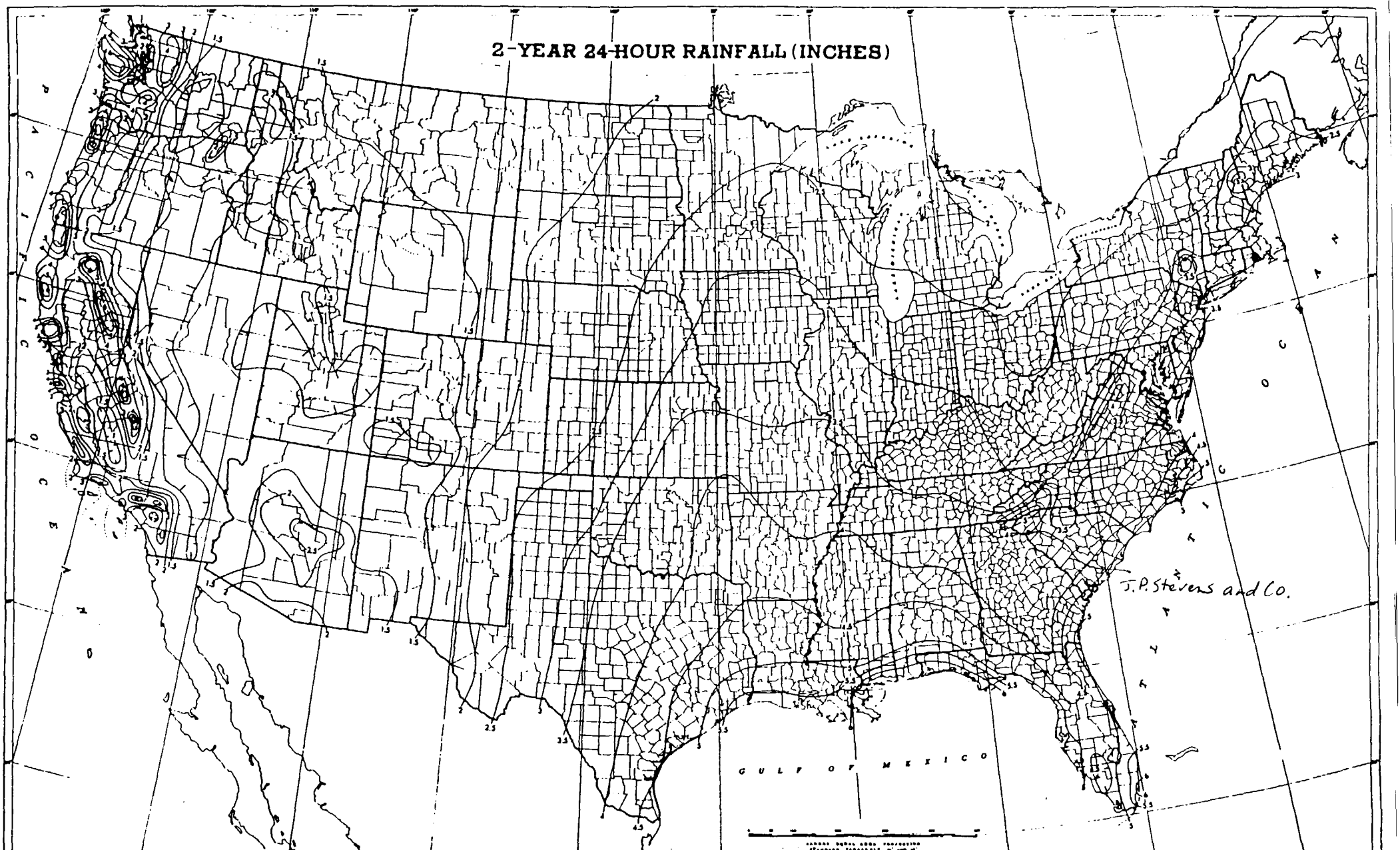
TECHNICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED STATES

for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years

Prepared by
DAVID M. HERSHFIELD
Cooperative Studies Section, Hydrologic Services Division
for
Engineering Division, Soil Conservation Service
U.S. Department of Agriculture

REFERENCE NO. 4


2-YEAR 24-HOUR RAINFALL (INCHES)
GULF OF MEXICO
J. P. Stevens and Co.

[redacted]

Ref. 1.

REFERENCE NO. 5

MEMORANDUM

TO: J.P. Stevens & Company, Inc. - CERCLA File
SCD 003 345 097
Oconee County

FROM: Gerald Stewart
Site Screening Section

SUBJECT: Phone Converstion With Glenda Strong of Westpoint Pepperell Concerning Ownership History of J.P. Stevens

DATE: November 28, 1990 (2:40 p.m.)

When talking to Glenda Strong of Westpoint Pepperell, she stated that Westpoint Pepperell, Inc. purchased J.P. Stevens on May 6,1988. The address of Westpoint Pepperell is P.O. Box 91 Westpoint, Georgia 31833. She said that prior to this purchase, J.P. Stevens was the only other owner of the facility.

Appendix A
Ref. 21

REFERENCE NO. 6

MEMORANDUM

TO: J.P. Stevens & Co. - File
SCD 003 345 097

FROM: Gerald Stevart
Site Screening Section

DATE: May 18, 1990

SUBJECT: Site Reconnaissance Trip Report

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 Stevart, 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 Lanier, West Point Pepperell
G. Todd, West Point Pepperell
Mr. James, West Point Pepperell

Upon arrival at the facility at 11:10 am, the site reconnaissance team met with site representative to explain the purpose of our visit. Gerald Stevart requested information concerning previous owners and RCRA activities at the site. According to Mr. Todd, the facility is classified as a RCRA generator. All waste is transported offsite by Statevide and Alternate Energies for disposal according to Mr. Whitten. The J.P. Stevens Co.-Clemson Plant was constructed in 1952. 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, Lanier and James accompanied SCDHEC personnel during the site reconnaissance (map attached).

Site Description/Regional Setting

During the visual inspection, the site reconnaissance team (SRT) observed the following waste area:

Site #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, bridges metal and drums. Mr. James stated that no explosive debris was placed in this area (to the best of his knowledge). The approximately 1.5 acre areas was weedy and contained no trees.

The landfill area is directly adjacent the old trash disposal site. The landfill has a steep slope and leading toward Lake Hartwell (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 was a cut-opened drum and a green tank labeled sodium hydroxide. The SRT observed stained soil and stressed vegetation in this area. According to Mr. James and Mr. Lanier, 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 to 2 acres.

Site #2: Old Wastevater Treatment Pond

The old vastevater treatment pond was used approximately 30 years ago. The area is partially filled with construction debris. No concrete lining was visible. An odor was observed near the lagoon (Pond).

Note: In area #1 & 2, poor housekeeping was apparent. Drums and construction debris was spreaded throughout the area.

Site #3: Sludge Staging Area

The sludge staging area is located approximately 200-300 feet from Lake Hartwell on the southern peninsula (westside). The site consists of a 3 acre wind drying sludge staging area. Previously, this area was a permitted sludge landfill. It was discontinued when the permit expired according to Mr. Whitten. The area has a slight slope toward the lake. Weeds have grown over the inactive portion of the site. Dark (black) sludge is visible on the surface.

Site #4: Sludge Drying Area near WWTP

This area is designated as Landfill #3 on map (blueprint) provided by the company. The site is approximately the size of a football field. The area has black/gray sludge spreaded over the surface. Sludge once buried in the landfill is currently being disposed at the county landfill. The sludge is spreaded-out to remove moisture and permit drying prior to disposal at the landfill (Whitten). 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 WWPT. Sludge has accumulated in the pond area.

Site #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. Erosion is apparent. The site slope predominately to the east to northeast. The SRT observed construction debris (bricks & blocks) on the surface; however, no drums or other waste were observed. A ravine area is located to the west of the of the landfill (fill area). This area is where the explosion debris was discarded according to Mr. James. However, the area is overgrown with weeds to the point that the SRT was unable to enter the ravine.

Site #6: Active Fly Ash Disposal Area

Site #6 is located north of Hwy 37. This area, designated as site #1 on blueprint, encompasses approximately 3-4 acres. Black/gray ash pile covered the site. The site is sloped southeast. A gate is used to prevent access to the site.

Note: Three or four storage tanks are located near the WWTP. One of the large tanks has a large rust stain that indicate spillage. Stained soil is apparent in the tank farm area.

Surface Water:

The nearest downgradient surface water body is Lake Hartwell. The Lake is located within 300 feet of several of the waste handling areas.

Monitoring Wells:

The SRT observed numerous monitoring wells. Judy Canova documented the location of on-site monitoring wells. Judy documented the location of off-site private wells.

No daycare centers or schools are located on-site.

The weather condition were cloudy with periodic rainfall and temperature in the 80°s.

/njw

Appendix B

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

Commissioner: Michael D. Jarrett

Board: John B. Pate, MD, Chairman
William E. Applegate, III, Vice Chairman
John H. Burriss, Secretary

Toney Graham, Jr., MD
Richard E. Jabbour, DDS
Henry S. Jordan, MD
Currie B. Spivey, Jr.

Promoting Health, Protecting the Environment

REFERENCE NO. 7

TO: John Cresswell, Manager
Site Screening
Bureau of Solid and Hazardous Waste Management

THRU: Harold Seabrook Gerald D. Shealy for
Waste Assessment
Bureau of Solid and Hazardous Waste Management

FROM: Pamela B. James Pamela B. James
Waste Assessment
Bureau of Solid and Hazardous Waste Management

RE: J.P. Stevens & Company, Incorporated
Chemical Evaluation Report
SCD 003 345 097
Oconee County

DATE: 12/03/90

Attached is the chemical evaluation report for the referenced facility. This report is ready to be incorporated into the Site Inspection Report.

RECEIVED
DEC 19 1990
S.C. Dept. of Health & Environmental Control-Bureau of Solid & Hazardous Waste Management

recycled paper

J.P. STEVENS & COMPANY, INCORPORATED
CHEMICAL EVALUATION REPORT
SCD 003 345 097
OCONEE COUNTY

Prepared for:
John Cresswell
South Carolina Department of
Health and Environmental Control,
Bureau of Solid and Hazardous
Waste Management

Prepared by:
Pamela B. James
South Carolina Department of
Health and Environmental Control
Bureau of Solid and Hazardous
Waste Management

TABLE OF CONTENTS

Introduction

Site Description

Methodology

Results and Discussion

Conclusion

References

Appendix-Analytical Data

METHODOLOGY

All sampling activities during inspection were conducted in accordance with the Bureau of Solid and Hazardous Waste Management Standard Operating Procedures (drafted 1987) adopted from U.S. EPA ESD Water Surveillance Branch Standard Operating Procedure and Quality Assurance. Analysis were conducted by South Carolina Department of Health and Environmental Control, Bureau of Laboratory Services, Analytical Services Division (ASD) which adheres to United States Environmental Protection Agency QA/QC CLP Protocol.

The site description and background information are incorporated in the trip report.

J.P. STEVENS CLEMSON PLANT

JPSC-SS-05

Sample JPSC-SS-05 was the background sample. Metals detected were Barium 24 mg/kg, Chromium 17 mg/kg, Copper 3.7 mg/kg, Lead 11 mg/kg, Manganese 370 mg/kg and Nickel 2.0 mg/kg. There was one semi-volatile detected, Butybenzul phthalate .389 mg/kg. There were no PCB's or volatiles detected. Two TIC's were found:

1). 1,2-Benzendicarboxylic acid, Butyl 2-methyl-propyl ester.

2). 1,2-Benzenedicarboxylic acid, Bis(2-meth-oxyethyl) ester.

JPSC-WA-06

Metal results for sample JPSC-WA-06 were high with respect to levels found in background sample. Several metals were detected at levels greater than or equal to 3x background levels. They were: Arsenic 170 mg/kg, Barium 270 mg/kg, Cadmium 1.8 mg/kg, Nickel 24 mg/kg and Selenium 8 mg/kg. There were several semi-volatile compounds detected. All are at levels at least 2x background detection levels or greater. They were: Anthracene 1.770 mg/kg, Benzo(A) Anthracene 4.840 mg/kg, Benzo (B)Fluor-anthene 3.760 mg/kg, Benzo(K)fluoranthene 3.720 mg/kg, Benzo(A) Pyrene 3.520 mg/kg, Chrysene 5.390 mg/kg, Fluoranthene 13.100 mg/kg, Naphthalene .694 mg/kg, Phenanthene 8.090 mg/kg, Pyrene 9.930 mg/kg, and 2-Methyl naphthalene .745 mg/kg. There were no PCB's or volatiles detected. There were several TIC's detected:

1). Azulene
2). 1H-Indene, 1-ethylidene
3). Naphthalene, 1,3-Dimethyl
4). 9H-Fluorene, 9-Methylene
5). Pentadecane,2,6,10-14-Tetramethyl
6). Terbuthylazine (ACN)
7). 2-Phenylnaphthalene
8). 11H-Benzo(A)Gluorene
9). Triphenylene
10). 1,2-Benzenedicarboxylic acid,Butyl 2-Methylpropyl ester

JPSC-SS-07

Metal results for sample JPSC-SS-07 are as follows; Metals detected at 3x background or greater are: Arsenic 49 mg/kg, Copper 36 mg/kg, Lead 42 mg/kg, and Selenium .8 mg/kg. All other metals were detected at levels higher than background but less than 3x greater. There were 3 semi-volatiles detected,

Phenanthrene .325 mg/kg. Phenol .527 mg/kg, 4-methylphenol .313 mg/kg. Although these levels do not indicate a significant release, it is worth noting their presence due to the fact that they show up in consequent samples at higher levels. There were no PCB's, or volatiles detected. Two TIC compounds were detected,

1). Hexadecane
2). 1,2-Bencenedicarboxylic acid, Butyl 2-Methylpropyl ester.

JPSC-SS-08

Metal results for sample JPSC-SS-08 were consistent with background metals. Metals detected 3x background or greater were: Cadmium 1.3 mg/kg, and Copper 15 mg/kg. There was one PCB detected, PCB 1260 .0305 mg/kg which is 3x background detection level. There were no semi-volatiles or volatiles detected. Two TIC's were found:

1). 1,2-Benzenedicarboxylic acid 2-methylpropyl ester
2). 1,2-Benzenedicarboxylic acid,Bix(2-Methoxyethyl) ester.

JPSC-SW-09

Sample JPSC-SW-09 was a surface water sample. Metals detected were: Arsenic .007 mg/l, Copper .030 mg/l, and Manganese .040 mg/l. There were no PCB's, semivolatiles, or volatiles detected. One TIC was found.

1)> Cyclotetradecane

There was no background surface water taken.

JPSC-SS-11

Metal results for sample JPSC-SS-11 were consistent with background metals. However, several metals were detected at 3x background or greater: Arsenic 14 mg/kg, Chromium 56 mg/kg, Copper62 mg/kg, Nickel 9.2 mg/kg and Silver 35 mg/kg. Two semi-volatiles were detected, Bis(2-ethylhexyl)phthalate 4.490 mg/kg, over 3x background detection level, and Benzoic acid .824 mg/kg. There were no PCB's, Volatiles, or TIC's detected.

JPSC-SS-12

Metal results for sample JPSC-SS-12 were low. There were no metals detected at 3x background levels or greater. There were no semi-volatiles, volatiles, or PCB's detected. One TIC was found: 1,2-Benzenedicarboxylic acid, butyl 2-methylpropyl ester.

JPSC-SS-13

Metal results for JPSC-SS-13 were consistent with background

metals. Metals detected at 3x background or greater were: Arsenic 19 mg/kg, Mercury .25 mg/kg (detection level value), Copper 80 mg/kg, and Nickel 7.7 mg/kg. Two volatiles were detected at levels 3x background detection level or greater: Tolvene 1.01 mg/kg and 1,1,1-Trichloroethane 8.46 mg/kg. Two semi-volatiles were detected at levels over 3x background detection levels, Phenol 84.700 mg/kg and 4-Methylphenol 4.030 mg/kg. There were no PCB's detected. There were several TIC's detected:

1). Pentanoic Acid,4-Methyl
2). Benzene Sulfonic Acid, 4-hydroxy
3). IH-Indole
4). Benzenepropanoic Acid

CONCLUSION

The analytical data show contamination in several samples. There are high Arsenic levels in the fly ash waste sample JPSC-WA-06, soil sample JPSC-SS-07, and sludge sample JPSC-SS-13. Sample JPSC-WA-06 also had substantial semi-volatile contamination. The compounds detected were mostly coal-tar derivatives or combustion by products. However, they were present at high levels. It was brought to my attention that waste from the Fly Ash area may have been spread over other areas of the site. It should be noted that samples contained numerous TIC compounds. Due to the degree of contamination, as indicated by the analytical results, further investigation and possible remediation is warranted.

APPENDIX - ANALYTICAL DATA

SEMI-VOLATILE MG/KG	JPSC SS-05 BACKGR	JPSC WA-06	JPSC SS-07	JPSC SS-08	JPSC SS-11	JPSC SS-12	JPSC SS-13
BUTYL-BENZYL-PHTHALATE	.389	<.3	<.3	<.3	<.3	<.3	<3
ANTHRACENE	<.3	1.770	<.3	<.3	<.3	<.3	<3
BENZO(A) ANTHRACENE	<.3	4.840	<.3	<.3	<.3	<.3	<3
BENZO(B) FLUORANTHENE	<.3	3.760	<.3	<.3	<.3	<.3	<3
BENZO(K) FLUORANTHENE	<.3	3.720	<.3	<.3	<.3	<.3	<3
BENZO(A) PYRENE	<.3	3.520	<.3	<.3	<.3	<.3	<3
CHRYSENE	<.3	5.390	<.3	<.3	<.3	<.3	<3
FLUORANTHENE	<.3	13.100	<.3	<.3	<.3	<.3	<3
NAPHTHALENEN	<.3	.694	<.3	<.3	<.3	<.3	<3
PHENANTHRENE	<.3	8.090	.325	<.3	<.3	<.3	<3
PYRENE	<.3	9.930	<.3	<.3	<.3	<.3	<3
2-METHYL-NAPHTHALENE	<.3	.745	<.3	<.3	<.3	<.3	<3
PHENOL	<.3	<.3	.527	<.3	<.3	<.3	84.700
4-METHYL-PHENOL	<.3	<.3	.313	<.3	<.3	<.3	4.030
BIS(2-ETHYL-HEXYL) PHTHALATE	<.3	<.3	<.3	<.3	4.490	<.3	<3
BENZOIC ACID	<.3	<.3	<.3	<.3	.824	<.3	<3

PARAMETERS DETECTED (MG/KG)	JPSC-SS-05 BACK-GROUND	JPSC-WA-06	JPSC-SS-07	JPSC-SS-08	JPSC-SS-11	JPSC-SS-12	JPSC-SS-13
METALS							
ARSENIC	<0.5	170	49	<0.5	14	<0.5	19
MERCURY	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	.25
BARIUM	24	270	50	22	31	18	44
CADMIUM	<1.0	1.8	<1.0	1.3	<1.0	<1.0	<1.0
CHROMIUM	17	26	30	28	56	27	26
COPPER	3.7	110	36	15	62	8.2	80
LEAD	11	30	42	14	25	6.0	19
NICKEL	2.0	24	3.5	2.9	9.2	<2.0	7.7
SILVER	<3.0	<3.0	<3.0	<3.0	<3.0	35	<3.5
SELENIUM	<.5	8	.8	<.5	<.5	<.5	<0.8

VOLATILES	JPSC SS-05 BACKG	JPSC WA-06	JPSC SS-07	JPSC SS-08	JPSC SS-11	JPSC SS-12	JPSC SS-13
TOLUENE	<.020	<.020	<.020	<.020	<.020	<.020	1.01
1,1,1-TRICHLORO-ETHANE	<.020	<.020	<.020	<.020	<.020	<.020	1.01
PCB 1260 MG/KG	<.010	<.010	<.010	.0303	<.010	<.010	<.010

REFERENCES

Aldrich, Catalog Handbook of Fine Chemicals, 1990-1991.

Bureau of Solid and Hazardous Waste Management Standard Operating Procedures (Draft, 1987) adopted from U.S. EPA ESD Water Surveillance Branch Standard Operating Procedures and Quality Assurance Manual.

CERCLA Files, SCDHEC, Bureau of Solid and Hazardous Waste Management.

Dangerous Properties of Industrial Materials, N. Irving Sax, 1975.

Hawley's Condensed Chemical Dictionary, N. Irving Sax and Richard J. Lewis, Sr., 1987.

Appendix B

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900367 — FRIDAY JULY 20TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/18/90 12:58:41
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : SS-13

ANALYSIS	STORET	RESULT
ARSENIC MG/KG	01003	19
ACENAPHTHENE UG/KG	34208	<3000
ACENAPHTHYLENE UG/KG	34203	<3000
ANTHRACENE UG/KG	34223	<3000
BENZO(A)ANTHRACENE UG/KG	34529	<3000
BENZO(B)FLUORANTHENE UG/KG	34233	<3000
BENZO(K)FLUORANTHENE UG/KG	34245	<3000
BENZO(A)PYRENE UG/KG	34250	<3000
BENZO(GHI)PERYLENE UG/KG	34524	<3000
BUTYLBENZYL PHTHALATE UG/KG	78800	<3000
BIS(2-CHLOROETHYL)ETHER UG/KG	34276	<3000
BIS(2-CHLOROETHOXY)METHANE UG/KG	34281	<3000
BIS(2-ETHYLHEXYL)PHTHALATE UG/KG	39102	<3000
BIS(2-CHLOROISOPROPYL)ETHER UG/KG	34286	<3000
4-BROMOPHENYL PHENYL ETHER UG/KG	34639	<3000
2-CHLORONAPHTHALENE UG/KG	34584	<3000
4-CHLOROPHENYL PHENYL ETHER UG/KG	34644	<3000
CHRYSENE UG/KG	34323	<3000
DIBENZO(A,H)ANTHRACENE UG/KG	34559	<3000
DI-N-BUTYLPHTHALATE UG/KG	39112	<3000
1,3-DICHLOROBENZENE UG/KG	34569	<3000
1,2-DICHLOROBENZENE UG/KG	34539	<3000
1,4-DICHLOROBENZENE UG/KG	34574	<3000
3,3'-DICHLOROBENZIDINE UG/KG	34634	<3000
DIETHYL PHTHALATE UG/KG	34339	<3000
DIMETHYL PHTHALATE UG/KG	34344	<3000

****
* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *
* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *
****

SAMPLE NUMBER : 0606900367 FRIDAY JULY 20TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/18/90 12:58:41
COLLECTED BY : G SHEALY DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : SS-13

ANALYSIS	STORET	RESULT
2,4-DINITROTOLUENE UG/KG	34614	<3000
2,6-DINITROTOLUENE UG/KG	34629	<3000
DI-N-OCTYLPHTHALATE UG/KG	34599	<3000
FLUORANTHENE UG/KG	34379	<3000
FLUORENE UG/KG	34384	<3000
HEXACHLOROBENZENE UG/KG	39701	<3000
HEXACHLOROBUTADIENE UG/KG	39705	<3000
HEXACHLOROETHANE UG/KG	34399	<3000
INDENO(1,2,3-CD)PYRENE UG/KG	34406	<3000
ISOPHORONE UG/KG	34411	<3000
NAPHTHALENE UG/KG	34445	<3000
NITROBENZENE UG/KG	34450	<3000
N-NITROSODI-N-PROPYLAMINE UG/KG	34431	<3000
PHENANTHRENE UG/KG	34464	<3000
PYRENE UG/KG	34472	<3000
1,2,4-TRICHLOROBENZENE UG/KG	34554	<3000
4-CHLORO-3-METHYL PHENOL UG/KG		<3000
2-CHLOROPHENOL UG/KG	34589	<3000
2,4-DICHLOROPHENOL UG/KG	34604	<3000
2,4-DIMETHYL PHENOL UG/KG	34609	<3000
2,4-DINITROPHENOL UG/KG	34619	<3000
2-METHYL-4,6-DINITROPHENOL UG/KG		<3000
2-NITROPHENOL UG/KG	34594	<3000
4-NITROPHENOL UG/KG	34649	<3000
PENTACHLOROPHENOL UG/KG	78873	<3000
[redacted]		
2,4,6-TRICHLOROPHENOL UG/KG	34624	<3000

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

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COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : 83-13

ANALYSIS	STORET	RESULT
BENZIDINE UG/KG	39121	<3000
HEXACHLOROCYCLOPENTADIENE UG/KG	34389	<3000
N-NITROSODIMETHYLAMINE UG/KG	34441	<3000
N-NITROSODIPHENYLAMINE UG/KG	34436	<3000
ANILINE UG/KG	78866	<3000
BENZYL ALCOHOL UG/KG	75212	<3000
2-METHYLPHENOL UG/KG	78872	<3000
[redacted]		
BENZOIC ACID UG/KG	75315	<3000
4-CHLOROANILINE UG/KG	78867	<3000
2-METHYLNAPHTHALENE UG/KG	78868	<3000
2,4,5-TRICHLOROPHENOL UG/KG	78401	<3000
2-NITROANILINE UG/KG	78299	<3000
3-NITROANILINE UG/KG	78869	<3000
DIBENZOFURAN UG/KG	75647	<3000
4-NITROANILINE UG/KG	78870	<3000
AZOBENZENE UG/KG		<3000
PENTANOIC ACID,4-METHYL		DETECTED
BENZENE SULFONIC ACID,4-HYDROXY		DETECTED
1H-INDOLE		DETECTED
BENZENEPROPANOIC ACID		DETECTED
MERCURY MG/KG	71921	0.25
[illegible] MG/KG		44
CADMIUM MG/KG		<1.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

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ANALYSIS	STORET	RESULT
CHROMIUM MG/KG		26
COPPER MG/KG		80
LEAD MG/KG		19
MANGANESE MG/KG		250
NICKEL MG/KG		[illegible]
SILVER MG/KG		3.5
PCB 1016 UG/KG	39514	<10.0
PCB 1221 UG/KG		<10.0
PCB 1232 UG/KG	39495	<10.0
PCB 1242 UG/KG	39499	<10.0
PCB 1248 UG/KG	39503	<10.0
PCB 1254 UG/KG	39507	<10.0
PCB 1260 UG/KG	39511	<10.0
PCB 1262 UG/KG		<10.0
SELENIUM MG/KG	01148	<0.8
BENZENE MG/KG	79551	<1.0
BROMODICHLOROMETHANE MG/KG		<1.0
BROMOFORM MG/KG	79563	<1.0
BROMOMETHANE MG/KG		<1.0
CARBON TETRACHLORIDE MG/KG	79582	<1.0
CHLOROBENZENE MG/KG	79586	<1.0
CHLOROETHANE MG/KG	79589	<1.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900367 FRIDAY JULY 20TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/18/90
COLLECTED BY : S SHEALY DT COLLECTED : 06/05/90
COUNTY : OCONEE SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE :

ANALYSIS	STORET	RESULT
2-CHLOROETHYLVINYL ETHER MG/KG	79526	<1.0
CHLOROFORM MG/KG	79589	<1.0
CHLOROMETHANE MG/KG		<1.0
DIBROMOCHLOROMETHANE MG/KG		<1.0
1,2-DICHLOROBENZENE MG/KG	79511	<1.0
1,3-DICHLOROBENZENE MG/KG	79516	<1.0
1,4-DICHLOROBENZENE MG/KG	79517	<1.0
1,1-DICHLOROETHANE MG/KG	79504	<1.0
1,2-DICHLOROETHANE MG/KG	79512	<1.0
1,1-DICHLOROETHENE MG/KG	79505	<1.0
TRANS-1,2-DICHLOROETHENE MG/KG	79515	<1.0
1,2-DICHLOROPROPANE MG/KG	79513	<1.0
CIS-1,3-DICHLOROPROPENE MG/KG		<1.0
TRANS-1,3-DICHLOROPROPENE MG/KG		<1.0
ETHYL BENZENE MG/KG	79624	<1.0
METHYLENE CHLORIDE MG/KG	79662	<1.0
1,1,2,2-TETRACHLOROETHANE MG/KG	79501	<1.0
TETRACHLOROETHENE MG/KG	79709	<1.0
TOLUENE MG/KG		
1,1,1-TRICHLOROETHANE MG/KG		
1,1,2-TRICHLOROETHANE MG/KG	79503	<1.0
TRICHLOROETHENE MG/KG	79718	<1.0
TRICHLOROFLUOROMETHANE MG/KG	79719	<1.0
VINYL CHLORIDE MG/KG	79723	<1.0

COMMENTS:

Appendix B

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 06069C0361 — THURSDAY JULY 19TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/19/90 14:43:21
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSCSS5

ALYSIS	STORET	RESULT
ENAPHTHENE UG/KG	34208	<300
ENAPHTHYLENE UG/KG	34203	<300
THRACENE UG/KG	34223	<300
NZO(A)ANTHRACENE UG/KG	34529	<300
NZO(B)FLUORANTHENE UG/KG	34233	<300
NZO(K)FLUORANTHENE UG/KG	34245	<300
NZO(A)PYRENE UG/KG	34250	<300
NZO(GHI)PERYLENE UG/KG	34524	<300
S(2-CHLOROETHYL)ETHER UG/KG	34276	<300
S(2-CHLOROETHOXY)METHANE UG/KG	34281	<300
S(2-ETHYLHEXYL)PHTHALATE UG/KG	39102	<300
S(2-CHLOROISOPROPYL)ETHER UG/KG	34286	<300
-BROMOPHENYL PHENYL ETHER UG/KG	34639	<300
-CHLORONAPHTHALENE UG/KG	34584	<300
-CHLOROPHENYL PHENYL ETHER UG/KG	34644	<300
-RYSENE UG/KG	34323	<300
BENZO(A,H)ANTHRACENE UG/KG	34559	<300
-N-BUTYLPHTHALATE UG/KG	39112	<300
3-DICHLOROBENZENE UG/KG	34569	<300
2-DICHLOROBENZENE UG/KG	34539	<300
4-DICHLOROBENZENE UG/KG	34574	<300
3'-DICHLOROBENZIDINE UG/KG	34634	<300
ETHYL PHTHALATE UG/KG	34339	<300
METHYL PHTHALATE UG/KG	34344	<300

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900301 — THURSDAY JULY 19TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/19/90 14:43:21
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSCSS5

ALYSIS	STORET	RESULT
,4-DINITROTOLUENE UG/KG	34614	<300
,6-DINITROTOLUENE UG/KG	34629	<300
-N-OCTYLPHTHALATE UG/KG	34599	<300
LUORANTHENE UG/KG	34379	<300
LUORENE UG/KG	34384	<300
EXACHLOROBENZENE UG/KG	39701	<300
EXACHLOROBUTADIENE UG/KG	39705	<300
EXACHLOROETHANE UG/KG	34399	<300
DENO(1,2,3-CD)PYRENE UG/KG	34406	<300
SOPHORONE UG/KG	34411	<300
APHTHALENE UG/KG	34445	<300
ITROBENZENE UG/KG	34450	<300
-NITROSODI-N-PROPYLAMINE UG/KG	34431	<300
HENANTHRENE UG/KG	34464	<300
YRENE UG/KG	34472	<300
,2,4-TRICHLOROBENZENE UG/KG	34554	<300
-CHLORO-3-METHYL PHENOL UG/KG		<300
-CHLOROPHENOL UG/KG	34589	<300
,4-DICHLOROPHENOL UG/KG	34604	<300
,4-DIMETHYL PHENOL UG/KG	34609	<300
,4-DINITROPHENOL UG/KG	34619	<300
-METHYL-4,6-DINITROPHENOL UG/KG		<300
-NITROPHENOL UG/KG	34594	<300
-NITROPHENOL UG/KG	34649	<300
ENTACHLOROPHENOL UG/KG	78873	<300
HENOL UG/KG	34695	<300
,4,6-TRICHLOROPHENOL UG/KG	34624	<300

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

MPLE NUMBER : C606900361 — THURSDAY JULY 19TH, 1990
ARGE NUMBER : CE — RELEASE DATE : 07/19/90 14:43:21
OLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
OUNTY : OCONEE — SAMPLE MEDIUM : SED
AMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSCSS5

LYSIS	STORET	RESULT
ZIDINE UG/KG	39121	<300
ACHLOROCYCLOPENTADIENE UG/KG	34389	<300
ITROSODIMETHYLAMINE UG/KG	34441	<300
ITROSODIPHENYLAMINE UG/KG	34436	<300
INE UG/KG	78866	<300
ZYL ALCOHOL UG/KG	75212	<300
ETHYLPHENOL UG/KG	78872	<300
ETHYLPHENOL UG/KG	78803	<300
ZOIC ACID UG/KG	75315	<300
HLORCANILINE UG/KG	78867	<300
ETHYLNAPHTHALENE UG/KG	78868	<300
,5-TRICHLORCPHENOL UG/KG	78401	<300
ITROANILINE UG/KG	78299	<300
ITROANILINE UG/KG	78869	<300
ENZOFURAN UG/KG	75647	<300
ITROANILINE UG/KG	78870	<300
BENZENE UG/KG		<300
ER COMPOUNDS DETECTED		SEE COMMENTS
CURY MG/KG	71921	<0.25
IUM MG/KG		24
MIUM MG/KG		<1.0
ROMIUM MG/KG		17
PER MG/KG		3.7
D MG/KG		11

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900361 THURSDAY JULY 19TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/19/90 14:43:21
COLLECTED BY : G SHEALY DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : JPSCSS5

ALYSIS	STORET	RESULT
ANGANESE MG/KG		370
ICKEL MG/KG		2.0
LVER MG/KG		<3.0
CB 1016 UG/KG	39514	<10.0
CB 1221 UG/KG		<10.0
CB 1232 UG/KG	39495	<10.0
CB 1242 UG/KG	39499	<10.0
CB 1248 UG/KG	39503	<10.0
CB 1254 UG/KG	39507	<10.0
CB 1260 UG/KG	39511	<10.0
CB 1262 UG/KG		<10.0
ELENIUM MG/KG	01148	<0.5
ENZENE UG/KG	34237	<20.0
ROMODICHLOROMETHANE UG/KG	34330	<20.0
ROMOFORM UG/KG	34290	<20.0
ROMOMETHANE UG/KG		<20.0
ARBON TETRACHLORIDE UG/KG	34299	<20.0
HLOROBENZENE UG/KG	34304	<20.0
HLOROETHANE UG/KG	34314	<20.0
-CHLOROETHYLVINYL ETHER UG/KG	34579	<20.0
HLOROFORM UG/KG	34318	<20.0
HLOROMETHANE UG/KG		<20.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 060690C361 — THURSDAY JULY 19TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/19/90 14:43:21
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSC885

NALYSIS	STORET	RESULT
IBROMOCHLOROMETHANE UG/KG	78195	<20.0
,2-DICHLOROBENZENE UG/KG	34539	<20.0
,3-DICHLOROBENZENE UG/KG	34569	<20.0
,4-DICHLOROBENZENE UG/KG	34574	<20.0
,1-DICHLOROETHANE UG/KG	34499	<20.0
,2-DICHLOROETHANE UG/KG	34534	<20.0
,1-DICHLOROETHENE UG/KG	34504	<20.0
RANS-1,2-DICHLOROETHENE UG/KG	34549	<20.0
,2-DICHLOROPROPANE UG/KG	34544	<20.0
IS-1,3-DICHLOROPROPENE UG/KG	34702	<20.0
RANS-1,3-DICHLOROPROPENE UG/KG	34697	<20.0
THYLBENZENE UG/KG	34374	<20.0
ETHYLENE CHLORIDE UG/KG	34426	<20.0
,1,2,2-TETRACHLOROETHANE UG/KG	34519	<20.0
ETRACHLOROETHENE UG/KG	34478	<20.0
OLUENE UG/KG	34483	<20.0
,1,1-TRICHLOROETHANE UG/KG	34509	<20.0
,1,2-TRICHLOROETHANE UG/KG	34514	<20.0
RICHLOROETHENE UG/KG	34487	<20.0
RICHLOROFLUOROMETHANE UG/KG	34491	<20.0
INYL CHLORIDE UG/KG	34495	<20.0

[redacted]
,2-BENZENEDICARBOXYLIC ACID,BUTYL 2-METHYLPROPYL ESTER
,2-BENZENEDICARBOXYLIC ACID,BIS(2-METHOXYETHYL) ESTER

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 06089003c2 — FRIDAY JULY 20TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/20/90 13:07:02
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSCWA6

ALYSIS	STORET	RESULT
[redacted]		
CENAPHTHENE UG/KG	34208	<300
CENAPHTHYLENE UG/KG	34203	<300
[redacted]		
ENZO(GHI)PERYLENE UG/KG	34524	<300
UTYLBENZYL PHTHALATE UG/KG	78800	<300
IS(2-CHLOROETHYL)ETHER UG/KG	34276	<300
IS(2-CHLOROETHOXY)METHANE UG/KG	34281	<300
IS(2-ETHYLHEXYL)PHTHALATE UG/KG	39102	<300
IS(2-CHLOROISOPROPYL)ETHER UG/KG	34286	<300
-BROMOPHENYL PHENYL ETHER UG/KG	34639	<300
-CHLORONAPHTHALENE UG/KG	34584	<300
-CHLOROPHENYL PHENYL ETHER UG/KG	34644	<300
[redacted]		
IBENZO(A,H)ANTHRACENE UG/KG	34559	<300
I-N-BUTYLPHTHALATE UG/KG	39112	<300
,3-DICHLOROBENZENE UG/KG	34569	<300
,2-DICHLOROBENZENE UG/KG	34539	<300
,4-DICHLOROBENZENE UG/KG	34574	<300
,3'-DICHLOROBENZIDINE UG/KG	34634	<300
IETHYL PHTHALATE UG/KG	34339	<300
IMETHYL PHTHALATE UG/KG	34344	<300

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 06C690D362 — FRIDAY JULY 20TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/20/90 13:07:02
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSCWA6

ALYSIS	STORET	RESULT
,4-DINITROTOLUENE UG/KG	34614	<300
,6-DINITROTOLUENE UG/KG	34629	<300
-N-OCTYLPHTHALATE UG/KG	34599	<300
[redacted]		
ORENE UG/KG	34384	<300
XACHLOROBENZENE UG/KG	39701	<300
XACHLOROBUTADIENE UG/KG	39705	<300
XACHLOROETHANE UG/KG	34399	<300
ENO(1,2,3-CD)PYRENE UG/KG	34406	<300
OPHORONE UG/KG	34411	<300
[redacted]		
ITROBENZENE UG/KG	34450	<300
-NITROSODI-N-PROPYLAMINE UG/KG	34431	<300
[redacted]		
,2,4-TRICHLOROBENZENE UG/KG	34554	<300
-CHLORO-3-METHYL PHENOL UG/KG		<300
-CHLOROPHENOL UG/KG	34589	<300
,4-DICHLOROPHENOL UG/KG	34604	<300
,4-DIMETHYL PHENOL UG/KG	34609	<300
,4-DINITROPHENOL UG/KG	34619	<300
-METHYL-4,6-DINITROPHENOL UG/KG		<300
-NITROPHENOL UG/KG	34594	<300
-NITROPHENOL UG/KG	34649	<300
ENTACHLOROPHENOL UG/KG	78373	<300
ENOL UG/KG	34695	<300
,4,6-TRICHLOROPHENOL UG/KG	34624	<300

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

AMPLE NUMBER : 0608900362 — FRIDAY JULY 20TH, 1990
HARGE NUMBER : CE — RELEASE DATE : 07/20/90 13:07:02
OLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
OUNTY : OCONEE — SAMPLE MEDIUM : SED
AMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSCWA6

LYSIS	STORET	RESULT
ZIDINE UG/KG	39121	<300
ACHLOROCYCLOPENTADIENE UG/KG	34339	<300
ITROSODIMETHYLAMINE UG/KG	34441	<300
ITROSODIPHENYLAMINE UG/KG	34436	<300
LINE UG/KG	78866	<300
ZYL ALCOHOL UG/KG	75212	<300
ETHYLPHENOL UG/KG	78872	<300
ETHYLPHENOL UG/KG	78803	<300
ZOIC ACID UG/KG	75315	<300
HLOROANILINE UG/KG	78867	<300
[redacted]		
,5-TRICHLOROPHENOL UG/KG	78401	<300
ITROANILINE UG/KG	78299	<300
NITROANILINE UG/KG	78869	<300
ENZOFURAN UG/KG	75647	<300
NITROANILINE UG/KG	78870	<300
OBENZENE UG/KG		<300
LENE		DETECTED
-INDENE,1-ETHYLIDENE-		DETECTED
PHTHALENE,1,3-DIMETHYL-		DETECTED
-FLUORENE,9-METHYLENE-		DETECTED
NTADECANE,2,6,10,14-TETRAMETHYL-		DETECTED
RBUTHYLAZINE (ACN)		DETECTED
-PHENYLNAPHTHALENE		DETECTED
H-BENZO(A)FLUORENE		DETECTED
IPHENYLENE		DETECTED
HER COMPOUNDS DETECTED		SEE COMMENTS

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

E NUMBER : 0606900362 FRIDAY JULY 20TH, 1990
F NUMBER : CE RELEASE DATE : 07/20/90 13:07:02
TED BY : G SHEALY DT COLLECTED : 06/05/90 00:00:00
Y : OCONEE SAMPLE MEDIUM : SED
E DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : JPSCWA6

S	STORET	RESULT
		PAGE 4
MG/KG	71921	<0.25
[redacted]		
MG/KG		1.8
[redacted]		
G/KG		110
[redacted]		
E MG/KG		69
[redacted]		
G/KG		<3.0
5 UG/KG	39514	<10.0
1 UG/KG		<10.0
2 UG/KG	39495	<10.0
2 UG/KG	39499	<10.0
5 UG/KG	39503	<10.0
4 UG/KG	39507	<10.0
0 UG/KG	39511	<10.0
2 UG/KG		<10.0
4 MG/KG	01148	8
UG/KG	34237	<20.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900362
CHARGE NUMBER : CE
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

FRIDAY JULY 20TH, 1990
RELEASE DATE : 07/20/90 13:07:02
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : SED
STATION CODE : JPSCWA6

ANALYSIS	STORET	RESULT
BROMODICHLOROMETHANE UG/KG	34330	<20.0
BROMOFORM UG/KG	34290	<20.0
BROMOMETHANE UG/KG		<20.0
CARBON TETRACHLORIDE UG/KG	34299	<20.0
CHLOROBENZENE UG/KG	34304	<20.0
CHLOROETHANE UG/KG	34314	<20.0
2-CHLOROETHYLVINYL ETHER UG/KG	34579	<20.0
CHLOROFORM UG/KG	34318	<20.0
CHLOROMETHANE UG/KG		<20.0
DIBROMOCHLOROMETHANE UG/KG	78195	<20.0
1,2-DICHLOROBENZENE UG/KG	34539	<20.0
1,3-DICHLOROBENZENE UG/KG	34569	<20.0
1,4-DICHLOROBENZENE UG/KG	34574	<20.0
1,1-DICHLOROETHANE UG/KG	34499	<20.0
1,2-DICHLOROETHANE UG/KG	34534	<20.0
1,1-DICHLOROETHENE UG/KG	34504	<20.0
TRANS-1,2-DICHLOROETHENE UG/KG	34549	<20.0
1,2-DICHLOROPROPANE UG/KG	34544	<20.0
CIS-1,3-DICHLOROPROPENE UG/KG	34702	<20.0
TRANS-1,3-DICHLOROPROPENE UG/KG	34697	<20.0
ETHYLBENZENE UG/KG	34374	<20.0
METHYLENE CHLORIDE UG/KG	34426	<20.0
1,1,2,2-TETRACHLOROETHANE UG/KG	34519	<20.0
TETRACHLOROETHENE UG/KG	34478	<20.0
TOLUENE UG/KG	34483	<20.0
1,1,1-TRICHLOROETHANE UG/KG	34509	<20.0
1,1,2-TRICHLOROETHANE UG/KG	34514	<20.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900362 FRIDAY JULY 20TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/20/90 13:07:02
COLLECTED BY : G SHEALY DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : JPSCWA6

ANALYSIS	STORET	RESULT
TRICHLOROETHENE UG/KG	34487	<20.0
TRICHLOROFLUOROMETHANE UG/KG	34491	<20.0
VINYL CHLORIDE UG/KG	34495	<20.0

COMMENTS:
1,2-BENZENEDICARBOXYLIC ACID,BUTYL 2-METHYLPROPYL ESTER

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900363 — WEDNESDAY JULY 18TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/18/90 12:58:40
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSCSS7

ANALYSIS	STORET	RESULT
ACENAPHTHENE UG/KG	34208	<300
ACENAPHTHYLENE UG/KG	34203	<300
ANTHRACENE UG/KG	34223	<300
BENZO(A)ANTHRACENE UG/KG	34529	<300
BENZO(B)FLUORANTHENE UG/KG	34233	<300
BENZO(K)FLUORANTHENE UG/KG	34245	<300
BENZO(A)PYRENE UG/KG	34250	<300
BENZO(GHI)PERYLENE UG/KG	34524	<300
BUTYLBENZYL PHTHALATE UG/KG	78800	<300
BIS(2-CHLOROETHYL)ETHER UG/KG	34276	<300
BIS(2-CHLOROETHOXY)METHANE UG/KG	34281	<300
BIS(2-ETHYLHEXYL)PHTHALATE UG/KG	39102	<300
BIS(2-CHLOROISOPROPYL)ETHER UG/KG	34286	<300
4-BROMOPHENYL PHENYL ETHER UG/KG	34639	<300
2-CHLORONAPHTHALENE UG/KG	34584	<300
4-CHLOROPHENYL PHENYL ETHER UG/KG	34644	<300
CHRYSENE UG/KG	34323	<300
DIBENZO(A,H)ANTHRACENE UG/KG	34559	<300
DI-N-BUTYLPHTHALATE UG/KG	39112	<300
1,3-DICHLOROBENZENE UG/KG	34569	<300
1,2-DICHLOROBENZENE UG/KG	34539	<300
1,4-DICHLOROBENZENE UG/KG	34574	<300
3,3'-DICHLOROBENZIDINE UG/KG	34634	<300
DIETHYL PHTHALATE UG/KG	34339	<300
DIMETHYL PHTHALATE UG/KG	34344	<300

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900363 WEDNESDAY JULY 18TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/18/90 12:58:40
COLLECTED BY : G SHEALY DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : JPSCSS7

NALYSIS	STORET	RESULT
,4-DINITROTOLUENE UG/KG	34614	<300
,6-DINITROTOLUENE UG/KG	34629	<300
I-N-OCTYLPHTHALATE UG/KG	34599	<300
LUORANTHENE UG/KG	34379	<300
LUORENE UG/KG	34384	<300
EXACHLOROBENZENE UG/KG	39701	<300
EXACHLOROBUTADIENE UG/KG	39705	<300
EXACHLOROETHANE UG/KG	34399	<300
NDENO(1,2,3-CD)PYRENE UG/KG	34406	<300
SOPHORONE UG/KG	34411	<300
APHTHALENE UG/KG	34445	<300
ITROBENZENE UG/KG	34450	<300
-NITROSODI-N-PROPYLAMINE UG/KG	34431	<300
[redacted]		
YRENE UG/KG	34472	<300
,2,4-TRICHLOROBENZENE UG/KG	34554	<300
-CHLORO-3-METHYL PHENOL UG/KG		<300
-CHLOROPHENOL UG/KG	34589	<300
,4-DICHLOROPHENOL UG/KG	34604	<300
,4-DIMETHYL PHENOL UG/KG	34609	<300
,4-DINITROPHENOL UG/KG	34619	<300
-METHYL-4,6-DINITROPHENOL UG/KG		<300
-NITROPHENOL UG/KG	34594	<300
-NITROPHENOL UG/KG	34649	<300
ENTACHLOROPHENOL UG/KG	78873	<300
[redacted]		
,4,6-TRICHLOROPHENOL UG/KG	34624	<300

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : C6069C0363 — WEDNESDAY JULY 18TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/18/90 12:58:40
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSCSS7

ANALYSIS	STORET	RESULT
ENZIDINE UG/KG	39121	<300
EXACHLOROCYCLOPENTADIENE UG/KG	34389	<300
-NITROSODIMETHYLAMINE UG/KG	34441	<300
-NITROSODIPHENYLAMINE UG/KG	34436	<300
NILINE UG/KG	78866	<300
ENZYL ALCOHOL UG/KG	75212	<300
-METHYLPHENOL UG/KG	78872	<300
[redacted]		
ENZOIC ACID UG/KG	75315	<300
-CHLOROANILINE UG/KG	78867	<300
-METHYLNAPHTHALENE UG/KG	78868	<300
,4,5-TRICHLOROPHENOL UG/KG	78401	<300
-NITROANILINE UG/KG	78299	<300
-NITROANILINE UG/KG	78869	<300
IBENZOFURAN UG/KG	75647	<300
-NITROANILINE UG/KG	78870	<300
ZOBENZENE UG/KG		<300
[redacted]		
THER COMPOUNDS DETECTED		SEE COMMENTS
ERCURY MG/KG	71921	<0.25
[redacted]		
ADMIUM MG/KG		<1.0
[redacted]		
OPPER MG/KG		36

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 06C6900363 — WEDNESDAY JULY 18TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/18/90 12:58:40
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSCS07

ANALYSIS	STORET	RESULT
MANGANESE MG/KG		240
NICKEL MG/KG		3.5
SILVER MG/KG		<3.0
PCB 1016 UG/KG	39514	<10.0
PCB 1221 UG/KG		<10.0
PCB 1232 UG/KG	39495	<10.0
PCB 1242 UG/KG	39499	<10.0
PCB 1248 UG/KG	39503	<10.0
PCB 1254 UG/KG	39507	<10.0
PCB 1260 UG/KG	39511	<10.0
PCB 1262 UG/KG		<10.0
SELENIUM MG/KG	01148	0.8
BENZENE UG/KG	34237	<20.0
BROMODICHLOROMETHANE UG/KG	34330	<20.0
BROMOFORM UG/KG	34290	<20.0
BROMOMETHANE UG/KG		<20.0
CARBON TETRACHLORIDE UG/KG	34299	<20.0
CHLOROBENZENE UG/KG	34304	<20.0
CHLOROETHANE UG/KG	34314	<20.0
2-CHLOROETHYLVINYL ETHER UG/KG	34579	<20.0
CHLOROFORM UG/KG	34318	<20.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900363
CHARGE NUMBER : CE
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

WEDNESDAY JULY 18TH, 1990
RELEASE DATE : 07/18/90 12:58:40
DT COLLECTED : 06A05/90 00:00:00
SAMPLE MEDIUM : SED
STATION CODE : JPSCS37

ANALYSIS	STORET	RESULT
CHLOROMETHANE UG/KG		<20.0
DIBROMOCHLOROMETHANE UG/KG	78195	<20.0
1,2-DICHLOROBENZENE UG/KG	34539	<20.0
1,3-DICHLOROBENZENE UG/KG	34569	<20.0
1,4-DICHLOROBENZENE UG/KG	34574	<20.0
1,1-DICHLOROETHANE UG/KG	34499	<20.0
1,2-DICHLOROETHANE UG/KG	34534	<20.0
1,1-DICHLOROETHENE UG/KG	34504	<20.0
TRANS-1,2-DICHLOROETHENE UG/KG	34549	<20.0
1,2-DICHLOROPROPANE UG/KG	34544	<20.0
CIS-1,3-DICHLOROPROPENE UG/KG	34702	<20.0
TRANS-1,3-DICHLOROPROPENE UG/KG	34697	<20.0
ETHYLBENZENE UG/KG	34374	<20.0
METHYLENE CHLORIDE UG/KG	34426	<20.0
1,1,2,2-TETRACHLOROETHANE UG/KG	34519	<20.0
TETRACHLOROETHENE UG/KG	34478	<20.0
TOLUENE UG/KG	34483	<20.0
1,1,1-TRICHLOROETHANE UG/KG	34509	<20.0
1,1,2-TRICHLOROETHANE UG/KG	34514	<20.0
TRICHLOROETHENE UG/KG	34487	<20.0
TRICHLOROFLUOROMETHANE UG/KG	34491	<20.0
VINYL CHLORIDE UG/KG	34495	<20.0

COMMENTS:
1,2-BENZENEDICARBOXYLIC ACID, BUTYL 2-METHYLPROPYL ESTER

Appendix B

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 060[illegible]364
CHARGE NUMBER : 08
COLLECTED BY : G SHEALY
COUNTY : ORANGE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

THURSDAY JULY 19TH, 1990
RELEASE DATE : 07/18/90 12:[illegible]:4[illegible]
DT COLLECT : 06/05/90 00:00:00
SAMPLE MEDIA : SED
STATION CODE : JPSCSS[illegible]

ANALYSIS	STORET	RESULT
ARSENIC UG/KG	01003	<[illegible]
ACENAPHTHENE UG/KG	34208	<30
ACENAPHTHYLENE UG/KG	34203	<30
ANTHRACENE UG/KG	34223	<3[illegible]
BENZO(A)ANTHRACENE UG/KG	34529	<30
BENZO(B)FLUORANTHENE UG/KG	34233	<30
BENZO(K)FLUORANTHENE UG/KG	34245	<30
BENZO(A)PYRENE UG/KG	34250	<30
BENZO(GHI)PERYLENE UG/KG	34524	<30
BUTYLBENZYL PHTHALATE UG/KG	78800	<30
BIS(2-CHLOROETHYL)ETHER UG/KG	34276	<30
BIS(2-CHLOROETHOXY)METHANE UG/KG	34281	<30
BIS(2-ETHYLHEXYL)PHTHALATE UG/KG	39102	<30
BIS(2-CHLOROISOPROPYL)ETHER UG/KG	34286	<30
4-BROMOPHENYL PHENYL ETHER UG/KG	34639	<30
2-CHLORONAPHTHALENE UG/KG	34584	<30
4-CHLOROPHENYL PHENYL ETHER UG/KG	34644	<30
CHRYSENE UG/KG	34323	<30
DIBENZO(A,H)ANTHRACENE UG/KG	34559	<30
DI-N-BUTYLPHTHALATE UG/KG	39112	<30
1,3-DICHLOROBENZENE UG/KG	34569	<30
1,2-DICHLOROBENZENE UG/KG	34539	<30
1,4-DICHLOROBENZENE UG/KG	34574	<30
3,3'-DICHLOROBENZIDINE UG/KG	34634	<30
DIETHYL PHTHALATE UG/KG	34339	<30
DIMETHYL PHTHALATE UG/KG	34344	<30

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : C6C49C0364 — THURSDAY JULY 19TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/18/90 12:58:4[illegible]
COLLECTED BY : G SMEALY — DT COLLECTED : 06/05/90 CC:CC:CC
COUNTY : CCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J C STEVENS CLEMSON PLT — STATION CODE : JPSCSS[illegible]

ANALYSIS	STORET	RESULT
2,4-DINITROTOLUENE UG/KG	34614	<300
2,6-DINITROTOLUENE UG/KG	34629	<300
DI-N-OCTYLPHTHALATE UG/KG	34599	<300
FLUORANTHENE UG/KG	34379	<300
FLUORENE UG/KG	34384	<300
HEXACHLOROBENZENE UG/KG	39701	<300
HEXACHLOROBUTADIENE UG/KG	39705	<300
HEXACHLOROETHANE UG/KG	34599	<300
INDENO(1,2,3-CD)PYRENE UG/KG	34406	<300
ISOPHORONE UG/KG	34411	<300
NAPHTHALENE UG/KG	34445	<300
NITROBENZENE UG/KG	34450	<300
N-NITROSODI-N-PROPYLAMINE UG/KG	34431	<300
PHENANTHRENE UG/KG	34464	<300
PYRENE UG/KG	34472	<300
1,2,4-TRICHLOROBENZENE UG/KG	34554	<300
4-CHLORO-3-METHYL PHENOL UG/KG		<300
2-CHLOROPHENOL UG/KG	34589	<300
2,4-DICHLOROPHENOL UG/KG	34604	<300
2,4-DIMETHYL PHENOL UG/KG	34609	<300
2,4-DINITROPHENOL UG/KG	34619	<300
2-METHYL-4,6-DINITROPHENOL UG/KG		<300
2-NITROPHENOL UG/KG	34594	<300
4-NITROPHENOL UG/KG	34649	<300
PENTACHLOROPHENOL UG/KG	78873	<300
PHENOL, UG/KG	34695	<300
2,4,6-TRICHLOROPHENOL UG/KG	34624	<300

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : C60-900364 THURSDAY JULY 19TH, 1990

CHARGE NUMBER : CE RELEASE DATE : 07/18/90 12:58:40
COLLECTED BY : G SHEALY DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : JPSCSS8

ANALYSIS	STORET	RESULT
BENZIDINE UG/KG	39121	<300
HEXACHLOROCYCLOPENTADIENE UG/KG	34389	<300
N-NITROSODIMETHYLAMINE UG/KG	34441	<300
N-NITROSODIPHENYLAMINE UG/KG	34436	<300
ANILINE UG/KG	78866	<300
BENZYL ALCOHOL UG/KG	75212	<300
2-METHYLPHENOL UG/KG	78872	<300
4-METHYLPHENOL UG/KG	78803	<300
BENZOIC ACID UG/KG	75315	<300
4-CHLOROANILINE UG/KG	78867	<300
2-METHYLNAPHTHALENE UG/KG	78868	<300
2,4,5-TRICHLOROPHENOL UG/KG	78401	<300
2-NITROANILINE UG/KG	78299	<300
3-NITROANILINE UG/KG	78869	<300
DIBENZOFURAN UG/KG	75647	<300
4-NITROANILINE UG/KG	78870	<300
AZOBENZENE UG/KG		<300
OTHER COMPOUNDS DETECTED		SEE COMMENTS
MERCURY MG/KG	71921	<0.25
[redacted]		
CADMIUM MG/KG		1.3
CHROMIUM MG/KG		28
COPPER MG/KG		15
LEAD MG/KG		14

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *
* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *
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SAMPLE NUMBER : 0606900364 THURSDAY JULY 19TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/18/90 12:58:40
COLLECTED BY : G SHEALY DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : JPSCSS2

ANALYSIS	STORET	RESULT
MANGANESE MG/KG		240
NICKEL MG/KG		2.9
SILVER MG/KG		<3.0
PCB 1016 UG/KG	39514	<10.0
PCB 1221 UG/KG		<10.0
PCB 1232 UG/KG	39495	<10.0
PCB 1242 UG/KG	39499	<10.0
PCB 1248 UG/KG	39503	<10.0
PCB 1254 UG/KG	39507	<10.0
PCB 1260 UG/KG	39511	30.5
PCB 1262 UG/KG		<10.0
SELENIUM MG/KG	01148	<0.5
BENZENE UG/KG	34237	<20.0
BROMODICHLOROMETHANE UG/KG	34330	<20.0
BROMOFORM UG/KG	34290	<20.0
BROMOMETHANE UG/KG		<20.0
CARBON TETRACHLORIDE UG/KG	34299	<20.0
CHLOROBENZENE UG/KG	34304	<20.0
CHLOROETHANE UG/KG	34314	<20.0
2-CHLOROETHYLVINYL ETHER UG/KG	34579	<20.0
CHLOROFORM UG/KG	34318	<20.0
CHLOROMETHANE UG/KG		<20.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : C6C890J364
CHARGE NUMBER : CE
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

THURSDAY JULY 19TH, 1990
RELEASE DATE : 07/18/90 12:55:40
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : SED
STATION CODE : JPSCSS

ANALYSIS	STORET	RESULT
DIBROMOCHLOROMETHANE UG/KG	78195	<20.0
1,2-DICHLOROBENZENE UG/KG	34539	<20.0
1,3-DICHLOROBENZENE UG/KG	34569	<20.0
1,4-DICHLOROBENZENE UG/KG	34574	<20.0
1,1-DICHLOROETHANE UG/KG	34499	<20.0
1,2-DICHLOROETHANE UG/KG	34534	<20.0
1,1-DICHLOROETHENE UG/KG	34504	<20.0
TRANS-1,2-DICHLOROETHENE UG/KG	34549	<20.0
1,2-DICHLOROPROPANE UG/KG	34544	<20.0
CIS-1,3-DICHLOROPROPENE UG/KG	34702	<20.0
TRANS-1,3-DICHLOROPROPENE UG/KG	34697	<20.0
ETHYLBENZENE UG/KG	34374	<20.0
METHYLENE CHLORIDE UG/KG	34426	<20.0
1,1,2,2-TETRACHLOROETHANE UG/KG	34519	<20.0
TETRACHLOROETHENE UG/KG	34478	<20.0
TOLUENE UG/KG	34483	<20.0
1,1,1-TRICHLOROETHANE UG/KG	34509	<20.0
1,1,2-TRICHLOROETHANE UG/KG	34514	<20.0
TRICHLOROETHENE UG/KG	34487	<20.0
TRICHLOROFLUOROMETHANE UG/KG	34491	<20.0
VINYL CHLORIDE UG/KG	34495	<20.0

COMMENTS:
1,2-BENZENEDICARBOXYLIC ACID,BUTYL 2-METHYLPROPYL ESTER
1,2-BENZENEDICARBOXYLIC ACID,BIS(2-METHOXYETHYL)ESTER

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 060-900365
CHARGE NUMBER : CE
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

FRIDAY JULY [illegible], 1990
RELEASE DATE : 07/20/90 13:07:14
DT COLLECTED : 06/05/90 00:07:00
SAMPLE MEDIUM : SED
STATION CODE : SS-11

ANALYSIS	STORET	RESULT
ARSENIC MG/KG	01003	14
ACENAPHTHENE UG/KG	34208	<300
ACENAPHTHYLENE UG/KG	34203	<300
ANTHRACENE UG/KG	34223	<300
BENZO(A)ANTHRACENE UG/KG	34529	<300
BENZO(E)FLUORANTHENE UG/KG	34233	<300
BENZO(K)FLUORANTHENE UG/KG	34245	<300
BENZO(A)PYRENE UG/KG	34250	<300
BENZO(GHI)PERYLENE UG/KG	34524	<300
BUTYLBENZYL PHTHALATE UG/KG	78800	<300
BIS(2-CHLOROETHYL)ETHER UG/KG	34276	<300
BIS(2-CHLOROETHOXY)METHANE UG/KG	34281	<300
BIS(2-ETHYLHEXYL)PHTHALATE UG/KG	39102	4,490
BIS(2-CHLOROISOPROPYL)ETHER UG/KG	34286	<300
4-BROMOPHENYL PHENYL ETHER UG/KG	34639	<300
2-CHLORONAPHTHALENE UG/KG	34584	<300
4-CHLOROPHENYL PHENYL ETHER UG/KG	34644	<300
CHRYSENE UG/KG	34323	<300
DIBENZO(A,H)ANTHRACENE UG/KG	34559	<300
DI-N-BUTYLPHTHALATE UG/KG	39112	<300
1,3-DICHLOROBENZENE UG/KG	34569	<300
1,2-DICHLOROBENZENE UG/KG	34539	<300
1,4-DICHLOROBENZENE UG/KG	34574	<300
3,3'-DICHLOROBENZIDINE UG/KG	34634	<300
DIETHYL PHTHALATE UG/KG	34339	<300
DIMETHYL PHTHALATE UG/KG	34344	<300

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 06C690C365 — FRIDAY JULY [illegible], 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/20/90 13:07:14
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 CC:CC:CC
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J M STEVENS CLEMSON PLT — STATION CODE : SS-11

ANALYSIS	STORET	RESULT
2,4-DINITROTOLUENE UG/KG	34614	<30
2,6-DINITROTOLUENE UG/KG	34629	<30
DI-N-OCTYLPHTHALATE UG/KG	34599	<30
FLUORANTHENE UG/KG	34379	<30
FLUORENE UG/KG	34384	<30
HEXACHLOROBENZENE UG/KG	39701	<30
HEXACHLOROBUTADIENE UG/KG	39705	<30
HEXACHLOROETHANE UG/KG	34399	<30
INDENO(1,2,3-CD)PYRENE UG/KG	34406	<30
ISOPHORONE UG/KG	34411	<30
NAPHTHALENE UG/KG	34445	<30
NITROBENZENE UG/KG	34450	<30
N-NITROSODI-N-PROPYLAMINE UG/KG	34431	<30
PHENANTHRENE UG/KG	34464	<30
PYRENE UG/KG	34472	<30
1,2,4-TRICHLOROBENZENE UG/KG	34554	<30
4-CHLORO-3-METHYL PHENOL UG/KG		<30
2-CHLOROPHENOL UG/KG	34589	<30
2,4-DICHLOROPHENOL UG/KG	34604	<30
2,4-DIMETHYL PHENOL UG/KG	34609	<30
2,4-DINITROPHENOL UG/KG	34619	<30
2-METHYL-4,6-DINITROPHENOL UG/KG		<30
2-NITROPHENOL UG/KG	34594	<30
4-NITROPHENOL UG/KG	34649	<30
PENTACHLOROPHENOL UG/KG	78873	<30
PHENOL UG/KG	34695	<30
2,4,6-TRICHLOROPHENOL UG/KG	34624	<30

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : C604900365 — FRIDAY JULY 20TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/20/90 13:07:14
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : SS-11

ANALYSIS	STORET	RESULT
BENZIDINE UG/KG	39121	<300
HEXACHLOROCYCLOPENTADIENE UG/KG	34389	<300
N-NITROSODIMETHYLAMINE UG/KG	34441	<300
N-NITROSODIPHENYLAMINE UG/KG	34436	<300
ANILINE UG/KG	78866	<300
BENZYL ALCOHOL UG/KG	75212	<300
2-METHYLPHENOL UG/KG	78872	<300
4-METHYLPHENOL UG/KG	78803	<300
[redacted]		
4-CHLOROANILINE UG/KG	78867	<300
2-METHYLNAPHTHALENE UG/KG	78868	<300
2,4,5-TRICHLOROPHENOL UG/KG	78401	<300
2-NITROANILINE UG/KG	78299	<300
3-NITROANILINE UG/KG	78869	<300
DIBENZOFURAN UG/KG	75647	<300
4-NITROANILINE UG/KG	78870	<300
AZOBENZENE UG/KG		<300
MERCURY MG/KG	71921	<0.25
BARIUM MG/KG		31
CADMIUM MG/KG		<1.0
[redacted]		
COPPER MG/KG		62
LEAD MG/KG		25
MANGANESE MG/KG		240

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900365 — FRIDAY JULY 20TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/20/90 13:07:14
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:0
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : SS-11

ANALYSIS	STORET	RESULT
[redacted]		
SILVER MG/KG		35
PCB 1016 UG/KG	39514	<10.0
PCB 1221 UG/KG		<10.0
PCB 1232 UG/KG	39495	<10.0
PCB 1242 UG/KG	39499	<10.0
PCB 1248 UG/KG	39503	<10.0
PCB 1254 UG/KG	39507	<10.0
PCB 1260 UG/KG	39511	<10.0
PCB 1262 UG/KG		<10.0
SELENIUM MG/KG	01148	<0.5
BENZENE UG/KG	34237	<20.0
BROMODICHLOROMETHANE UG/KG	34330	<20.0
BROMOFORM UG/KG	34290	<20.0
BROMOMETHANE UG/KG		<20.0
CARBON TETRACHLORIDE UG/KG	34299	<20.0
CHLOROBENZENE UG/KG	34304	<20.0
CHLOROETHANE UG/KG	34314	<20.0
2-CHLOROETHYLVINYL ETHER UG/KG	34579	<20.0
CHLOROFORM UG/KG	34318	<20.0
CHLOROMETHANE UG/KG		<20.0
DIBROMOCHLOROMETHANE UG/KG	78195	<20.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 160-900365 FRIDAY JULY 20TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/20/90 13:07:14
COLLECTED BY : G SHEALY DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : SS-11

ANALYSIS	STORET	RESULT
1,2-DICHLOROBENZENE UG/KG	34539	<20.0
1,3-DICHLOROBENZENE UG/KG	34569	<20.0
1,4-DICHLOROBENZENE UG/KG	34574	<20.0
1,1-DICHLOROETHANE UG/KG	34499	<20.0
1,2-DICHLOROETHANE UG/KG	34534	<20.0
1,1-DICHLOROETHENE UG/KG	34504	<20.0
TRANS-1,2-DICHLOROETHENE UG/KG	34549	<20.0
1,2-DICHLOROPROPANE UG/KG	34544	<20.0
CIS-1,3-DICHLOROPROPENE UG/KG	34702	<20.0
TRANS-1,3-DICHLOROPROPENE UG/KG	34697	<20.0
ETHYLBENZENE UG/KG	34374	<20.0
METHYLENE CHLORIDE UG/KG	34426	<20.0
1,1,2,2-TETRACHLOROETHANE UG/KG	34519	<20.0
TETRACHLOROETHENE UG/KG	34478	<20.0
TOLUENE UG/KG	34483	<20.0
1,1,1-TRICHLOROETHANE UG/KG	34509	<20.0
1,1,2-TRICHLOROETHANE UG/KG	34514	<20.0
TRICHLOROETHENE UG/KG	34487	<20.0
TRICHLOROFLUOROMETHANE UG/KG	34491	<20.0
VINYL CHLORIDE UG/KG	34495	<20.0

COMMENTS:

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SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

ANALYTICAL SERVICES DIVISION LABORATORY REPORT

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SAMPLE NUMBER : U6C69CC366
CHARGE NUMBER : CF
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

THURSDAY JULY 19TH, 1990
RELEASE DATE : 07/18/90 12:58:40
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : SED
STATION CODE : SS-12

ANALYSIS	STORET	RESULT
ARSENIC MG/KG	01003	<0.5
ACENAPHTHENE UG/KG	34208	<300
ACENAPHTHYLENE UG/KG	34203	<300
ANTHRACENE UG/KG	34223	<300
BENZO(A)ANTHRACENE UG/KG	34529	<300
BENZO(B)FLUORANTHENE UG/KG	34233	<300
BENZO(K)FLUORANTHENE UG/KG	34245	<300
BENZO(A)PYRENE UG/KG	34250	<300
BENZO(GHI)PERYLENE UG/KG	34524	<300
BUTYLBENZYL PHTHALATE UG/KG	78800	<300
BIS(2-CHLOROETHYL)ETHER UG/KG	34276	<300
BIS(2-CHLOROETHOXY)METHANE UG/KG	34281	<300
BIS(2-ETHYLHEXYL)PHTHALATE UG/KG	39102	<300
BIS(2-CHLOROISOPROPYL)ETHER UG/KG	34286	<300
4-BROMOPHENYL PHENYL ETHER UG/KG	34639	<300
2-CHLORONAPHTHALENE UG/KG	34584	<300
4-CHLOROPHENYL PHENYL ETHER UG/KG	34644	<300
CHRYSENE UG/KG	34323	<300
DIBENZO(A,H)ANTHRACENE UG/KG	34559	<300
DI-N-BUTYLPHTHALATE UG/KG	39112	<300
1,3-DICHLOROBENZENE UG/KG	34569	<300
1,2-DICHLOROBENZENE UG/KG	34539	<300
1,4-DICHLOROBENZENE UG/KG	34574	<300
3,3'-DICHLOROBENZIDINE UG/KG	34634	<300
DIETHYL PHTHALATE UG/KG	34339	<300
DIMETHYL PHTHALATE UG/KG	34344	<300

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *
* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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SAMPLE NUMBER : C6C690C366 THURSDAY JUL 19TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/18/90 12:5P:4C
COLLECTED BY : G SHEALY DT COLLECTED : 06/05/9C CC:CC:CC
COUNTY : OCONEE SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J F STEVENS CLEMSON PLT STATION CODE : SS-12

ANALYSIS	STORET	RESULT
2,4-DINITROTOLUENE UG/KG	34614	<30
2,6-DINITROTOLUENE UG/KG	34629	<30
DI-N-OCTYLPHTHALATE UG/KG	34599	<30
FLUORANTHENE UG/KG	34379	<30
FLUORENE UG/KG	34384	<30
HEXACHLOROBENZENE UG/KG	39701	<30
HEXACHLOROBUTADIENE UG/KG	39705	<30
HEXACHLOROETHANE UG/KG	34399	<30
INDENO(1,2,3-CD)PYRENE UG/KG	34406	<30
ISOPHORONE UG/KG	34411	<30
NAPHTHALENE UG/KG	34445	<30
NITROBENZENE UG/KG	34450	<30
N-NITROSODI-N-PROPYLAMINE UG/KG	34431	<30
PHENANTHRENE UG/KG	34464	<30
PYRENE UG/KG	34472	<30
1,2,4-TRICHLOROBENZENE UG/KG	34554	<30
4-CHLORO-3-METHYL PHENOL UG/KG		<30
2-CHLOROPHENOL UG/KG	34589	<30
2,4-DICHLOROPHENOL UG/KG	34604	<30
2,4-DIMETHYL PHENOL UG/KG	34609	<30
2,4-DINITROPHENOL UG/KG	34619	<30
2-METHYL-4,6-DINITROPHENOL UG/KG		<30
2-NITROPHENOL UG/KG	34594	<30
4-NITROPHENOL UG/KG	34649	<30
PENTACHLOROPHENOL UG/KG	78873	<30
PHENOL UG/KG	34695	<30
2,4,6-TRICHLOROPHENOL UG/KG	34624	<30

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *
* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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SAMPLE NUMBER : 060c900366 THURSDAY JULY 19TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/18/90 12:58:47
COLLECTED BY : G SHEALY DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : SS-12

ANALYSIS	STORET	RESULT
BENZIDINE UG/KG	39121	<300
HEXACHLOROCYCLOPENTADIENE UG/KG	34389	<300
N-NITROSODIMETHYLAMINE UG/KG	34441	<300
N-NITROSODIPHENYLAMINE UG/KG	34436	<300
ANILINE UG/KG	78866	<300
BENZYL ALCOHOL UG/KG	75212	<300
2-METHYLPHENOL UG/KG	78872	<300
4-METHYLPHENOL UG/KG	78803	<300
BENZOIC ACID UG/KG	75315	<300
4-CHLOROANILINE UG/KG	78867	<300
2-METHYLNAPHTHALENE UG/KG	78868	<300
2,4,5-TRICHLOROPHENOL UG/KG	78401	<300
2-NITROANILINE UG/KG	78299	<300
3-NITROANILINE UG/KG	78869	<300
DIBENZOFURAN UG/KG	75647	<300
4-NITROANILINE UG/KG	78870	<300
AZOBENZENE UG/KG		<300
OTHER COMPOUNDS DETECTED		SEE COMMENTS
MERCURY MG/KG	71921	<0.25
BARIUM MG/KG		18
CADMIUM MG/KG		<1.0
CHROMIUM MG/KG		27
COPPER MG/KG		8.2
LEAD MG/KG		6.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900366 — THURSDAY JULY 19TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/18/90 12:58:40
COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : SED
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : SS-12

ANALYSIS	STORET	RESULT
MANGANESE MG/KG		160
NICKEL MG/KG		<2.0
SILVER MG/KG		<3.0
PCB 1016 UG/KG	39514	<10.0
PCB 1221 UG/KG		<10.0
PCB 1232 UG/KG	39495	<10.0
PCB 1242 UG/KG	39499	<10.0
PCB 1248 UG/KG	39503	<10.0
PCB 1254 UG/KG	39507	<10.0
PCB 1260 UG/KG	39511	<10.0
PCB 1262 UG/KG		<10.0
SELENIUM MG/KG	01148	<0.5
BENZENE UG/KG	34237	<20.0
BROMODICHLOROMETHANE UG/KG	34330	<20.0
BROMOFORM UG/KG	34290	<20.0
BROMOMETHANE UG/KG		<20.0
CARBON TETRACHLORIDE UG/KG	34299	<20.0
CHLOROBENZENE UG/KG	34304	<20.0
CHLOROETHANE UG/KG	34314	<20.0
2-CHLOROETHYLVINYL ETHER UG/KG	34579	<20.0
CHLOROFORM UG/KG	34318	<20.0
CHLOROMETHANE UG/KG		<20.0

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *

* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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SAMPLE NUMBER : C60c90036c — THURSDAY JULY 19TH, 1990

CHARGE NUMBER : CE — RELEASE DATE : 07/18/90 12:58:40

COLLECTED BY : G SHEALY — DT COLLECTED : 06/05/90 00:00:00

COUNTY : OCONEE — SAMPLE MEDIUM : SED

SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : SS-12

ANALYSIS	STORET	RESULT
DIBROMOCHLOROMETHANE UG/KG	78195	<20.0
1,2-DICHLOROBENZENE UG/KG	34539	<20.0
1,3-DICHLOROBENZENE UG/KG	34569	<20.0
1,4-DICHLOROBENZENE UG/KG	34574	<20.0
1,1-DICHLOROETHANE UG/KG	34499	<20.0
1,2-DICHLOROETHANE UG/KG	34534	<20.0
1,1-DICHLOROETHENE UG/KG	34504	<20.0
TRANS-1,2-DICHLOROETHENE UG/KG	34549	<20.0
1,2-DICHLOROPROPANE UG/KG	34544	<20.0
CIS-1,3-DICHLOROPROPENE UG/KG	34702	<20.0
TRANS-1,3-DICHLOROPROPENE UG/KG	34697	<20.0
ETHYLBENZENE UG/KG	34374	<20.0
METHYLENE CHLORIDE UG/KG	34426	<20.0
1,1,2,2-TETRACHLOROETHANE UG/KG	34519	<20.0
TETRACHLOROETHENE UG/KG	34478	<20.0
TOLUENE UG/KG	34483	<20.0
1,1,1-TRICHLOROETHANE UG/KG	34509	<20.0
1,1,2-TRICHLOROETHANE UG/KG	34514	<20.0
TRICHLOROETHENE UG/KG	34487	<20.0
TRICHLOROFLUOROMETHANE UG/KG	34491	<20.0
VINYL CHLORIDE UG/KG	34495	<20.0

COMMENTS:
1,2-BENZENEDICARBOXYLIC ACID,BUTYL 2-METHLPROPYL ESTER

REFERENCE 8

DELETED

Appendix B
Ref. 23

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

Commissioner: Michael D. Jarrett

Board: John B. Pate, MD, Chairman
William E. Applegate, III, Vice Chairman
John H. Burriss, Secretary
Toney Graham, Jr., MD
Richard E. Jabbour, DDS
Henry S. Jordan, MD
Currie B. Spivey, Jr.

Promoting Health, Protecting the Environment

REFERENCE NO. 9

TO: John Cresswell, Manager
Site Screening
Bureau of Solid and Hazardous Waste Management

THRU: Harold Seabrook, Manager
Waste Assessment and Sampling Section
Bureau of Solid and Hazardous Waste Management

FROM: Gerald D. Shealy
Waste Assessment and Sampling Section
Bureau of Solid and Hazardous Waste Management

RE: J. P. Stevens and Company-Clemson Plant
Trip Report
SCD 003 345 097
Oconee County

DATE: September 13, 1990

Attached is the trip report for the referenced facility. This report is ready to be incorporated into the Site Inspection Report.

RECEIVED
SEP 21 1990
S. C. Dept. of Health & Environmental Control-Bureau of Solid & Hazardous Waste Management

recycled paper

J. P. Stevens Company-Clemson Plant

Trip Report

SCD 003 345 097

Oconee County

Prepared for:
John Cresswell
South Carolina Department of
Health and Environmental Control,
Bureau of Solid and Hazardous
Waste Management

Prepared by:
Gerald D. Shealy
South Carolina Department of
Health and Environmental Control
Bureau of Solid and Hazardous
Waste Management

I. Introduction

The Site Screening Section, Bureau of Solid and Hazardous Waste Management, South Carolina Department of Health and Environmental Control ("Department") has been tasked by the USEPA, Waste Management Division, Region IV to Conduct a Site Screening Inspection at the J.P. Stevens Company-Clemson Plant. The investigation was performed under the Authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA).

On July 10, 1990 the investigation was conducted at the J.P. Stevens Company-Clemson Plant site. During the sampling inspection there were six (6) surface soil samples, One(1) waste sample, and one (1) surface water sample taken. All was taken in the Level "D". Samples were split J.P. Stevens officials and recieved by Law Environmental Inc. There were several changes from the sampling plan:

1) Sample JPSC-SD-09(Sediment was changed to JPSC-SW-09 (surface water) due to the inability to safely collect the sediment sample.

2) Sample JPSC-DR-07 (drum) was changed to JPSC-SS-07 (surface soil) due to the removals of all debris and used parts aound the existing trash fill area prior to the scheduled sampling trip.

3) Sample JPSC-SS-10 was eliminated due to same material at sample location JPSC-SS-11 and JPSC-SS-13.

4) Sample JPSC-SS-14 was eliminated due to the unaccessibilty of the sample.

5) Finally, JPSC-SW-15 was eliminated due to no-surface water streams or creeks that runoff from J.P. Steves Plant to Lake Hartwell.

The sampling team consisted of:

Pete Saussy	-	Emergency Response Section
Jacob Baker	-	Emergency Response Section
Gerald Shealy	-	Waste Assessment Section

II Methodology

All sampling activities during the inspection were conducted in accordance with the Bureau of Solid and Hazardous Waste Management Standard Operating Procedures (Drafted 1987) adopted from USEPA ESD Water Surveillance Branch Standard Operating Procedures and Quality Assurances.

All samples are to be analyzed for chemicals found in the US EPA Target Compound List (TCL) with the exception of Pesticides and Herbicides.

After the completion of sample collection, the samples were placed in the refrigerator, and transported to the Department's Central Laboratory at State Park, South Carolina.

Site Name: J.P. Stevens and Company-Clemson Plant
USEPA ID #: SCD 003 345 097
Sample #: JPSC-SS-05
Collected By: Pete Saussy, Jacob Baker, Gerald Shealy
Time: 0906-0925
Date: June 5, 1990

Ambient Air: Rainy: _____ Cloudy: _____
Sunny: _X__ Partly Cloudy: _____
Warm: ___ Cool: ___ Hot: _X_ Cold: ___

Sample Type: surface: _X__ subsurface: _____ sediment:_____
augered: _____ depth: _____
surface: _X__ depth: 4 inches
sediment: _____ % of RB: _____
composite: _____ grab: _X__

Sample Description: Color: reddish brown

Odor: no odor present

Clay/Sand: 20% sand and 80% clay

Soil Texture: fine grain soil

True distance from landmark: This sample was collected 50 yards north of the flyash landfill in the woods.

Field Measurements: HNU __N/A__
OVA __N/A__
CGI __N/A__
Explosive Meter __N/A__

Sample Preservation: yes ___ no ___ n/a _X_

Preserved With: HNO3(Metals/Mercury): yes__ no__ n/a___

H2SO4 (Phenols/Nutrients): yes__ no__ n/a___

NaOH(Cyanide): yes__ no__ n/a___

Was Sampling Plan followed: yes _X_ no __

If no, why was plan deviated from: _____

Date samples delivered to lab 6-6-90 Number of bottles: 4
Time samples delivered to lab 12:30 Received by: KAC
Were samples iced: yes _X_ no ___

Site Name: J.P. Stevens and Company-Clemson Plant
USEPA ID #: SCD 003 345 097
Sample #: JPSC-WA-06
Collected By: Pete Saussy, Jacob Baker, Gerald Shealy
Time: 0935-0945
Date: June 5, 1990

Ambient Air: Rainy: ____ Cloudy: ____
Sunny: _X__ Partly Cloudy: ____
Warm: ___ Cool: ___ Hot: _X_ Cold: ___

Sample Type: surface: _X__ subsurface: ____ sediment:____
augered: ____ depth: ____
surface: ____ depth: 4 inches
sediment: _X__ % of RB: ____
composite: ____ grab: _X__

Sample Description: Color: black

Odor: no odor present

Clay/Sand: fly ash

Soil Texture: powder with Kliners mixed

True distance from landmark: This sample was taken 100 yards from the entrance to the fly ash landfill in the center of the landfill.

Field Measurements: HNU __N/A__
OVA __N/A__
CGI __N/A__
Explosive Meter __N/A__

Sample Preservation: yes ___ no ___ n/a _X_

Preserved With: HNO3(Metals/Mercury): yes__ no__ n/a___

H2SO4 (Phenols/Nutrients): yes__ no__ n/a___

NaOH(Cyanide): yes__ no__ n/a___

Was Sampling Plan followed: yes _X_ no __

If no, why was plan deviated from: _____

Date samples delivered to lab 6-6-90 Number of bottles: 4
Time samples delivered to lab 12:30 Received by: KAC
Were samples iced: yes _X_ no ___

Site Name: J.P. Stevens and Company-Clemson Plant
USEPA ID #: SCD 003 345 097
Sample #: JPSC-SS-07
Collected By: Pete Saussy, Gerald Shealy
Time: 12:40-12:58
Date: June 5, 1990

Ambient Air: Rainy: ____ Cloudy: ____
Sunny: _X__ Partly Cloudy: ____
Warm: ___ Cool: ___ Hot: _X_ Cold: ___

Sample Type: surface: _X__ subsurface: ____ sediment:____
augered: ____ depth: ____
surface: _X__ depth: 4 inches
sediment: ____ % of RB: ____
composite: ____ grab: ____

Sample Description: Color: dark brown to black

Odor: no odor present

Clay/Sand: 10 sand 90% clay

Soil Texture: fine grain clay near some stained soil

True distance from landmark: This sample was taken atop the existing trash fill area. This area was clean with waste debris and equipment removed since the recon.

Field Measurements: HNU __N/A__
OVA __N/A__
CGI __N/A__
Explosive Meter __N/A__

Sample Preservation: yes _X_ no ___ n/a _X_

Preserved With: HNO3(Metals/Mercury): yes__ no__ n/a___

H2SO4 (Phenols/Nutrients): yes__ no__ n/a___

NaOH(Cyanide): yes__ no__ n/a___

Was Sampling Plan followed: yes _X_ no __

If no, why was plan deviated from: _____

Date samples delivered to lab 6-6-90 Number of bottles: 4
Time samples delivered to lab 12:30 Received by: KAC
Were samples iced: yes _X_ no ___

Site Name: J.P. Stevens and Company-Clemson Plant
USEPA ID #: SCD 003 345 097
Sample #: JPSC-SS-08
Collected By: Pete Saussy, Gerald Shealy, Jacob Baker
Time: 12:40-12:55
Date: June 5, 1990

Ambient Air: Rainy: ____ Cloudy: ____
Sunny: _X__ Partly Cloudy: ____
Warm: ___ Cool: ___ Hot: _X_ Cold: ___

Sample Type: surface: ____ subsurface: ____ sediment: _X__
augered: _X__ depth: 2.5 feet
surface: ____ depth: ____
sediment: ____ % of RB: ____
composite: ____ grab: _X__

Sample Description: Color: dark brown black

Odor: no odor present

Clay/Sand: 10% sand 90% clay

Soil Texture: fine grain soil

True distance from landmark: This sample was collected at the tae of the existing trash fill area. This area has been cleaned of waste, debris, and equipment since the recon.

Field Measurements: HNU __N/A__
OVA __N/A__
CGI __N/A__
Explosive Meter __N/A__

Sample Preservation: yes ___ no ___ n/a _X_

Preserved With: HNO3(Metals/Mercury): yes__ no__ n/a___

H2SO4 (Phenols/Nutrients): yes__ no__ n/a___

NaOH(Cyanide): yes__ no__ n/a___

Was Sampling Plan followed: yes _X_ no __

If no, why was plan deviated from: _____

Date samples delivered to lab 6-6-90 Number of bottles: 4
Time samples delivered to lab 12:30 Received by: KAC
Were samples iced: yes _X_ no ___

Site Name: J.P. Stevens and Company-Clemson Plant
USEPA ID #: SCD 003 345 097
Sample #: JPSC-WA-09
Collected By: Pete Saussy, Gerald Shealy, Jacob Baker
Time: 1:35
Date: June 5, 1990

Ambient Air: Rainy: ____ Cloudy: ____
Sunny: _X__ Partly Cloudy: ____
Warm: ___ Cool: ___ Hot: _X_ Cold: ___

Sample Type: surface: ____ subsurface: ____
sediment: ____ surface water: _X__
augered: ____ depth: ____
surface: ____ depth: ____
sediment: ____ % of RB: ____
composite: ____ grab: ____

Sample Description: Color: green

Odor: algae odor

Clay/Sand: surface water

Soil Texture:

True distance from landmark: This sample was taken from the former wastewater discharge pond.

Field Measurements: HNU __N/A__
OVA __N/A__
CGI __N/A__
Explosive Meter __N/A__

Sample Preservation: yes _X_ no ___ n/a ___

Preserved With: HNO3(Metals/Mercury): yes_X_ no__ n/a__

H2SO4 (Phenols/Nutrients): yes_X_ no__ n/a__

NaOH(Cyanide): yes_X_ no__ n/a__

Was Sampling Plan followed: yes ___ no _X_

If no, why was plan deviated from: This sample was changed to a surface-water sample from an orginally planned sediment sample.

Date samples delivered to lab 6-6-90 Number of bottles: 4
Time samples delivered to lab 12:30 Received by: KAC
Were samples iced: yes _X_ no ___

Site Name: J.P. Stevens and Company-Clemson Plant
USEPA ID #: SCD 003 345 097
Sample #: JPSC-SS-11
Collected By: Pete Saussy, Gerald Shealy, Jacob Baker
Time: 12:05-12:25
Date: June 5, 1990

Ambient Air: Rainy: ____ Cloudy: ____
Sunny: _X__ Partly Cloudy: ____
Warm: ___ Cool: ___ Hot: _X_ Cold: ___

Sample Type: surface: _X__ subsurface: ____ sediment:_X__
augered: ____ depth: ____
surface: _X__ depth: 4 inches
sediment: ____ % of RB: ____
composite: ____ grab: _X__

Sample Description: Color: black

Odor: no odor present

Clay/Sand: sludge

Soil Texture: dried sludge

True distance from landmark: This sample was taken in center of disposal area for sludge the sample was taken 150 feet from the entrance of this area.

Field Measurements: HNU __N/A__
OVA __N/A__
CGI __N/A__
Explosive Meter __N/A__

Sample Preservation: yes ___ no ___ n/a _X_

Preserved With: HNO3(Metals/Mercury): yes__ no__ n/a__

H2SO4 (Phenols/Nutrients): yes__ no__ n/a__

NaOH(Cyanide): yes__ no__ n/a__

Was Sampling Plan followed: yes _X_ no ___

If no, why was plan deviated from: _____

Date samples delivered to lab 6-6-90 Number of bottles: 4
Time samples delivered to lab 12:30 Received by: KAC
Were samples iced: yes _X_ no ___

Site Name: J.P. Stevens and Company-Clemson Plant
USEPA ID #: SCD 003 345 097
Sample #: JPSC-SS-12
Collected By: Pete Saussy, Gerald Shealy, Jacob Baker
Time: 11:10-11:45
Date: June 5, 1990

Ambient Air: Rainy: ____ Cloudy: ____
Sunny: _X__ Partly Cloudy: ____
Warm: ___ Cool: ___ Hot: _X_ Cold: ___

Sample Type: surface: _X__ subsurface: ____ sediment: _X__
augered: ____ depth: ____
surface: _X__ depth: 6 inches
sediment: ____ % of RB: ____
composite: ____ grab: _X__

Sample Description: Color: red

Odor: no odor present

Clay/Sand: compacted clay

Soil Texture: moist clay

True distance from landmark: This sample was taken within the tank farm area located near the wastewater treatment plant, these tanks contain ammonia Hydroxide, phosphoric acid, Ferric chloride, and lime.

Field Measurements: HNU __N/A__
OVA __N/A__
CGI __N/A__
Explosive Meter __N/A__

Sample Preservation: yes ___ no ___ n/a _X_

Preserved With: HNO3(Metals/Mercury): yes__ no__ n/a__

H2SO4 (Phenols/Nutrients): yes__ no__ n/a__

NaOH(Cyanide): yes__ no__ n/a__

Was Sampling Plan followed: yes _X_ no ___

If no, why was plan deviated from: _____

Date samples delivered to lab 6-6-90 Number of bottles: 4
Time samples delivered to lab 12:30 Received by: KAC
Were samples iced: yes _X_ no ___

Site Name: J.P. Stevens and Company-Clemson Plant
USEPA ID #: SCD 003 345 097
Sample #: JPSC-SS-13
Collected By: Pete Saussy, Gerald Shealy, Jacob Baker
Time: 10:11-10:45
Date: June 5, 1990

Ambient Air: Rainy: ____ Cloudy: ____
Sunny: _X__ Partly Cloudy: ____
Warm: ___ Cool: ___ Hot: _X_ Cold: ___

Sample Type: surface: _X__ subsurface: ____ sediment:_X__
augered: ____ depth: ____
surface: _X__ depth: 4 inches
sediment: ____ % of RB: ____
composite: ____ grab: _X__

Sample Description: Color: black to dark brown

Odor: no odor present

Clay/Sand: conditioned sludge

Soil Texture: moist sludge

True distance from landmark: This sample was taken where the sludge was placed in wind rows for drying and conditioning.

Field Measurements: HNU __N/A__
OVA __N/A__
CGI __N/A__
Explosive Meter __N/A__

Sample Preservation: yes ___ no ___ n/a _X_

Preserved With: HNO3(Metals/Mercury): yes__ no__ n/a__

H2SO4 (Phenols/Nutrients): yes__ no__ n/a__

NaOH(Cyanide): yes__ no__ n/a__

Was Sampling Plan followed: yes ___ no ___

If no, why was plan deviated from: _____

Date samples delivered to lab 6-6-90 Number of bottles: 4
Time samples delivered to lab 12:30 Received by: KAC
Were samples iced: yes _X_ no ___

Site Name: J.P. Stevens and Company-Clemson Plant
USEPA ID #: SCD 003 345 097
Sample #: JPSC-SS-10
Collected By: Pete Saussy, Gerald Shealy, Jacob Baker
Time:
Date: June 5, 1990

Ambient Air: Rainy: ____ Cloudy: ____
Sunny: _X__ Partly Cloudy: ____
Warm: ___ Cool: ___ Hot: _X_ Cold: ___

Sample Type: surface: ____ subsurface: ____ sediment:____
augered: ____ depth: ____
surface: ____ depth: ____
sediment: ____ % of RB: ____
composite: ____ grab: ____

Sample Description: Color: _____

Odor: _____

Clay/Sand: _____

Soil Texture: _____

True distance from landmark: _____ feet/yards

Direction from landmark: _____

Field Measurements: HNU ____
OVA ____
CGI ____
Explosive Meter ____

Sample Preservation: yes ___ no ___ n/a _X_

Preserved With: HNO3(Metals/Mercury): yes__ no__ n/a__

H2SO4 (Phenols/Nutrients): yes__ no__ n/a__

NaOH(Cyanide): yes__ no__ n/a__

Was Sampling Plan followed: yes ___ no ___

If no, why was plan deviated from: This sample was eliminated due to the same material that was collect at sample locations JPSC-SS-11 and JPSC-SS-13.

Date samples delivered to lab _____ Number of bottles: ___
Time samples delivered to lab _____ Received by: ____
Were samples iced: yes ___ no ___

Site Name: J.P. Stevens and Company-Clemson Plant
USEPA ID #: SCD 003 345 097
Sample #: JPSC-SS-14
Collected By: Pete Saussy, Gerald Shealy, Jacob Baker
Time:
Date: June 5, 1990

Ambient Air: Rainy: ____ Cloudy: ____
Sunny: _X__ Partly Cloudy: ____
Warm: ___ Cool: ___ Hot: _X_ Cold: ___

Sample Type: surface: ____ subsurface: ____ sediment:____
augered: ____ depth: ____
surface: ____ depth: ____
sediment: ____ % of RB: ____
composite: ____ grab: ____

Sample Description: Color: _____

Odor: _____

Clay/Sand: _____

Soil Texture: _____

True distance from landmark: _____ feet/yards

Direction from landmark: _____

Field Measurements: HNU ____
OVA ____
CGI ____
Explosive Meter ____

Sample Preservation: yes ___ no ___ n/a _X_

Preserved With: HNO3(Metals/Mercury): yes__ no__ n/a__

H2SO4 (Phenols/Nutrients): yes__ no__ n/a__

NaOH(Cyanide): yes__ no__ n/a__

Was Sampling Plan followed: yes ___ no ___

If no, why was plan deviated from: This sample was eliminated due to the unaccessbility (briars head high) in this area.

Date samples delivered to lab _____ Number of bottles: ___
Time samples delivered to lab _____ Received by: ____
Were samples iced: yes ___ no ___

Site Name: J.P. Stevens and Company-Clemson Plant
USEPA ID #: SCD 003 345 097
Sample #: JPSC-SW-15
Collected By: Pete Saussy, Gerald Shealy, Jacob Baker
Time:
Date: June 5, 1990

Ambient Air: Rainy: ____ Cloudy: ____
Sunny: _X__ Partly Cloudy: ____
Warm: ___ Cool: ___ Hot: _X_ Cold: ___

Sample Type: surface: ____ subsurface: ____ sediment:____
augered: ____ depth: ____
surface: ____ depth: ____
sediment: ____ % of RB: ____
composite: ____ grab: ____

Sample Description: Color: _____

Odor: _____

Clay/Sand: _____

Soil Texture: _____

True distance from landmark: _____ feet/yards

Direction from landmark: _____

Field Measurements: HNU ____
OVA ____
CGI ____
Explosive Meter ____

Sample Preservation: yes ___ no ___ n/a ___

Preserved With: HNO3(Metals/Mercury): yes__ no__ n/a__

H2SO4 (Phenols/Nutrients): yes__ no__ n/a__

NaOH(Cyanide): yes__ no__ n/a__

Was Sampling Plan followed: yes ___ no _X_

If no, why was plan deviated from: This sample was eliminated due to no stream or creek that runs off from the JP Stevens plant to Lake Hartwell.

Date samples delivered to lab _____ Number of bottles: ___
Time samples delivered to lab _____ Received by: ___
Were samples iced: yes ___ no ___

Appendix A
Ref. 26

MEMORANDUM

TO: File
J.P. Stevens Company
SCD 003 345 097
Oconee County

FROM: June Bristol
Waste Assessment Section
Bureau of Solid and Hazardous Waste Management

DATE: July 11, 1990

RE: Site Sampling Report

As part of the site screening process for the superfund program, groundwater sampling was conducted on June 5, 1990 (see Site Sampling Report 06/21/90 for appropriate location). Since monitoring well JPSC-MW-02 never sufficiently recharged on that date, no samples were obtained. This well was reinspected and sampled on June 19, 1990 by Pam James, Gerald Stewart and the writer. The weather was sunny and clear. The temperature was 90 degrees Fahrenheit.

A one and one half inch PVC bailer was used for purging and sampling. An equipment blank was collected prior to sampling. At approximately one gallon purged, the well apparently went dry. Approximately 20 minutes later, the well recharged sufficiently to collect a sample for Volatile Organics and Base/Neutral Acid Extractables.

On subsequent entry, the bailer became lodged in the well at a depth of approximately 19 feet. A twenty foot section of galvanized conduit pipe was needed to dislodge the bailer (dried paint was observed on several parts of the pipe).

After a period of waiting, the following samples were collected respectively: Metals, Mercury, PCB's and COD.

Due to this well's very low recharging power, no other parameters were collected.

Samples were preserved (as needed) immediately after sample collection utilizing chemicals provided by the DHEC laboratory. Samples were then placed in ice packed coolers and the chain of custody was completed by Harold Seabrook. Original copies of the field data sheets and the quality control checklist are attached.

cc: Harold Seabrook
Gerald Stewart
Judy Canova
Tommy Hyde

ATTACHMENT 1

Field Data Information Sheet for Ground-Water Sampling

Page 1 of 2

S.C.D.H.E.C.
Hydrogeology Divisi

Date (yr/mo/day) 6/19/90
Field Personnel Bristol, James, Stewart
Facility Name J. P. Stevens Co
EPA ID # SCD 003 345 097
Well ID # JPSC-MW-02
___ Upgradient ___ Downgradient
Weather Conditions Sunny, clear, hot
Air Temperature ~90° F °C
Total Well Depth (TWD) = 29.15 1/100 ft
Depth to Groundwater (DGW) = 15.12 1/100 ft
Length of Water Column (LWC) = TWD - DGW = 14.03 1/100 ft
1 Casing Volume (OCV) = LWC x .092 = 1.29 gal
3 Casing Volumes = 3.87 gal = Standard Evacuation Volume
Method of Well Evacuation bail
Method of Sample Collection bail
Total Volume of Water Removed ___ gal

Casing Diameter 1.5" inch
Casing Material PVC
Top Elevation ___ 1/100
Height of Riser ___ 1/100
Surface Elevation ___ 1/100
Screened Interval ___ 1/100
Bottom of Pump, if dedicated (depth/elevation) ___ 1/100
Steel Guard Pipe Around Casing YES ___ NO ✓
Locking Cap YES ___ NO ✓
Protective Abutment YES ___ NO ✓
Well Integrity Satisfactory YES ___ NO ✓
Well Yield LOW ✓ MODERATE ___ HIGH ___
Remarks well yield very low

FIELD ANALYSES

VOLUME PURGED (gallons)	0	~1					
TIME (military)	1200	1205					
pH (S.U.)	6.24	5.84					
Sp. Cond. (µmhos/cm)	120	120					
Water Temp. (°C)	18°C	17.5°C					
TURBIDITY (subjective) *	2	4					
ODOR (subjective) **	orange	orangish red					

COLOR
* (1) Clear (2) Slight (3) Moderate (4) High ** (1) None (2) Faint (3) Moderate (4) Strong

COMMENTS/OBSERVATIONS: Blank taken at 1105 - after 1 gallon purged x 2 Dry Samples for 1 VOC, BNA collected ~1230 - ~1245 well Dry again
Bailer stuck ~19' down - used 70' galvanized conduit pipe (trial point noted in several places on pipe) 2 [illegible] well Dry
[illegible] per project manager [illegible] PCB

ATTACHMENT 9

Field Quality Control Checklist

S.C.D.H.E.C.
Hydrogeology Divisic

Date (yr/mo/day) 6/19/90

Field Personnel Bristol James

Facility Name SCD 003 345 097

EPA ID # J.P. Stevens Co JPSC-MW-02

General Comments:

Well ID	Bailer Rinsed	Tapes Cleaned	Water Level Indicator Rinsed	Weight Cleaned	Beaker Cleaned	pH Meter Calibrated	Conductivity Meter Calibrated	Filtration Unit Cleaned	REMARKS/OBSERVATIONS
JPSC-MW-02	✓	✓	✓	✓	✓	4 7 10	20→0	NA	
						4 7 10			

Appendix A

MEMORANDUM

TO: File
J.P. Stevens Company
SCD 003 345 097
Oconee County

FROM: June Bristol
Waste Assessment Section
Division of Waste Assessment and Emergency Response
Bureau of Solid & Hazardous Waste Management

DATE: June 21, 1990

RE: Site Sampling Report

As a part of the site screening process for the superfund Program, groundwater samples were collected from one private well and one on-site monitoring well (samples for one on-site monitoring well were not collected as outlined further in this report). Locations are shown on the attached map. Original copies of the field data sheets and the quality control checklist are attached. The weather was clear and sunny. The temperature was approximately 80 degrees Fahrenheit.

Samples were preserved (as needed) immediately after sample collection utilizing chemicals provided by the DHEC laboratory. Samples were then placed in ice packed coolers and transported to the sampling van. The chain of custody was completed by Gerald Shealy.

Sample splits were provided to the facility.

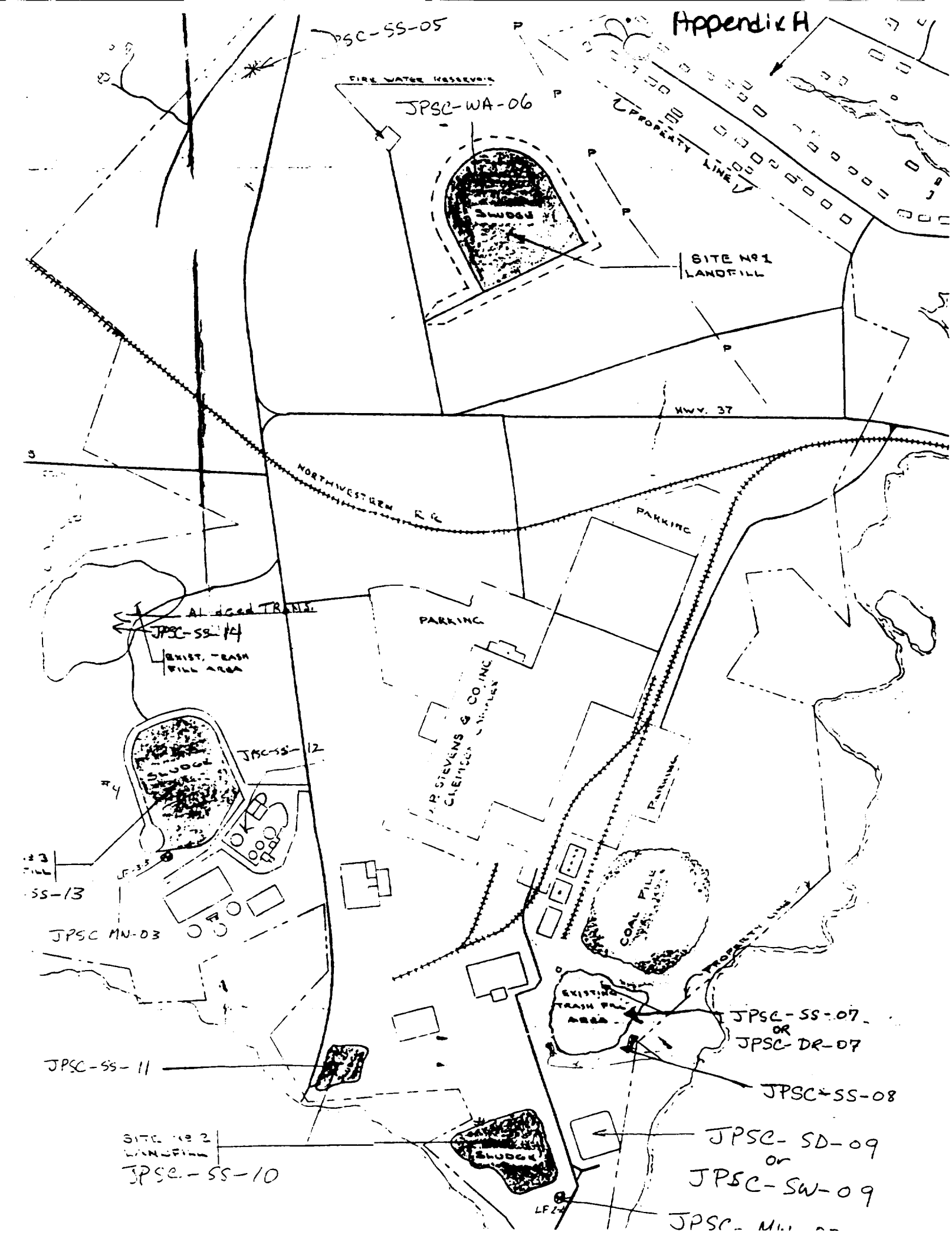
JPSC-PW01, designated background well, was sampled first by Pam James and the writer from a spigot outside the well house.

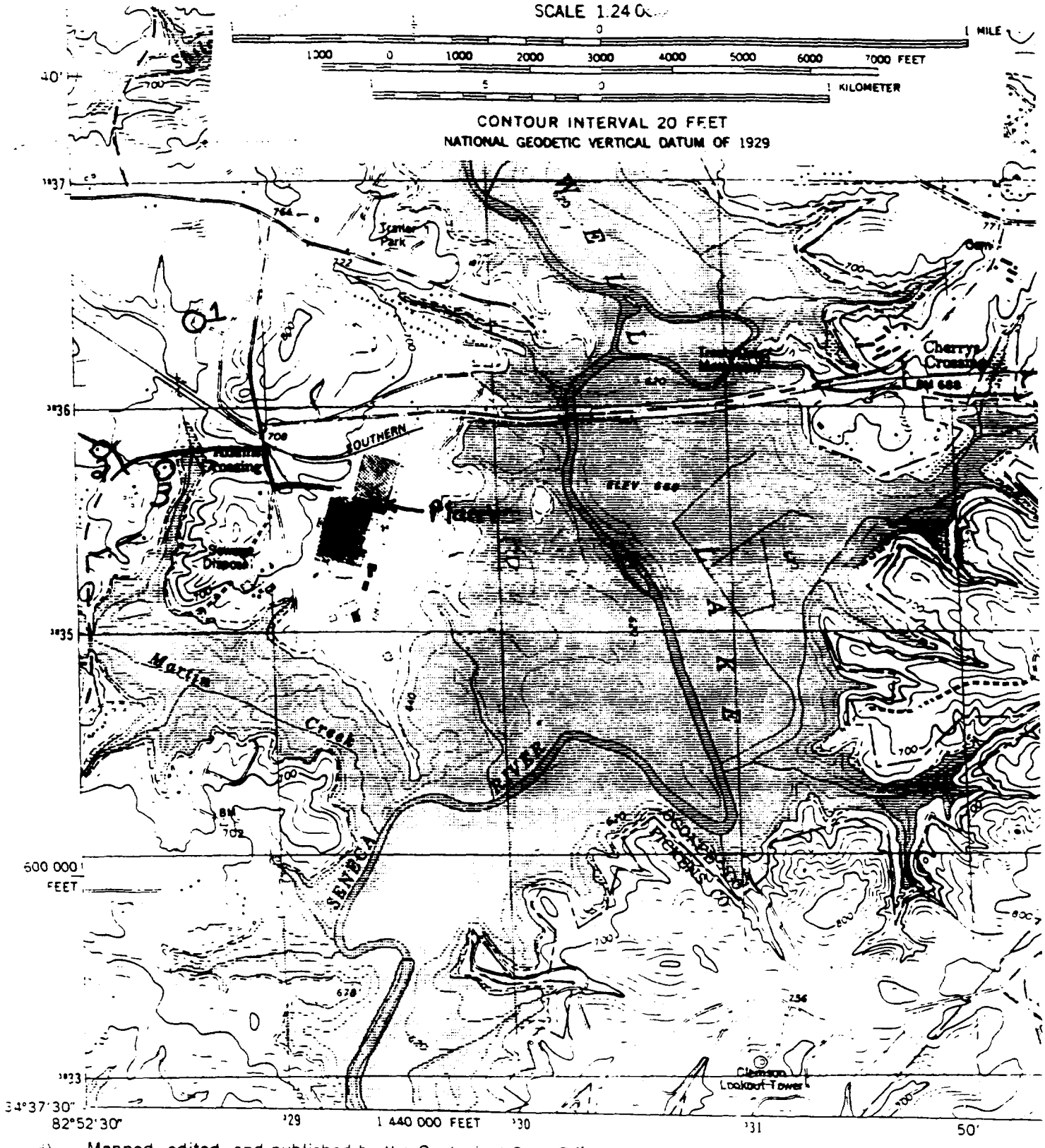
An equipment blank was collected by Pam James, Jacob Baker and the writer.

After two gallons had been purged from JPSC-MW-03, the well appeared to be going dry (as demonostrated by the diminishing recovery from the bailers.) It was determined to obtain samples after six gallons were purged (one well volume calculated as 10.61 gallons). The diameter of this well as noted on the FDIS was 4 inches. A white slimy material was observed in the sample.

One gallon was purged from JPSC-MW-02 before the well was completely dry. Since the diameter of this well was 1-1/2 inches, a Waterra pump was utilized for purging. The check valve was rinsed several times with deionized water to remove silty sediments. The well appeared to be silt laden. The well never recharged while sampling team was on-site; therefore, samples were not collected.

cc: Harold Seabrook, Waste Assessment Section
Judy Canova, Hydrogeology
Gerald Stewart, Site Screening
Tommy Hyde, Appalachia II District


Appendix H
JPSC-SS-05
FIRE WATER RESERVOIR
JPSC-WA-06
PROPERTY LINE
SLUDGE
SITE No 1 LANDFILL
HWY. 37
NORTHWESTERN R.R.
PARKING
Alleged TRANS.
JPSC-SS-14
EXIST. TRASH FILL AREA
J.P. STEVENS & CO. INC
JPSC-SS-12
#4
SLUDGE
JPSC-SS-13
JPSC MW-03
COAL ASH
EXISTING TRASH FILL AREA
JPSC-SS-07
OR
JPSC-DR-07
JPSC-SS-11
JPSC-SS-08
SITE No 2 LANDFILL
JPSC-SS-10
SLUDGE
JPSC-SD-09
or
JPSC-SW-09
LF2-4
JPSC-MW-02



Mapped, edited, and published by the Geological Survey

Control by USGS, NOS/NOAA, and S. C. Geodetic Survey

Topography by photogrammetric methods from aerial photographs taken 1947. Field checked 1951

Polyconic projection

10,000-foot grid based on South Carolina coordinate system, north zone

1000-meter Universal Transverse Mercator grid, zone 17, 1927 North American Datum

To place on the predicted North American Datum 1983 move the projection lines 10 meters south and 12 meters west as shown by dashed corner ticks

Revisions shown in purple compiled from

JP Stevens, Clemson Plt.
Oconee County
SCD 003 345 097

TM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

CLEMSON QUADRANGLE

ATTACHMENT 1

Field Data Information Sheet for Ground-Water Sampling

Page ___ of ___

S.C.D.H.E.C.
Hydrogeology Divisi

Date (yr/mo/day) June 8, 1990
Field Personnel P. James, J. Bristol, David Herron
Facility Name J. P. Stevens
EPA ID # SCD003345097
Well ID # JPSC-PW-01
✓ Upgradient ___ Downgradient
Weather Conditions Clear & Sunny
Air Temperature 75°F °C
Total Well Depth (TWD) = ~50' 1/100 ft
Depth to Groundwater (DGW) = UNKnown 1/100 ft
Length of Water Column (LWC) = TWD - DGW = ___ 1/100 ft
1 Casing Volume (OCV) = LWC x ___ = ___ gal
3 Casing Volumes = ___ gal = Standard Evacuation Volume
Method of Well Evacuation pump
Method of Sample Collection spigot
Total Volume of Water Removed ___ gal

Casing Diameter UNKnown Incl
Casing Material UNKnown
Top Elevation ___ 1/10
Height of Riser ___ 1/10
Surface Elevation ___ 1/10
Screened Interval ___ 1/10
Bottom of Pump, if dedicated (depth/elevation) ___ 1/10
Steel Guard Pipe Around Casing YES ___ NO ___
Locking Cap YES ___ NO ___
Protective Abutment YES ___ NO ___
Well Integrity Satisfactory YES ___ NO ___
Well Yield LOW ___ MODERATE ___ HIGH ___
Remarks ___

(Auld Engineering)

FIELD ANALYSES

VOLUME PURGED (gallons)	0	12.5	20	27.5			
TIME (military)	9:48	953	956	959			
pH (S.U.)	6.89	5.75	5.28	4.80			
Sp. Cond. (µmhos/cm)	60	30	30	30			
Water Temp. (°C)	19°C	18.5°C	18.5°C	18.5°C			
TURBIDITY (subjective) *	/	/	/	/			
~~ODOR~~ COLOR (subjective) **	clear	clear	clear	clear			

* (1) Clear (2) Slight (3) Moderate (4) High ** (1) None (2) Faint (3) Moderate (4) Strong

COMMENTS/OBSERVATIONS: Pumping 5gal / 2 minutes
designated background Well samples collected from a spigot outside of pump house

ATTACHMENT 1

Field Data Information Sheet for Ground-Water Sampling

Page ___ of ___

David Tawnery

S.C.D.H.E.C.
Hydrogeology Divisi

Date (yr/mo/day) June 5, 1990
Field Personnel James, Bristol, David Herron,
Facility Name J. P. Stevens Co.
EPA ID # SCD 003 345 097
Well ID # JPSC-MW-03
___ Upgradient ___ Downgradient
Weather Conditions Sunny & Clear
Air Temperature 80° °C
Total Well Depth (TWD) = 46.20 1/100 ft
Depth to Groundwater (DGW) = 29.95 1/100 ft
Length of Water Column (LWC) = TWD - DGW = 16.25 1/100 ft
1 Casing Volume (OCV) = LWC x .653 = 10.61 gal
3 Casing Volumes = 31.83 gal = Standard Evacuation Volume
Method of Well Evacuation bailer
Method of Sample Collection bailer
Total Volume of Water Removed 6 gal

Casing Diameter 4" Incl
Casing Material PVC
Top Elevation 1/10
Height of Riser 1/10
Surface Elevation 1/10
Screened Interval 1/10
Bottom of Pump, if dedicated (depth/elevation) 1/10
Steel Guard Pipe Around Casing YES ___ NO ✓
Locking Cap YES ___ NO ___
Protective Abutment YES ___ NO ✓
Well Integrity Satisfactory YES ___ NO ✓
Well Yield LOW ✓ MODERATE ___ HIGH ___
Remarks

FIELD ANALYSES

VOLUME PURGED (gallons)	0	2	4	6			
TIME (military)	11:20	11:25	11:36	11:50			
pH (S.U.)	5.90	4.96	4.87	4.95			
Sp. Cond. (µmhos/cm)	70	60	60	50			
Water Temp. (°C)	19.5	18.5	18.5	18.5			
TURBIDITY (subjective) *	4	2	3	4			
ODOR (subjective) **	orange	orange	orange	orange/red			

* (1) Clear (2) Slight (3) Moderate (4) High ** (1) None (2) Faint (3) Moderate (4) Strong White film floating in H_2O

COMMENTS/OBSERVATIONS: Well yield considerably low - recovering only part of bailers after 2 gallons - Sampled after 6 gallons were purged.

ATTACHMENT 1

Field Data Information Sheet for Ground-Water Sampling

Page ___ of ___

S.C.D.H.E.C.
Hydrogeology Divisi

Date (yr/mo/day) June 5, 1990
Field Personnel P. James, J Bristol, G. Strall
Facility Name JP Stevens Co
EPA ID # SCD 003 345 097
Well ID #

___ Upgradient ___ Downgradient

Weather Conditions Clear & Sunny
Air Temperature 80°F °C

Total Well Depth (TWD) = 28.51 1/100 ft
Depth to Groundwater (DGW) = 13.31 1/100 ft
Length of Water Column (LWC) = TWD - DGW = 15.2 1/100 ft
1 Casing Volume (OCV) = LWC x .092 = 1.3 gal
3 Casing Volumes = 4.1 gal = Standard Evacuation Volume
Method of Well Evacuation Pump
Method of Sample Collection No samples collected
Total Volume of Water Removed ___ gal

Casing Diameter 1.5 Inch
Casing Material PVC
Top Elevation ___ 1/100
Height of Riser ___ 1/100
Surface Elevation ___ 1/100
Screened Interval ___ 1/100
Bottom of Pump, if dedicated (depth/elevation) ___ 1/100
Steel Guard Pipe Around Casing YES ___ NO ✓
Locking Cap YES ___ NO ✓
Protective Abutment YES ___ NO ✓
Well Integrity Satisfactory YES ___ NO ✓
Well Yield LOW ___ MODERATE ___ HIGH ___
Remarks Very Low

FIELD ANALYSES

VOLUME PURGED (gallons)	0						
TIME (military)	1335						
pH (S.U.)	6.96						
Sp. Cond. (µmhos/cm)	220						
Water Temp. (°C)	18.5°C						
TURBIDITY (subjective) *	4						
ODOR (subjective) **	orange shed color						

* (1) Clear (2) Slight (3) Moderate (4) High ** (1) None (2) Faint (3) Moderate (4) Strong

COMMENTS/OBSERVATIONS: Purged one gallon & well went dry. Turned check valve several times. (Silt build-up)
1437 Well still dry

ATTACHMENT 9

Field Quality Control Checklist

S.C.D.H.E.C.
Hydrogeology Divisic

Page ___ of ___

Date (yr/mo/day) June 5, 1990

Field Personnel Bristol, James

Facility Name J.P. Stevens Co

EPA ID # _____

General Comments: _____

Well ID	Bailer Rinsed	Tapes Cleaned	Water Level Indicator Rinsed	Weight Cleaned	Beaker Cleaned	pH Meter Calibrated	Conductivity Meter Calibrated	Filtration Unit Cleaned	REMARKS/OBSERVATIONS
JPSCPW01	NA	NA	NA	NA	✓	3.9-4.0 6.8-7.0 9.8-10.0	✓	NA	
JPSCMW03	✓	✓	✓	✓	✓	"	"	NA	
JPSCMW02	✓*	✓	✓	✓	✓	"	"	NA	
*Disp	Bailers and teflon too loose used polyethelene tubing with hand pump								

Appendix B
Ref. 28

South Carolina DHEC
Department of Health and Environmental Control

RECEIVED
SEP 19 1990
S. C. Dept. of Health & Environmental Control-Bureau of Solid & Hazardous Waste Management

MEMORANDUM

TO: John Cresswell, Manager
Site Screening Section
Division of Site Engineering and Screening
Bureau of Solid and Hazardous Waste Management

FROM: Judy Canova, Hydrologist JC
Superfund and Solid Waste Section
Division of Hydrogeology
Bureau of Solid and Hazardous Waste Management

DATE: September 12, 1990

RE: J. P. Stevens
SCD 003 345 097
Oconee County
Site Inspection - Sampling Results Report

As part of the site screening process of the referenced facility, three groundwater samples and two field blanks (MW-04, MW-16) were taken from two on-site monitoring wells and one private well. Following is a summary of the groundwater sampling portion of the field investigation:

1) Description of Sample Locations
The groundwater sample locations are shown in Figure 1. Samples were collected on June 5, 1990. Due to sampling difficulty at MW-03, the well was not sampled until June 19, 1990, and it was sampled with a 1.5 inch PVC bailer.

2) Duplicate Samples
A representative for the potentially responsible party (PRP) was on site and was provided with a duplicate of all samples.

3) Field Measurements
Field measurements on all water samples collected during this investigation consisted of temperature, pH and conductivity. These data are listed in the June 21, 1990 and July 11, 1990 Site Sampling Reports.

4) Analytical Support
All samples collected were analyzed under the Contract Laboratory Program (CLP) and analyzed for all the parameters listed in the Target Compound List (TCL) except for pesticides. All analyses were performed by the South Carolina Department of Health and Environmental Control in Columbia, South Carolina.

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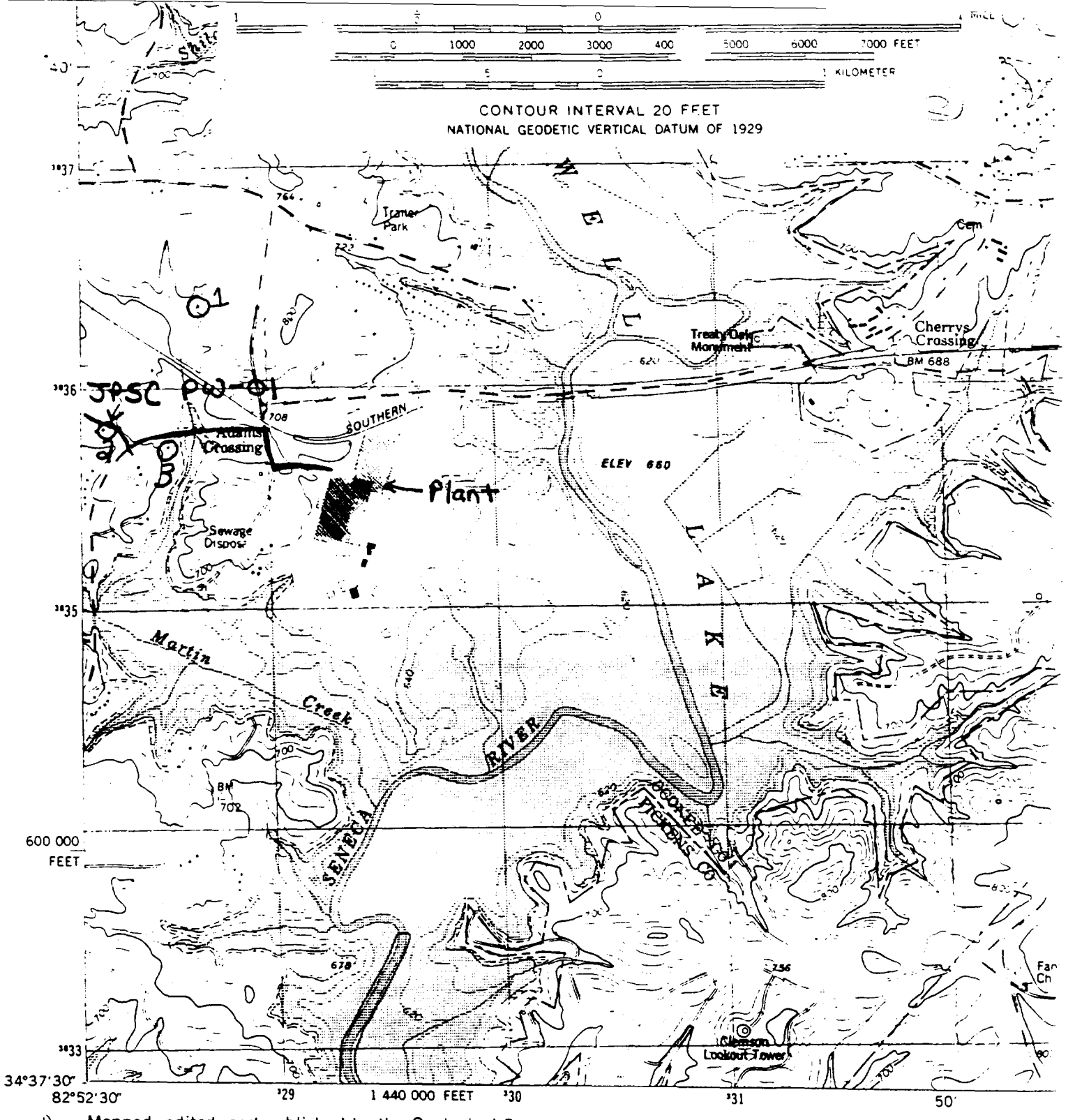

Mapped, edited, and published by the Geological Survey

Control by USGS, NOS/NOAA, and S. C. Geodetic Survey

Topography by photogrammetric methods from aerial photographs taken 1947 Field checked 1951

Polyconic projection

10,000-foot grid based on South Carolina coordinate system, north zone

1000-meter Universal Transverse Mercator grid, zone 17, 1927 North American Datum

To place on the predicted North American Datum 1983 move the projection lines 10 meters south and 12 meters west as shown by dashed corner ticks

Revisions shown in purple compiled from aerial photographs taken 1977 and other source data. This information not field checked. Map edited 1981

Hartwell Lake is subject to controlled inundation of 665 feet

(FAIR PLAY) 4453 III SW

MN
IGN

2° 36 MILS 1°02 18 MILS

UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Figure 1a
JP Stevens, Clemson Plt.
Oconee County
SCD 003 345 097

CLEMSON QUADRANGLE
SOUTH CAROLINA
7.5 MINUTE SERIES (TOPOGRAPHIC)

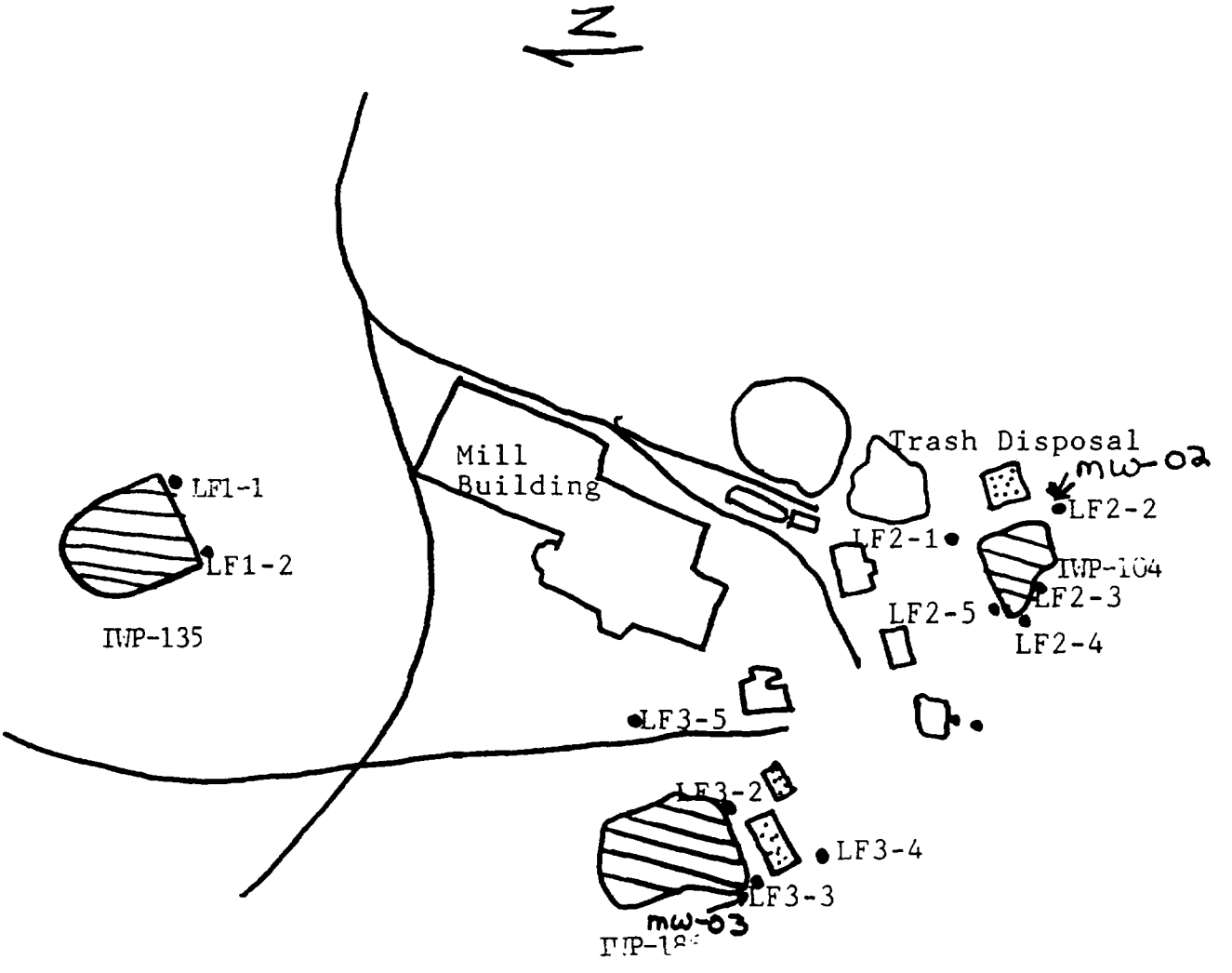

Figure 1b
J. P. Stevens & Co.
Clemson Plant
Oconee County
SCD 003 345 097

Ash Landfill Areas
Wastewater Treatment

5) Analytical Results

Indicator Parameters

Due to sampling difficulty, indicator parameter samples were not taken from MW-02. PW-01, the designated background well, contained elevated levels of nitrate relative to the on-site monitor wells (Table 1, Figure 2). However, the level of occurrence was less than 1 mg/l, far below the drinking water standards. For TOC, MW-03 contained over seven times the amount detected in PW-01 (Figure 3). However, the level of occurrence in MW-03 was relatively low (15 mg/l) compared to other landfill sites. No other significant variations were seen in the indicator parameters.

Inorganic Constituents

Deviations over three times background wells were detected for the following constituents: barium, manganese, chromium and nickel (Table 2, Figure 4, 5). MW-2 samples had levels of each constituent greater than three times background concentration. MW-3 was elevated in manganese relative to the background PW-01. The significance of the elevated constituents in MW-2 is uncertain because a twenty foot section of galvanized conduit pipe with dried paint on sections came in contact with the bailer and the water in the well prior to the acquisition of a metals sample (See July 11, 1990 Site Sampling Report). Elevated manganese in MW-3 could be a result of local variations in soil composition.

Organics Compounds

Because a PVC bailer was used to obtain a sample, two equipment blanks were taken. MW-04 was taken using a teflon bailer, and MW-16 was taken using the PVC bailer. Both equipment blanks contained a trace of butylbenzyl phthalate (less than 15 ug/l) (Table 3). The sample from MW-02 contained over 190 ug/l of this compound. The pH of the blank at MW-16 was 6.3, according to laboratory analysis. The pH measured during purging at MW-02 ranged from 5.84 to 6.24. Therefore, variations in pH and interactions with the sampling device may be insufficient to account for the detected concentration of butylbenzyl phthalate at MW-02. Di-N-butylphthalate was also detected at elevated levels in MW-02 relate to background and equipment blank levels. The phthalates could have been contributed to the groundwater at MW-02 by the Waterra pump which was used without success at the well on June 5. However, no equipment blank was taken using the pump which was constructed of polyethylene. A trace of 1,1,1-Trichloroethene was detected in MW-02.

TABLE 1

SUMMARY OF GROUNDWATER
INDICATOR PARAMETER ANALYSES

J. P. STEVENS

Parameter (mg/l)	Well # PW-01	Well # MW-02	Well # MW-03	Well # MW-04 Teflon Blank	Well # MW-16 PVC Blank
Alkalinity	6	No Sample	17	2	4
Chloride		"			
COD	< 25	"	27	< 25	No Data
Nitrate/Nitrite	0.76	"	0.12	< 0.02	0.06
pH (S.U.)	5.8	"	6.0	5.8	6.3
TDS	3.4	"	68	32	18
TOC	1.5	"	15.5	1.8	3.7

J.P. STEVENS GROUNDWATER QUALITY

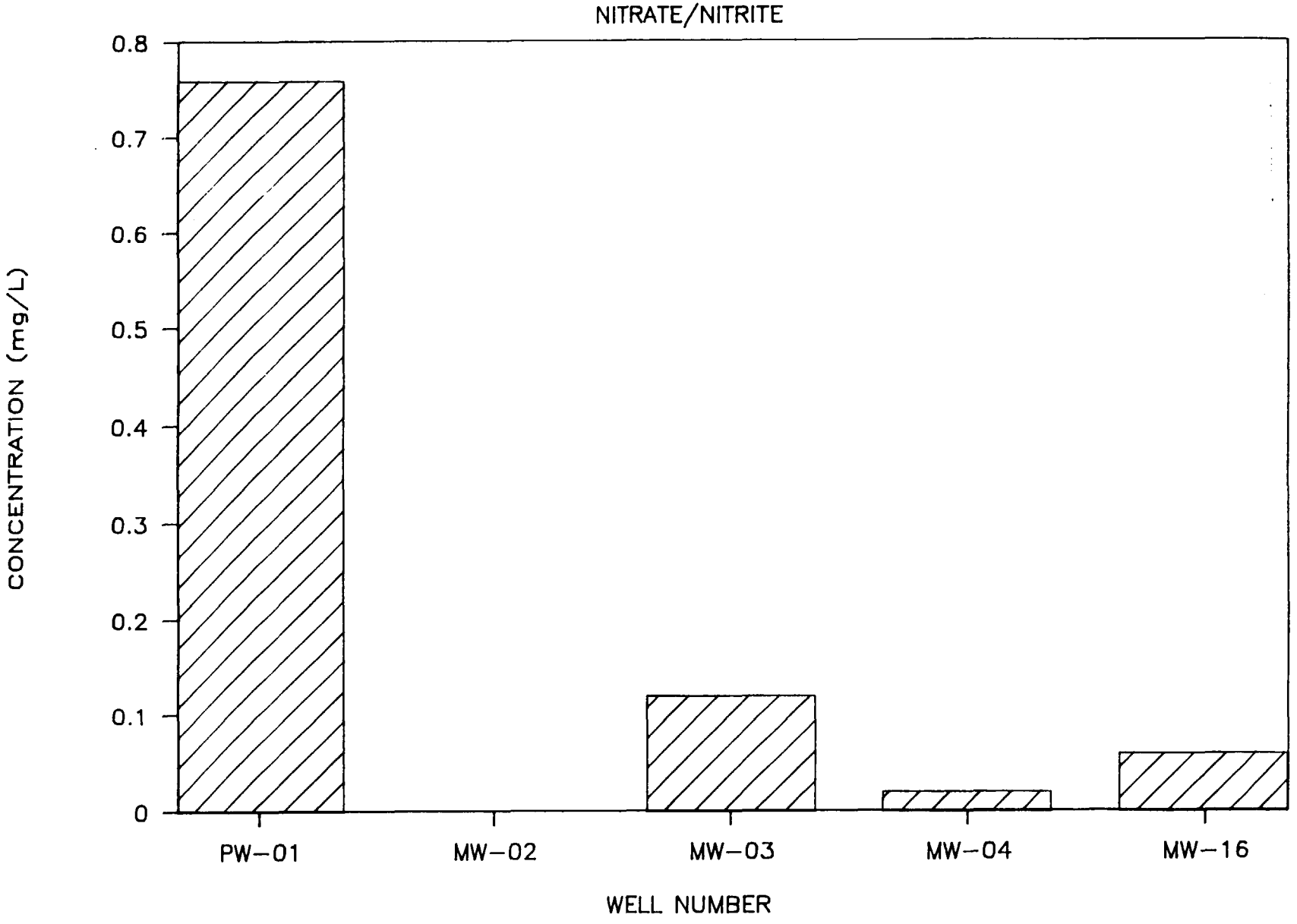

Figure 2

J.P. STEVENS GROUNDWATER QUALITY

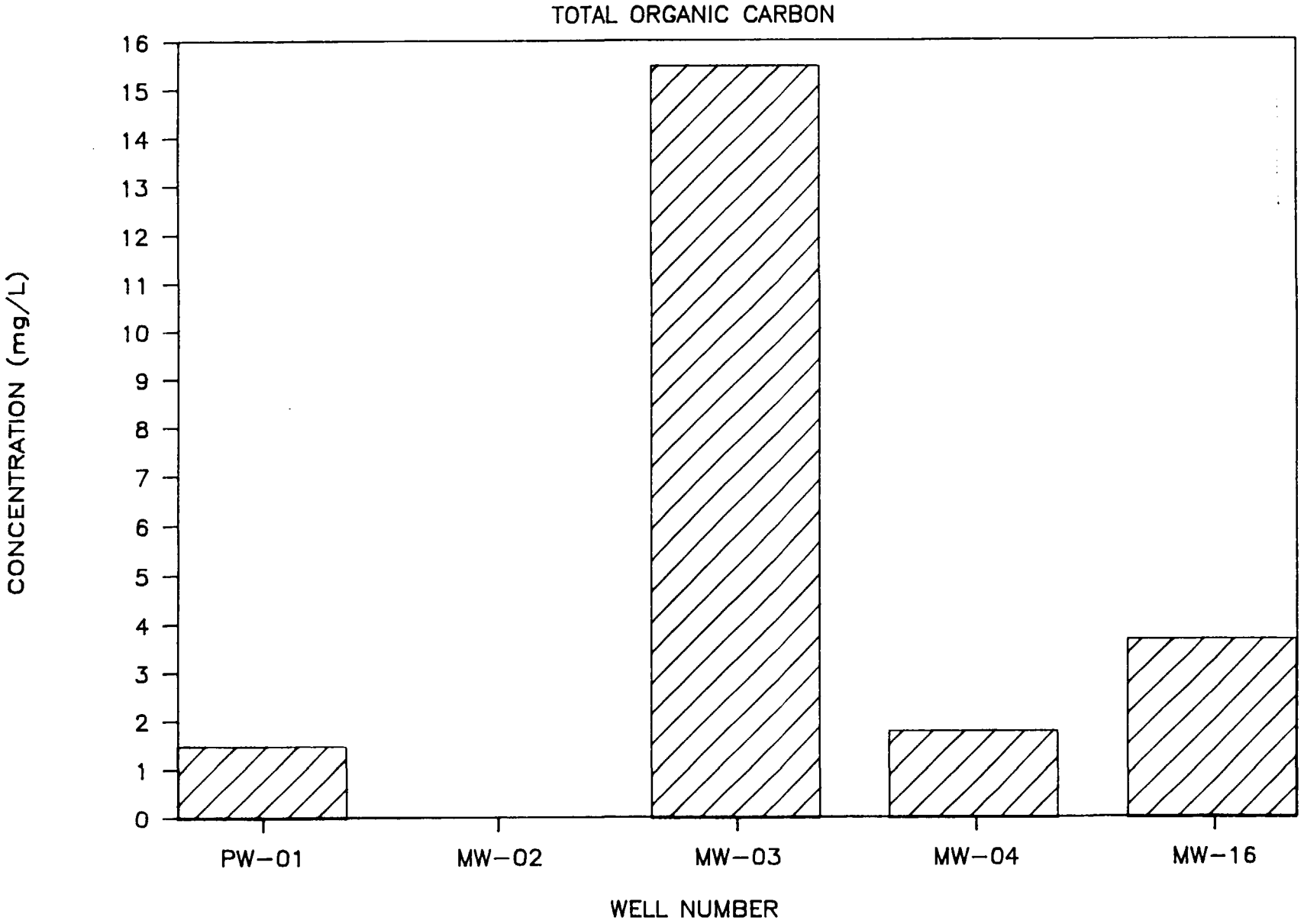

Figure 3

TABLE 2

SUMMARY OF ORGANIC
GROUNDWATER ANALYSES

J. P. STEVENS

Parameter (mg/l)	Well # PW-01	Well # MW-02	Well # MW-03	Well # MW-04	Well # MW-16
Butylbenzl-Phthalate	< 4	197	< 4	9.79	10.1
Di-N-butyl-Phthalate	< 4	118	< 4	< 4	< 4
1,1,1-Trichloroethane	< 2	5.39	< 2	< 2	< 2
Cyclohexene	ND	D	ND	ND	ND
4-hydroxy-3-methoxyl benzaldeyhde	ND	D	ND	ND	ND
Cyclotetradecane	ND	D	ND	ND	ND
Z-9-Octadecen-1-01	ND	D	ND	ND	ND
2-4-Hexadiene	ND	D	ND	ND	D
Cyclohexanane (ACN)	ND	D	ND	ND	ND
1-Hexadecene	ND	D	ND	ND	D
1,2-Benzenedicarboxylic Acid, Butyl Cyclohexyl Ester	ND	D	ND	ND	ND
4,4'-Butylidenebis 2-(1,1-Dimethylethyl)-5-Methyl Phenol	ND	D	ND	ND	ND

D = Detected

ND = Not Detected

J.P. STEVENS GROUNDWATER QUALITY

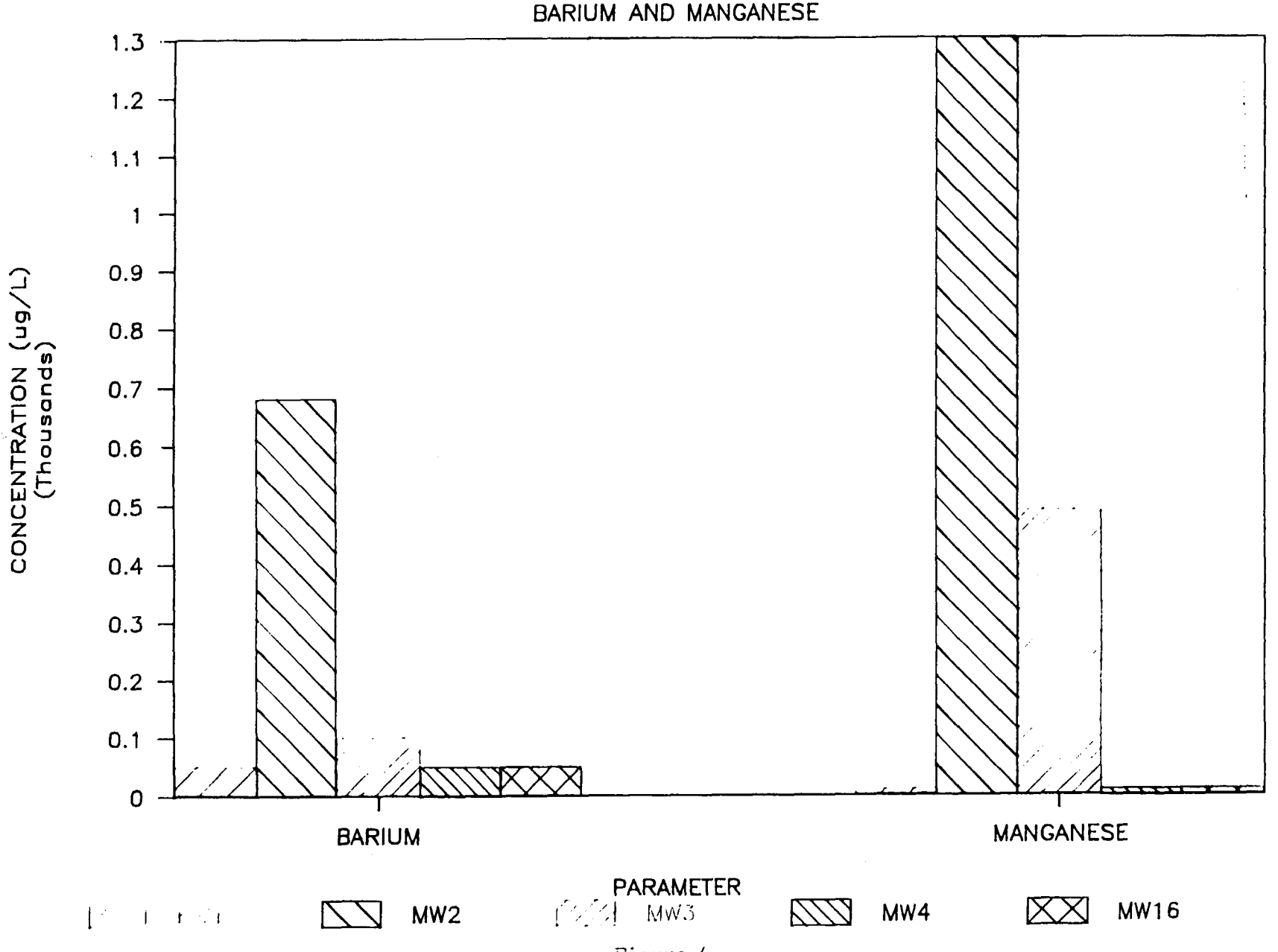

Figure 4

J.P. STEVENS GROUNDWATER QUALITY

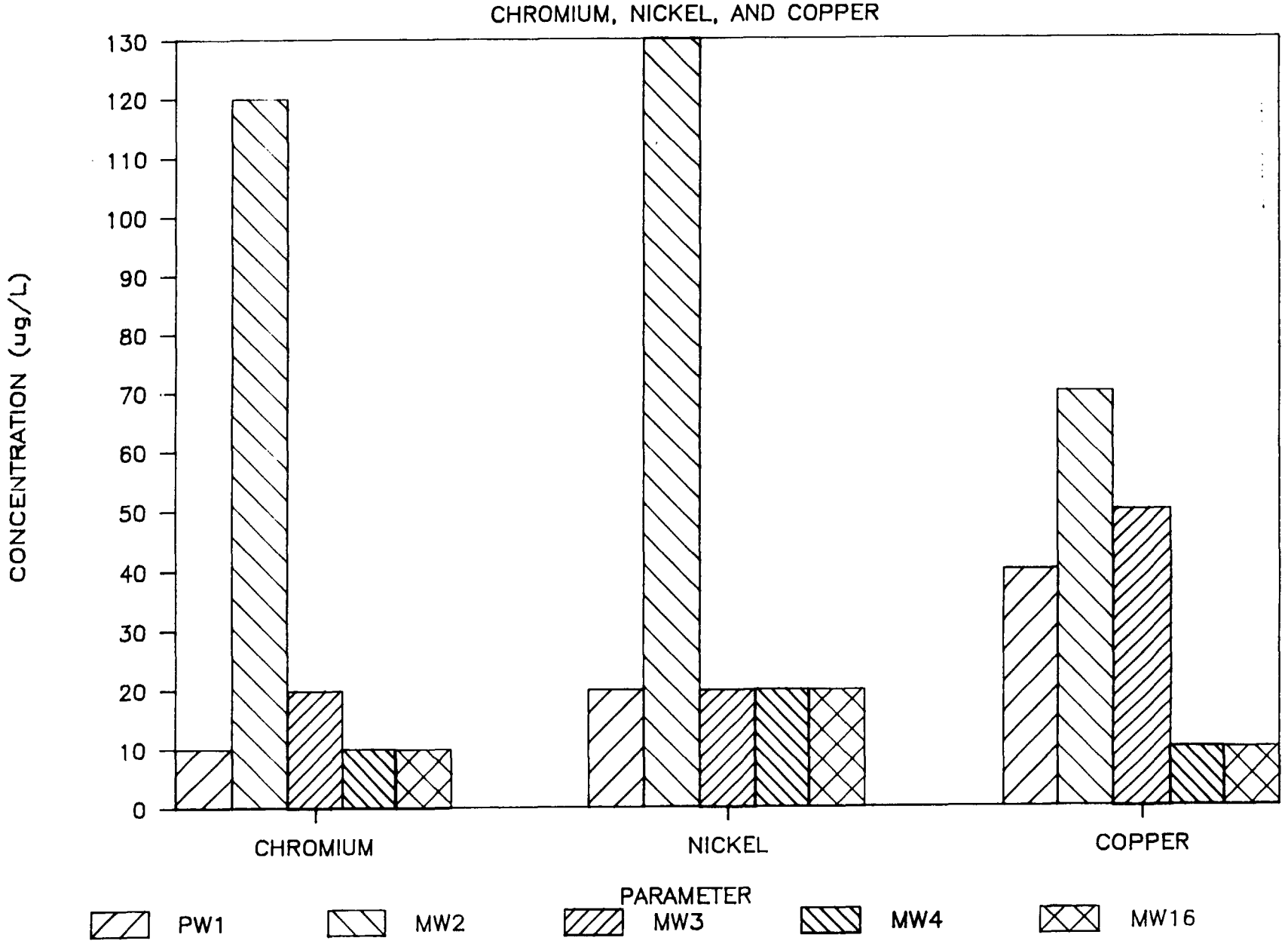

Figure 5

TABLE 3

SUMMARY OF INORGANIC
GROUNDWATER ANALYSES

J. P. STEVENS

Parameter (mg/l)	Well # PW-01	Well # MW-02	Well # MW-03	Well # MW-04 Teflon Blank	Well # MW-16 PVC Blank
Arsenic	< 5	< 5	< 5	< 5	< 5
Barium	< 50	680	100	< 50	< 50
Cadmium	< 10	< 10	< 10	< 10	< 10
Chromium	10	120	20	< 10	< 10
Copper	40	70	50	10	< 10
Cyanide	< 0.01	No Sample	< 0.01	< 0.01	< 0.01
Lead	< 50	< 50	< 50	< 50	< 50
Manganese	10	1,300	490	< 10	< 10
Mercury	< 0.2	No Sample	0.2	< 0.2	< 0.2
Nickel	< 20	130	< 20	< 20	< 20
Selenium	< 5	< 5	< 5	< 5	< 5
Silver	< 30	< 30	< 30	< 30	< 30

ND = Not Detected; for detection limits, see attached results.

Tentatively Identified Organic Compounds (TIC)

Several TIC's were detected in the sample from MW-02 (Table 2). Two of these (2,4-Hexadiene and 1-Hexadecene) were also detected in the equipment blank associated with MW-02. The lack of TOC data is unfortunate in interpreting these results which seem to indicate an impact by TIC's. These TIC's may have been contributed by the Waterra pump except for the Methyl Phenol which was likely contributed by the sampling gloves.

Interpretation

Due to sampling difficulties and a variety of equipment, the significance of the results of analyses is uncertain. The data appears to suggest that groundwater on site been impacted by organic and inorganic constituents. To appropriately address the site's impact on groundwater, properly constructed monitoring wells should be installed and sampled according to Standard Operating Procedure.

Attachment

cc: Tommy Hyde, Appalachia II

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900356
CHARGE NUMBER : CE
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS

FRIDAY JULY 13TH, 1990
RELEASE DATE : 07/13/90 12:39:19
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSCPW1

ANALYSIS	STORET	RESULT
ALKALINITY MG/L	00410	6
ARSENIC UG/L	01002	<5
ACENAPHTHENE UG/L	34205	<4.0
ACENAPHTHYLENE UG/L	34200	<4.0
ANTHRACENE UG/L	34220	<4.0
BENZO(A)ANTHRACENE UG/L	34526	<4.0
BENZO(B)FLUORANTHENE UG/L	34230	<4.0
BENZO(K)FLUORANTHENE UG/L	34242	<4.0
BENZO(A)PYRENE UG/L	34247	<4.0
BENZO(GHI)PERYLENE UG/L	34521	<4.0
BUTYLBENZYL PHTHALATE UG/L	34292	<4.0
BIS(2-CHLOROETHYL)ETHER UG/L	34273	<4.0
BIS(2-CHLOROETHOXY)METHANE UG/L	34278	<4.0
BIS(2-ETHYLHEXYL)PHTHALATE UG/L	39100	<4.0
BIS(2-CHLOROISOPROPYL)ETHER UG/L	34283	<4.0
4-BROMOPHENYL PHENYL ETHER UG/L	34636	<4.0
2-CHLORONAPHTHALENE UG/L	34581	<4.0
4-CHLOROPHENYL PHENYL ETHER UG/L	34641	<4.0
CHRYSENE UG/L	34320	<4.0
DIBENZO(A,H)ANTHRACENE UG/L	34556	<4.0
DI-N-BUTYLPHTHALATE UG/L	39110	<4.0
1,3-DICHLOROBENZENE UG/L	34566	<4.0
1,2-DICHLOROBENZENE UG/L	34536	<4.0
1,4-DICHLOROBENZENE UG/L	34571	<4.0
3,3'-DICHLOROBENZIDINE UG/L	34631	<4.0

(14)

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ANALYSIS	STORET	RESULT
DIETHYL PHTHALATE UG/L	34336	<4.0
DIMETHYL PHTHALATE UG/L	34341	<4.0
2,4-DINITROTOLUENE UG/L	34611	<4.0
2,6-DINITROTOLUENE UG/L	34626	<4.0
DI-N-OCTYLPHTHALATE UG/L	34596	<4.0
FLUORANTHENE UG/L	34376	<4.0
FLUORENE UG/L	34381	<4.0
HEXACHLOROBENZENE UG/L	39700	<4.0
HEXACHLOROBUTADIENE UG/L	34391	<4.0
HEXACHLOROETHANE UG/L	34396	<4.0
INDENO(1,2,3-CD)PYRENE UG/L	34403	<4.0
ISOPHORONE UG/L	34408	<4.0
NAPHTHALENE UG/L	34696	<4.0
NITROBENZENE UG/L	34447	<4.0
N-NITROSODI-N-PROPYLAMINE UG/L	34428	<4.0
PHENANTHRENE UG/L	34461	<4.0
PYRENE UG/L	34469	<4.0
1,2,4-TRICHLOROBENZENE UG/L	34551	<4.0
4-CHLORO-3-METHYL PHENOL UG/L	34452	<4.0
2-CHLOROPHENOL UG/L	34586	<4.0
2,4-DICHLOROPHENOL UG/L	34601	<4.0
2,4-DIMETHYL PHENOL UG/L	34606	<4.0
2,4-DINITROPHENOL UG/L	34616	<4.0
2-METHYL-4,6-DINITROPHENOL UG/L	34657	<4.0
2-NITROPHENOL UG/L	34591	<4.0
4-NITROPHENOL UG/L	34646	<4.0
PENTACHLOROPHENOL UG/L	39032	<4.0

(15)

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ANALYSIS	STORET	RESULT
PHENOL UG/L	34694	<4.0
2,4,6-TRICHLOROPHENOL UG/L	34621	<4.0
BENZIDINE UG/L	39120	<4.0
HEXACHLOROCYLCOPENTADIENE UG/L	34386	<4.0
N-NITROSODIMETHYLAMINE UG/L	34438	<4.0
N-NITROSODIPHENYLAMINE UG/L	34433	<4.0
ANILINE UG/L	77089	<4.0
BENZYL ALCOHOL UG/L	77147	<4.0
2-METHYLPHENOL UG/L		<4.0
4-METHYLPHENOL UG/KG		<4.0
BENZOIC ACID UG/L	77247	<4.0
4-CHLOROANILINE UG/L		<4.0
2-METHYL NAPHTHALENE UG/L	77416	<4.0
2,4,5-TRICHLOROPHENOL UG/L	77687	<4.0
2-NITROANILINE UG/L		<4.0
3-NITROANILINE UG/L	78300	<4.0
DIBENZOFURAN UG/L	81302	<4.0
4-NITROANILINE UG/L		<4.0
AZOBENZENE UG/L	77625	<4.0
CYANIDE MG/L	00720	<0.01
COD MG/L	00335	<25
MERCURY UG/L	71900	<0.2

(16)

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ANALYSIS	STORET	RESULT
BARIUM UG/L		<50
CADMIUM UG/L		<10
CHROMIUM UG/L		10
COPPER UG/L		40
LEAD UG/L		<50
MANGANESE UG/L		10
NICKEL UG/L		<20
SILVER UG/L		<30
NITRATE/NITRITE MG/L	00630	0.76
PCB 1016 UG/L	34671	<0.5
PCB 1221 UG/L	39488	<0.5
PCB 1232 UG/L	39492	<0.5
PCB 1242 UG/L	39496	<0.5
PCB 1248 UG/L	39500	<0.5
PCB 1254 UG/L	39504	<0.5
PCB 1260 UG/L	39508	<0.5
PCB 1262 UG/L		<0.5
PH S.U.	00403	5.8
TOTAL PHENOL UG/L	32730	<10
SELENIUM UG/L	01147	<5

(15)

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STATION CODE : JPSCPW1

ANALYSIS	STORET	RESULT
TOTAL DISS SOLIDS MG/L	70300	34
TOC MG/L	00680	1.5
BENZENE UG/L	34030	<2.0
BROMODICHLOROMETHANE UG/L	32101	<2.0
BROMOFORM UG/L	32104	<2.0
BROMOMETHANE UG/L	34413	<2.0
CARBON TETRACHLORIDE UG/L	32102	<2.0
CHLOROBENZENE UG/L	34301	<2.0
CHLOROETHANE UG/L	34311	<2.0
2-CHLOROETHYLVINYL ETHER UG/L	34576	<2.0
CHLOROFORM UG/L	32106	<2.0
CHLOROMETHANE UG/L	34418	<2.0
DIBROMOCHLOROMETHANE UG/L	32105	<2.0
1,2-DICHLOROBENZENE UG/L	34536	<2.0
1,3-DICHLOROBENZENE UG/L	34566	<2.0
1,4-DICHLOROBENZENE UG/L	34571	<2.0
1,1-DICHLOROETHANE UG/L	34496	<2.0
1,2-DICHLOROETHANE UG/L	34531	<2.0
1,1-DICHLOROETHENE UG/L	34501	<2.0
TRANS-1,2-DICHLOROETHENE UG/L	34546	<2.0
1,2-DICHLOROPROPANE UG/L	34541	<2.0
CIS-1,3-DICHLOROPROPENE UG/L	34704	<2.0
TRANS-1,3-DICHLOROPROPENE UG/L	34699	<2.0
ETHYL BENZENE UG/L	34371	<2.0

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STATION CODE : JPSCPW1

ANALYSIS	STORET	RESULT
METHYLENE CHLORIDE UG/L	34423	<2.0
1,1,2,2-TETRACHLOROETHANE UG/L	34516	<2.0
TETRACHLOROETHENE UG/L	34475	<2.0
TOLUENE UG/L	34010	<2.0
1,1,1-TRICHLOROETHANE UG/L	34506	<2.0
1,1,2-TRICHLOROETHANE UG/L	34511	<2.0
TRICHLOROETHENE UG/L	39180	<2.0
TRICHLOROFLUOROMETHANE UG/L	34488	<2.0
VINYL CHLORIDE UG/L	39175	<2.0

COMMENTS:

(19)

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RELEASE DATE : 07/13/90 12:39:19
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSCRW3

ANALYSIS	STORET	RESULT
ALKALINITY MG/L	00410	17
ARSENIC UG/L	01002	<5
ACENAPHTHENE UG/L	34205	<4.0
ACENAPHTHYLENE UG/L	34200	<4.0
ANTHRACENE UG/L	34220	<4.0
BENZO(A)ANTHRACENE UG/L	34526	<4.0
BENZO(B)FLUORANTHENE UG/L	34230	<4.0
BENZO(K)FLUORANTHENE UG/L	34242	<4.0
BENZO(A)PYRENE UG/L	34247	<4.0
BENZO(GHI)PERYLENE UG/L	34521	<4.0
BUTYLBENZYL PHTHALATE UG/L	34292	<4.0
BIS(2-CHLOROETHYL)ETHER UG/L	34273	<4.0
BIS(2-CHLOROETHOXY)METHANE UG/L	34278	<4.0
BIS(2-ETHYLHEXYL)PHTHALATE UG/L	39100	<4.0
BIS(2-CHLOROISOPROPYL)ETHER UG/L	34283	<4.0
4-BROMOPHENYL PHENYL ETHER UG/L	34636	<4.0
2-CHLORONAPHTHALENE UG/L	34581	<4.0
4-CHLOROPHENYL PHENYL ETHER UG/L	34641	<4.0
CHRYSENE UG/L	34320	<4.0
DIBENZO(A,H)ANTHRACENE UG/L	34556	<4.0
DI-N-BUTYLPHTHALATE UG/L	39110	<4.0
1,3-DICHLOROBENZENE UG/L	34566	<4.0
1,2-DICHLOROBENZENE UG/L	34536	<4.0
1,4-DICHLOROBENZENE UG/L	34571	<4.0
3,3'-DICHLOROBENZIDINE UG/L	34631	<4.0

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SAMPLE DESCRIPTION : J P STEVENS

FRIDAY JULY 13TH, 1990
RELEASE DATE : 07/13/90 12:39:19
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSCMW3

ANALYSIS	STORET	RESULT
DIETHYL PHTHALATE UG/L	34336	<4.0
DIMETHYL PHTHALATE UG/L	34341	<4.0
2,4-DINITROTOLUENE UG/L	34611	<4.0
2,6-DINITROTOLUENE UG/L	34626	<4.0
DI-N-OCTYLPHTHALATE UG/L	34596	<4.0
FLUORANTHENE UG/L	34376	<4.0
FLUORENE UG/L	34381	<4.0
HEXACHLOROBENZENE UG/L	39700	<4.0
HEXACHLOROBUTADIENE UG/L	34391	<4.0
HEXACHLOROETHANE UG/L	34396	<4.0
INDENO(1,2,3-CD)PYRENE UG/L	34403	<4.0
ISOPHORONE UG/L	34408	<4.0
NAPHTHALENE UG/L	34696	<4.0
NITROBENZENE UG/L	34447	<4.0
N-NITROSODI-N-PROPYLAMINE UG/L	34428	<4.0
PHENANTHRENE UG/L	34461	<4.0
PYRENE UG/L	34469	<4.0
1,2,4-TRICHLOROBENZENE UG/L	34551	<4.0
4-CHLORO-3-METHYL PHENOL UG/L	34452	<4.0
2-CHLOROPHENOL UG/L	34586	<4.0
2,4-DICHLOROPHENOL UG/L	34601	<4.0
2,4-DIMETHYL PHENOL UG/L	34606	<4.0
2,4-DINITROPHENOL UG/L	34616	<4.0
2-METHYL-4,6-DINITROPHENOL UG/L	34657	<4.0
2-NITROPHENOL UG/L	34591	<4.0
4-NITROPHENOL UG/L	34646	<4.0
PENTACHLOROPHENOL UG/L	39032	<4.0

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SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

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ANALYSIS	STORET	RESULT
PHENOL UG/L	34694	<4.0
2,4,6-TRICHLOROPHENOL UG/L	34621	<4.0
BENZIDINE UG/L	39120	<4.0
HEXACHLOROCYLCOPENTADIENE UG/L	34386	<4.0
N-NITROSODIMETHYLAMINE UG/L	34438	<4.0
N-NITROSODIPHENYLAMINE UG/L	34433	<4.0
ANILINE UG/L	77089	<4.0
BENZYL ALCOHOL UG/L	77147	<4.0
2-METHYLPHENOL UG/L		<4.0
4-METHYLPHENOL UG/KG		<4.0
BENZOIC ACID UG/L	77247	<4.0
4-CHLOROANILINE UG/L		<4.0
2-METHYL NAPHTHALENE UG/L	77416	<4.0
2,4,5-TRICHLOROPHENOL UG/L	77687	<4.0
2-NITROANILINE UG/L		<4.0
3-NITROANILINE UG/L	78300	<4.0
DIBENZOFURAN UG/L	81302	<4.0
4-NITROANILINE UG/L		<4.0
AZOBENZENE UG/L	77625	<4.0
CYANIDE MG/L	00720	<0.01
COD MG/L	00335	27
MERCURY UG/L	71900	0.2

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *
* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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SAMPLE NUMBER : 0606900357
CHARGE NUMBER : CE
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS

FRIDAY JULY 13TH, 1990
RELEASE DATE : 07/13/90 12:39:19
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSCRW3

ANALYSIS	STORET	RESULT
BARIUM UG/L		100
CADMIUM UG/L		<10
CHROMIUM UG/L		20
COPPER UG/L		50
LEAD UG/L		<50
MANGANESE UG/L		490
NICKEL UG/L		<20
SILVER UG/L		<30
NITRATE/NITRITE MG/L	00630	0.12
PCB 1016 UG/L	34671	<0.5
PCB 1221 UG/L	39488	<0.5
PCB 1232 UG/L	39492	<0.5
PCB 1242 UG/L	39496	<0.5
PCB 1248 UG/L	39500	<0.5
PCB 1254 UG/L	39504	<0.5
PCB 1260 UG/L	39508	<0.5
PCB 1262 UG/L		<0.5
PH S.U.	00403	6.0
TOTAL PHENOL UG/L	32730	<10
SELENIUM UG/L	01147	<5

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0606900357
CHARGE NUMBER : CE
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS

FRIDAY JULY 13TH, 1990
RELEASE DATE : 07/13/90 12:39:19
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSCMW3

ANALYSIS	STORET	RESULT
TOTAL DISS SOLIDS MG/L	70300	68
TOC MG/L	00680	15.5
BENZENE UG/L	34030	<2.0
BROMODICHLOROMETHANE UG/L	32101	<2.0
BROMOFORM UG/L	32104	<2.0
BROMOMETHANE UG/L	34413	<2.0
CARBON TETRACHLORIDE UG/L	32102	<2.0
CHLOROBENZENE UG/L	34301	<2.0
CHLOROETHANE UG/L	34311	<2.0
2-CHLOROETHYLVINYL ETHER UG/L	34576	<2.0
CHLOROFORM UG/L	32106	<2.0
CHLOROMETHANE UG/L	34418	<2.0
DIBROMOCHLOROMETHANE UG/L	32105	<2.0
1,2-DICHLOROBENZENE UG/L	34536	<2.0
1,3-DICHLOROBENZENE UG/L	34566	<2.0
1,4-DICHLOROBENZENE UG/L	34571	<2.0
1,1-DICHLOROETHANE UG/L	34496	<2.0
1,2-DICHLOROETHANE UG/L	34531	<2.0
1,1-DICHLOROETHENE UG/L	34501	<2.0
TRANS-1,2-DICHLOROETHENE UG/L	34546	<2.0
1,2-DICHLOROPROPANE UG/L	34541	<2.0
CIS-1,3-DICHLOROPROPENE UG/L	34704	<2.0
TRANS-1,3-DICHLOROPROPENE UG/L	34699	<2.0
ETHYL BENZENE UG/L	34371	<2.0

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *

* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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SAMPLE NUMBER : 0606900357
CHARGE NUMBER : CE
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS

FRIDAY JULY 13TH, 1990
RELEASE DATE : 07/13/90 12:39:19
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSCMW3

ANALYSIS	STORET	RESULT
METHYLENE CHLORIDE UG/L	34423	<2.0
1,1,2,2-TETRACHLOROETHANE UG/L	34516	<2.0
TETRACHLOROETHENE UG/L	34475	<2.0
TOLUENE UG/L	34010	<2.0
1,1,1-TRICHLOROETHANE UG/L	34506	<2.0
1,1,2-TRICHLOROETHANE UG/L	34511	<2.0
TRICHLOROETHENE UG/L	39180	<2.0
TRICHLOROFLUOROMETHANE UG/L	34488	<2.0
VINYL CHLORIDE UG/L	39175	<2.0

COMMENTS:

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *
* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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SAMPLE NUMBER : 0606900358
CHARGE NUMBER : CE
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS

FRIDAY JULY 13TH, 1990
RELEASE DATE : 07/13/90 12:39:19
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSCMW4

ANALYSIS	STORET	RESULT
ALKALINITY MG/L	00410	2
ARSENIC UG/L	01002	<5
ACENAPHTHENE UG/L	34205	<4.0
ACENAPHTHYLENE UG/L	34200	<4.0
ANTHRACENE UG/L	34220	<4.0
BENZO(A)ANTHRACENE UG/L	34526	<4.0
BENZO(B)FLUORANTHENE UG/L	34230	<4.0
BENZO(K)FLUORANTHENE UG/L	34242	<4.0
BENZO(A)PYRENE UG/L	34247	<4.0
BENZO(GHI)PERYLENE UG/L	34521	<4.0
BUTYLBENZYL PHTHALATE UG/L	34292	9.79
BIS(2-CHLOROETHYL)ETHER UG/L	34273	<4.0
BIS(2-CHLOROETHOXY)METHANE UG/L	34278	<4.0
BIS(2-ETHYLHEXYL)PHTHALATE UG/L	39100	<4.0
BIS(2-CHLOROISOPROPYL)ETHER UG/L	34283	<4.0
4-BROMOPHENYL PHENYL ETHER UG/L	34636	<4.0
2-CHLORONAPHTHALENE UG/L	34581	<4.0
4-CHLOROPHENYL PHENYL ETHER UG/L	34641	<4.0
CHRYSENE UG/L	34320	<4.0
DIBENZO(A,H)ANTHRACENE UG/L	34556	<4.0
DI-N-BUTYLPHTHALATE UG/L	39110	<4.0
1,3-DICHLOROBENZENE UG/L	34566	<4.0
1,2-DICHLOROBENZENE UG/L	34536	<4.0
1,4-DICHLOROBENZENE UG/L	34571	<4.0
3,3'-DICHLOROBENZIDINE UG/L	34631	<4.0

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *

* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS

FRIDAY JULY 13TH, 1990
RELEASE DATE : 07/13/90 12:39:19
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSCMW4

ANALYSIS	STORET	RESULT
DIETHYL PHTHALATE UG/L	34336	<4.0
DIMETHYL PHTHALATE UG/L	34341	<4.0
2,4-DINITROTOLUENE UG/L	34611	<4.0
2,6-DINITROTOLUENE UG/L	34626	<4.0
DI-N-OCTYLPHTHALATE UG/L	34596	<4.0
FLUORANTHENE UG/L	34376	<4.0
FLUORENE UG/L	34381	<4.0
HEXACHLOROBENZENE UG/L	39700	<4.0
HEXACHLOROBUTADIENE UG/L	34391	<4.0
HEXACHLOROETHANE UG/L	34396	<4.0
INDENO(1,2,3-CD)PYRENE UG/L	34403	<4.0
ISOPHORONE UG/L	34408	<4.0
NAPHTHALENE UG/L	34696	<4.0
NITROBENZENE UG/L	34447	<4.0
N-NITROSODI-N-PROPYLAMINE UG/L	34428	<4.0
PHENANTHRENE UG/L	34461	<4.0
PYRENE UG/L	34469	<4.0
1,2,4-TRICHLOROBENZENE UG/L	34551	<4.0
4-CHLORO-3-METHYL PHENOL UG/L	34452	<4.0
2-CHLOROPHENOL UG/L	34586	<4.0
2,4-DICHLOROPHENOL UG/L	34601	<4.0
2,4-DIMETHYL PHENOL UG/L	34606	<4.0
2,4-DINITROPHENOL UG/L	34616	<4.0
2-METHYL-4,6-DINITROPHENOL UG/L	34657	<4.0
2-NITROPHENOL UG/L	34591	<4.0
4-NITROPHENOL UG/L	34646	<4.0
PENTACHLOROPHENOL UG/L	39032	<4.0

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *

* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS

FRIDAY JULY 13TH, 1990
RELEASE DATE : 07/13/90 12:39:19
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSCMW4

ANALYSIS	STORET	RESULT
PHENOL UG/L	34694	<4.0
2,4,6-TRICHLOROPHENOL UG/L	34621	<4.0
BENZIDINE UG/L	39120	<4.0
HEXACHLOROCYLCOPENTADIENE UG/L	34386	<4.0
N-NITROSODIMETHYLAMINE UG/L	34438	<4.0
N-NITROSODIPHENYLAMINE UG/L	34433	<4.0
ANILINE UG/L	77089	<4.0
BENZYL ALCOHOL UG/L	77147	<4.0
2-METHYLPHENOL UG/L		<4.0
4-METHYLPHENOL UG/KG		<4.0
BENZOIC ACID UG/L	77247	<4.0
4-CHLOROANILINE UG/L		<4.0
2-METHYL NAPHTHALENE UG/L	77416	<4.0
2,4,5-TRICHLOROPHENOL UG/L	77687	<4.0
2-NITROANILINE UG/L		<4.0
3-NITROANILINE UG/L	78300	<4.0
DIBENZOFURAN UG/L	81302	<4.0
4-NITROANILINE UG/L		<4.0
AZOBENZENE UG/L	77625	<4.0
CYANIDE MG/L	00720	<0.01
COD MG/L	00335	<25
MERCURY UG/L	71900	<0.2

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *
* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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SAMPLE NUMBER : 0606900358
CHARGE NUMBER : CE
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS

FRIDAY JULY 13TH, 1990
RELEASE DATE : 07/13/90 12:39:19
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSCMW4

ANALYSIS	STORET	RESULT
BARIUM UG/L		<50
CADMIUM UG/L		<10
CHROMIUM UG/L		<10
COPPER UG/L		10
LEAD UG/L		<50
MANGANESE UG/L		<10
NICKEL UG/L		<20
SILVER UG/L		<30
NITRATE/NITRITE MG/L	00630	<0.02
PCB 1016 UG/L	34671	<0.5
PCB 1221 UG/L	39488	<0.5
PCB 1232 UG/L	39492	<0.5
PCB 1242 UG/L	39496	<0.5
PCB 1248 UG/L	39500	<0.5
PCB 1254 UG/L	39504	<0.5
PCB 1260 UG/L	39508	<0.5
PCB 1262 UG/L		<0.5
PH S.U.	00403	5.8
TOTAL PHENOL UG/L	32730	<10
SELENIUM UG/L	01147	<5

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *
* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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SAMPLE NUMBER : 0606900358
CHARGE NUMBER : CE
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS

FRIDAY JULY 13TH, 1990
RELEASE DATE : 07/13/90 12:39:19
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSCMW4

ANALYSIS	STORET	RESULT
TOTAL DISS SOLIDS MG/L	70300	32
TOC MG/L	00680	1.8
BENZENE UG/L	34030	<2.0
BROMODICHLOROMETHANE UG/L	32101	<2.0
BROMOFORM UG/L	32104	<2.0
BROMOMETHANE UG/L	34413	<2.0
CARBON TETRACHLORIDE UG/L	32102	<2.0
CHLOROBENZENE UG/L	34301	<2.0
CHLOROETHANE UG/L	34311	<2.0
2-CHLOROETHYLVINYL ETHER UG/L	34576	<2.0
CHLOROFORM UG/L	32106	<2.0
CHLOROMETHANE UG/L	34418	<2.0
DIBROMOCHLOROMETHANE UG/L	32105	<2.0
1,2-DICHLOROBENZENE UG/L	34536	<2.0
1,3-DICHLOROBENZENE UG/L	34566	<2.0
1,4-DICHLOROBENZENE UG/L	34571	<2.0
1,1-DICHLOROETHANE UG/L	34496	<2.0
1,2-DICHLOROETHANE UG/L	34531	<2.0
1,1-DICHLOROETHENE UG/L	34501	<2.0
TRANS-1,2-DICHLOROETHENE UG/L	34546	<2.0
1,2-DICHLOROPROPANE UG/L	34541	<2.0
CIS-1,3-DICHLOROPROPENE UG/L	34704	<2.0
TRANS-1,3-DICHLOROPROPENE UG/L	34699	<2.0
ETHYL BENZENE UG/L	34371	<2.0

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *
* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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SAMPLE NUMBER : 0606900358
CHARGE NUMBER : CE
COLLECTED BY : G SHEALY
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS

FRIDAY JULY 13TH, 1990
RELEASE DATE : 07/13/90 12:39:19
DT COLLECTED : 06/05/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSCMW4

ANALYSIS	STORET	RESULT
METHYLENE CHLORIDE UG/L	34423	<2.0
1,1,2,2-TETRACHLOROETHANE UG/L	34516	<2.0
TETRACHLOROETHENE UG/L	34475	<2.0
TOLUENE UG/L	34010	<2.0
1,1,1-TRICHLOROETHANE UG/L	34506	<2.0
1,1,2-TRICHLOROETHANE UG/L	34511	<2.0
TRICHLOROETHENE UG/L	39180	<2.0
TRICHLOROFLUOROMETHANE UG/L	34488	<2.0
VINYL CHLORIDE UG/L	39175	<2.0

COMMENTS:

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *

* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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SAMPLE NUMBER : 0620900306 WEDNESDAY JULY 11TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/11/90 12:37:39
COLLECTED BY : P BRISTOL DT COLLECTED : 06/19/90 00:00:00
COUNTY : OCONEE SAMPLE MEDIUM : WATER
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : JPSMW02

ANALYSIS	STORET	RESULT
ARSENIC UG/L	01002	<5
COD MG/L	00335	<25
BARIUM UG/L		680
CADMIUM UG/L		<10
CHROMIUM UG/L		120
COPPER UG/L		70
LEAD UG/L		<50
MANGANESE UG/L		1,300
NICKEL UG/L		130
SILVER UG/L		<30
SELENIUM UG/L	01147	<5

COMMENTS:

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *
* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

****

SAMPLE NUMBER : 0620900307
CHARGE NUMBER : CE
COLLECTED BY : P BRISTOL
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

WEDNESDAY JULY 11TH, 1990
RELEASE DATE : 07/11/90 12:37:40
DT COLLECTED : 06/19/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSMW16

ANALYSIS	STORET	RESULT
ALKALINITY MG/L	00410	4
ARSENIC UG/L	01002	<5
CYANIDE MG/L	00720	<0.01
MERCURY UG/L	71900	<0.2
BARIUM UG/L		<50
CADMIUM UG/L		<10
CHROMIUM UG/L		<10
COPPER UG/L		<10
LEAD UG/L		<50
MANGANESE UG/L		<10
NICKEL UG/L		<20
SILVER UG/L		<30
NITRATE/NITRITE MG/L	00630	0.06
PH S.U.	00403	6.3
TOTAL PHENOL UG/L	32730	<10
SELENIUM UG/L	01147	<5
TOTAL DISS SOLIDS MG/L	70300	18

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0620900307
CHARGE NUMBER : CE
COLLECTED BY : P BRISTOL
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

WEDNESDAY JULY 11TH, 1990
RELEASE DATE : 07/11/90 12:37:40
DT COLLECTED : 06/19/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSMW16

ANALYSIS	STORET	RESULT
TOC MG/L	00680	3.7

COMMENTS:

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : C620900306
CHARGE NUMBER : CE
COLLECTED BY : P BRISTOL
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

MONDAY JULY 30TH, 1990
RELEASE DATE : 07/30/90 13:06:39
DT COLLECTED : 06/19/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSMW02

ANALYSIS	STORET	RESULT
ACENAPHTHENE UG/L	34205	<4.0
ACENAPHTHYLENE UG/L	34200	<4.0
ANTHRACENE UG/L	34220	<4.0
BENZO(A)ANTHRACENE UG/L	34526	<4.0
BENZO(B)FLUORANTHENE UG/L	34230	<4.0
BENZO(K)FLUORANTHENE UG/L	34242	<4.0
BENZO(A)PYRENE UG/L	34247	<4.0
BENZO(GHI)PERYLENE UG/L	34521	<4.0
BUTYLBENZYL PHTHALATE UG/L	34292	197
BIS(2-CHLOROETHYL)ETHER UG/L	34273	<4.0
BIS(2-CHLOROETHOXY)METHANE UG/L	34278	<4.0
BIS(2-ETHYLHEXYL)PHTHALATE UG/L	39100	<4.0
BIS(2-CHLOROISOPROPYL)ETHER UG/L	34283	<4.0
4-BROMOPHENYL PHENYL ETHER UG/L	34636	<4.0
2-CHLORONAPHTHALENE UG/L	34581	<4.0
4-CHLOROPHENYL PHENYL ETHER UG/L	34641	<4.0
CHRYSENE UG/L	34320	<4.0
DIBENZO(A,H)ANTHRACENE UG/L	34556	<4.0
DI-N-BUTYLPHTHALATE UG/L	39110	116
1,3-DICHLOROBENZENE UG/L	34566	<4.0
1,2-DICHLOROBENZENE UG/L	34536	<4.0
1,4-DICHLOROBENZENE UG/L	34571	<4.0
3,3'-DICHLOROBENZIDINE UG/L	34631	<4.0
DIETHYL PHTHALATE UG/L	34336	<4.0
DIMETHYL PHTHALATE UG/L	34341	<4.0
2,4-DINITROTOLUENE UG/L	34611	<4.0
2,6-DINITROTOLUENE UG/L	34626	<4.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : C620°003C°
CHARGE NUMBER : CE
COLLECTED BY : P BRISTOL
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

MONDAY JULY 30TH, 1990
RELEASE DATE : 07/30/90 13:06:39
DT COLLECTED : 06/19/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSMW02

ANALYSIS	STORET	RESULT
DI-N-OCTYLPHTHALATE UG/L	34596	<4.0
FLUORANTHENE UG/L	34376	<4.0
FLUORENE UG/L	34381	<4.0
HEXACHLOROBENZENE UG/L	39700	<4.0
HEXACHLOROBUTADIENE UG/L	34391	<4.0
HEXACHLOROETHANE UG/L	34396	<4.0
INDENO(1,2,3-CD)PYRENE UG/L	34403	<4.0
ISOPHORONE UG/L	34408	<4.0
NAPHTHALENE UG/L	34696	<4.0
NITROBENZENE UG/L	34447	<4.0
N-NITROSODI-N-PROPYLAMINE UG/L	34428	<4.0
PHENANTHRENE UG/L	34461	<4.0
PYRENE UG/L	34469	<4.0
1,2,4-TRICHLOROBENZENE UG/L	34551	<4.0
4-CHLORO-3-METHYL PHENOL UG/L	34452	<4.0
2-CHLOROPHENOL UG/L	34586	<4.0
2,4-DICHLOROPHENOL UG/L	34601	<4.0
2,4-DIMETHYL PHENOL UG/L	34606	<4.0
2,4-DINITROPHENOL UG/L	34616	<4.0
2-METHYL-4,6-DINITROPHENOL UG/L	34657	<4.0
2-NITROPHENOL UG/L	34591	<4.0
4-NITROPHENOL UG/L	34646	<4.0
PENTACHLOROPHENOL UG/L	39032	<4.0
PHENOL UG/L	34694	<4.0
2,4,6-TRICHLOROPHENOL UG/L	34621	<4.0
BENZIDINE UG/L	39120	<4.0
HEXACHLOROCYCLOPENTADIENE UG/L	34386	<4.0

SOUTH CARCLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATCRY REPORT

SAMPLE NUMBER : C620900308 MONDAY JULY 30TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/30/90 13:06:39
COLLECTED BY : P BRISTOL DT COLLECTED : 06/19/90 00:00:00
COUNTY : OCONEE SAMPLE MEDIUM : WATER
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : JPSMW02

ANALYSIS	STORET	RESULT
N-NITROSODIMETHYLAMINE UG/L	34438	<4.0
N-NITROSODIPHENYLAMINE UG/L	34433	<4.0
ANILINE UG/L	77089	<4.0
BENZYL ALCOHOL UG/L	77147	<4.0
2-METHYLPHENOL UG/L		<4.0
3-METHYLPHENOL UG/L		<4.0
BENZOIC ACID UG/L	77247	<4.0
4-CHLOROANILINE UG/L		<4.0
2-METHYL NAPHTHALENE UG/L	77416	<4.0
2,4,5-TRICHLOROPHENOL UG/L	77687	<4.0
2-NITROANILINE UG/L		<4.0
3-NITROANILINE UG/L	78300	<4.0
DIBENZOFURAN UG/L	81302	<4.0
4-NITROANILINE UG/L		<4.0
AZOBENZENE UG/L	77625	<4.0
CYCLOHEXENE		DETECTED
BENZALDEHYDE,4-HYDROXY-3-METHOXY		DETECTED
CYCLOTETRADECANE		DETECTED
9-OCTADECEN-1-OL,(Z)-		DETECTED
2,4-HEXADIENE		DETECTED
CYCLOHEXANONE (ACK)		DETECTED
1-HEXADECENE		DETECTED
OTHER COMPOUNDS DETECTED		SEE COMMENTS

PCB 1016 UG/L	34671	<0.5
PCB 1221 UG/L	39488	<0.5

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 062090030[illegible]
CHARGE NUMBER : CE
COLLECTED BY : P BRISTOL
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

MONDAY JULY 30TH, 1990
RELEASE DATE : 07/30/90 13:06:39
DT COLLECTED : 06/19/90 00:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSMN02

ANALYSIS	STORET	RESULT
PCB 1232 UG/L	39492	<0.5
PCB 1242 UG/L	39496	<0.5
PCB 1248 UG/L	39500	<0.5
PCB 1254 UG/L	39504	<0.5
PCB 1260 UG/L	39508	<0.5
PCB 1262 UG/L		<0.5
BENZENE UG/L	34030	<2.0
BROMODICHLOROMETHANE UG/L	32101	<2.0
BROMOFORM UG/L	32104	<2.0
BROMOMETHANE UG/L	34413	<2.0
CARBON TETRACHLORIDE UG/L	32102	<2.0
CHLOROBENZENE UG/L	34301	<2.0
CHLOROETHANE UG/L	34311	<2.0
2-CHLOROETHYLVINYL ETHER UG/L	34576	<2.0
CHLOROFORM UG/L	32106	<2.0
CHLOROMETHANE UG/L	34418	<2.0
DIBROMOCHLOROMETHANE UG/L	32105	<2.0
1,2-DICHLOROBENZENE UG/L	34536	<2.0
1,3-DICHLOROBENZENE UG/L	34566	<2.0
1,4-DICHLOROBENZENE UG/L	34571	<2.0
1,1-DICHLOROETHANE UG/L	34496	<2.0
1,2-DICHLOROETHANE UG/L	34531	<2.0
1,1-DICHLOROETHENE UG/L	34501	<2.0
TRANS-1,2-DICHLOROETHENE UG/L	34546	<2.0
1,3-DICHLOROPROPANE UG/L	34541	<2.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 06209C0302 — MONDAY JULY 30TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/30/90 13:06:39
COLLECTED BY : P BRISTOL — DT COLLECTED : 06/19/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : WATER
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSMN02

ANALYSIS	STORET	RESULT
CIS-1,3-DICHLOROPROPENE UG/L	34704	<2.0
TRANS-1,3-DICHLOROPROPENE UG/L	34699	<2.0
ETHYL BENZENE UG/L	34371	<2.0
METHYLENE CHLORIDE UG/L	34423	<2.0
1,1,2,2-TETRACHLOROETHANE UG/L	34516	<2.0
TETRACHLOROETHENE UG/L	34475	<2.0
TOLUENE UG/L	34010	<2.0
1,1,1-TRICHLOROETHANE UG/L	34506	5.39
1,1,2-TRICHLOROETHANE UG/L	34511	<2.0
TRICHLOROETHENE UG/L	39180	<2.0
TRICHLOROFLUOROMETHANE UG/L	34488	<2.0
VINYL CHLORIDE UG/L	39175	<2.0

COMMENTS:
1,2-BENZENEDICARBOXYLIC ACID,BUTYL CYCLOHEXYL ESTER
PHENOL,4,4'-BUTYLIDENEBIS(3-(1,1-DIMETHYLETHYL)-6-
-----METHYL-

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0620900309 — FRIDAY JULY 27TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/27/90 12:20:35
COLLECTED BY : P BRISTOL — DT COLLECTED : 06/19/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : WATER
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSMN16

ANALYSIS	STORET	RESULT
ACENAPHTHENE UG/L	34205	<4.0
ACENAPHTHYLENE UG/L	34200	<4.0
ANTHRACENE UG/L	34220	<4.0
BENZO(A)ANTHRACENE UG/L	34526	<4.0
BENZO(B)FLUORANTHENE UG/L	34230	<4.0
BENZO(K)FLUORANTHENE UG/L	34242	<4.0
BENZO(A)PYRENE UG/L	34247	<4.0
BENZO(GHI)PERYLENE UG/L	34521	<4.0
BUTYLBENZYL PHTHALATE UG/L	34292	10.1
BIS(2-CHLOROETHYL)ETHER UG/L	34273	<4.0
BIS(2-CHLOROETHOXY)METHANE UG/L	34278	<4.0
BIS(2-ETHYLHEXYL)PHTHALATE UG/L	39100	<4.0
BIS(2-CHLOROISOPROPYL)ETHER UG/L	34283	<4.0
4-BROMOPHENYL PHENYL ETHER UG/L	34636	<4.0
2-CHLORONAPHTHALENE UG/L	34581	<4.0
4-CHLOROPHENYL PHENYL ETHER UG/L	34641	<4.0
CHRYSENE UG/L	34320	<4.0
DIBENZO(A,H)ANTHRACENE UG/L	34556	<4.0
DI-N-BUTYLPHTHALATE UG/L	39110	<4.0
1,3-DICHLOROBENZENE UG/L	34566	<4.0
1,2-DICHLOROBENZENE UG/L	34536	<4.0
1,4-DICHLOROBENZENE UG/L	34571	<4.0
3,3'-DICHLOROBENZIDINE UG/L	34631	<4.0
DIETHYL PHTHALATE UG/L	34336	<4.0
DIMETHYL PHTHALATE UG/L	34341	<4.0
2,4-DINITROTOLUENE UG/L	34611	<4.0
2,6-DINITROTOLUENE UG/L	34626	<4.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 062090C0309 — FRIDAY JULY 27TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/27/90 12:20:35
COLLECTED BY : P BRISTOL — DT COLLECTED : 06/19/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : WATER
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : JPSM016

ANALYSIS	STORET	RESULT
I-N-OCTYLPHTHALATE UG/L	34596	<4.0
LUORANTHENE UG/L	34376	<4.0
LUORENE UG/L	34331	<4.0
EXACHLOROBENZENE UG/L	39700	<4.0
EXACHLOROBUTADIENE UG/L	34391	<4.0
EXACHLOROETHANE UG/L	34396	<4.0
NDENO(1,2,3-CD)PYRENE UG/L	34403	<4.0
SOPHORONE UG/L	34408	<4.0
APHTHALENE UG/L	34696	<4.0
ITROBENZENE UG/L	34447	<4.0
-NITROSODI-N-PROPYLAMINE UG/L	34428	<4.0
HENANTHRENE UG/L	34461	<4.0
YRENE UG/L	34469	<4.0
,2,4-TRICHLOROBENZENE UG/L	34551	<4.0
-CHLORO-3-METHYL PHENOL UG/L	34452	<4.0
-CHLOROPHENOL UG/L	34586	<4.0
,4-DICHLOROPHENOL UG/L	34601	<4.0
,4-DIMETHYL PHENOL UG/L	34606	<4.0
,4-DINITROPHENOL UG/L	34616	<4.0
-METHYL-4,6-DINITROPHENOL UG/L	34657	<4.0
-NITROPHENOL UG/L	34591	<4.0
-NITROPHENOL UG/L	34646	<4.0
ENTACHLOROPHENOL UG/L	39032	<4.0
HENOL UG/L	34694	<4.0
,4,6-TRICHLOROPHENOL UG/L	34621	<4.0
ENZIDINE UG/L	39120	<4.0
EXACHLOROCYCLOPENTADIENE UG/L	34386	<4.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0620900309
CHARGE NUMBER : CE
COLLECTED BY : P BRISTOL
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

FRIDAY JULY 27TH, 1990
RELEASE DATE : 07/27/90 12:20:35
DT COLLECTED : 06/19/90 08:00:00
SAMPLE MEDIUM : WATER
STATION CODE : JPSM16

ANALYSIS	STORET	RESULT
-NITROSODIMETHYLAMINE UG/L	34438	<4.0
-NITROSODIPHENYLAMINE UG/L	34433	<4.0
NILINE UG/L	77089	<4.0
ENZYL ALCOHOL UG/L	77147	<4.0
-METHYLPHENOL UG/L		<4.0
-METHYLPHENOL UG/L		<4.0
ENZOIC ACID UG/L	77247	<4.0
-CHLORCANILINE UG/L		<4.0
-METHYL NAPHTHALENE UG/L	77416	<4.0
,4,5-TRICHLOROPHENOL UG/L	77687	<4.0
-NITROANILINE UG/L		<4.0
-NITROANILINE UG/L	78300	<4.0
IBENZOFURAN UG/L	81302	<4.0
-NITROANILINE UG/L		<4.0
AZOBENZENE UG/L	77625	<4.0
2,4-HEXADIENE		DETECTED
1-HEXADECENE		DETECTED
PCB 1016 UG/L	34671	<0.5
PCB 1221 UG/L	39488	<0.5
PCB 1232 UG/L	39492	<0.5
PCB 1242 UG/L	39496	<0.5
PCB 1248 UG/L	39500	<0.5
PCB 1254 UG/L	39504	<0.5
PCB 1260 UG/L	39508	<0.5
PCB 1262 UG/L		<0.5

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 062C90030C9
CHARGE NUMBER : CE
COLLECTED BY : P BRISTOL
COUNTY : OCONEE
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT

FRIDAY JULY 27TH, 1990
RELEASE DATE : 07/27/90
DT COLLECTED : 06/19/90
SAMPLE MEDIUM : WATER
STATION CODE : JPSM16

ANALYSIS	STORET	RESULT
BENZENE UG/L	34030	<2.0
BROMODICHLOROMETHANE UG/L	32101	<2.0
BROMOFORM UG/L	32104	<2.0
BROMOMETHANE UG/L	34413	<2.0
CARBON TETRACHLORIDE UG/L	32102	<2.0
CHLOROBENZENE UG/L	34301	<2.0
CHLOROETHANE UG/L	34311	<2.0
2-CHLOROETHYLVINYL ETHER UG/L	34576	<2.0
CHLOROFORM UG/L	32106	<2.0
CHLOROMETHANE UG/L	34418	<2.0
DIBROMOCHLOROMETHANE UG/L	32105	<2.0
1,2-DICHLOROBENZENE UG/L	34536	<2.0
1,3-DICHLOROBENZENE UG/L	34566	<2.0
1,4-DICHLOROBENZENE UG/L	34571	<2.0
1,1-DICHLOROETHANE UG/L	34496	<2.0
1,2-DICHLOROETHANE UG/L	34531	<2.0
1,1-DICHLOROETHENE UG/L	34501	<2.0
TRANS-1,2-DICHLOROETHENE UG/L	34546	<2.0
1,2-DICHLOROPROPANE UG/L	34541	<2.0
CIS-1,3-DICHLOROPROPENE UG/L	34704	<2.0
TRANS-1,3-DICHLOROPROPENE UG/L	34699	<2.0
ETHYL BENZENE UG/L	34371	<2.0
METHYLENE CHLORIDE UG/L	34423	<2.0
1,1,2,2-TETRACHLOROETHANE UG/L	34516	<2.0
TETRACHLOROETHENE UG/L	34475	<2.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : 0520900309 FRIDAY JULY 27TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/27/90
COLLECTED BY : P BRISTOL DT COLLECTED : 07/19/90
COUNTY : OCONEE SAMPLE MEDIUM : WATER
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : JPSW16

ANALYSIS	STORET	RESULT
TOLUENE UG/L	34010	<2.0
1,1,1-TRICHLOROETHANE UG/L	34506	<2.0
1,1,2-TRICHLOROETHANE UG/L	34511	<2.0
TRICHLOROETHENE UG/L	39180	<2.0
TRICHLOROFLUOROMETHANE UG/L	34488	<2.0
VINYL CHLORIDE UG/L	39175	<2.0

COMMENTS:
PROPANOIC ACID,2-METHYL-,1-(1,1-DIMETHYLETHYL)-2--
----METHYL-1,3-PROPAN

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* SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL *
* ANALYTICAL SERVICES DIVISION LABORATORY REPORT *

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SAMPLE NUMBER : 0620900310 THURSDAY JULY 5TH, 1990
CHARGE NUMBER : CE RELEASE DATE : 07/05/90 16:04:54
COLLECTED BY : P BRISTOL DT COLLECTED : 06/20/90 00:00:00
COUNTY : OCONEE SAMPLE MEDIUM : WATER
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT STATION CODE : BLANK

ANALYSIS	STORET	RESULT
BENZENE UG/L	34030	<2.0
BROMODICHLOROMETHANE UG/L	32101	<2.0
BROMOFORM UG/L	32104	<2.0
BROMOMETHANE UG/L	34413	<2.0
CARBON TETRACHLORIDE UG/L	32102	<2.0
CHLOROBENZENE UG/L	34301	<2.0
CHLOROETHANE UG/L	34311	<2.0
2-CHLOROETHYLVINYL ETHER UG/L	34576	<2.0
CHLOROFORM UG/L	32106	<2.0
CHLOROMETHANE UG/L	34418	<2.0
DIBROMOCHLOROMETHANE UG/L	32105	<2.0
1,2-DICHLOROBENZENE UG/L	34536	<2.0
1,3-DICHLOROBENZENE UG/L	34566	<2.0
1,4-DICHLOROBENZENE UG/L	34571	<2.0
1,1-DICHLOROETHANE UG/L	34496	<2.0
1,2-DICHLOROETHANE UG/L	34531	<2.0
1,1-DICHLOROETHENE UG/L	34501	<2.0
TRANS-1,2-DICHLOROETHENE UG/L	34546	<2.0
1,2-DICHLOROPROPANE UG/L	34541	<2.0
CIS-1,3-DICHLOROPROPENE UG/L	34704	<2.0
TRANS-1,3-DICHLOROPROPENE UG/L	34699	<2.0
ETHYL BENZENE UG/L	34371	<2.0
METHYLENE CHLORIDE UG/L	34423	<2.0
1,1,2,2-TETRACHLOROETHANE UG/L	34516	<2.0
TETRACHLOROETHENE UG/L	34475	<2.0
TOLUENE UG/L	34010	<2.0
1,1,1-TRICHLOROETHANE UG/L	34506	<2.0

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ANALYTICAL SERVICES DIVISION LABORATORY REPORT

SAMPLE NUMBER : C620900310 — THURSDAY JULY 5TH, 1990
CHARGE NUMBER : CE — RELEASE DATE : 07/05/90 16:04:54
COLLECTED BY : P BRISTOL — DT COLLECTED : 06/20/90 00:00:00
COUNTY : OCONEE — SAMPLE MEDIUM : WATER
SAMPLE DESCRIPTION : J P STEVENS CLEMSON PLT — STATION CODE : BLANK

ANALYSIS	STORET	RESULT
1,1,2-TRICHLOROETHANE UG/L	34511	<2.0
TRICHLOROETHENE UG/L	39180	<2.0
TRICHLOROFLUOROMETHANE UG/L	34488	<2.0
VINYL CHLORIDE UG/L	39175	<2.0

COMMENTS:

REFERENCE NO. 11

Ref. 6

S. T. PEEPLES, M.D.
STATE HEALTH OFFICER
CHMN. WATER POLLUTION
CONTROL AUTHORITY

T. LINTON, DIRECTOR
DIVISION OF SANITARY ENGINEERING
EXEC. DIR., WATER POLLUTION
CONTROL AUTHORITY

South Carolina State Board of Health

Division of Sanitary Engineering

AND

Water Pollution Control Authority

COLUMBIA, SOUTH CAROLINA

APPLICATION FOR PERMIT

To Discharge Sewage, Industrial Wastes or Other Waste

In accordance with the applicable provisions of Chapter No. 3, Title 70, Vol. 6, 1952 Code of Laws of South Carolina, and the Regulations of the South Carolina Water Pollution Control Authority, application is hereby made by

J. P. STEVENS & CO., INC., UTICA MOHAWK DIVISION
Name of City, Town, Industry, Corporation, Individual, etc.

of Clemson (Name of Municipality) in Oconee (Name of County)

and located at Clemson,
For industries show post office address or location

for permission to discharge 50,000 Gal. per day of Imhoff Treated Domestic Waste and 2,500,000 Gal. per day of Industrial Wastes
Domestic waste and/or industrial wastes

into Seneca River
Name of receiving water and drainage basin

at a daily rate not to exceed 3,000,000 gallons per day.

Contact the following official K. C. Johnson
if additional data are required or should a field visit be necessary.

Quantity and quality of sewage and/or industrial wastes; principal features of present or proposed treatment and waste recovery; and point of discharge are as follows:

Domestic Wastes are Imhoff treated 50,000 Gal. per day

Industrial Wastes contain as follows (per month)

Caustic Soda	823,000 lb.
Hydrogen Peroxide	40,880 "
Sodium Silicate	43,900 "
Acetic Acid	45,500 "
Sodium Hypochlorite	9,300 "
Sodium Hydrosulphite	37,700 "
Starch Sizing	250,000 "

Treatment and point of discharge through Martin's Creek to Seneca River as originally installed.

Date 2/13/57 Signed J. P. STEVENS & CO., INC.
UTICA MOHAWK DIVISION
City, Corporation, or Other Official Name

By K. C. Johnson
Official Directly Responsible
K. C. Johnson
Mechanical Engineer
Official Title

Application No. 63

REFERENCE NO. 12

South Carolina

STATE WATER ASSESSMENT

Report No. 140

H.Stephen Snyder
Project Manager

Steven J. de Kozlowski
Assistant Project Manager
and Project Biologist

Joseph A. Harrigan
Project Engineer

H. Thomas Shaw
Project Cartographer

Freddie L. Collins
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Public Information Director

George E. Siple
Consulting Hydrogeologist

Debra L. Miller
Engineering Technician

South Carolina Water Resources Commission
3830 Forest Drive, P.O. Box 4440
Columbia, South Carolina 29240

September 1983

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nually in many areas where water temperatures are sufficiently cool. These streams are generally above 1,400 feet. Warm water fish, including bass, bream, catfish, and crappie, may be found in rivers, lakes, and ponds across the State. The Santee-Cooper Lakes are the site of South Carolina's famous striped bass (rock fish) fishery. These fish are managed extensively and are shipped to many other lakes in the country. The Santee-Cooper Lakes are also important waterfowl habitat.

Beach. Beach is the least extensive of all habitat in South Carolina. Beaches north of North Inlet are heavily developed and used for recreational purposes and provide little wildlife habitat. Southward beaches are less developed and provide important habitat to the Loggerhead Turtle and the Brown Pelican, two endangered species which lay their eggs in the sand.

Physiography and Geology

South Carolina has a diversity of water-related natural beauty including mountain waterfalls, inland swamps, Carolina Bays, and tidal creeks. Much of this diversity is related to the occurrence of three distinct physiographic provinces, the Blue Ridge, Piedmont, and Coastal Plain, which exhibit variations in topography, geology, and vegetation (Fig. 5). These regional variations greatly influence the availability and quality of the State's water resources.

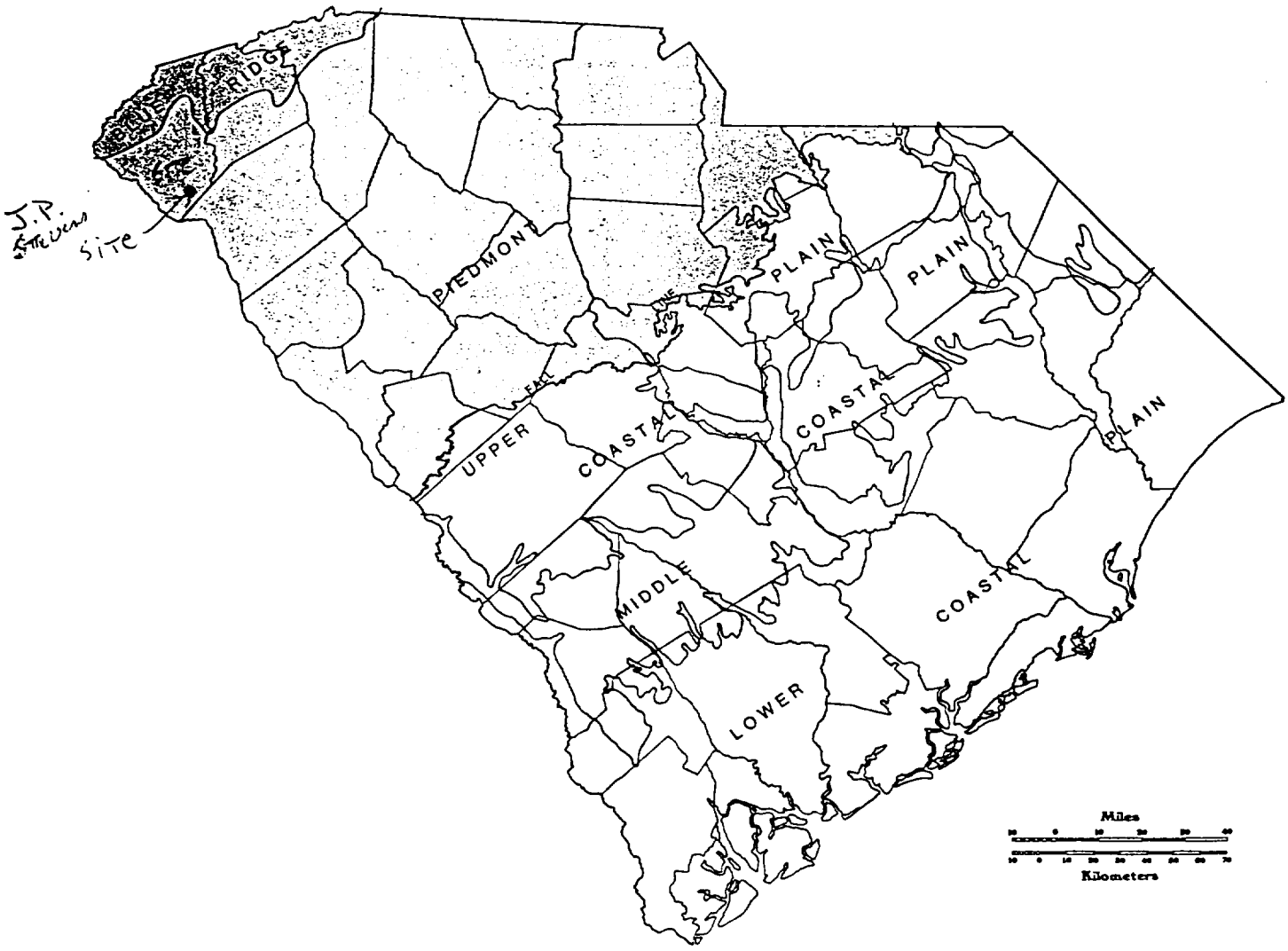

Figure 5.
Physiographic provinces in South Carolina (Adapted from Cooke, 1936 and Siple, 1967).

NWWA/EPA Series

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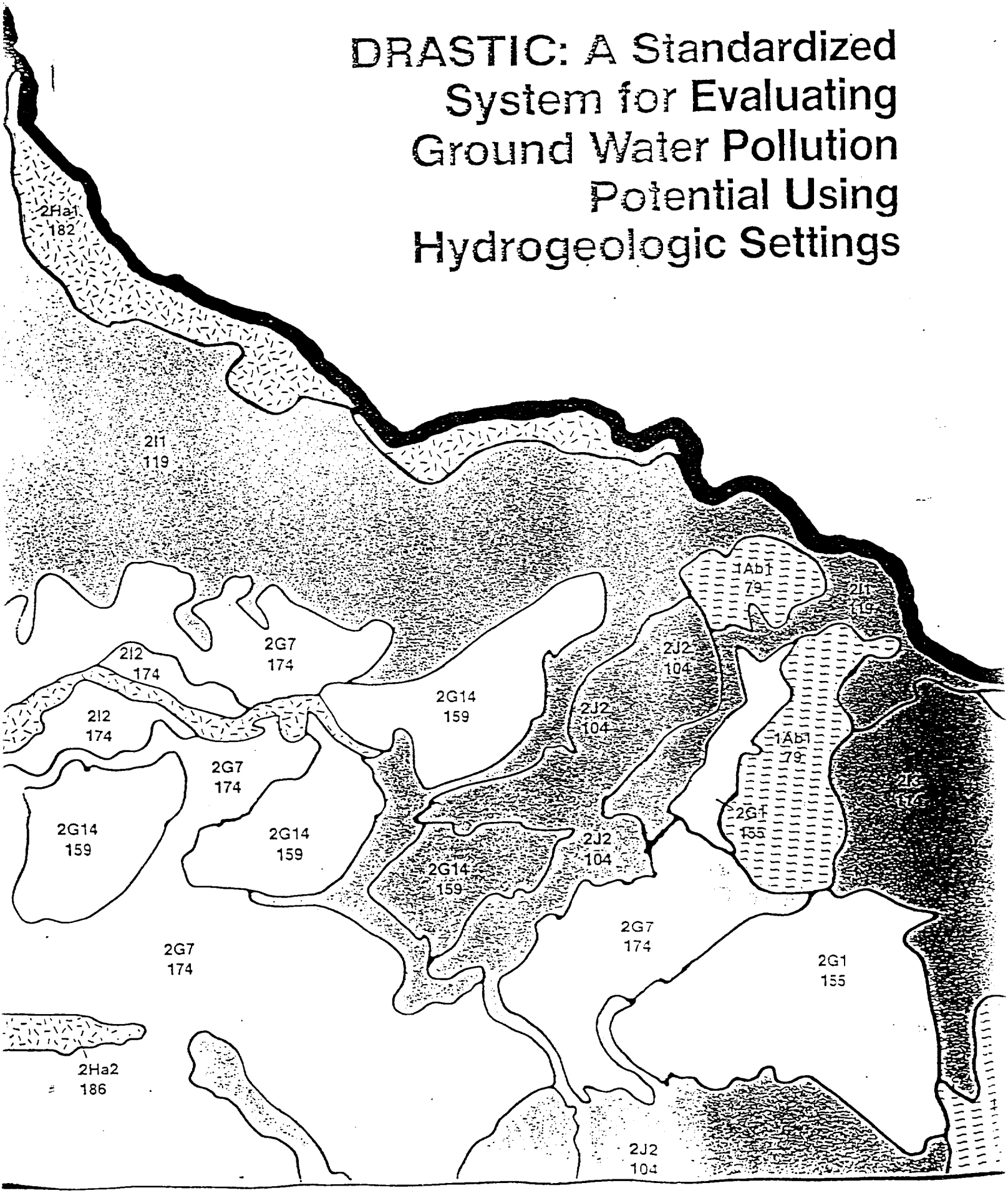
Ref. 2

REFERENCE NO. 13

DRASTIC: A Standardized System for Evaluating Ground Water Pollution Potential Using Hydrogeologic Settings



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DRASTIC: A Standardized System for Evaluating Ground Water Pollution Potential Using Hydrogeologic Settings

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8. PIEDMONT BLUE RIDGE REGION

(Thick regolith over fractured crystalline and metamorphosed sedimentary rocks)

The Piedmont and Blue Ridge region is an area of about 247,000 km2 extending from Alabama on the south to Pennsylvania on the north. The Piedmont part of the region consists of low, rounded hills and long, rolling, northeast-southwest trending ridges whose summits range from about a hundred meters above sea level along its eastern boundary with the Coastal Plain to 500 to 600 m along its boundary with the Blue Ridge area to the west. The Blue Ridge is mountainous and includes the highest peaks east of the Mississippi. The mountains, some of which reach altitudes of more than 2,000 m, have smooth-rounded outlines and are bordered by well-graded streams flowing in relatively narrow valleys.

The Piedmont and Blue Ridge region is underlain by bedrock of Precambrian and Paleozoic age consisting of igneous and metamorphosed igneous and sedimentary rocks. These include granite, gneiss, schist, quartzite, slate, marble, and phyllite. The land surface in the Piedmont and Blue Ridge is underlain by clay-rich, unconsolidated material derived from in situ weathering of the underlying bedrock. This material, which averages about 10 to 20 m in thickness and may be as much as 100 m thick on some ridges, is referred to as saprolite. In many valleys, especially those of larger streams, flood plains are underlain by thin, moderately well-sorted alluvium deposited by the streams. When the distinction between saprolite and alluvium is not important, the term regolith is used to refer to the layer of unconsolidated deposits.

The regolith contains water in pore spaces between rock particles. The bedrock, on the other hand, does not have any significant intergranular porosity. It contains water, instead, in sheetlike openings formed along fractures (that is, breaks in the otherwise "solid" rock). The hydraulic conductivities of the regolith and the bedrock are similar and range from about 0.001 to 1 m day^{-1}. The major difference in their water-bearing characteristics is their porosities, that of regolith being about 20 to 30 percent and that of the bedrock about 0.01 to 2 percent. Small supplies of water adequate for domestic needs can be obtained from the regolith through large-diameter bored or dug wells. However, most wells, especially those where moderate supplies of water are needed, are relatively small in diameter and are cased through the regolith and finished with open holes in the bedrock. Although, as noted, the hydraulic conductivity of the bedrock is similar to that of the regolith, bedrock wells generally have much larger yields than regolith wells because, being deeper, they have a much larger availble drawdown.

Ref. 3

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

REFERENCE NO. 14

GEOLOGIC MAP OF THE CRYSTALLINE ROCKS OF SOUTH CAROLINA

By
W. C. Overstreet and Henry Bell III

MISCELLANEOUS GEOLOGIC INVESTIGATIONS
MAP I-413

PUBLISHED BY THE U. S. GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242
1965

MAP I-413

MISSISSIPPIAN

CARBONIFER

Arrangement of belts does not i

Inner Piedmont belt

Gaffney Marble

Bluish-gray to white, fine- to medium-grained, banded to schistose, phlogopite- and hornblende-bearing marble

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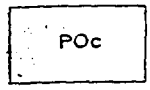
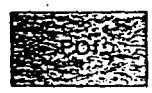


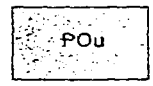
Coarse-grained granite

Light gray to gray, coarse-grained, massive to weakly foliated and locally porphyritic biotite granite and biotite-quartz monzonite; in southwestern York County, along the boundary between Union County and Spartanburg County, and in northwestern Greenwood County near Mulberry Creek possibly equivalent to Yorkville Quartz Monzonite; coarse-grained gneissic granite at border between Anderson and Abbeville Counties possibly equivalent to Toluca Quartz Monzonite



Fine-grained granite

Light-gray, fine-grained biotite-muscovite granite; marginal facies of coarse-grained granite, POc, in northwestern Greenwood County near Mulberry Creek; possibly equivalent to Yorkville Quartz Monzonite



Granite, undivided

Gray to dark gray, medium-grained, massive to gneissic biotite granite and biotite-quartz monzonite; grades in composition and texture to biotite granodiorite gneiss in Oconee, Anderson, and northwestern Abbeville Counties; may be Cambrian in age east of Iva in Anderson and Abbeville Counties

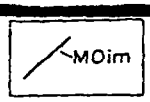
ORDOVICIAN TO DEVONIAN

Biotite granite gneiss

Light gray, medium-grained biotite granite gneiss

Henderson Gneiss

Gray, medium- to coarse-grained, porphyritic muscovite-biotite gneiss; locally equigranular and massive



Marble

White to gray, fine- to medium-grained marble; contains phlogopite, tremolite, scapolite; in part polymetamorphic

Quartzite

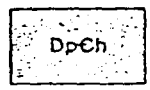
Gray to dark-gray, or white, fine-grained quartzite, biotite quartzite, and muscovite quartzite; occurs as small, thin, lenticular or tabular masses; in Spartanburg County may include large quartz veins, float from swarms of quartz veins, or float from quartz core zones of muscovite pegmatite dikes, PMp

UPPER PRECAMBRIAN TO MISSISSIPPIAN

Biotite schist

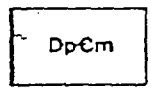
Gray to black, fine- to coarse-grained, scaly biotite-oligoclase schist and biotite-muscovite-oligoclase schist, with thin layers of biotite gneiss, granitoid gneiss, quartz schist, quartzite, marble, calc-silicate rocks, and hornblende schist; garnet and sillimanite common; many veins and small lenticular bodies of gneissic pegmatite of quartz monzonitic composition; contorted

UPPER PRECAMBRIAN TO DEVONIAN



Hornblende gneiss

Black, dark gray, or dark green, fine- to coarse-grained hornblende gneiss, hornblende schist, amphibolite, and biotite-hornblende-oligoclase gneiss; dark gray to black, medium- to coarse-grained, metamorphosed diorite, gabbro, and pyroxenite; rare small lenses of soapstone and serpentine; thin, discontinuous layers of marble and calc-silicate rock; some interlayered biotite schist, biotite gneiss, and granite gneiss



Biotite gneiss and migmatite

Light to dark gray, fine- to medium-grained, layered, granular, garnetiferous biotite-sillimanite-oligoclase gneiss and biotite-oligoclase-quartz gneiss; many strongly banded granitoid layers; veins and segregations of gneissic pegmatite; thin layers of biotite-sillimanite schist common; less common thin layers of hornblende gneiss, biotite-hornblende-oligoclase gneiss, and calc-silicate rock; rare thin layers of quartzite and marble; folded and contorted; upper subfacies of the amphibolite facies migmatite

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—1975—G 64008

This map was reproduced by electronic color scanning of an earlier printing (1965). For sale by U.S. Geological Survey, Reston, Va. 22092, pri

CAMBRIAN

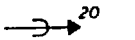
PRECAMBRIAN

Contact
Dotted where inferred

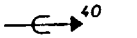
Shear zone

Anticline
Shows trace of axial plane approximately located

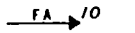
Syncline
Shows trace of axial plane approximately located



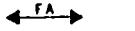
Bearing and plunge of minor anticline



Bearing and plunge of minor syncline



Bearing and plunge of fold axes in tightly folded rocks



Bearing of horizontal fold axes in tightly folded rocks

Strike and dip of beds

Strike and direction of dip of beds
Angle of dip not given in source

Strike of vertical beds

Strike and dip of beds in an inclusion in igneous rock

Strike and dip of foliation

Strike and direction of dip of foliation
Angle of dip not given in source

Strike of vertical foliation

Horizontal foliation

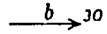
Strike and dip of foliation in inclusion of schist in igneous rock

Strike and dip of fracture clearage
Little or no mineral recrystallization in plane of cleavage

Strike of vertical fracture cleavage

Strike and dip of primary flow banding in igneous rocks

Strike of vertical flow banding in igneous rocks



Bearing and plunge of lineation
Variety of linear feature shown by letter: b, oriented clusters of biotite; c, crinkles on bedding, foliation, or cleavage; f, oriented feldspar phenocrysts; g, grooves or striations on foliation; i, oriented trains of inclusions in igneous rocks; ic, axes of chevron folds in inclusions in igneous rocks; ms, oriented flakes of muscovite; p, pencil structure; q, blades of quartz; s, oriented sheaves of sericite; x, intersection of bedding and cleavage; no letter, variety of lineation not described in source

GEOLOGIC MAP
OF
ROCKS OF SOUTH CAROLINA

By

n C. Overstreet and Henry Bell, III

SCALE 1:250 000

5 10 15 20 25 MILES

5 10 15 20 25 KILOMETERS

CONTOUR INTERVALS 25, 50 AND 100 FEET
DATUM IS MEAN SEA LEVEL

POLK CO
SPARTANBURG CO
TRANSYLVANIA CO
PICKENS CO
NORTH CAROLINA
83°
JACKSON CO
35°
SUMTER NATIONAL FOREST
GREENVILLE
DOgg
DOhg
DpCh
DpCm
MpCs
MOim
PMp
POu
Qal

REFERENCE NO. 15

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Volume O-2

Hydrogeology

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1988

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Chapter 24

Region 21, Piedmont and Blue Ridge

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INTRODUCTION AND GEOGRAPHIC SETTING

The Piedmont and Blue Ridge Region (Fig. 3; Table 2, Heath, this volume) is considered as a collective unit for hydrogeologic purposes, although some distinctions in topography and character of the rocks lead to separate descriptions in some cases. The region is bordered on the east and south by the Atlantic and Gulf Coastal Plain and on the west and north by the Appalachian Highlands region (Ridge and Valley and Appalachian Plateaus provinces). The region extends from New Jersey and southeastern Pennsylvania to eastern Alabama and includes large parts of Maryland, Virginia, North Carolina, South Carolina, and Georgia, as well as a small part of Tennessee. Igneous and metamorphic rocks, commonly having a mantle of residual soil, characterize the bedrock of the region. Several grabens filled with Triassic sedimentary rocks occur in the Piedmont (Fig. 1).

The many cities and towns of the region are closely interspersed; most of the rural areas are moderately populated. The distribution of population gives rise to the need for widespread ground-water supplies. Various engineering works and human actions change to some extent the hydrogeologic regime.

Precipitation reaches almost 200 cm a year in a small area of the southern Blue Ridge, but the average over the region is slightly more than 115 cm. The precipitation, chiefly in the form of rain, is fairly evenly distributed throughout the year.

The topography of the Piedmont Province is characterized by low, rounded hills and gentle slopes, but to the west the slopes of the Blue Ridge are steeper. On some mountain slopes bare rock is exposed, on others the soil zone is thin, and on others there is moderately thick soil and a thick vegetation cover. In the Piedmont, a heavy layer of residual soil and its veneer of vegetation cap the bedrock in most places. Drainage is facilitated by a close network of perennial streams (Fig. 2).

Several key factors prevent the Piedmont and Blue Ridge region from being considered in the same way as other groundwater regions. The more conventional type of sedimentary aquifer (which is composed of a nearly flat-lying blanket formation, has a distinct base, and is composed of only one medium of material) is not present in the Piedmont and Blue Ridge. Semblances of stratigraphic units are not widespread, and the term "hydrostratigraphic unit" could be only awkwardly applied. Nevertheless, ground water does occur and circulate. Thus, the study of ground-water occurrence in the region should not be patterned after that of other regions but should be treated singularly.

In this discussion, optimal use will be made of many generalizations, leading to a high level of knowledge about the region. These generalizations can then be melded and interwoven with key observations or data at specific sites to provide even greater knowledge about the subsurface hydrology at a particular setting or site. The generalizations are based on specific studies of local regions over many years by the author and colleagues.

The processes operating, and principles derived, are not fully documented in this text due to space limitations. Fortunately, Trainer (this volume) treats clearly some of the relations of factors discussed in this chapter. Other key references drawn upon for this chapter are Meyer and Beall (1958), Stewart (1962), Davis and Turk (1964), Hack (1966), LeGrand (1967, 1979), Poth (1968), Nutter and Otton (1969), Cressler and others (1983), Daniel and Sharpless (1983), and Heath (1984).

GEOLOGIC SETTING

The igneous and metamorphic rocks of the Piedmont and Blue Ridge are more amply and specifically discussed in Hatcher and others (1988). The rocks have been studied and described locally throughout much of the region, but the local ranges in types of rock prevent description at a useful scale for the purpose of this discussion.

Gneisses and schists compose much of the Proterozoic core of the region. Granites of various ages, extending into late Paleozoic, are widespread, and mafic intrusives are also common. Altered volcanic rocks are interspersed with other rocks in certain belts. Two northeast-trending belts of metamorphosed sedimentary rocks are noteworthy. One of these, the Ocoee Series in the Blue Ridge, contains nonvolcanic clastic sedimentary rocks as much as 800 m thick (Fairbridge, 1975). The other, known as the Carolina Slate Belt, occurs in the Piedmont and contains a mixture of clastic sediments and altered volcanic rocks. Tectonic

LeGrand, H. E., 1988, Region 21, Piedmont and Blue Ridge, *in* Back, W., Rosenshein, J. S., and Seaber, P. R., eds., Hydrogeology: Boulder, Colorado, Geological Society of America, The Geology of North America, v. O-2.

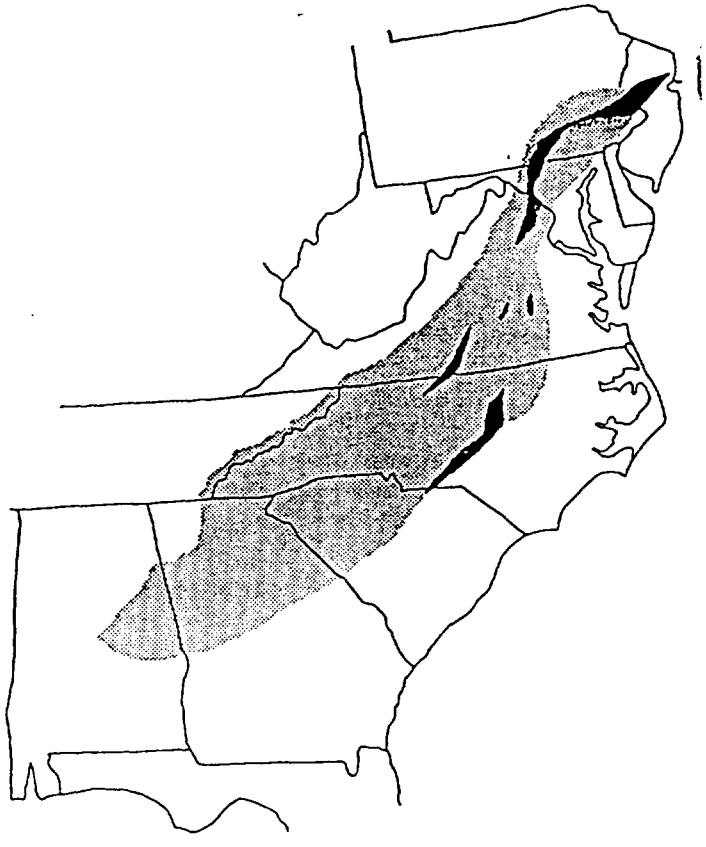

Figure 1. Map of the Piedmont and Blue Ridge region showing igneous and metamorphic rocks (stippled) and Triassic sedimentary rocks (darkened).

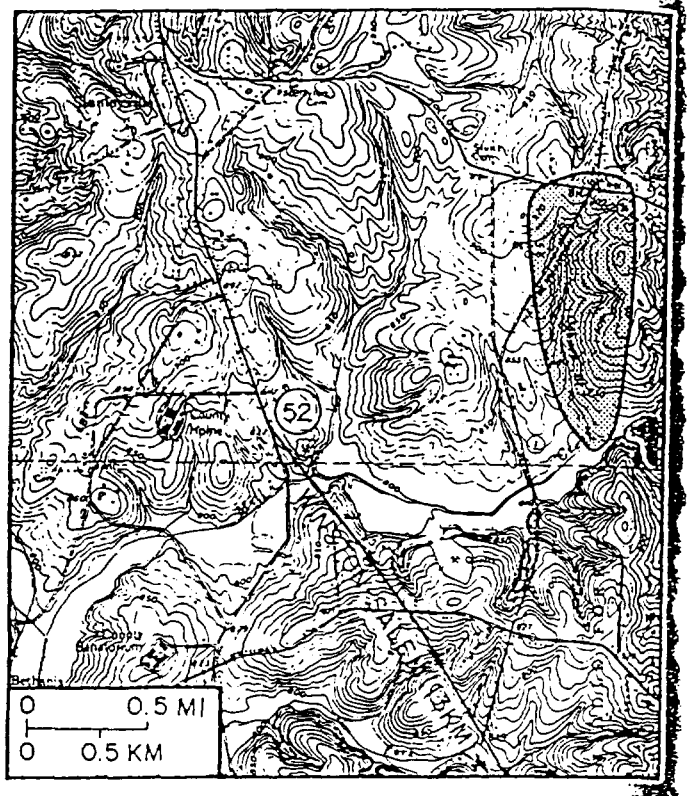

Figure 2. A part of the Rural Hall topographic map in North Carolina. The small Ogburn Branch drainage basin represents a typical ground-water unit, to which other small drainage basins or units and their integral parts can be compared (LeGrand, 1979).

actions, including deformation and igneous intrusions, have placed rocks of different types and age in close juxtaposition. The arrangement of rocks is that of thin bed-by-bed alternation in some places, of crosscutting rocks in other places, and of large distinctive rock masses in other places. Steeply dipping beds and foliation are more the rule than the exception.

Strips and patches of nonmarine sedimentary rocks of Triassic age extend through the Piedmont, as shown in Figure 1. They lie unconformably on the metamorphic and plutonic rocks. They were deposited in fault depressions after the main deformation in the Piedmont and Blue Ridge region. They are composed chiefly of arkose, conglomerate, and shale; these rocks are intruded by diabase dikes and sills, and these intrusives tend to extend into the neighboring igneous and metamorphic rocks.

A characteristic feature of the region is the prevailing mantle of residual soil and saprolite that covers the bedrock in most places (see Fig. 3). This mantle of weathered bedrock is composed chiefly of sandy clay, although fragments of solid rock are common near the bedrock surface. The thickness of this mantle frequently ranges from about 2 m to 20 m, though it is absent in many places and thicker than 20 m in others. The mantle represents, in a sense, a special geologic unit that crosses various types of rock. The mantle is a true hydrogeologic unit that has an important impact on the ground-water conditions.

THE HYDROGEOLOGIC SYSTEM

Two key factors prevent the Piedmont and Blue Ridge region from being considered similarly to other ground-water regions. First, there are no flat-lying or blanket-type formations that have characteristics of conventional sedimentary aquifers. In much of the region the metamorphic rocks are tilted and intercalated with granite or other igneous intrusions. Rocks of different types tend to have erratic outcrop distributions. Second, fracture-type permeability characterizes the rocks, and there is only a moderate range in degree of fracturing, according to the type of rock. The conventional approach of placing emphasis on the relation of ground water to a particular formation or type of rock generally has only moderate to low merit in regard to the Piedmont and Blue Ridge.

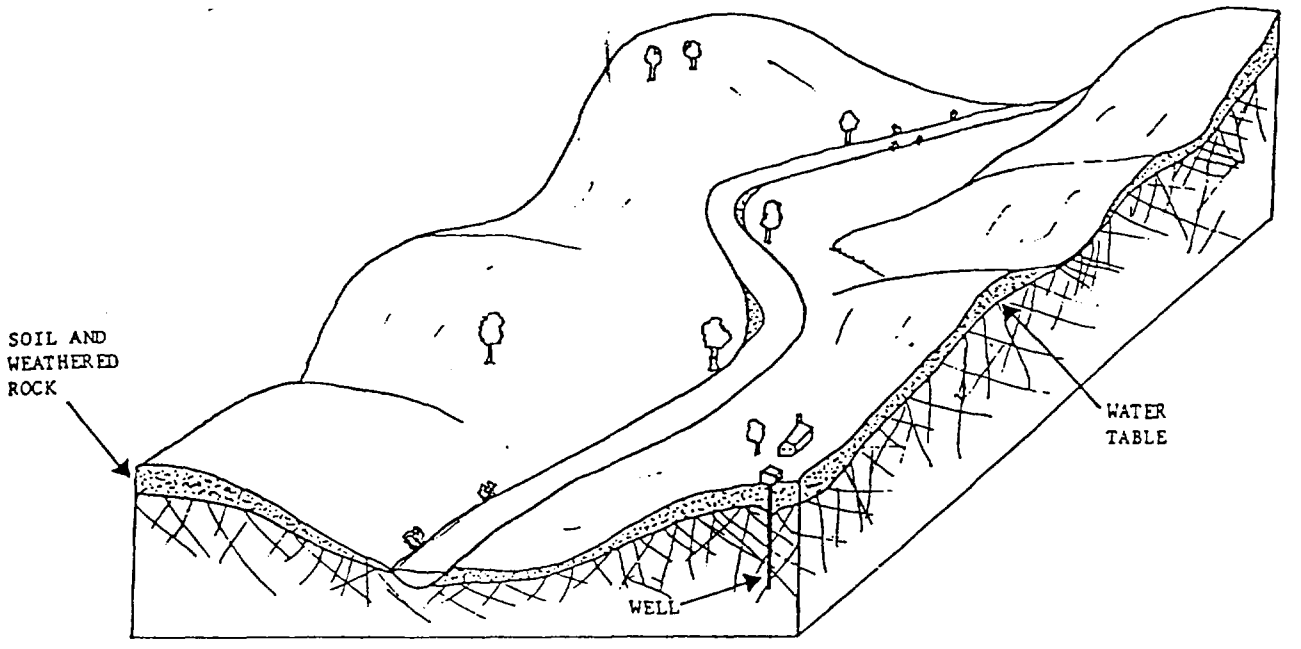

Figure 3. Subsurface cross section of a typical Piedmont and Blue Ridge terrain.

The mantle of residual soil and soft weathered rock that vers the underlying fractured bedrock in most places provides intergranular medium through which recharge and discharge water from the fractured rocks commonly occur. Thus, a composite two-media system characterizes the ground-water flow. neous and metamorphic rocks and consolidated sedimentary posits of the region tend to be fractured to some extent where y occur no deeper than several hundred meters below the land face (see Fig. 3). These fractures are the chief avenues for ter movement.

The distribution and character of fractures can be viewed in eral ways, according to (a) texture of permeability, (b) changes h depth, and (c) degree of enlargement by solution. As regards ture of permeability, the fractures may be evenly and closely ced, unevenly and sparsely distributed, or unevenly spaced elongated. As regards fracture distribution with depth, some tures extend to considerable depth, but most show a decrease ize and number with increasing depth. Regarding enlargement fractures by solution, rocks of low solubility—such as shales, es, and granites—have fractures that are not enlarged by solu-, whereas some mafic rocks near land surface and within the d ground-water circulation part of the system may have en-ed openings that resulted from solution along fractures (Le nd, 1958).

In the region the fractured rocks are (1) exposed at the land ace, (2) covered by a layer of residual soil and decomposed , or (3) covered by alluvium in some valleys. Where moder-y thick, the covering layer of unconsolidated materials may constitute an aquifer. Even where the unconsolidated materials are thin, they represent the upper part of the ground-water hydrologic system. Such a system is complex because water that enters as recharge or leaves as discharge passes through porous granular materials either after or before circulating through particular fractures in the rock.

A surface drainage basin that contains a perennial stream represents an entity that is useful for descriptions of ground-water conditions. Each basin in a general way is a unit that is isolated from, yet similar to, the adjacent basins. More specifically, some ground-water conditions are essentially repetitive from basin to basin. The small drainage basin occupied by Ogburn Branch in Figure 2 represents a ground-water entity. The generalizations in this paper apply almost equally to the Ogburn Branch drainage basin and to all other small drainage basins underlain by igneous and metamorphic rocks of the region. There are, of course, ranges of conditions noted within the generalizations that prevent ground-water conditions from being identical in all such basins.

CHEMICAL CHARACTER OF GROUND WATER

The igneous and metamorphic rocks vary considerably in chemical composition and, consequently, in solubility. Some major rock groups of the region yield ground water having distinctive chemical character; enough contrast generally exists for chemical analyses of ground water to be an aid in geologic mapping where outcrops are scarce.

In their chemical character and that of the water derived

from them, the rocks can be divided into two groups (LeGrand, 1958, p. 178). The first includes granite, granite gneiss, mica schist, slate, and rhyolite flows and tuffs; these rocks resemble granite in composition. The second group includes diorite, gabbro, hornblende gneiss, and andesite flows and tuffs; these rocks resemble diorite in composition. The granite group yields a soft, slightly acidic water that is low in dissolved mineral constituents; the diorite group yields a hard, slightly alkaline water that is relatively high in dissolved material.

In contrast to the "granite group" of rocks, which commonly yield water having less than 100 mg/l of total solids, the "diorite group" commonly yields water having more than 200 mg/l of total solids. The water in the diorite group of rocks resembles limestone water; it is characterized as a calcium bicarbonate water. Anomalies in dissolved mineral constituents that are not due to differences in rock type may indicate either abnormal structural conditions, resulting in abnormally slow rates of circulation of water, or the presence of concentrated mineral deposits.

Most of the water in the Triassic sedimentary rocks is moderately low in total dissolved solids, similar to that in the igneous and metamorphic rocks. However, in some places, especially at depths greater than 100 meters, the water may be slightly mineralized or brackish, suggesting that it is old residual water that is not in the present circulation system.

Radioactivity of ground water in the region has not been fully explored. Some rocks of granite composition contain more uranium than other crystalline rocks; well water from granites tends to contain more radon and radium than water from other rocks. The radon and radium in well water from granites occur in concentrations greater than would be expected from the moderately low uranium content of the host rock. Therefore, there are indications that radium and radon can be accreted and concentrated around pumped wells, as ground water and subsurface air are agitated. At any rate, the radium and radon concentrations in some well waters greatly exceed the recommended levels. Studies thus far have not fully explored this potential problem.

DEVELOPMENT OF THE HYDROGEOLOGIC SYSTEM

In contrast to the intrinsic and syngenetic permeability of unconsolidated sedimentary materials, the permeability of both the (1) soil and saprolite zone and (2) the fractured bedrock zone below are epigenetic. These zones make up the composite ground-water system. In relatively recent geologic time, changes in degrees of balance between the overall processes of weathering and erosion have resulted in the development of the soil and saprolite zone as we know it today. In the relatively recent geologic past, sets of systematic tension joints have developed or enlarged to provide the fractured-rock ground-water system.

The general processes of weathering, involving disintegration and decomposition of silicate minerals, are well known. It is sufficient here to point out that a certain combination of air and water penetrating the rock is needed to develop a thick soil and saprolite zone. Relatively high permeability, in the form of pervasive fractures, can lead to full penetration of air and water. The soil and saprolite zone does not develop readily where bare rock crops out or where the water table is shallow. Pronounced weathering does not commonly extend below the low seasonal stage of the water table.

Prior to the latest erosional history of an area, most of the present fractures were only hairline cracks at considerable depth. As the erosional history becomes more recent, the incipient fractures tend to be enlarged by solution or by other forces as erosion at the land surface removes overlying material. As overlying material is progressively removed by erosion, the rocks that were once deeply buried become close to the land surface and, in the process, develop tension fractures, and become part of the ground-water circulation system. Near the land surface the fractures tend to be larger or more pronounced than at deeper levels.

The continual erosion through geologic time causes a concomitant lowering of stream valleys, of interstream areas, and of the water table. Thus, fractures that at slightly earlier geologic time were below the water table ultimately are above the water table; as erosion progresses, rocks containing these fractures are destroyed by erosion, and these destroyed fractured rocks are replaced in relative space by fractured rocks that appear to have "risen with respect to the land surface" and are now above or slightly below the water table. The lowerings (1) of a stream valley, (2) of its nearby interstream area, and (3) of the water table are not necessarily in unison and are not at a steady and uniform rate. These imbalances from place to place lead to a range of topographic features, to a range in thickness of soil cover, and to a range in water-table gradients. Thus, the imbalances in erosion lead to a variety of geologic and hydrologic settings that are continually and dynamically changing.

INFERENCES FROM HYDROGEOLOGIC FEATURES

Introduction

The prevailing mantle of soil and vegetation prevents ready observations of the host rocks and their characteristics at specific places. The uncertainties of subsurface conditions at specific places in the region have led to a preponderance of test drilling and data-collecting programs.

Before massive data-collecting programs get under way, it is wise to review all pertinent principles. An overview of existing information should be made and the geologic and hydrologic history should be conceptually reconstructed. The stage of development in each segment of the study area should be interpreted so that approximations of the distribution of permeability can be made.

The locally sporadic changes in rock fractures and in soil and saprolite thickness do not allow for simple arithmetic interpolations. The uneven distribution of permeability and some unpatterned fracture openings can best be considered in the context

of the principle of indeterminacy. The averages of certain features are determinate, but each specific case may be indeterminate. An individual case may be considered only in a statistical sense (Leopold and Langbein, 1963). There are too many unknowns in the range of combination of values of the interdependent variables to predict precisely certain features of hydrology in a setting. For example, the existence of a fracture at a certain place and depth is indeterminate prior to drilling.

The best way out of the dilemma of indeterminacy is to learn more about the processes operating in a variety of settings so that we can reduce the range of uncertainties. Some of the uncertainties of characterizing fracture patterns are being removed by the studies of LeGrand (1967), Daniel and Sharpless (1983), and Trainer (this volume). Fortunately, we can reach a high level of knowledge if we use existing data and make full use of inferences. Thus, it may be foolhardy and unduly expensive to demand precision in cases where indeterminacy is involved, especially if best inferences are likely to be successful. Reducing the range of uncertainties for the needed answers should be a major objective.

Following are certain features of the hydrology of the region that allow useful inferences.

Soil and saprolite thickness. If general observations in a local area show no signs of rock outcrops, it can be assumed that the soil and saprolite zone should be moderately thick. A thick soil and saprolite zone suggests that the underlying rock is fractured; a thin soil and saprolite zone suggests less than normal fracturing and, therefore, lower than normal permeability. A thick soil and saprolite zone also suggests that the water table is relatively deep.

Type of rocks. In most places the schists and gneisses contain more fractures and have thicker soils and saprolite than do the massive igneous rocks, such as granite or gabbro. Light-colored soils are characteristic of underlying granite and rocks that are chiefly silicates of potassium and aluminum; red and brown soils characterize areas underlain by gabbro, diorite, and other rocks high in calcium and in ferromagnesian minerals.

The gabbro, diorite, and associated rocks commonly yield water higher in total dissolved solids (chiefly calcium bicarbonate) than do granite and associated acidic rocks. Dissolution of the gabbro-type rocks, chiefly along the top of bedrock, commonly gives these rocks a lower topographic setting than adjacent granite-type rocks. Although no typical karst conditions occur, some basic rocks, chiefly hornblende gneiss, have fractures that have been enlarged by dissolution.

Topographic expressions. In addition to being surface-water divides, *ridges and hilltops* tend to be water-table divides. The majority of ridges and hilltops are composed of rocks that were poorly fractured at the immediate past stage of weathering and erosion; some fracturing may have since developed. Thin soil zones are not uncommon on ridges and hilltops. On the other hand, many *broad upland areas* are composed of fractured rocks and, thus, are likely to have a thick soil and saprolite zone. *Upland slopes,* like the ridges and hilltops, are recharge areas and also are the central transmission parts of the water-table system. *Draws,* or *upland topographic sags,* are normally underlain by permeable fracture zones. Alignment of some draws and surface drainage systems, as depicted on topographic maps and air photos, suggest an alignment of some fractures. However, much of the drainage is dendritic and not related to rock structures.

Rivers and creeks are bordered commonly by *flood plains,* but in areal distribution they swell and pinch out sporadically along extensive stretches of each stream. A common vertical section of a flood plain is represented by a meter or more of clay, below which may be several meters of unsorted sandy, clay, and gravel. The base of these alluvial deposits rarely extends more than a meter or two below the base of the stream. The deposits are not normally productive aquifers.

The flood plain and its associated stream represent the discharge area for ground water that is recharged on the adjacent upland slopes. The discharge is through evapotranspiration on the flood plain and by diffused seepage from deposits into the stream.

Almost all perennial streams are in contact with bedrock in parts of their courses. Where not in contact with bedrock, the streams are underlain commonly by no more than 2 m of sand and gravel.

The water table. The water table is a somewhat subdued replica of the land surface topography. It lies deeper beneath uplands (commonly 6 to 15 m) than beneath valleys (commonly 1 to 4 m). The water table commonly lies close to the top of bedrock, more often than not lying in the saprolite. Below upland areas the water table is commonly 2 to 6 m higher in the wet spring season than in the dry fall season; the seasonal fluctuation in the lowland areas commonly ranges between 1 and 2 m.

The ground-water system. A complex two-media ground-water system prevails; the system includes the soil and saprolite medium and the fractured bedrock. The fractured bedrock generally grades downward into unfractured rock below a depth of about 100 m. Thus, the base of the ground-water system is indistinct (Fig. 4). The region contains countless separate small ground-water systems; these small systems are in a sense ground-water basins, almost congruent with small surface water drainage systems in each of which a perennial stream occurs. The small Ogburn Branch surface water basin, shown in Figure 3, is typical. Each ground-water basin is somewhat disjoined from an adjacent one at ridges or hilltops because the major surface drainage divides also tend to be water-table divides. The prevailing flow of ground water from beneath the upland area to the perennial stream allows one to make useful synthetic water-table maps prior to collection of specific data.

EVALUATION APPROACH

Recognizing that there are many aspects of terrain evaluation, the approach is to consider the evaluation of a setting in the region in two stages. In the first stage, one applies to a particular setting an approximate generalization that may be considered as normal; such a statement of normality may be considered as

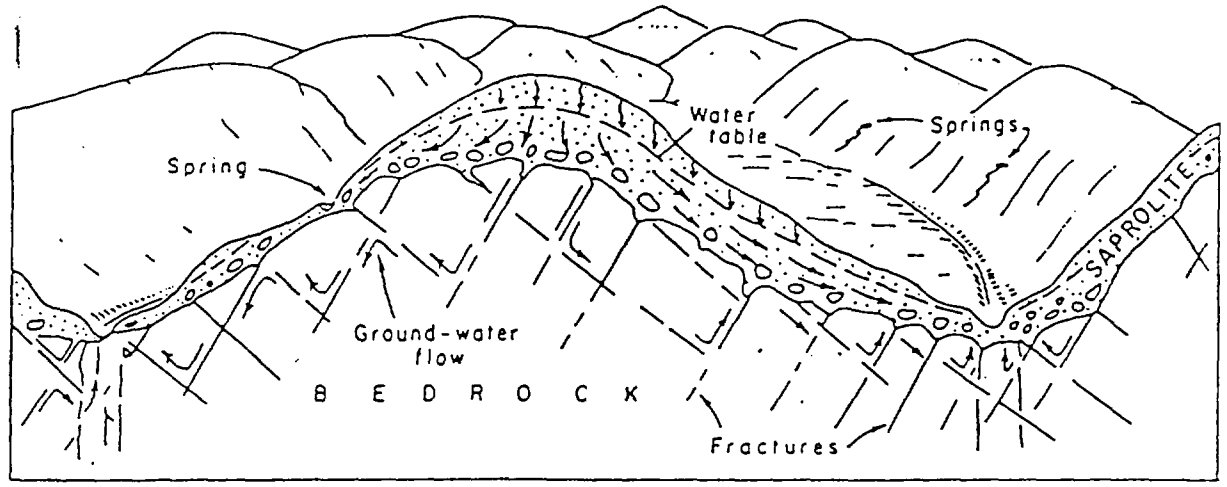

Figure 4. Typical subsurface cross section in the Piedmont and Blue Ridge region. Most of the fractures are confined to the upper portion of the bedrock zone. The distance from the land surface to the top of the bedrock commonly ranges from 6 to 23 m in this region (from Heath, 1980).

always true except where certain special conditions prevail (Kitts, 1963). In the second stage, a refinement is made in a particular statement of normality at a certain site by applying "key tendency" statements that are based on inferences of interrelated factors derived at the site from observation, discernment, and readily available data. The evaluation using the two stages gives a high level of knowledge that could otherwise be obtained only through massive data collection and interpretation. Some background generalizations that can lead to a specific terrain evaluation using the two-stage approach follow.

Several important inferences can be drawn from the relation of the water table and the top of rock. On an upland area, a thicker than normal weathered zone indicates that oxygen and carbon dioxide from the atmosphere and soil zone have moved downward below the land surface more easily than is normal; there is a further suggestion that the permeability is greater than normal (more fractured bedrock) and that a deeper and more arcuate flow of ground water exists between the upland recharge area and the lowland discharge area.

As an example of this terrain evaluation approach, a person wishes to know the depth of the water table and the likelihood of a productive well at a site on a particular hilltop prior to subsurface data collection. It is noted that the normal range of water-table depth on hilltops is between 6 and 15 m. The person observes evidence of some wet weather seeps and moderately hard weathered rock exposures in two places on intermediate slopes of the hill. One then uses the stated tendency that "upland seeps and rock outcrops suggest a shallow water table and poorly fractured rocks." One then infers that the depth to the water table is relatively shallow and close to the low end of the normal range. He also infers that the rocks are poorly fractured at the site and that the chance of a large-production well is not great. The person rightfully ignores data on the two nearest wells—one well 300 m away on a lower slope and the other on a hilltop 700 m away. A warning should be made that a simple interpolation between data points more than a few meters or tens of meters apart is not a reliable approach.

SUMMARY AND CONCLUSIONS

The gross ground-water system in the region is not represented by a semblance of an extensive continuum, as is the case in most regions. Instead, the region is composed of countless relatively small ground-water units, each unit almost confined to each small surface drainage basin in which a perennial stream occurs. Thus, in a sense, any small ground-water unit may represent a model to which other units in the region may be compared.

Following are concise statements (LeGrand, 1967) that can form a basis for a conceptual model of the settings of the Piedmont and Blue Ridge Region (Fig. 1) of the southeastern U.S. underlain by igneous and metamorphic rocks.

1. The climate is temperate and humid; average annual rainfall is slightly more than 100 cm and is fairly evenly distributed throughout the year.

2. The region is underlain by igneous and metamorphic rocks; the rocks range in chemical composition between that of granite (mainly silica and silicates of aluminum and potassium) and that of gabbro (chiefly silicates of aluminum, iron, magnesium, and calcium).

3. A layer of saprolite lies on the fresh rock in most places; the thickness of the saprolite ranges from a feather edge to slightly more than 40 m.

4. Water occurs in two types of media: (a) clayey granular eathered material; and (b) underlying fractures and other linear penings in the bedrock.

5. A close network of streams prevails, and in a few places n an interstream area is a perennial stream more than 1 km way. A hill and dale topography occurs, commonly with gentle opes.

6. Toward each stream is a continuous flow of ground ater. Some of the outflowing ground water is consumed as vapotranspiration in valleys; the remainder discharges as small rings and as bank and channel seepage into the stream.

7. Since all the perennial streams receive ground water from djacent interstream areas, streams are the linear sinks in the ater table. This part of the water table is directly observable. he topography of the water table is similar to that of the land rface, but its relief is less. Thus, it is easy to construct synthetic ater-table maps and to predetermine the general direction of the tural movement of ground water.

8. The path of natural movement of ground water is rela-ely short and is almost invariably restricted to the zone under-ing the gross topographic slope extending from the surface vide to the stream.

9. From a point source of infiltration, water, or waste that ght be with it, extends as a fan or expansive trail down-gradient ward the stream; its dispersal depends on the kind and degree of rmeability, on the hydraulic gradient, and on the distance to the eam.

10. Almost all recharge and discharge are through porous nular material (clayey soil or flood-plain deposits), but much the intermediate flow between the recharge and discharge as is through bedrock openings.

11. The saturated zone is not simple to define. Its top undary is the water table, which lies in the clayey weathered terial more often than not, but which becomes discontinuous ere it lies in fractured bedrock. The lower boundary is irregu- and indistinct; it is represented by the base of the zone in ich interconnecting fractures exist. The saturated zone is ab- t where unfractured rocks crop out, but it is commonly 10 to m thick. Water-yielding capacity within the zone ranges ough several orders of magnitude; commonly it is less near the e of the saturated zone than near the top.

12. The water table is near land surface in valleys and as ch as 8 to 20 meters below land surface beneath hills. The ge of seasonal fluctuation of the water table is as little as 1 m valleys and as much as 4 m beneath hills.

13. Bedrock fractures tend to decrease in size and number n depth, and in most places there is an insignificant storage circulation of ground water below a depth of 125 m.

14. Many fractures are enlarged by the action of solution, cially in gneisses and schists containing silicates of calcium. ny of these enlarged fractures underlie "draws" or linear sags he surface topography. These draws, representing zones of tively high permeability in the bedrock, are sites for the best-ducing wells.

15. The yields of wells range from less than 0.07 L/s to as much as 15.0 L/s; the sustained yield of most wells is less than 6.7 but more than 0.3 L/s. The cone of pumping depression of a domestic well does not generally extend to the cone of another pumping well a few hundred meters away.

16. The yield of a well cannot be predetermined, but experience developed by using past records of yield from various topographic and rock conditions allows useful predictions based on degrees of probability.

17. The distinctive chemical types of ground water are present. The first includes soft, slightly acidic water low in dissolved mineral constituents; water of this type comes from light-colored rocks resembling granite in composition, and includes granite, granite gneiss, mica schist, slate, and rhyolite flows and tuffs. The second includes a hard, slightly alkaline water relatively high in dissolved solids; water of this type comes from dark rocks, such as diorite, gabbro, hornblende gneiss, and andesite flows and tuffs.

An understanding of the hydrologic system of fractured rocks of the region leads to conceptual models that are fundamental to evaluation. The major approach taken here emphasizes inferential hydrogeology and relies on conceptual models based on best use of principles and past knowledge with continual upgrading in inferences as new information becomes available (LeGrand, 1979).

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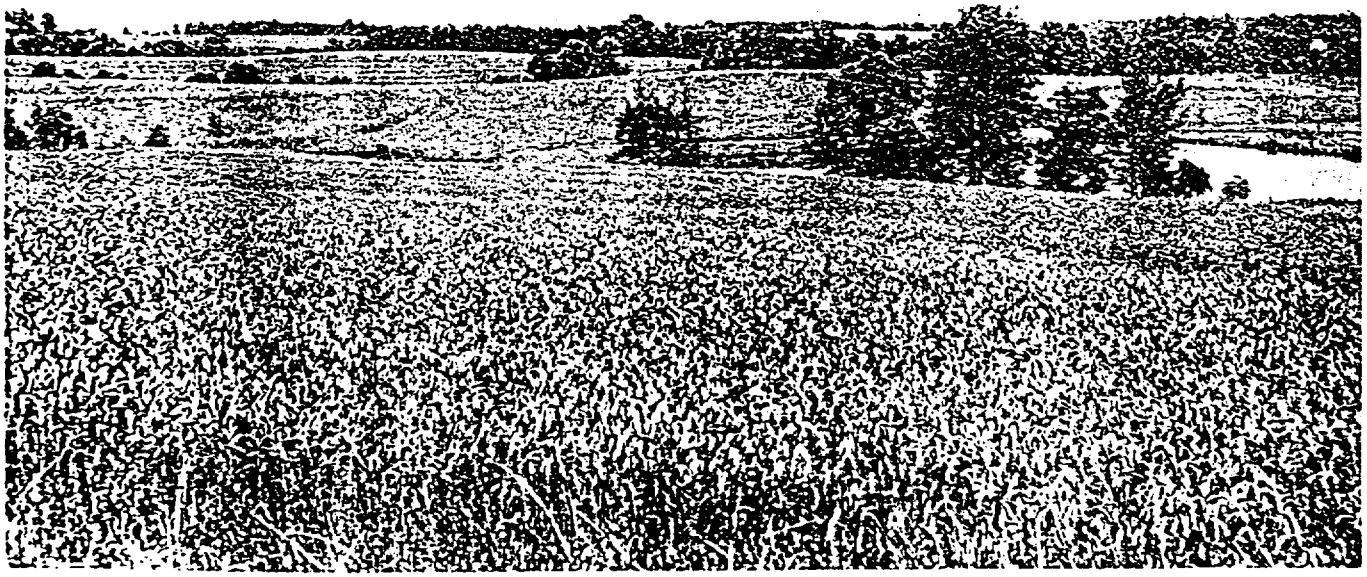
Series 1958, No. 25

Issued February 1963

Soil Survey

Oconee County

South Carolina



UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION

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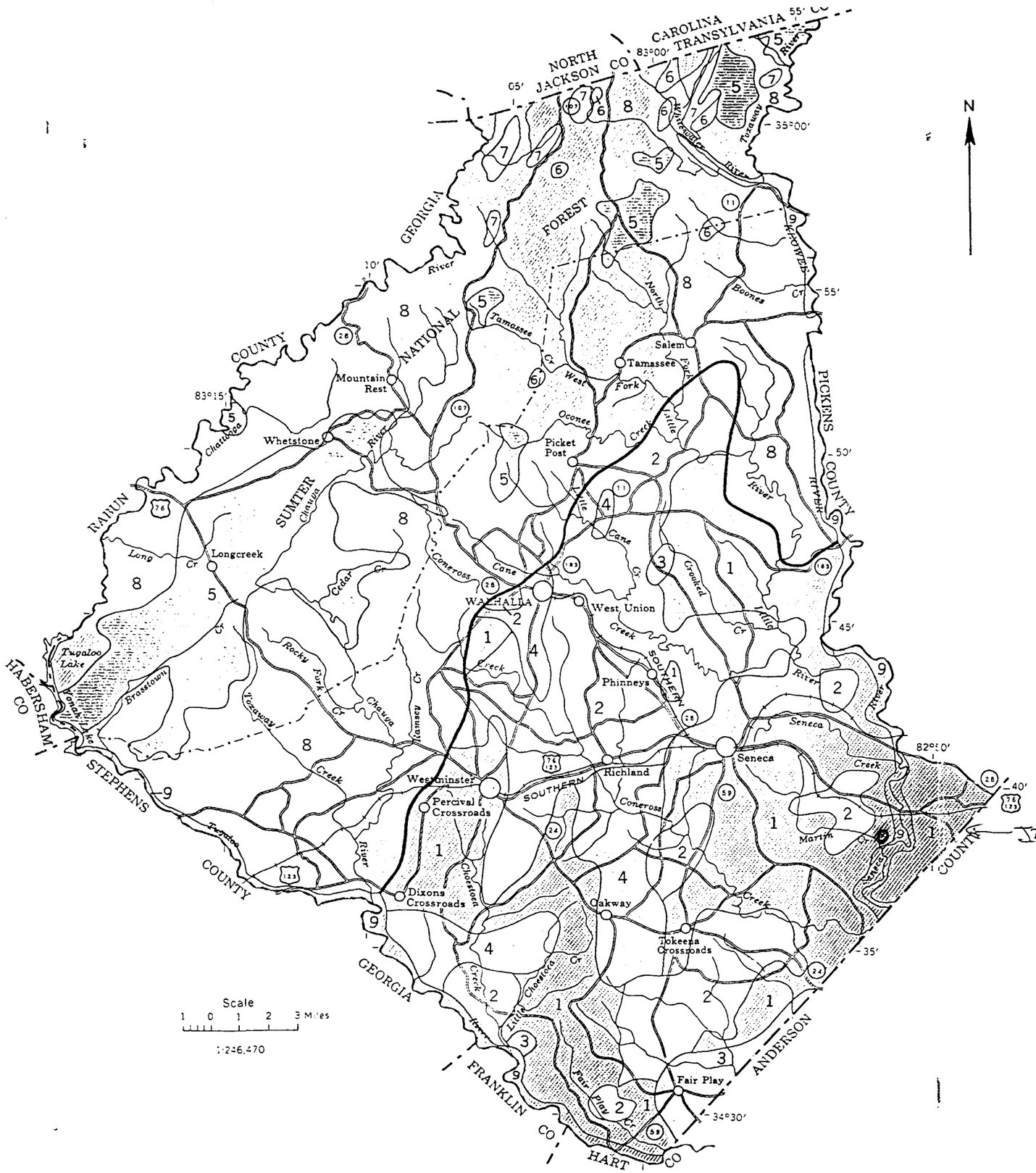

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION

GENERAL SOIL MAP
OCONEE COUNTY, SOUTH CAROLINA

SOIL ASSOCIATIONS

PIEDMONT SECTION

1 — Cecil association: Deep, well-drained, gently sloping to sloping soils that have red subsoil.

2 — Lloyd association: Deep, well-drained, gently sloping to sloping soils that have dark-red subsoil.

3 — Cecil-Appling association: Deep, well-drained, gently sloping to sloping soils that have red to yellowish-brown subsoil.

4 — Cecil-Lloyd association: Deep, well-drained, gently sloping to sloping soils that have red and dark-red subsoil.

MOUNTAINS AND FOOTHILLS

5 — Talladega-Madison (high phases) association: Excessively drained soils on narrow ridges and on steep to very steep, broken slopes; and well drained soils on broad ridgetops and more gentle slopes.

6 — Ashe-Hayesville-Cecil-Halewood association: Shallow to moderately deep, well drained to excessively drained soils in moderately steep to steep areas.

7 — Porters-Halewood association: Shallow to moderately deep, well-drained soils in very steep, rough, broken areas; yellowish-brown to dark-brown subsoil.

8 — Hayesville-Cecil-Halewood association: Moderately shallow to deep, well-drained soils in gently sloping to steep areas; red to yellowish-brown subsoil.

BOTTOM LANDS

9 — Congaree-Mixed alluvial land association: Well-drained soils on flood plains.

Feb. 1962

J.P. Stevens

Boundary between Piedmont section, and Mountains and Foothills

U.S. Department of Commerce, Proof Copy of table generated for 1990 CPH-1: Summary Population and Housing Characteristics, issued by Bureau of the Census (April 1991). [redacted]

Table 6. Household, Family, and Group Quarters Characteristics: 1990

REFERENCE NO. 17

[For definitions of terms and meanings of symbols, see text]

State / County / Place and [In Selected States] County Subdivision	Persons in households	All households	Family households			Nonfamily households				Persons per—		Persons in group quarters		
							Householder living alone							
								65 years and over						
			Total	Married-couple family	Female householder, no husband present	Total	Total	Total	Female	Household	Family	Total	Institutionalized persons	Other persons in group quarters
The State	3 370 180	1 258 044	928 206	710 089	178 204	329 838	281 347	109 012	86 912	2.68	3.16	116 543	44 134	72 408
COUNTY														
Abbeville County	23 216	8 780	6 560	5 003	1 248	2 220	2 070	1 093	871	2.64	3.14	646	209	437
Aiken County	119 250	44 883	33 450	26 436	5 614	11 433	10 113	3 814	2 964	2.66	3.13	1 690	1 272	418
Allendale County	10 646	3 791	2 720	1 581	976	1 071	986	472	343	2.81	3.43	1 076	1 044	32
Anderson County	143 558	55 461	41 495	33 272	6 474	13 966	12 579	5 865	4 721	2.59	3.04	1 638	931	707
Bamberg County	15 891	5 587	4 118	2 733	1 160	1 469	1 359	663	498	2.84	3.41	1 011	112	899
Barnwell County	18 996	7 100	5 369	3 636	1 274	1 731	1 586	713	536	2.82	3.31	297	236	61
Beaufort County	78 634	30 712	22 854	18 433	3 602	7 858	6 286	2 215	1 710	[illegible]	3.01	6 791	261	6 530
Berkeley County	127 656	42 386	34 083	28 025	4 619	8 303	6 657	1 785	1 364	3.01	3.36	1 120	837	183
Calhoun County	12 648	4 487	3 396	2 507	705	1 091	1 004	511	387	2.82	3.34	104	84	20
Charleston County	276 920	107 069	73 392	53 578	16 142	33 677	26 434	7 982	6 232	2.61	3.16	16 119	1 923	14 196
Cherokee County	44 008	16 458	12 353	9 386	2 343	4 103	3 757	1 708	1 388	2.67	3.15	497	241	256
Chester County	32 062	11 448	8 658	6 231	2 006	2 790	2 574	1 306	1 035	2.80	3.31	118	118	-
Chesterfield County	38 197	14 047	10 571	7 807	2 233	3 478	3 193	1 518	1 190	2.72	3.21	380	370	10
Clarendon County	28 212	9 544	7 414	5 121	1 896	2 130	1 964	1 008	740	2.96	3.45	238	217	21
Colleton County	34 095	12 040	9 220	6 803	1 934	2 820	2 583	1 248	956	2.83	3.31	282	220	62
Darlington County	60 797	21 900	16 684	11 939	3 908	5 315	4 855	2 158	1 758	2.78	3.24	1 054	829	225
Dillon County	28 618	9 887	7 423	4 936	2 090	2 464	2 264	1 052	848	2.81	3.47	295	224	71
Dorchester County	80 968	28 213	22 317	18 165	3 247	5 896	4 805	1 537	1 241	2.87	3.25	2 092	1 717	375
Edgefield County	18 107	6 424	4 904	3 702	922	1 520	1 406	644	510	2.82	3.31	268	165	103
Fairfield County	21 860	7 467	5 698	3 977	1 396	1 769	1 634	798	558	2.93	3.45	435	407	28
Florence County	111 645	40 217	30 175	21 839	6 947	10 042	8 773	3 495	2 850	2.78	3.27	2 699	1 662	1 037
Georgetown County	48 097	16 275	12 536	9 557	2 436	3 739	3 354	1 502	1 156	2.83	3.31	205	165	40
Greenville County	311 951	122 878	87 897	68 531	14 856	34 981	30 345	11 110	9 075	2.54	3.05	8 216	3 104	5 112
Greenwood County	57 837	22 730	16 300	12 386	3 188	6 430	5 745	2 557	2 094	2.55	3.06	1 630	686	944
Hampton County	18 125	6 322	4 766	3 420	1 117	1 556	1 438	721	566	2.87	3.41	66	64	2
Horry County	140 490	55 764	40 450	32 537	6 273	15 314	12 434	4 152	3 258	2.52	2.97	3 563	752	2 811
Jasper County	15 221	5 298	4 033	2 749	1 027	1 265	1 152	541	396	2.87	3.38	266	126	140
Kershaw County	43 190	15 810	12 214	9 660	2 029	3 596	3 221	1 393	1 101	2.73	3.17	409	384	25
Lancaster County	54 117	19 778	15 313	11 877	2 750	4 465	3 983	1 874	1 518	2.74	3.16	399	265	134
Laurens County	55 423	20 660	15 584	11 880	2 929	5 076	4 611	2 187	1 745	2.68	3.16	2 669	1 648	1 021
Lee County	18 284	6 054	4 683	3 073	1 361	1 371	1 277	610	470	3.02	3.53	153	132	21
Lexington County	166 222	61 633	47 274	38 822	6 807	14 359	11 622	3 599	2 920	2.70	3.10	1 389	1 198	191
McCormick County	7 501	2 731	2 054	1 481	471	677	620	315	230	2.75	3.25	1 367	1 361	6
Marion County	33 634	11 766	8 899	5 852	2 635	2 867	2 662	1 284	1 025	2.86	3.39	265	242	23
Marlboro County	28 677	10 163	7 513	4 810	2 145	2 650	2 441	1 156	898	2.82	3.38	684	590	94
Newberry County	32 406	12 314	9 005	6 706	1 848	3 309	3 066	1 604	1 291	2.63	3.15	766	288	478
Oconee County	57 050	22 358	16 875	13 891	2 235	5 483	4 922	2 093	1 664	2.55	2.98	444	406	38
Orangeburg County	81 133	28 909	21 565	14 679	5 576	7 344	6 565	2 920	2 268	2.81	3.33	3 670	818	2 854
Pickens County	86 388	33 422	24 159	20 278	2 932	9 263	7 198	2 882	2 371	2.58	3.02	7 506	672	6 834
Richland County	259 629	101 590	67 804	48 859	15 453	33 986	26 888	7 361	5 972	2.56	3.15	26 091	11 144	14 947
Saluda County	16 046	5 824	4 485	3 511	748	1 339	1 231	658	524	2.76	3.20	311	201	110
Spartanburg County	220 739	84 503	62 663	48 679	11 099	21 840	19 014	8 058	6 539	2.61	3.07	6 061	3 806	2 255
Sumter County	95 063	32 723	25 673	19 121	5 480	7 050	6 221	2 539	2 017	2.91	3.34	7 574	1 345	6 229
Union County	30 109	11 407	8 519	6 277	1 829	2 888	2 696	1 402	1 183	2.64	3.13	228	221	7
Williamsburg County	36 660	12 108	9 380	6 442	2 484	2 728	2 555	1 300	1 034	3.03	3.56	155	155	-
York County	127 896	47 006	35 908	28 381	6 962	11 098	9 204	3 602	2 921	2.72	3.14	3 602	1 180	2 422
PLACE AND COUNTY SUBDIVISION														
Abbeville city, Abbeville County	5 674	2 282	1 546	973	501	736	685	359	303	2.49	3.11	104	104	-
Aiken city, Aiken County	18 245	7 749	5 341	4 139	1 025	2 408	2 132	872	712	2.44	3.05	627	582	45
Allendale town, Allendale County	4 356	1 566	1 110	562	479	456	417	201	152	2.78	3.40	54	22	32
Anderson city, Anderson County	24 819	10 509	6 645	4 426	1 895	3 864	3 497	1 759	1 479	2.36	3.03	1 365	680	685
Andrews town	3 050	1 024	787	526	211	257	238	130	108	2.98	3.58	-	-	-
Georgetown County	3 038	1 019	784	523	211	255	236	129	108	2.98	3.58	-	-	-
Williamsburg County	12	5	3	3	-	2	2	1	-	2.40	3.33	-	-	-
Arcadia Lakes town, Richland County	899	360	275	251	22	85	70	27	19	2.50	2.87	-	-	-
Arial CDP, Pickens County	2 604	998	765	637	94	233	208	96	79	2.61	3.02	-	-	-
Atlantic Beach town, Horry County	446	189	119	50	62	70	60	15	9	2.36	2.98	-	-	-
Aynor town, Horry County	470	182	136	106	28	46	40	23	22	2.58	2.96	-	-	-
Bamberg town, Bamberg County	3 564	1 332	952	603	306	380	349	180	136	2.68	3.28	279	76	203
Barnwell city, Barnwell County	5 157	1 916	1 371	909	399	545	487	206	161	2.60	3.25	98	98	-
Batesburg town	4 058	1 470	1 103	699	349	367	331	183	152	2.76	3.21	24	-	24
Lexington County	3 673	1 354	999	648	303	355	320	176	147	2.71	3.19	24	-	24
Saluda County	385	116	104	51	46	12	11	7	5	3.32	3.44	-	-	-
Beaufort city, Beaufort County	9 367	3 807	2 624	1 885	622	1 183	1 032	423	353	2.46	3.00	209	207	2
Belton city, Anderson County	4 646	1 932	1 358	1 027	274	574	536	298	251	2.40	2.92	-	-	-
Belvedere CDP, Aiken County	6 123	2 245	1 754	1 438	258	491	428	144	112	2.73	3.14	10	-	10
Bennettsville city, Marlboro County	9 329	3 451	2 451	1 530	790	1 000	938	462	389	2.70	3.32	16	15	1
Berea CDP, Greenville County	13 283	5 382	3 982	3 098	641	1 400	1 242	384	329	2.47	2.91	252	252	-
Bethune town, Kershaw County	405	165	115	98	13	50	48	35	32	2.45	3.08	-	-	-
Bishopville town, Lee County	3 430	1 307	915	515	354	392	378	203	178	2.62	3.24	130	113	17
Blacksburg town, Cherokee County	1 907	770	526	347	145	244	233	122	110	2.48	3.07	-	-	-
Blackville town, Barnwell County	2 688	915	675	376	258	240	228	115	82	2.94	3.52	-	-	-
Blenheim town, Marlboro County	191	79	51	36	14	28	26	16	13	2.42	3.08	-	-	-
Bluffton town, Beaufort County	738	284	208	162	42	76	67	34	28	2.60	3.09	-	-	-
Blythewood town, Richland County	164	65	52	42	9	13	12	3	2	2.52	2.88	-	-	-
Boiling Springs CDP, Spartanburg County	3 522	1 301	1 068	923	118	233	205	76	58	2.71	3.02	-	-	-
Bonneau town, Berkeley County	374	132	102	85	14	30	28	10	9	2.83	3.24	-	-	-
Bowman town, Orangeburg County	1 060	346	262	163	84	84	76	42	37	3.06	3.58	-	-	-
Branchville town, Orangeburg County	1 107	427	291	195	86	136	128	68	57	2.59	3.30	3	3	-
Briarcliffe Acres town, Horry County	552	220	171	160	7	49	44	29	22	2.51	2.81	-	-	-
Brookdale CDP, Orangeburg County	5 378	1 868	1 386	604	612	482	421	160	120	2.85	3.38	-	-	-
Brunson town, Hampton County	587	220	153	113	27	67	60	35	26	2.67	3.30	21	21	-
Bucksport CDP, Horry County	1 022	297	239	143	84	58	53	21	18	3.44	3.87	-	-	-
Buffalo CDP, Union County	1 560	610	442	347	78	168	157	87	74	2.57	3.09	-	-	-

TPS8 [POSTSCRIPT] CPH143 CENSUS90 72582000 05/17/91 9:50 AM MACHINE: C DATA:CENSUS90*PH1TIPSDAT45. 05/17/91 09:13:40 OUTPUT:ONSITE-P2704 PAGE: 46
TSF:CENSUS90*92. 05/17/91 09:13:54 UTF:CENSUS90*93. 05/17/91 09:13:54 META:CENSUS90*PH1TABLE845. 05/17/91 09:18:24

NOTE: The population counts set forth herein are subject to possible correction for undercount or overcount. The United States Department of Commerce is considering whether to correct these counts and will publish corrected counts, if any, not later than July 15, 1991.

Table 6

REFERENCE NO. 18

FLOOD HAZARD BOUNDARY MAP

OCONEE COUNTY
SOUTH CAROLINA
UNINC. AREAS

PAGE 9 OF 11

(SEE MAP INDEX FOR PAGES NOT PRINTED)

EFFECTIVE DATE:
NOVEMBER 25, 1977

COMMUNITY—PANEL NUMBER
450157 0009 A

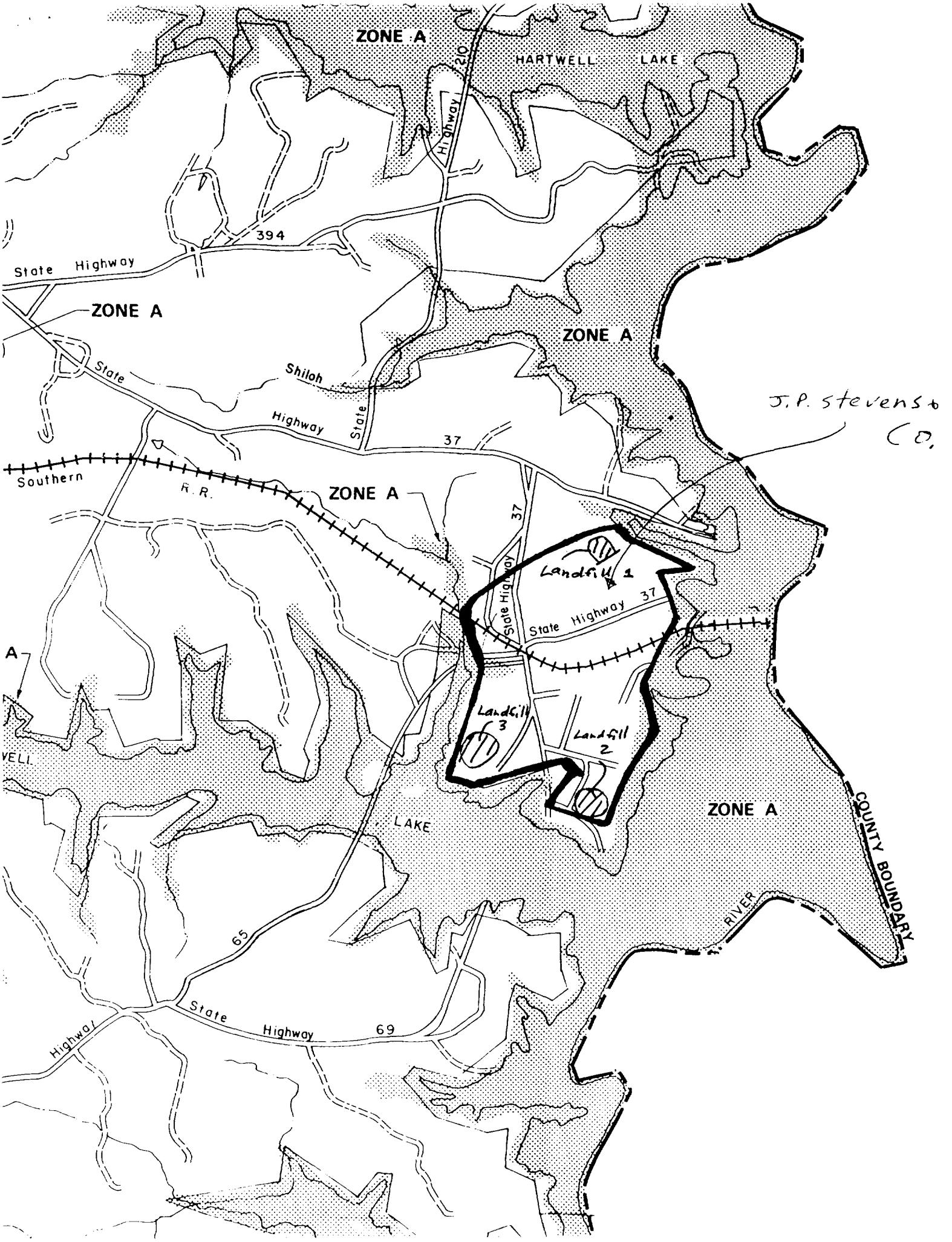
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION

KEY TO SYMBOLS

SPECIAL FLOOD HAZARD AREA

Note: These maps may not include all Special Flood Hazard Areas in the community. After a more detailed study, the Special Flood Hazard Areas shown on these maps may be modified, and other areas added.

CONSULT NFIA SERVICING COMPANY OR LOCAL INSURANCE AGENT OR BROKER TO DETERMINE IF PROPERTIES IN THIS COMMUNITY ARE ELIGIBLE FOR FLOOD INSURANCE.


ZONE A
HARTWELL
LAKE
210
Highway
394
State Highway
ZONE A
ZONE A
State
Shiloh
Highway
State
37
J. P. stevens
Co.
Southern
R. R.
ZONE A
37
Landfill 1
State Highway 37
Landfill 3
Landfill 2
ZONE A
LAKE
COUNTY BOUNDARY
RIVER
65
State Highway 69
Highway

T P Stevens & Co.

[redacted]

REFERENCE NO. 19

4. Geographic Data Management (GEODM)
5. HUCODE/SOIL locator (HUCODE)
6. Convert to Lat/Long (LATLON)
7. Lookup/Examine Star Station Data (STAR)
8. Find US cities (USCITY)
9. Find Soil Survey Status of Counties (SSURVEY)

Enter an option number or a procedure name (in parentheses)
or a command: HELP, HELP option, BACK, CLEAR, EXIT, TUTOR
GEMS>
Alt-Z FOR HELP| IBM PC | FDX | 2400 E71 | LOG CLOSED | PRINT OFF | ON-LINE

Enter the next ring distance
GEMS>

Enter program execution mode: B (batch) or I (interactive)
GEMS> I

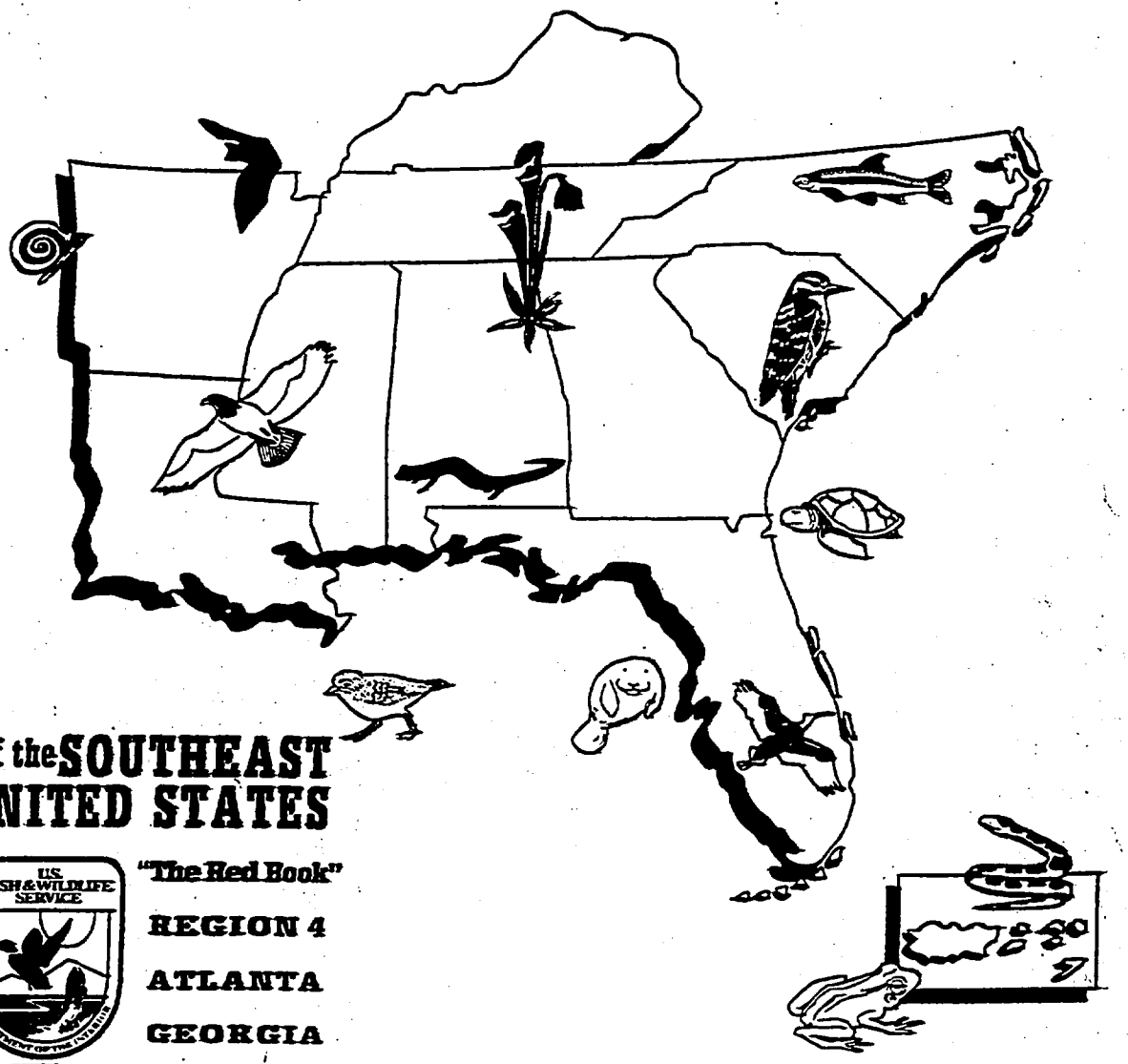
J.P. STEVENS & CO
LATITUDE 34:38:58 LONGITUDE 82:51:44 1980 POPULATION

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	0	0	0	0	0	1525	1525
S 2	0	0	0	0	6729	4819	11548
S 3	0	0	0	11	0	0	11
S 4	0	0	0	0	0	0	0
S 5	0	0	0	0	0	0	0
S 6	0	0	0	1945	0	100	2045
RING TOTALS	0	0	0	1956	6729	6444	15129

press RETURN to continue
Alt-Z FOR HELP| IBM PC | FDX | 2400 E71 | LOG CLOSED | PRINT OFF | ON-LINE

REFERENCE NO. 20

ENDANGERED & THREATENED SPECIES



of the SOUTHEAST UNITED STATES

"The Red Book"

REGION 4

ATLANTA

GEORGIA

9300991

ENDANGERED AND THREATENED SPECIES

OF THE

SOUTHEASTERN UNITED STATES

(THE RED BOOK)

Prepared by:

U.S. Fish and Wildlife Service
Southeast Region
Atlanta, Georgia

January 1992

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10/8/92

Federally Listed Species by State

SOUTH CAROLINA

(E=Endangered; T=Threatened; CH=Critical Habitat determined)

Mammals	General Distribution
Cougar, eastern (Felis concolor couguar) - E	North, East
Manatee, West Indian (Trichechus manatus) - E	Coastal waters
Panther, Florida (Felis concolor coryi) - E	South, West
Whale, finback (Balaenoptera physalus) - E	Coastal waters
Whale, humpback (Megaptera novaeangliae) - E	Coastal waters
Whale, right (Eubalaena glacialis) - E	Coastal waters
Whale, sei (Balaenoptera borealis) - E	Coastal waters
Whale, sperm (Physeter catodon) - E	Coastal waters
Birds	
Eagle, bald (Haliaeetus leucocephalus) - E	Entire State
Falcon, American peregrine (Falco peregrinus anatum) - E	Northwestern mountains
Falcon, Arctic peregrine (Falco peregrinus tundrius) - T	Coast, western mountains
Plover, piping (Charadrius melodus) - T	Coast
Stork, wood (Mycteria americana) - E	Coastal swamps
Warbler, Bachman's (Vermivora bachmanii) - E	East, South
Warbler, Kirtland's (Dendroica kirtlandii) - E	East, North
Woodpecker, ivory-billed (Campephilus principalis) - E	East
Woodpecker, red-cockaded (Picoides [=Dendrocopos] borealis) - E	Entire State
Reptiles	
Alligator, American (Alligator mississippiensis) - T(S/A)*	Coastal plain
Snake, eastern indigo (Drymarchon corais couperi) - T	Extreme Southeast
Turtle, Kemp's (Atlantic) ridley (Lepidochelys kempii) - E	Coastal waters

*Alligators are biologically neither endangered nor threatened. For law enforcement purposes they are classified as "Threatened due to Similarity of Appearance." Alligator hunting is regulated in accordance with State law.

UPDATED PRELIMINARY ASSESSMENT
J. P. Stevens and Co., Inc. - Clemson Plant
SCD 003 345 097
Clemson, South Carolina - Oconee County

A. HISTORY OF SITE

The J. P. Stevens and Co., Inc. - Clemson Plant is located on the west shore of Lake Hartwell in Oconee County. The town of Clemson and its associated university is located across the lake, approximately 2.5 miles to the north-northeast.

The J. P. Stevens Clemson Plant manufactures decorative accessories such as bedsheets and pillowcases. This plant is a "total integrated" textile mill; every operation required to turn raw, unwoven fibers into packaged, finished products is performed at this plant.

The fabric used in bedsheets is patterned by use of screen-printing techniques. In the late 60's, print-paste pigments suspended in a varsol solution were used in the printing process. These pigments typically contained various compounds of chromium, copper, and cadmium to achieve the required color.

In 1967, an LP gas explosion ripped through the plant, killing three and injuring fourteen people. In order to expedite reopening the plant, rubble from the explosion was pushed into two small ravines on the plant's property. These ravines were later covered over with soil. Most of the rubble consisted of broken concrete, scrap metal and timber. It is possible that some of the print-paste pigment may have been damaged in the explosion. The Director of Environmental Affairs of J. P. Stevens, Mr. Sam Griggs, has speculated that an unknown number of drums containing this pigment may have been dumped into the ravines during the cleanup operations. A Notification of an Uncontrolled Waste Site (CERCLA Form 103C) was filed in 1981 based on this speculation.

After the plant resumed operations, one of the employes alleged that transformer oil had also been dumped into one of the ravines. There was some concern that this oil may contain Polychlorobiphenols (PCBs). In June, 1981, Mr. Griggs had eight soil coring samples from this ravine tested for PCBs. These tests were negative.

J. P. Stevens also operates a wastewater treatment facility at this plant. There are three permitted landfills on the property for the disposal of sludge and flyash resulting from this treatment facility. The metal-based pigments had been replaced with organic pigments by the time the wastewater facility had been constructed. It is not likely that any of the sludge would contain metals from these pigments.

The geographical coordinates of the plant are 34 degrees, 38 minutes, 55.0 seconds north latitude, 082 degrees, 51 minutes, 33.3 seconds west longitude. The filled-in ravines are approximately a half mile apart and are accessible only through plant property.

B. NATURE OF HAZARDOUS MATERIALS

There has been speculation that drums containing damaged print-paste pigment may have been buried along with the rubble from the explosion. The pigments in use at time typically contained copper, chromium and cadmium. All of these metals are toxic and highly persistent. Cadmium and chromium compounds are suspected carcinogens. Small dosages may accumulate in mammals for many years before adverse effects are evident.

Contamination with PCBs is suggested by the allegation of transformer oils also being dumped. PCBs are thought to cause cancers and produce lesions in laboratory animals. In 1981, eight soil coring sampling tested by a private lab did not show traces of PCBs. However, there is still a possibility that PCBs may be present at this site as the sampling strategy is not known by this office. Admittedly, this may be a very remote possibility.

Both PCBs and the heavy metal compounds used in pigments can produce highly toxic fumes if burned. The print-paste pigments were suspended in a varsol solution. Since varsol is mildly flammable, a fire hazard may result if any drums are unearthed near a source of sparks.

C. DESCRIPTION OF HAZARDOUS CONDITIONS, INCIDENTS, AND PERMIT VIOLATIONS

It is thought that any buried drums were constructed of metal. It is very likely that these drums have probably rusted through, releasing their contents into the soil and groundwater. Contamination with copper, chrome or cadmium may result.

There were no applicable laws in 1967 in regards to the land disposal of drums. This office has no knowledge of any permit violations once applicable laws were instituted.

D. ROUTES FOR CONTAMINATION

The J. P. Stevens Clemson Plant is located on the West shore of Lake Hartwell. Groundwater is close to the surface and is found in the soil-saprolite aquifer and fractured bedrock. Depth to groundwater is variable with topography, but generally ranges from fourteen to twenty-five feet deep. Any buried drums are probably in close contact with the groundwater and are likely to contaminate this groundwater. The groundwater is expected to discharge directly into Lake Hartwell.

The ravines were covered over with soil after they were filled in. Although they are less than 400 feet from the lake, it is doubtful that surface runoff would carry any contaminates directly to the lake due to the soil cover. However, contamination would be expected in the lake if the groundwater becomes contaminated and discharges into the lake.

E. POSSIBLE AFFECTED POPULATION AND RESOURCES

The J. P. Stevens Clemson Plant is located in a rather sparsely populated area on the west shore of Lake Hartwell. Lake Hartwell presents a significant hydrological discontinuity and would preclude the migration of groundwater to the east. There are an estimated 289 persons thought to be using groundwater to the west of the lake within three miles of this plant. This estimate is based on 3.8 persons per house counted on U.S.G.S. Topographic Maps in areas not served by public water lines. The nearest private well is thought to be located 1500 feet to the Northwest.

The groundwater flow is thought to be toward the lake. All of the private wells in this region are upgradient from the ravines. All property downgradient from the ravines is owned by J. P. Stevens.

There are no surface water intakes within three miles which are used to supply drinking water. The Duke Power Company does supply approximately 100,000 people with drinking water drawn from Lake Hartwell approximately ten miles to the south. There is no known use of surface water for commercial agricultural irrigation within three miles. Water from Lake Hartwell is used at two locations to irrigate test crops at Clemson University. One intake is up the Martin Creek branch of Lake Hartwell approximately one mile from the plant and is used to irrigate a test orchard. The other intake is two miles up the main body of the lake which is used to irrigate test plots maintained by graduate students in agriculture. None of the test crops are supposed to be consumed, but it is likely that some are.

Lake Hartwell has some recreational use, however, there has been a long-standing advisory against consumption of fish due to contamination with PCBs from another location. It is not known how well this advisory has been heeded by the general populace.

F. RECOMMENDATIONS AND JUSTIFICATIONS

It is recommended that this site be assessed a "medium" priority for a future site inspection. It is highly probable that some drums containing metal-based pigments may have been buried on site. Furthermore, there is an allegation that fluids possibly containing PCBs may have also been buried.

While groundwater contamination is expected to occur, all private wells in this region are expected to be upgradient from this site and should be at minimal risk. Contamination of Lake Hartwell could be expected from this site. While there is no use of Lake Hartwell for drinking water within three miles of this plant it is used further downstream to supply water for a large population.

RCRA SUMMARY
J. P. Stevens and Co., Inc. - Clemson Plant
SCD 003 345 097
Clemson, South Carolina - Oconee County

The J. P. Stevens and Co., Inc. - Clemson Plant is a RCRA permitted generator of waste oils and cleaning solvents. No permits have been requested for the storage, transport or disposal of hazardous wastes.

REFERENCE NO. 22

Ref. 16

ENGINEERING REPORT
FOR
J.P. STEVENS & CO., INC.

CLEMSON PLANT SOLID WASTE LANDFILLS
OCONEE COUNTY, SOUTH CAROLINA

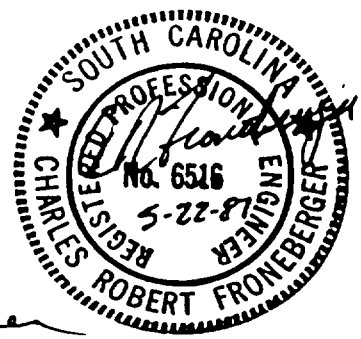
MAY 15, 1987

TPG PROJECT NUMBER 154300

RE
JUN 0 2 1987
S. C.
ENVIR
Bureau
Waste Management

Prepared By:

David L. Holland
Environmental Department



Reviewed By:

C.R. Froneberger, P.E.

THE PIEDMONT GROUP
Post Office Box 1717
Greenville, South Carolina 29602

I. INTRODUCTION AND BACKGROUND

This is an engineering report accompanying plans, specifications and previous reports to document the operation of three landfill areas located on the J.P. Stevens & Co., Inc. Clemson plant property in Oconee County, South Carolina.

The engineering report has been requested by the SCDHEC in conjunction with the renewal of the existing permits and transferring the permits from the Bureau of Solid and Hazardous Waste Management Department. Permit numbers IWP-135, IWP-104 and IWP-186 have expired March 6, 1987 and will now be issued by the Industrial and Agricultural Wastewater Division, Bureau of Water Pollution Control.

This report and application for "Permit to Construct" are submitted for SCDHEC approval to continue the disposal operations for the J.P. Stevens & Co. Clemson plant facility.

The manufacturing facility and landfill operations is owned and operated by the J.P. Stevens Co., Inc. Clemson Plant, Cherry Road, Oconee County, Clemson, South Carolina 29631. The plant phone number is (803) 654-3030. The plant facility waste treatment plant is a 4.5 MGD facility operating under NPDES Permit No. SC0000591.

A. Landfill Description

The manufacturing facility utilizes three landfill areas known as North (#1), South (#2) and Sludge (#3). The original landfill site, South #2 (IWP-104), was in use prior to the treatment plant construction in 1976 and was used to dispose of coal fired boiler fly ash. This landfill was replaced by a new landfill, North #1 (IWP-135), constructed in conjunction with the wastewater treatment facility in 1976. The landfill was used for treatment plant sludge for a short period of time but was stopped due to objections raised by local residents. The South #2 landfill was then converted to an interim sludge and fly ash disposal area in 1978. A new sludge landfill, Sludge #3 (IWP-186) was developed in 1981 above the treatment plant to provide dewatering, spreading, stabilization and disposal for the treatment plant sludge.

3. APPLICATION SITE INFORMATION

The landowner for the three landfill sites is the J.P. Stevens & Co., Inc. The sludge and fly ash disposed of in these three areas has been operated and managed by the J.P. Stevens & Co., Inc. in accordance with the IWP landfill permits issued by the SCDHEC. The landfills have been receiving sludge and fly ash since their permitting. Access to the South #2 and Sludge #3 landfills are controlled by the plant security fence. The #2 (North) landfill for fly ash is controlled by a cable locked road entrance.

The possibility of odors from the sites is controlled by providing adequate time for sludge stabilization, decomposing rates, and the lime conditioning which reduces biological activity.

A. Site Description

The site locations are shown on the Landfill Location Map I-1, Rev. 3. The three sites are further detailed in their respective engineering reports that give the respective slopes, drainage, and boring locations, monitoring well and soils information. The location map indicates nearby residences, water supply wells, adjacent surface water bodies, and dwellings. The soils reports and boring logs describe the soil types, water tables, and other information pertinent to a landfill design.

B. Site Monitoring Plans

The three sites all have monitoring wells installed up-gradient and down-gradient of the landfill, and J. P. Stevens is currently monitoring and reporting the analysis of this groundwater in accordance with the existing permits. It is proposed that these monitoring requirements remain the same for the new permits. Soil testing would not be required based on the type of site (landfill) that will be covered when full and vegetation established. The pH of the site, due to the lime treatment of the sludges, should remain well over 6.5 due to [illegible] incorporated into the sludge by the

B. Landfill Solids

The manufacturing plant generates fly ash and wastewater landfill solids from two areas of the plant facility.

1. Fly Ash

The plant boilers burn coal (27,531 tons in 1985) which produce approximately six (6) percent ash or approximately 1652 Dry Weight Tons each year. This ash is now primarily being disposed on the North landfill # 2 except when it is used to provide traction in the sludge landfills during winter or wet weather operation. A leachate analysis is included in Appendix I.

2. Waste Treatment Plant Sludge

The other material landfilled is the wastewater treatment plant sludge. The original North Landfill Report (1976) indicated that the waste treatment facility would produce on a dry weight basis, 7000 lbs/day of waste activated sludge, 5000 lbs/day of print waste sludge and 3,000 lbs/day of ferric chloride and hydrated lime used for coagulation of the print wastewater and for sludge dewatering.

The sludge is dewatered on two 6' diameter x 10' long vacuum filters with a capacity of 3,000 lbs/hr. Solids from the filter range from 10-20% depending on the filtering rate, chemical dosages and, wash water usage. Recent calculations based on actual volume of dewatered sludge indicates that 55 cubic yards of combined wet sludges at 14 percent solids are generated daily on a six day week basis. This is approximately equal to 11,000 lbs/day or 2007.5 dry weight tons/year. This quantity of materials is placed on the Sludge landfill #3 and spread out to dry and decompose. The South landfill #2 is used for drying and spreading during wet weather and during the winter.

Assuming that 500 yds. of fly ash are added each year for traction and roadways, approximately 3805 cubic yards per year are ultimately disposed of each year in the North landfill #3.

The landfill with an estimated 16,670 cubic yards of material applied in the past 5 years of operation indicates that approximately 3334 cy. yds. of material have been applied each year.

The Sludge landfill #3 with a design capacity of 62,500 cubic yards, an estimated 16,670 cubic yards of stockpiled sludge and an annual application of 3805 cubic yards of stabilized and dried sludge with fly ash has an estimated life of an additional 12 years. Table I is a summary of the size, purpose, capacity, sludge inventory and remaining capacity of the three landfills.

The waste treatment sludge is lime stabilized at a pH of 12 for dewaterability and as a process to significantly reduce pathogens. The pathogens are further reduced by the land spreading and stockpiling on the site during drying until the sludge is stabilized. This high pH also eliminates any additional lime application for pH correction to the landfill soils.

C. Landfill Solids Capacity

The quantities of material in the landfills are estimated based on visual observation and age. The North landfill #2, used for fly ash, has a surface area of approximately 200,000 ft^2. The landfill was designed for an average of 5 feet of material before closure which equals 1,000,000 $ft.^3$ of capacity. The ash depth is estimated at 1-2 feet which indicates that a minimum of 600,000 cubic feet or 22,222 cubic yards are still available. Ash quantities, based on the 1985 rate of coal usage, is 1652 DWT/year. At a bulk density of 50 lbs/ft^2 there should be approximately 2447 cubic yards produced annually and nine (9) years of capacity for fly ash disposal available. The landfill has been in operation for approximatley 10 years and it is estimated that an average of 1481 yards/yr of fly ash have been placed on the site each year, the remainder is used on the sludge areas for access roads in wet weather.

The South landfill #2 is almost at capacity for long term storage and is used primarily for stockpiling, dewatering and stabilization of the sludge before being transported to the Sludge landfill #3 in dry weather. Approximately fifty percent of the landfill was closed in 1983 in accordance with the engineering report in Appendix VI. Capacity for continued operation in the South landfills will be dependent on removing these solids during the summer.

The Sludge landfill #3 will ultimately receive most of the waste treatment plant sludge plus some fly ash in the winter time. The landfill was constructed with a 225,000 sq. ft. spreading and disposal area, and a 300,000 sq. ft. rainfall runoff containment area. The area currently has between 1-2 feet of sludge (16,670 yds) spread over the surface or stockpiled. The landfill is designed for an ultimate depth of dewatered and stabilized sludge approximately 7.5 feet deep or 62,500 cubic yards. The current rate of sludge production is 11,000 lbs/day or 2007.5 DWT/yr., estimated from the operating records. Assuming a dry weight density of 45 lbs/cu. ft., this equals a volume of 89,222 cu. ft./

J.P. STEVENS & CO., INC.
CLEMSON PLANT
LANDFILL STATUS SUMMARY
MAY 1987

TABLE I

Landfill	Solids/ Type	Size sq.ft.	Design Capacity cu. ft.	Landfilled Solids (Est.)	Remaining Capacity cu. ft.	Estimated Years to Closure
North # 1	Ash/ Disposal	200,000	1,000,000	400,000	600,000	9
South # 2 Closed Portion	Sludge/ Fly Ash Disposal	120,000	250,000	N/A	Closed	Closed
Open Portion	Sludge Dewatering	60,000	280,000	250,000	Dewatering Only	0
Sludge # 3	Sludge/ Ash/ Disposal	225,000	1,687,500	450,090	1,237,410	12

N/A - Information is not available to determine disposed volumes.

2. SLUDGE ANALYSIS

The sludge applied to the landfill has been analyzed repeatedly over the last eleven years to demonstrate the non-hazardous nature of the sludge.

Each engineering report appended has sludge analysis and EP toxicity test analysis.

The majority of this test work was performed at the J.P. Stevens & Co., Inc., Stevens Environmental Service Laboratory, Stone Avenue, Greenville, SC; Telephone No. (803) 239-4198, by Ms. Ann Sims. The sludge concentrations have varied over the year from 14 to 28 percent solids.

The levels of nutrients, non-soluble metals and other compounds have been analyzed and are also reported. Because the sludges are applied to dedicated sites that will receive site closures, groundwater monitoring, runoff control and treatment as described in the individual engineering reports, these constituents are not monitored on a routine basis. The analysis of fly ash and treatment plant sludge after the appended engineering reports were written are included in Appendix I. The averages of the analysis are listed in Table II.

TABLE II

J.P. STEVENS & CO., INC.

CLEMSON SC PLANT

SLUDGE AND FLY ASH LEACHATE ANALYSIS

HAZARDOUS WASTE EXTRACTION PROCEDURE

	WTP SLUDGE LEACHATE			FLY ASH LEACHATE
	9/12/85	9/16/86	Average	12/14/82
		Units are µg/gm		
As	<10	<10	<10	<10
Ba	400	1000	700	1100
Cd	<10	<10	<10	<30
Cr	<50	280	<165	<50
Pb	<100	<100	<100	<10
Hg	<0.2	<0.2	<0.2	<1
SE	<10	<10	<10	<10
Ag	<10	<10	<10	<50

WTP SLUDGE CONSTITUENTS

AVERAGE (RANGE)

pH	12.1 (11.9 - 12.2)	Pb	<125 µg/gm
TS	17% (11-20%)	Mg	3.6 mg/gm
TVS	51% (44-60%)	Mn	770 µg/gm
Al	1574 µg/gm	Na	5.61 mg/gm
Cd	<9.4 µg/gm	Zn	145 µg/gm
Ca	78.8 mg/gm	TKN	8.7 mg/gm
Cr	39 µg/gm	NH_3	0.4 mg/gm
Cu	385 µg/gm	NO_3	0.5 mg/gm
Fe	56.8 mg/gm	TP	0.1 mg/gm

4. SLUDGE APPLICATION PLAN

The sludge and fly ash are transported to the landfill site by trucks on a daily basis. Most of the fly ash is dumped in rows and spread in layers across the North #1 disposal area.

The Sludge Site #3 is operated as a drying and stabilization area with the sludge being spread across the surface in 6 inch layers to dry and decompose. The surface can become difficult to work during wet weather and some of the solids are hauled to the South Landfill #2 at that time. Solids on the Sludge landfill #3 are windrowed to allow additional spreading area and storage until the design depth of the landfill is approached.

During winter operation, fly ash is used in the area to maintain truck access within the spreading area. As the landfill is filled it is anticipated that additional spreading and drying area will be required adjacent to the disposal site, or stabilized solids could be removed from the site and trucked to a nearby county landfill if permitted by SCDHEC.

South Carolina Depa ent of Health
and Environmental Control
Solid Waste Management Division
2600 Bull Street
Columbia, SC 29201
Phone: (803) 758-5681

50373 6

DHEC USE ONLY:
I.D.#_ _/_ _ _/_ _ _ _/_

Instructions for completing this Form

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

REFERENCE NO. 23

A. General.

(1) Identification.

(a) Name of person or organization conducting hazardous waste activities: J. P. Stevens & Co., Inc.

(b) Mailing Address: Clemson Plant
Clemson, S. C. 29631

(c) Phone Number: 803-654-3030

(2) Principal technical contacts (Name(s), mailing address(es) and phone number(s)): Sam Griggs - Environmental Services Lab, Piedmont, S. C. - #803-845-7551 Nick Ince - Daniel Bldg., Greenville, S. C. - #803-235-2581

(3) Types of hazardous waste activities person or organization conducts within the State: (Check all applicable boxes.)

(a) Generation of hazardous waste ☐

(b) Transportation of hazardous waste (other than on-site of generation or on-site of treatment, storage or disposal facility) ☐

(c) Treatment, storage, or disposal of hazardous waste at a facility owned or operated by the person or organization ☐

(4) Certification: I hereby certify (or declare) that the information provided herein is complete and correct to the best of my knowledge. I understand that all information on this form may be made available to the public unless otherwise noted as provided under (5) below. I am authorized to sign official documents for the organization or person identified in (1) (a) above.

Signature | Roger L. Gill, Manager, Clem. Fin. (Name and Title) | 12/20/79 (Date)

RECEIVED
DEC 21 1979
SOLID WASTE DIV.

(5) Confidentiality.

Information reported to the Department in this Notification may be claimed as confidential, and therefore exempt from public disclosure under Section 8B of the South Carolina Hazardous Waste Management Act, which reads:

> Information obtained by the department under this chapter shall be available to the public, unless the department certifies such information as being proprietary. The department may make such certification where any person shows, to the satisfaction of the department, that the information, or parts thereof, if made public, would divulge methods, production rates, processes, or other confidential information entitled to protection. Nothing in this subsection shall be construed as limiting the disclosure of information by the department to any officer, employee or authorized representative of the State concerned with effecting this chapter, providing such person respects the proprietary nature of the information.

In order for information to be considered for confidentiality, the Department must be supplied with a detailed list of exactly what information is claimed as confidential and on what basis the claim of confidentiality is made, including facts and information to support such claim. Upon receiving such claim, the Department will make a determination as to whether or not the information is entitled to confidentiality. A determination by the Department that a portion of the Notification will be considered confidential does not serve as a determination that the entire Notification will be considered confidential.

(6) Warning: Section 12 of the Hazardous Waste Management Act provided for significant penalties for violations of the Act; the rules and regulations promulgated pursuant to the Act; or orders issued by the Board, Commissioner, or the Department. No hazardous waste as defined under Section C , shall be generated, stored, transported, or disposed within the State unless

notification of hazardous waste activity has been submitted to the Department according to the regulations promulgated under the Act.

(2)

B. Generator.

(1) Mailing address of place of generation: J. P. Stevens & Co., Inc. Clemson, S. C. 29631

(2) Location of place of generation: J. P. Stevens & Co., Inc. Clemson, S. C. 29631

(3) Phone number at place of generation: 803-654-3030

(4) County in which place of generation is located: Oconee

(5) General Description of generator's operations at the location of generation: Manufacturing (greige, finishing, fabrication) textile products.

(6) Types of hazardous waste(s) generated at location: (Check all applicable boxes.)

(a) Ignitable ☒
(b) Corrosive ☐
(c) Reactive ☐
(d) Toxic ☒
(e) Listed ☒

(7) Estimated amount of hazardous waste generated at location annually in pounds (pounds/year): 159,000 lbs.

(8) For each hazardous waste produced at the location submit a completed Hazardous Waste Information Form (DHEC Form No. 1986).

C. Transporter.

(1) General description of kind of transportation transporter is engaged in:

(2) State and county in which the transporter has his principal place of business: _____ State _____ County

(3) Location, mailing address, and phone number of all terminals or other transportation facilities the transporter maintains within the State:

(4) Identification code(s) if transporter has previously been assigned a hazardous waste identification code by the Federal Environmental Protection Agency or any other state. Also include source of I.D. Code and by whom such codes were assigned:

(5) Interstate Commerce Commission Number or South Carolina Public Service Commission Number (state whether number is ICC or PSC):

(6) Types of hazardous wastes handled by the transporter: (Check all applicable boxes.)

(a) Ignitable ☐
(b) Corrosive ☐
(c) Reactive ☐
(d) Toxic ☐
(e) Listed ☐

(3)

(7) Estimated amount of hazardous wastes handled annually by transporter in pounds (pounds/year): _____

D. Hazardous Waste Facilities.

(1) Name of facility: _____

_____

(2) Mailing address of facility: _____

_____

_____

(3) Location of facility: _____

_____

_____

(4) Phone number of facility: _____

(5) County in which facility is located: _____

(6) Type of operations conducted at the facility: (Check all applicable boxes).

(a) Treatment of hazardous waste ☐
(b) Storage of hazardous waste ☐
(c) Disposal of hazardous waste ☐

(7) Submit on a separate sheet of paper a description of the hazardous waste activities conducted at the facility.

(8) Types of hazardous wastes handled at the facility: (Check all applicable boxes.)

(a) Ignitable ☐
(b) Corrosive ☐
(c) Reactive ☐
(d) Toxic ☐
(e) Listed ☐

(9) Estimated amount of hazardous waste treated, stored, or disposed annually at the facility in pounds (pounds/year): _____

2600 Bull Street
Columbia, SC 29201
Phone: (803) 758-5082

I.D. Waste Code

002

(4)

Instructions for completing this Form on reverse side.

HAZARDOUS WASTE INFORMATION

(1) Name of generator: J. P. Stevens & Co., Inc.

(2) Place of generation: Clemson, S. C. 29631

(3) General description of hazardous waste, including process producing waste: Sludge from waste treatment process.

(4) Description of the hazardous waste: Residue of treated waste water that has been dewatered for disposal.

(5) Check the hazardous waste characteristics the waste exhibits as identified in Section C of the Emergency Hazardous Waste Regulation; or if the waste is listed as a hazardous waste, check "Listed"; or if the waste has been declared hazardous by the generator, check the hazardous waste characteristic(s) as identified in Section C of the Emergency Hazardous Waste Regulation the generator suspects the waste to exhibit.

(a)	Ignitable	☐
(b)	Corrosive	☐
(c)	Reactive	☐
(d)	Toxic	☐
(e)	Listed	☒

(6) Attach any information obtained from the testing of the waste performed to determine their hazard. If the generator declares the waste to be hazardous attach information on what basis the decision to declare the waste hazardous was made.

(7) Estimated amount of the waste produced per year in pounds (pounds/waste):

140,000 lbs/year dry weight

(8) Describe the method(s) by which this waste is currently being treated, stored, or disposed, including the name and address of any facility to which the waste is being sent. Hauled to dry landfill on Company property for burial.

(9) Certification: I hereby certify (or declare) that the information provided herein is complete and correct to the best of my knowledge. I understand that all information on this Form may be made available to the public except those portions entitled to confidentiality as provided by Section 6B of the South Carolina Hazardous Waste Management Act. I am authorized to sign official documents for the generator named in (1) above.

Signature | Roger L. Gill, Manager, Clem. Fin. | 12/20/79

Name and Title | Date

NOTE: Additional copies of this Form may be reproduced locally as needed.

DHEC 1986(9/14/79)

2600 Bull Street
Columbia, SC 29201
Phone: (803) 758-5001

DHEC USE ONLY:
I. __/__/____/_
Waste Code ____

(5)

Instructions for completing this Form on reverse side.

HAZARDOUS WASTE INFORMATION

(1) Name of generator: J. P. Stevens & Co., Inc.

(2) Place of generation: Clemson, S. C. 29631

(3) General description of hazardous waste, including process producing waste: Scrap Metal Drum

(4) Description of the hazardous waste: Possibly containing traces of chemicals.

(5) Check the hazardous waste characteristics the waste exhibits as identified in Section C of the Emergency Hazardous Waste Regulation; or if the waste is listed as a hazardous waste, check "Listed"; or if the waste has been declared hazardous by the generator, check the hazardous waste characteristic(s) as identified in Section C of the Emergency Hazardous Waste Regulation the generator suspects the waste to exhibit.

(a) Ignitable ☐
(b) Corrosive ☐
(c) Reactive ☐
(d) Toxic ☐✓
(e) Listed ☐

(6) Attach any information obtained from the testing of the waste performed to determine their hazard. If the generator declares the waste to be hazardous attach information on what basis the decision to declare the waste hazardous was made.

(7) Estimated amount of the waste produced per year in pounds (pounds/waste):

3575

(8) Describe the method(s) by which this waste is currently being treated, stored, or disposed, including the name and address of any facility to which the waste is being sent. Sold

J & B Smith Co.
P.O. Box 1504
Station A
Atlanta, GA 30310

(9) Certification: I hereby certify (or declare) that the information provided herein is complete and correct to the best of my knowledge. I understand that all information on this Form may be made available to the public except those portions entitled to confidentiality as provided by Section 6B of the South Carolina Hazardous Waste Management Act. I am authorized to sign official documents for the generator named in (1) above.

Signature	Name and Title	Date
[signature]	Roger L. Gill Manager, Clem. Fin.	12/20/79

NOTE: Additional copies of this Form may be reproduced locally as needed.

DHEC 1986(9/14/79)

2600 Bull Street
Columbia, SC 29201
Phone: (803) 758-5[illegible]

DHEC USE ONLY:
I. __/__/____/_
Waste Code ____

Instructions for completing this Form on reverse side.

(6)

HAZARDOUS WASTE INFORMATION

(1) Name of generator: J. P. Stevens & Co., Inc.

(2) Place of generation: Clemson, S. C. 29631

(3) General description of hazardous waste, including process producing waste: Screenings from Hydro-seive screens at waste treatment facility, paper, and general trash from trash cans.

(4) Description of the hazardous waste: Screenings contain paper, lint, etc. from waste stream from plant removed prior to treatment of waste water, lint, paper, wood, plastic, etc.

(5) Check the hazardous waste characteristics the waste exhibits as identified in Section C of the Emergency Hazardous Waste Regulation; or if the waste is listed as a hazardous waste, check "Listed"; or if the waste has been declared hazardous by the generator, check the hazardous waste characteristic(s) as identified in Section C of the Emergency Hazardous Waste Regulation the generator suspects the waste to exhibit.

- (a) Ignitable ☒
- (b) Corrosive ☐
- (c) Reactive ☐
- (d) Toxic ☐
- (e) Listed ☐

(6) Attach any information obtained from the testing of the waste performed to determine their hazard. If the generator declares the waste to be hazardous attach information on what basis the decision to declare the waste hazardous was made.

(7) Estimated amount of the waste produced per year in pounds (pounds/waste):

19,000 lbs. dry weight

(8) Describe the method(s) by which this waste is currently being treated, stored, or disposed, including the name and address of any facility to which the waste is being sent. Compactor

Waste Management
P.O. draw 5349
Spartanburg, S. C. 29304

(9) Certification: I hereby certify (or declare) that the information provided herein is complete and correct to the best of my knowledge. I understand that all information on this Form may be made available to the public except those portions entitled to confidentiality as provided by Section 6B of the South Carolina Hazardous Waste Management Act. I am authorized to sign official documents for the generator named in (1) above.

Signature	Name and Title	Date
[signature]	Roger L. Gill Manager, Clem. Fin.	12/20/79

NOTE: Additional copies of this Form may be reproduced locally as needed.

DHEC 1986(9/14/79)

REFERENCE NO. 24

South Carolina
DHEC
Department of Health and Environmental Control

Water Pollution Control PERMIT

TO DISCHARGE WASTEWATER IN ACCORDANCE WITH THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

THIS CERTIFIES THAT

J. P. Stevens & Company, Inc./Clemson Plant

has been granted permission to discharge wastewater from a facility located at

Clemson, Oconee County, South Carolina

to receiving waters named

Lake Hartwell to Savannah River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof. This permit is issued in accordance with the provisions of the Pollution Control Act of South Carolina (S.C. Code Sections 48-1-10 *et seq.*, 1976) and with the provisions of the Federal Clean Water Act (PL 92-500), as amended, 33 U.S.C. 1251 *et seq.*, the "Act."

Marion F. Sadler, Jr.

DIRECTOR, DIVISION OF INDUSTRIAL & AGRICULTURAL WASTEWATER
BUREAU OF WATER POLLUTION CONTROL

Issued: OCT 12 1993

Effective: DEC 1 1993

Expires: APR 30 1998

Permit No.: SC0000591

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date the permittee is authorized to discharge from outfall(s) serial number(s)001: process wastewater, sanitary wastewater, boiler blowdown, cooling water discharge & filter backwash.

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS kg/day (lbs/day) Monthly Average	kg/day (lbs/day) Daily Max.	Other Units (Specify) Monthly Average	Other Units (Specify) Daily Max.	MONITORING REQUIREMENTS* Measurement Frequency	Sample Type
Flow-m3/day (MGD)	-	-	MR	MR	Daily	Continuous**
BOD_5	363(800)	545(1200)	-	-	1/week	24Hr. Composite***
TSS	424(930)	844(1860)	-	-	1/week	24Hr. Composite***
COD	6395(14068)	12788(28135)	-	-	1/week	24Hr. Composite***
Sulfide	11.3(25)	22.6(50)	-	-	2/month	Grab
Phenol	5.7(12.5)	11.3(25)	-	-	2/month	Grab
Total Chromium	2.3(5)	3.4(7.5)	-	-	2/month	24Hr. Composite***
Total Phosphorus	MR	MR	-	-	1/month	24Hr. Composite***
Total Cyanide	1.04(2.3)	2.09(4.6)	-	-	1/month	Grab
++Formaldehyde	-	-	MR	MR	1/month	Grab
+Color	-	-	MR	MR	1/month	24Hr. Composite***
Fecal Coliform	-	-	200/100ml	400/100ml	1/week	Grab
Dissolved Oxygen	A minimum of 5.0 mg/l at all times				1/week	Grab
Ammonia(March-October)	178.5	357.0	10 mg/l	20 mg/l	1/week	Grab
Ammonia(Nov.-February)	MR	MR	MR	MR	1/week	Grab
Temperature	-	-	-	<32.2°C(90°F)	1/week	Grab

+See Part III.A.14.
++See Part III, A.16.
*See Part III, Paragraph 8.
**See Part III, Paragraph 7.
***Composite samples shall be collected in accordance with Part I.C., Paragraph 8.J., Items 1,2, or 3.

Limits are based on a flow of 2.14 MGD.

MR = Monitor and Report

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored daily by a continuous recorder.
3. There shall be no discharge of floating solids or visible foam in other than trace amounts; nor, shall the effluent cause a visible sheen on the receiving waters.
4. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at or near the outfall but prior to actual discharge or mixing with the receiving stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

5. During the period beginning on the effective date of this permit and lasting through (See Part III, Special Condition #10),the permittee is authorized to discharge from outfall(s) serial number(s)001: process wastewater, sanitary wastewater, boiler blowdown, cooling water discharge & filter backwash.

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS kg/day (lbs/day) Monthly Average	Daily Max.	Other Units (Specify) Monthly Average	Daily Max.	MONITORING REQUIREMENTS Measurement Frequency	Sample Type
Biological Monitoring (Whole Effluent Chronic Toxicity Testing)	-	-	-	(1)MR	1/month	(1)

(1)See Part III, Special Condition #9. a,b,c,d,e.

MR = Monitor and Report

2. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at or near the discharge, but prior to mixing with the receiving stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

5. During the period beginning on the effective date of this permit and lasting through (See Part III, Special Condition #10),the permittee is authorized to discharge from outfall(s) serial number(s)001: process wastewater, sanitary wastewater, boiler blowdown, cooling water discharge & filter backwash.

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS kg/day (lbs/day) Monthly Average	Daily Max.	Other Units (Specify) Monthly Average	Daily Max.	MONITORING REQUIREMENTS Measurement Frequency	Sample Type
Biological Monitoring (Whole Effluent Chronic Toxicity Testing)	-	-	-	(1)0	1/month	(1)

(1)See Part III, Special Condition #9. a,b,d,e.

2. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at or near the discharge, but prior to mixing with the receiving stream.

6. Groundwater Monitoring Requirements: LF2-1, Landfill No. 2 Background Monitoring Wells.

a. Each of the 1 groundwater monitoring wells shall be sampled by the permittee as specified below:

PARAMETER	MEASUREMENT FREQUENCY	SAMPLE METHOD
Nitrate	Quarterly	Pump Method
Temperature	Quarterly	Pump Method
pH	Quarterly	Pump Method
TKN	Quarterly	Pump Method
TOC	Quarterly	Pump Method
Ammonia	Quarterly	Pump Method
Water table elevation	Quarterly	Pump Method
Specific Conductance	Quarterly	Pump Method
Arsenic	Annual	Pump Method
Cadmium	Annual	Pump Method
Total Chromium	Annual	Pump Method
Copper	Annual	Pump Method
Lead	Annual	Pump Method
Mercury	Annual	Pump Method
Selenium	Annual	Pump Method
Barium	Annual	Pump Method
Silver	Annual	Pump Method

b. Sample collection methods shall be in accordance with DHEC publication "Groundwater Sampling Methods" dated October, 1981, or the most recent revision.

c. All groundwater monitoring wells must be properly maintained at all times.

6. Groundwater Monitoring Requirements: LF2-2, LF2-3, LF2-4, LF2-5 & LF2-6; Landfill No. 2 Monitoring Wells.

a. Each of the 5 groundwater monitoring wells shall be sampled by the permittee as specified below:

PARAMETER	MEASUREMENT FREQUENCY	SAMPLE METHOD
Nitrate	Quarterly	Pump Method
Temperature	Quarterly	Pump Method
pH	Quarterly	Pump Method
TKN	Quarterly	Pump Method
TOC	Quarterly	Pump Method
Ammonia	Quarterly	Pump Method
Water table elevation	Quarterly	Pump Method
Specific Conductance	Quarterly	Pump Method
Arsenic	Annual	Pump Method
Cadmium	Annual	Pump Method
Total Chromium	Annual	Pump Method
Copper	Annual	Pump Method
Lead	Annual	Pump Method
Mercury	Annual	Pump Method
Selenium	Annual	Pump Method
Barium	Annual	Pump Method
Silver	Annual	Pump Method

b. Sample collection methods shall be in accordance with DHEC publication "Groundwater Sampling Methods" dated October, 1981, or the most recent revision.

c. All groundwater monitoring wells must be properly maintained at all times.

6. Groundwater Monitoring Requirements: LF3-1, Landfill No. 3 Background Monitoring Wells.

a. Each of the 1 groundwater monitoring wells shall be sampled by the permittee as specified below:

PARAMETER	MEASUREMENT FREQUENCY	SAMPLE METHOD
Nitrate	Quarterly	Pump Method
Temperature	Quarterly	Pump Method
pH	Quarterly	Pump Method
TKN	Quarterly	Pump Method
TOC	Quarterly	Pump Method
Ammonia	Quarterly	Pump Method
Water table elevation	Quarterly	Pump Method
Specific Conductance	Quarterly	Pump Method
Arsenic	Annual	Pump Method
Cadmium	Annual	Pump Method
Total Chromium	Annual	Pump Method
Copper	Annual	Pump Method
Lead	Annual	Pump Method
Mercury	Annual	Pump Method
Selenium	Annual	Pump Method
Barium	Annual	Pump Method
Silver	Annual	Pump Method

b. Sample collection methods shall be in accordance with DHEC publication "Groundwater Sampling Methods" dated October, 1981, or the most recent revision.

c. All groundwater monitoring wells must be properly maintained at all times.

6. Groundwater Monitoring Requirements: LF3-2, LF3-3, LF3-4, LF3-5; Landfill No. 3 Monitoring Wells.

a. Each of the 4 groundwater monitoring wells shall be sampled by the permittee as specified below:

PARAMETER	MEASUREMENT FREQUENCY	SAMPLE METHOD
Nitrate	Quarterly	Pump Method
Temperature	Quarterly	Pump Method
pH	Quarterly	Pump Method
TKN	Quarterly	Pump Method
TOC	Quarterly	Pump Method
Ammonia	Quarterly	Pump Method
Water table elevation	Quarterly	Pump Method
Specific Conductance	Quarterly	Pump Method
Arsenic	Annual	Pump Method
Cadmium	Annual	Pump Method
Total Chromium	Annual	Pump Method
Copper	Annual	Pump Method
Lead	Annual	Pump Method
Mercury	Annual	Pump Method
Selenium	Annual	Pump Method
Barium	Annual	Pump Method
Silver	Annual	Pump Method

b. Sample collection methods shall be in accordance with DHEC publication "Groundwater Sampling Methods" dated October, 1981, or the most recent revision.

c. All groundwater monitoring wells must be properly maintained at all times.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Continued)

7. Sludge Monitoring

a. Sludge Analysis Information

PARAMETER	MEASUREMENT FREQUENCY
Total solids %w.b.	Annually
Volatile solids %d.b.	Annually
Total nitrogen (Kjeldahl) %d.b.	Annually
Total inorganic nitrogen %d.b.	Annually
Nitrate nitrogen %d.b.	Annually
Ammonia nitrogen %d.b.	Annually
Total Phosphorus %d.b.	Annually
Total Potassium %d.b.	Annually
pH	Annually
Total Lead mg/kg	Annually
Total Zinc mg/kg	Annually
Total Copper mg/kg	Annually
Total Nickel mg/kg	Annually
Total Cadmium mg/kg	Annually

See Part III, Special Condition

B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedules:

N/A

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

C. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be present and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than $\pm$ 10% from the true discharge rates throughout the range of expected discharge volumes. The primary flow device must be accessible to the use of a continuous flow recorder. Where a flume is present, a separate stilling well for Department/EPA use must be provided if required by the Department.

3. Reporting Monitoring Results

Monitoring results obtained each month shall be reported monthly on a Discharge Monitoring Report Form (EPA Form 3320-1). The first report is due postmarked no later than the 28th day of the month following the month this permit becomes effective. Two copies of these, and all other reports required herein, shall be submitted to the Department:

S.C. Department of Health and Environmental Control
ATTN: BWPC/Enforcement Section
2600 Bull Street
Columbia, South Carolina 29201

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to State Environmental Laboratory Certification Regulation 61-81 and Section 304(h) of the Act, as amended. (Federal Register, October 16, 1973; Title 40, Chapter I, Sub-chapter D, Part 136 "Guidelines Establishing Test Procedures for the Analysis of Pollutants." Amended by Federal Register, December 1, 1976, and any other amendments that may be promulgated).

5. **Recording of Results**

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. the exact place, date and time of sampling:

b. the dates and times the analyses were performed;

c. the person(s) who performed the analyses and the laboratory certification number where applicable;

d. the analytical techniques or methods used; and

e. the results of all required analyses.

6. **Additional Monitoring by Permittee**

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified herein, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form (EPA-3320-1). Such increased frequency shall also be indicated. Additional or accelerated monitoring may be required to determine the nature and impact of a non-complying discharge on the environment or to determine if a single non-complying sample is representative of the long term condition (monthly average).

7. **Records Retention**

All records and information resulting from the monitoring activities required by this permit including all records of analysis performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Department. The permittee shall furnish to the Department, upon request, copies of records required to be kept by this permit.

8. **Definitions**

a. The "monthly average", other than for fecal coliform, is the arithmetic mean of all samples collected in a calendar month period. The monthly average for fecal coliform bacteria is the geometric mean of all samples collected in a calendar month period. The monthly average loading is the arithmetic average of all individual loading determinations made during the month.

b. The "weekly average", other than for fecal coliform, is the arithmetic mean of all the samples collected during a one-week period. For self-monitoring purposes, weekly periods in a calendar month are defined as three consecutive seven day intervals starting with the first day of the calendar month and a fourth interval containing seven days plus those days beyond the 28th day in a calendar month. The value to be reported is the single highest of the four weekly averages computed during a calendar month. The weekly average loading is the arithmetic average of all individual loading determinations made during the week.

c. The "daily maximum" is the highest average value recorded of any sample collected during the calendar month.

d. The "instantaneous maximum or minimum" is the highest or lowest value recorded of any sample collected during the calendar month.

e. Arithmetic Mean: The arithmetic mean of any set of values is the summation of the individual values divided by the number of individual values.

f. Geometric Mean: The geometric mean of any set of values is the Nth root of the product of the individual values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).

g. Department: The South Carolina Department of Health and Environmental Control.

h. Act: The Clean Water Act (Formerly referred to as the Federal Water Pollution Control Act) Public Law 92-500, as amended.

i. Grab Sample: An individual discrete or single influent or effluent portion of at least 100 milliliters collected at a time representative of the discharge and over a period not exceeding 15 minutes and retained separately for analysis. Instantaneous flow measured at the time of grab sample collection shall be used to calculate quantity.

j. Composite Sample: One of the following four types of composite samples as defined is specified within this permit:

(1) An influent or effluent portion collected continuously over a specified period of time at a rate proportional to the flow.

(2) A combination of not less than 8 influent or effluent grab samples collected at regular (equal) intervals over a specified period of time, properly preserved, (See part I.C.4.) and composited by increasing the volume of each aliquot in proportion to flow. If continuous flow measurement is not used to composite in proportion to flow, the following method will be used: Take an instantaneous flow measurement each time a grab sample is collected. At the end of the sampling period, sum the instantaneous flow measurements to obtain a total flow to determine the partial amount (percentage) of each grab sample to be combined to obtain the composite sample.

(3) A combination of not less than 8 influent or effluent grab samples of equal volume but at variable time intervals that are inversely proportional to the volume of the flow. That is, the time interval between aliquots is reduced as the volume of flow increases.

(4) A combination of not less than 8 influent or effluent grab samples of constant (equal) volume collected at regular (equal) time intervals over a specified period of time, while being properly preserved.

Continuous flow or the sum of instantaneous flows measured and averaged for the specified compositing time period shall be used with composite sample results to calculate quantity.

9. **Right of Entry**

The permittee shall allow the Commissioner of the Department of Health and Environmental Control, the Regional Administrator of EPA, and/or their authorized representatives:

a. To enter upon the permittee's premises where a regulated facility or activity and effluent source is located in which any records are required to be kept under the terms and conditions of this permit, and,

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit and sample or monitor any substances or parameters at any location of the purposes of assuring permit compliance.

A. GENERAL REQUIREMENTS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit non-compliance constitutes a violation of the Act and the S.C. Pollution Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for the denial of a permit renewal application.

2. Civil and Criminal Liability

a. Any person who violates a term, condition or schedule of compliance contained within this permit is subject to the actions defined by Sections 48-1-320 and 48-1-330 of the S.C. Pollution Control Act.

b. Except as provided in permit conditions on "Bypassing" (Part II.C.2.), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for non-compliance.

c. It shall not be an acceptable defense of the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

d. It is the responsibility of the permittee to have a treatment facility that will meet the final effluent limitations of this permit. The approval of plans and specifications by the Department does not relieve the permittee of responsibility for compliance.

3. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Act, the S.C. Pollution Control Act or applicable provisions of the S.C. Hazardous Waste Management Act and the S.C. Oil and Gas Act.

4. **Permit Modification**

a. The permittee shall furnish to the Department within a reasonable time any relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit.

b. Upon sufficient cause, this permit may be modified, revoked, reissued, or terminated during its term, after public notice and opportunity for a hearing. Modifications deemed to be minor will not require public notice.

c. The filing of a request by the permittee for a permit modification, or a notification of planned changes or anticipated non-compliance, does not stay any permit condition.

5. Toxic Pollutants

Notwithstanding Part II.A.4. above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitations for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and permittee so notified.

6. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

7. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

8. Severability

The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

9. **Onshore and Offshore Construction**

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

B. **REPORTING REQUIREMENTS**

1. **Change in Discharge**

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any planned facility expansions, production increases, or process modifications which will result in a new or different discharge of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Department of such changes. Following such notice, the permit may be modified to specify and limit any pollutant not previously limited.

2. **Twenty-Four Hour Non-Compliance Reporting**

a. The permittee shall report any non-compliance with provisions specified in this permit which may endanger public health or the environment. The permittee shall notify the Department orally within 24 hours of becoming aware of such conditions. During normal working hours call 803/734-5300. After hour reporting should be made to the 24 hour Emergency Response telephone number 803/253-6488. The permittee shall provide the following information to the Department in writing, within five (5) days of becoming aware of such conditions:

1. A description of the discharge and cause of non-compliance; and,

2. The period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the non-complying discharge.

b. The following violations shall be included in a 24 hour report when they might endanger health or the environment:

1. An unanticipated bypass which exceeds any effluent limitation in this permit;

2. Any upset which exceeds any effluent limitation in the permit.

c. As soon as the permittee has knowledge of or anticipates the need for a bypass, but not later than 10 days before the date of the bypass, it shall notify the Department and provide a determination of the need for bypass as well as the anticipated quality, quantity, time of duration, and effect of the bypass.

3. **Other Non-Compliance**

The permittee shall report in narrative form, all instances of non-compliance not previously reported under Section B, Paragraph B.2., at the time Discharge Monitoring Reports are submitted. The reports shall contain the information listed in Paragraph B.2.a.

4. **Transfer of Ownership or Control**

A permit may be transferred to another party under the following conditions:

a. The permittee notifies the Department of the proposed transfer at least thirty (30) days in advance of the proposed transfer date;

b. A written agreement is submitted to the Department between the existing and new permittee containing a specific date for the transfer of permit responsibility, coverage, and liability for violations up to that date and thereafter.

Transfers are not effective if, within 30 days of receipt of proposal, the Department disagrees and notifies the current permittee and the new permittee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed.

5. **Expiration of Permit**

The permittee is not authorized to discharge after the expiration date of this permit, unless a completed application for reissuance is submitted no later than 180 days prior to the expiration date. Permission may be granted to submit an application later than this, but not later than the expiration date of the permit. In accordance with Section 1-23-370 of the code of laws of South Carolina, if a timely and sufficient application is made for any activity of a continuing nature, the existing permit does not expire until a final determination is made to renew or deny renewal of the existing permit.

6. **Signatory Requirements**

All applications, reports or information submitted to the Department shall be signed and certified.

a. All permit applications shall be signed as follows:

1. For a corporation: by a principal executive officer of at least the level of vice-president or by a duly authorized representative;

2. For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or,

3. For a municipality, State, Federal or other public agency: by either a principal executive officer or ranking elected official.

b. All reports required by the permit and other information requested by the Department shall be signed by a person described above or by duly authorized representation only if:

1. The authorization is made in writing by a person described above and submitted to the Department;

2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

7. **Availability of Reports**

Except for data determined to be confidential under Section 48-1-270 of the S.C. Pollution Control Act, all reports prepared in accordance with the terms and conditions of this permit shall be available for public inspection at the offices of the Department and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 48-1-340 of the S.C. Pollution Control Act.

8. **Changes in Discharges of Toxic Pollutants or Hazardous Substances**

a. The permittee shall notify the Department as soon as it knows or has reason to believe that any activity has occurred or will occur which would result in the discharge in any outfall of:

1. Any toxic pollutant(s) identified under Section 307(a) of the Act which exceed the highest of the following concentrations and are not limited in the permit.

- 1 mg/l for antimony (Sb):
- 0.500 mg/l for 2,4-dinitrophenol or 2-methyl, -4,6-dinitrophenol;
- 0.200 mg/l for acrolein or acrylonitrile;
- 0.100 mg/l for any other toxic pollutant; or,
- Ten (10) times the maximum concentration value reported in the permit application.

2. Any hazardous substance(s) identified under Section 311 of the Act as determined by Federal Regulation 40 CFR 117.

b. The permittee must notify the Department as soon as it knows or has reason to believe that it has begun or expects to begin to use or manufacture as an intermediate or final product or by-product any toxic pollutant or hazardous substance which was not reported in the permit application.

C. **OPERATION AND MAINTENANCE**

1. Facilities Operation

a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance based on design facility removals, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls as determined by the laboratory certification program of the Department. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit. Maintenance of facilities, which necessitates unavoidable interruption of operation and degradation of effluent quality shall be scheduled during non-critical water quality periods and carried out in a manner approved by the Department.

b. The permittee shall provide for an operator, as certified by the South Carolina Board of Certification for Environmental Systems Operators, with a grade equal to or higher than the classification designated in Part III.A.3. The name and grade of the operator of record shall be submitted to the Department prior to placing the facility into operation. A roster of operators associated with the facility's operation and their certification grades shall also be submitted with the name of the "operator-in-charge". Any changes in operator or operators shall be submitted to the Department as they occur.

2. **Bypassing**

Any intentional diversion from or bypass of waste streams from any portion of wastewater collection and treatment facilities which is not a designed or established operating mode for the facility is prohibited except (a) where unavoidable to prevent loss of life, personal injury or severe property damage, or (b) where excessive storm drainage or run-off would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit and there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or retention of untreated wastes. "Severe property damage" does not mean economic loss caused by delays in production.

3. **Duty to Mitigate, Halt or Reduce Activity**

The permittee shall take all reasonable steps to prevent, minimize or correct any adverse impact on public health or the environment, resulting from non-compliance with this permit. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with this permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided.

4. Power Failures

In order to maintain compliance with effluent limitations and prohibitions of this permit, the permittee shall either:

a. In accordance with the Schedule of Compliance contained in Part I.B., provide an alternative power source sufficient to operate the wastewater control facilities;

or, if such alternative power source is not in existence, and no date for its implementation appears in Part I.B., have a plan of operation which will:

b. Halt, reduce, or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

5. **Removed Substances**

Solids, sludges, filter backwash or other residuals removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent such materials from entering State waters and in accordance with guidelines issued pursuant to Section 405 of the Act, and the terms of a construction or NPDES and/or solid or hazardous waste permit issued by the Department.

PART III

A. OTHER REQUIREMENTS

1. The permittee shall maintain at the permitted facility a complete Operations and Maintenance Manual for the waste treatment plant. The manual shall be made available for on-site review during normal working hours. The manual shall contain operation and maintenance instructions for all equipment and appurtenances associated with the waste treatment plant. The manual shall contain a general description of the treatment process(es), operating characteristics that will produce maximum treatment efficiency and corrective action to be taken should operating difficulties be encountered.

2. The permittee shall provide for the performance of routine daily treatment plant inspections by a certified operator of the appropriate grade as defined in Part II.C.1. The inspection shall include, but is not limited to, areas which require a visual observation to determine efficient operations and for which immediate corrective measures can be taken using the O & M manual as a guide. All inspections shall be recorded and shall include the date, time and name of the person making the inspection, corrective measures taken, and routine equipment maintenance, repair, or replacement performed. The permittee shall maintain all records of inspections at the permittee facility as required by Part I.C.7., and the records shall be made available for on-site review during normal working hours.

3. The wastewater treatment plant shall be assigned a classification of Group IV-B in the Permit to Construct which is issued by the Department. This classification corresponds to an operator with a Grade of A-B.

4. The permittee shall maintain an all weather access road to the wastewater treatment plant, landfills, and appurtenances at all times.

5. The permittee shall update and maintain a Best Management Practices (BMP) plan to identify and control the discharge of significant amounts of oils and the hazardous and toxic substances listed in 40 CFR Part 117 and Tables II and III of Appendix D to 40 CFR Part 122. The plan shall include a listing of all potential sources of spills or leaks of these materials, a method for containment, a description of training, inspection and security procedures, and emergency response measures to be taken in the event of a discharge to surface waters or plans and/or procedures which constitute an equivalent BMP. Sources of such discharges may include materials storage areas; in-plant transfer, process and material handling areas; loading and unloading operations; plant site runoff; and sludge and waste disposal areas. The BMP plan shall be updated in accordance with good engineering practices, shall be documented in narrative form, and shall include any necessary plot plans, drawings, or maps. The BMP plan shall be maintained at the plant site and shall be available for inspection by EPA and Department personnel.

6. If this permit requires continuous measuring of the pH of the effluent, the permittee shall maintain the pH of such effluent within the range set in the permit, except excursions from the range are permitted subject to the following limitations:

   a. The total time during which the pH values are outside the required range shall not exceed 7 hours and 26 minutes in any calendar month; and,

   b. No individual excursion from the range of pH values shall exceed 60 minutes.

7. "Continuous effluent monitoring is defined as the use of a continuous chart recorder.

8. The permittee shall monitor all parameters consistent with conditions established by this permit on the 2nd Monday of every calendar month, unless otherwise approved by this Department. Additional monitoring, as necessary to meet the frequency requirements of this permit (Part I.A. Effluent Limitations and Monitoring Requirements) shall be performed by the permittee.

9(a). On a monthly basis, a three-brood chronic renewal test shall be conducted using a control and instream waste concentrations (IWC) of 4.0%. The test will be conducted using Ceriodaphnia dubia as the test organism and in accordance with "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" (EPA/600/5-89/01) and "South Carolina Procedures for Pass/Fail Modifications of the Ceriodaphnia 48-hour Acute Toxicity Test and Ceriodaphnia Survival and Reproduction Test" (SCDHEC, May, 1989). The raw data and results shall be submitted to the Department in accordance with Part I(c)(3) of this permit for each test. The test must be performed by a DHEC certified laboratory.

(b). If any test results indicate a significant difference in the test species reproduction or survival between the control and instream waste concentration at the 95% confidence level (p=0.05) the test shall be deemed a failure.

(c). If a test failed, a toxicity evaluation plan shall be submitted to the Enforcement Section of the Bureau of Water Pollution Control within sixty (60) days of notification to the Department of test results.

(d). The permittee must indicate on the discharge monitoring report forms whether the test passed or failed. If the test failed, the number "1" shall be placed on the form, if the test passed, the number "0" shall be placed on the form.

(e). Twelve consecutive acceptable months of toxicity testing results may result in quarterly testing in lieu of monthly tests.

10. After twelve consecutive months of "passed" toxicity testing results, the Department may terminate the screening process and impose a limitation. Page 4 of the permit shall become effective and page 3 will expire immediately after the Department informs the permittee in writing.

11. Unless authorized elsewhere in this Permit, the permittee must meet the following requirements concerning maintenance chemicals for the following waste streams: once-through noncontact cooling water, recirculated cooling water, boiler blowdown water, and air washer water. Maintenance chemicals shall be defined as any man-induced additives to the above-referenced waste streams.

a. The discharge, in detectable amounts, of any of the one hundred and twenty-six priority pollutants is prohibited, if the pollutants are present due to the use of maintenance chemicals.

b. Slimicides, algicides and biocides are to be used in accordance with registration requirements of the Federal Insecticides, Fungicide and Rodenticide Act.

c. The use of maintenance chemicals containing bis(tributyltin) oxide is prohibited unless written approval is obtained from SCDHEC.

d. Any maintenance chemicals added to the above referenced waste streams must degrade rapidly, either due to hydrolytic decomposition or biodegradation.

e. Discharges of maintenance chemicals added to waste streams must be limited to concentrations which protect indigenous aquatic populations in the receiving stream.

f. The permittee must keep sufficient documentation on-site that would show that the above requirements are being met. The information shall be made available for on-site review by Department personnel during normal working hours.

g. The occurrence of instream problems may necessitate the submittal of chemical additive data and permit modification to include additional monitoring and limitations.

12. Wastewater treatment plant sludge is to be disposed of in accordance with the rules and regulations of the Bureau of Solid and Hazardous Waste Management. More specifically, the letter permit for dewatered wastewater sludge disposal at the Oconee County Landfill (DWP-084) issued by South Carolina Department of Health and Environmental Control, Bureau of Solid and Hazardous Waste Management dated August 14, 1992 will be incorporated into and become a part of this permit. All conditions in the letter permit are requirements of this NPDES permit.

13. After the effective date of this permit, the compliance sludge and annual groundwater monitoring results should be submitted to SCDHEC Compliance/Enforcement Division by March 1 of each year this permit is in effect.

14. The American Dye Manufacturers Institute (ADMI) Tristimulus Filter Method, as outlined in Standard Methods, latest revision, shall be used in measuring the color levels. Prior to determining the color, any turbidity should be removed by filtration through a membrane filter having a pore size of 0.45 microns. The filter used must be the non-wetted variety. If it is concluded after two (2) years of monitoring that a color limitation is appropriate, the permit may be reopened to place the limitation in the permit as well as a schedule to achieve compliance.

15. Within ninety (90) days of the effective date of this permit, the permittee shall submit to the Enforcement Section, Bureau of Water Pollution Control, a groundwater monitoring plan for Landfill No. 2, Landfill No. 3, and unlined or clay-lined wastewater treatment surface impoundments. The plan shall include, but not be limited to, the following:

    a. Number, location, approximate depth, and proposed construction details of the monitoring wells (in accordance with Well Standards and Regulations, R.61-71), along with justification of the proposed locations. The proposed well locations must be shown on a scaled map or plot.

    b. Intended purpose of the monitoring wells;

    c. List of analytical parameters;

    d. Sampling procedure and protocol, laboratory procedure and protocol; and

    e. Implementation schedule.

16. After a six (6) month monitoring period, the Department may reopen the permit to establish a discharge limitation or reduce the monitoring frequency.

Rationale
NPDES Permit #SC0000591
J.P. Stevens/Clemson Plant
Oconee County

General Information

This facility manufactures polyester and cotton sheets and pillow cases (SIC CODES 2269 & 2299). The wastewater discharge is approximately 2.16 MGD of process wastewaters, sanitary discharges, boiler blowdown, cooling water discharge, and filter backwash from one outfall into Hartwell Lake (Class A Water Classification Standard).

EPA Effluent limitation guidelines have been promulgated for this industry on a production basis (40 CFR Part 410 Textile Mills Point Source Category Effluent Limitation Guidelines), and this facility is specifically listed under Subpart C - Low Water Use Processing Subcategory and Subpart D - Woven Fabric Finishing Subcategory. This permit draft is written based on the Textile Mills Guidelines, Best Professional Judgement, Water Quality Considerations, and Standard Bureau Operating Procedures.

Effluent Limitations

Outfall 001: Textile process wastewater, sanitary wastewater, boiler blowdown, cooling water discharge, and filter backwash (2.16 MGD). See Attachment A.

I. Conventional Pollutants

BOD

a. Existing Permit Limit:
Monthly Average: 800 lbs/d Daily Maximum: 1200 lb/d

b. Wasteload Allocation Recommendation:
Monthly Average: $44.4 \frac{mg}{l} = 44.4 \frac{mg}{l} \left| \frac{8.34 lb\ l}{mg\ MG} \right| 2.14\ MGD = 800 \frac{lb}{d}$

Daily Maximum = $2 \times 800 \frac{lb}{d} = 1600 \frac{lb}{d}$

c. EPA Textile Guidelines:

(i) Subpart C - Low Water Use - General Processing

Monthly Average: $44,89 \frac{lb}{d} \left| \frac{0.7\ lb\ BOD_5}{10^3\ lb\ product} \right. = 31.42 \frac{lb}{d}$

Daily Maximum: $44,89 \frac{lb}{d} \left| \frac{1.4\ lb\ BOD_5}{10^3\ lb\ product} \right. = 62.84 \frac{lb}{d}$

(ii) Subpart D Woven Fabric Finishing

Monthly Average = $269,333 \frac{lb}{d} \left| \frac{3.3\ lb}{10^3\ lb\ product} \right. = 888.80 \frac{lb}{d}$

Daily Maximum = $(269,333) - (6.6)/10^3 = 1,777.6$ lb/d

(iii) Summation of EPA Textile Guidelines:

Monthly Average = 31.42 + 888.80 = 920.22 $\frac{lb}{d}$

Daily Maximum = 62.84 + 1777.60 = 1840.44 $\frac{lb}{d}$

d. Conclusion: The existing permit conditions are the most stringent and due to the EPA Anti-backsliding Policy (F.R. Vol 49, No. 183, Wednesday, September 26, 1984 Section 402(o) of the Clean Water Act) with no significant change in production level, the limit will be the same as the existing permit.

TSS

a) Existing Permit Limit:

Monthly Average: 930 $\frac{lb}{d}$ Daily Maximum: 1,860 $\frac{lb}{d}$

b) EPA Textile Guidelines:

i) Subpart C

Monthly Average = $44{,}892 \left| 0.7 \right.$ = 31.42 $\frac{lb}{d}$

Daily Maximum = $44{,}892 \left| 1.4 \right.$ = 62.84 $\frac{lb}{d}$

ii) Subpart D

Monthly Average = $\frac{269{,}333}{10^3} \left| 8.9 \text{ lb} \right.$ = 2,397.10 $\frac{lb}{d}$

iii) Summation of EPA Textile Guidelines

Monthly Average = 31.42 + 2397.10 = 2428.50 $\frac{lb}{d}$

Daily Maximum = 62.84 + 479.12 = 4856.96 $\frac{lb}{d}$

c) Conclusion: The existing permit conditions are the most stringent and due to the EPA Anti-backsliding Policy (F.R. Vol. 49, No. 183, Wednesday, September 26, 1984 Section 402(o) of the Clean Water Act) with no significant change in production level, the limit will be the same as the existing permit.

Fecal Coliform:

In accordance with SC Regulation 61-68:

Monthly Average: 200/100 ml Daily Maximum: 400/100 ml

Dissolved Oxygen:

In accordance with the Wasteload Allocation recommendation:

A minimum of 5.0 mg/l of Dissolved Oxygen will be required at all times.

pH

This parameter will be limited in accordance with Class B Stream Standards.

In a range of 6.0 to 9.0 standard units.

Ammonia

The Wasteload Allocation Section has recommended that the following limits apply:

Summer (March-October)

Monthly Average: 10 mg/l Daily Maximum: 20 mg/l

Monthly Average: (10 mg/l)(2.16 MGD)(8.34 lb l/mg MG) = 178.5 lb/d

Daily Maximum: (20 mg/l)(2.16 MGD)(8.34 lb l/mg MG) = 357.0 lb/d

Winter (November-February)

Monthly Average: Monitor and Report

Daily Maximum: Monitor and Report

Temperature

In accordance with SC Regulation 61-68,

Monthly Average: Daily Maximum: <32.2°C(90°F)

II. Non-Conventional Pollutants

COD

a) Existing Permit Limitations:

Monthly Average: 15,200 $\frac{lb}{d}$ Daily Maximum: 30,400 $\frac{lb}{d}$

b) EPA Textile Guidelines:

(i) Subpart C

Monthly Average = $44{,}892 \left| \frac{1.4 \text{ lb/d}}{10_3} \right.$ = 62.84 $\frac{lb}{d}$

Daily Max. = $44{,}892 \left| \frac{2.8 \text{ lb/d}}{10^3} \right.$ - 125.69 $\frac{lb}{d}$

(ii) Subpart D

40 CFR 410.42 represents the degree of effluent reduction attainable by the application of best practical control technology available (BPT):

COD = Monthly Avg. $\frac{30 \text{ lb COD}}{1000 \text{ lb Product}}$ Daily Maximum = $\frac{60 \text{ lbs COD}}{1000 \text{ lb Product}}$

Monthly Average = 269,333 $\frac{\text{lb}}{\text{d}}$ product $\left| \frac{30 \text{ lb COD}}{1000 \text{ lb Product}} \right.$ = 8080.0 $\frac{\text{lb COD}}{\text{d}}$

Daily Maximum = 269,333 $\frac{\text{lb}}{\text{d}}$ product $\left| \frac{60 \text{ lb COD}}{1000 \text{ lb Product}} \right.$ = 16,160.0 $\frac{\text{lb COD}}{\text{d}}$

*The production is further defined as simple or complex manufacturing processing, (40 CFR 410.41 (a)&(b), and those operations employing a synthetic fiber blend and operations employing only natural fiber. The production is broken down as follows:

Total Production = 269,333 $\frac{\text{lb}}{\text{d}}$

80% of Total Production is a natural fiber and a synthetic fiber blend, and the remainder is a natural fiber.

Natural fiber and a synthetic blend: 215,466 $\frac{\text{lb}}{\text{d}}$ (50% Simple, 50% Complex)

Natural Fiber: 53,866 $\frac{\text{lb}}{\text{d}}$ (48% Simple, 52% Complex)

1) Simple Manufacturing employing a natural and synthetic fiber blend:

Monthly Average : $(215,446)(0.50) \left| \frac{20 \text{ lb}}{10^3 \text{ d}} \right.$ = 2154.5 $\frac{\text{lb}}{\text{d}}$

Daily Average : = 215,466 $\frac{\text{lb}}{\text{d}} \left| 0.50 \right| \frac{40 \text{ lb}}{10^3 \text{ d}}$ = 4308.9 $\frac{\text{lb}}{\text{d}}$

2) Complex manufacturing operation with a natural and synthetic fiber blend:

Monthly Average : = 215,446 $\frac{\text{lb}}{\text{d}} \left| (0.50) \right| \frac{30 \text{ lb COD}}{10^3 \text{ Product}}$ = 3,231.7 $\frac{\text{lb}}{\text{d}}$

Daily Maximum : 215,446 $\frac{\text{lb}}{\text{d}} \left| (0.50) \right| \frac{60 \text{ lb COD}}{10^3 \text{ Product}}$ = 6,463.4 $\frac{\text{lb}}{\text{d}}$

3) Simple manufacturing with a natural fiber.

The regulation does not address this operation, therefore, the total remaining production figure will be considered complex manufacturing.

4) Complex manufacturing with a natural fiber.

Monthly Average : $= 53{,}866 \frac{lb}{d} \left| \frac{10 \text{ lb COD}}{10^3 \text{ Product}} \right. = 536.8 \frac{lb}{d}$

Daily Maximum : $= 53{,}866 \frac{lb}{d} \left| \frac{20 \text{ lb COD}}{10^3 \text{ Product}} \right. = 1077.3 \frac{lb}{d}$

(iii) Summation of EPA Textile Guidelines:

Monthly Average = 8080.0 + 62.8 + 2,154,5 + 3,231.7 + 538.6 = 14,067.7 lb/d

Daily Maximum = 16,160.0 + 125.69 + 4,308.9 + 6,463.4 + 1077.3 = 28.135.3 lb/d

c) Conclusion: The EPA Textile Guidelines are the most stringent and will be the new permit limits.

Sulfide

a) Existing Permit Limit:

Monthly Average: 25 $\frac{lb}{d}$ Daily Maximum: 50 $\frac{lb}{d}$

b) EPA Textile Guidelines:

Monthly Average: $269{,}333 \frac{lb}{d} \left| \frac{0.10 \text{ lb Sulfide}}{10^3 \text{ Product}} \right. = 26.93 \frac{lb}{d}$

Daily Maximum: $269{,}333 \frac{lb}{d} \left| \frac{0.20 \text{ lb Sulfide}}{10^3 \text{ Product}} \right. = 53.86 \frac{lb}{d}$

c) Conclusion: The existing permit limitation is the most stringent and therefore will be the new permit limit.

Phenol

a) Existing Permit Limit:

Monthly Average = 12.5 $\frac{lb}{d}$ Daily Maximum = 25 $\frac{lb}{d}$

b) EPA Textile Guideline:

Monthly Average = $\frac{269{,}333 \text{ lb}}{d} \left| \frac{0.05 \text{ lb Phenol}}{10^3 \text{ Product}} \right. = 13.46 \frac{lb}{d}$

Daily Maximum = $\frac{269{,}333 \text{ lb}}{d} \left| \frac{0.10 \text{ lb Phenol}}{10^3 \text{ Product}} \right. = 26.93 \frac{lb}{d}$

c) Conclusion: The existing permit limit is the most stringent and therefore will be the new permit limit.

Total Chromium

a) Existing Permit Conditions:

Monthly Average = 5 $\frac{lb}{d}$ Daily Maximum = 7.5 $\frac{lb}{d}$

b) EPA Textile Guidelines:

Monthly Average = 269,333 $\frac{lb}{d}$ | 0.05 lb Total Chromium / 10^3 Product = 13.46 $\frac{lb}{d}$

Daily Maximum = 269,33 $\frac{lb}{d}$ | 0.10 lb Total Chromium / 10^3 Product = 26.93 $\frac{lb}{d}$

c) Conclusion: The existing permit conditions are the most stringent and therefore will be the new permit limit.

Total Phosphorus

In accordance with the Wasteload Allocation recommendations: This parameter will require monitoring and reporting only.

Total Cyanide

This permit limit was developed by comparing the Textile Guideline, Water Quality Standards, and the Drinking Water Standards; the new permit limit is selected from the most stringent result.

7Q10 @ Seneca River 1954 = 284 cfs

Water Quality Dilution Factor: (From Dr. Zielinski's 1984 Report)
Water Quality Dilution = 25.0

Estimated Process Flow = 2.16 MGD

Human Health Dilution Factor = (From Dr. Zielinski's 1984 Report)
Annual average river flow = 1070 cfs

$\frac{1070 \text{ cfs}}{284 \text{ cfs}} = 3.76$ 3.76 X 25 = 94.2

Human Health Dilution = 94.2

Calculations for the Human Health effect is based on 10^{-5} risk level for carcinogens.

All Water Quality criteria values were taken assuming a hardness of 50 mg/l as $CaCO_3$ in the receiving stream where applicable (per standard Bureau operating procedures).

Limits were also developed assuming that the pollutant of concern is not present in the receiving stream. This means that the effluent poundage limit is equal to the instream poundage limit.

a) EPA Textile Guidelines: N/A

b) NPDES Permit Application: Daily Maximum = 32 ug/l

c) Water Quality Standards:

(i) Fresh Water Chronic Standard: 5.20 ug/l

Effluent quality require to meet this standard:

$$4.20 \frac{ug}{l} \left| \frac{mg}{10^3 ug} \right| 25(\text{Water Quality Dilution}) \left| 2.16 \text{ MGD} \right| 8.34 \text{ lb l} = 2.34 \frac{lb}{d}$$

(ii) Acute Fresh water Standards: 22.0 ug/l

Effluent Quality required to meet this standard:

$$22.0 \frac{ug}{l} \left| \frac{mg}{10^3 ug} \right| 2.16 \text{ MGD} \left| 8.34 \text{ lb l} = 9.9 \frac{lb}{d} \right.$$

d) Drinking Water Standards: 200 ug/l

Effluent Quality required to meet this standard:

$$200 \frac{ug}{l} \left| \frac{mg}{10^3 ug} \right| (94.2)\text{Human Health Dilution} \left| 2.16 \text{ MGD} \right| 8.34 \text{ lb l} = 339.4 \frac{lb}{d}$$

e) Conclusion:

The Fresh Water Chronic Standard is the most stringent and will be the new Monthly Average permit limit. The new Daily Maximum permit limit is derived by doubling the Monthly Average limit.

Formaldehyde

a) Water Quality Criterion:

From Verschueren, Karel, Handbook of Environmental Data on Organic Chemicals 2nd Edition 1983.

black bullhead: 96 hr LC_{50} = 62.1 ug/l

$\frac{62.1 \text{ mg/l}}{100}$: Acute Fresh Water Toxicity Standard = 0.62 mg/l

Effluent quality required to meet this standard:

$$0.61 \frac{mg}{l} \left| 25 \right| 2.16 \left| 8.34 = 280.2 \frac{lb}{d} \right.$$

b) Human Health Criterion:

Based on a 10^{-5} risk factor = 1.0 ug/l

Effluent quality required to meet this standard: $1 \frac{ug}{l} \left| \frac{94.2}{1} \right| = 94.2 \frac{ug}{l}$

$$1.0 \frac{ug}{l} \left| \frac{mg}{10^3 ug} \right| 94.2 \left| 2.16 \right| 8.34 = 1.70 \frac{lb}{d}$$

c) Conclusion: The Human Health value will be the new maximum daily limit.

III. Biological Monitoring

It is now standard Bureau operating procedure to use Biological Monitoring to ensure that an impact does not occur in the receiving stream.

For existing NPDES permits that come up for reissuance, whole effluent toxicity testing will be placed on the permit at a frequency of once per month for the first year with results to be monitor and report only. However, if during that year a permittee fails a test, a toxicity 1 evaluation plan will need to be submitted to the Bureau of Water Pollution Controls Enforcement Section within sixty days. In essence reissues will be given a year to screen their waste. If toxicity occurs, time will be given to rectify the toxicity and to be brought into compliance. Once in compliance, a permit limitation will go into effect.

If no failures occur during the year's screening process, a limitation for biological monitoring will become effective and the Department may reduce the frequency of sampling to once per quarter.

Chronic Toxicity Test

Based on the Pollution Control Act and regulations, no chronic toxicity is allowed instream after completing mixing equal to or greater than the permittee's instream waste concentration (IWC). The IWC is taken from the March 1984 Dilution Study of treated waste effluent at the JP Steven's Clemson Plant by Paul Zielinski, P.E., Ph.D.. From Dr. Zielinski's study, DHEC accepts his most stringent conclusion that the dilution is approximately 25:1. The resulting IWC is 4.0%.

The Department has determined that the appropriate chronic toxicity test is the seven (7) day, chronic-renewal toxicity test using a control and the IWC. The test shall be conducted using Ceriodaphnia dubia in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms" (EPA/600/4-8/014). If any test indicates a significant difference in the species survival between the control and instream waste concentration at the 95% confidence level (p=0.05), this will be deemed a failure. The Department may utilize other chronic testing methods and test organisms if deemed appropriate.

Toxicity Evaluation Plan

The Toxicity Evaluation Plan consists of three distinct phases. If a test fails, a toxicity evaluation plan will be submitted to the Enforcement Section of the Bureau of Water Pollution Control within sixty (60) days of Department's notification acknowledging test results. A compliance schedule on each phase will be initiated and completed. The first phase is the Toxicity Identification Phase. The relative strength of toxicity will be determined through full serial dilutions of the whole effluent acute and/or chronic toxicity test, and the variability of toxicity in the effluent will also be determined.

The second phase of the Toxicity Evaluation Plan is Toxicity Determination Phase. In this phase, toxic pollutants will be identified by reviewing production materials along with various other methods. The third phase is the Toxicity Reduction Phase. In this phase, a preliminary engineering report and final plans and specifications are submitted to DHEC in order to attain compliance with the Biological Limitations.

IV. Summary of Limitations:

Total Discharge Flow = 2.14 MGD

	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Conventional	lb/d	lb/d		
BOD_5	800	1200	-	-
TSS	930	1860	-	-
Fecal Coliform	-	-	200/100 ml	400/100ml
Dissolved Oxygen	A minimum of 5.0 mg/l at all times			
Ammonia(March-Oct)	178.5	357.0	10 mg/l	20 mg/l
Ammonia(Nov.-Feb.)	MR	MR	MR	MR
pH	In a range of 6.0 to 9.0			
Temperature	-	-	-	<32.2°C(90°F)
Toxicity	-	-	-	-
Color	-	-	MR	MR
Non-Conventional				
COD	14,068	28,185	-	-
Sulfide	25	50	-	-
Phenol	12.5	25	-	-
Total Chromium	5	7.5	-	-
Total Phosphorus	MR	MR	-	-
Total Cyanide	2.3	4.6	-	-
Formaldehyde	-	1.7	-	94 ug/l

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
2600 Bull Street
Columbia, South Carolina 29201

FACT SHEET

APPLICATION FOR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT TO DISCHARGE TREATED WASTEWATER TO STATE WATERS

Application No. SC0000591 Date: September 1, 1993

1. SYNOPSIS OF APPLICATION

a. Name and Address of Applicant

JP Stevens, Inc.
Clemson Plant
Cherry Road
Clemson, S.C. 29631

Corporate Office: West Point Pepperell
Engineering Department
P.O. Box 71
West Point, GA 31833

b. Description of Applicant's Operation

Manufacturing of Polyester/Cotton Sheets & Pillowcases

c. Production Capacity of Facility

44,892 lb/d Slashing-Griege Goods
269,333 lb/d Woven Fabric Finishing - (Bleaching, Dyeing, Printing and Finishing)

d. Applicant's Receiving Waters

Hartwell Lake

For a sketch showing the location of the discharge(s), see Attachment A.

e. Description of Existing Pollution Abatement Facilities

Print-Wastestream Pretreatment: 0.25 MG Equalization basin, flash mix tank; recirculation tank; flocculation tank; clarifier; sludge thickener; and vacuum filtration.

Activated Sludge Treatment: (2) 1.9 MG Aeration basin; (3) 0.3 MG clarifiers; an aerobic digester; and a 0.4 MG effluent holding pond.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER (copy from Item 1 of Form 1): SCD 991278912

Form Approved OMB No. 158-R0173

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C) — OUTFALL NO.

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)	121.3	2256		796			51	MG/L	#/Day			
b. Chemical Oxygen Demand (COD)	793	13,880		9268			51	MG/L	#/Day			
c. Total Organic Carbon (TOC)	191						1	mg/L				
d. Total Suspended Solids (TSS)	512	9522		2700			51	MG/L	#/Day			
e. Ammonia (as N)	8.6						1	mg/L				
f. Flow	VALUE 3.02		VALUE 2.54		VALUE 2.16				365	VALUE		
g. Temperature (winter)	VALUE 26		VALUE 23		VALUE 13.6		365	°C		VALUE		
h. Temperature (summer)	VALUE 32		VALUE 30.1		VALUE 26.6		365	°C		VALUE		
i. pH	MINIMUM 7.5	MAXIMUM 8.9	MINIMUM 7.57	MAXIMUM 3.1			365	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X	<0.1						1	mg/L				
b. Chlorine, Total Residual		X	<0.1						1	mg/L				
c. Color	X		15						1	Pt-Co				
d. Fecal Coliform	X		540						51	/100 ml				
e. Fluoride (16984-48-8)	X	X	0.92						1	mg/L				
f. Nitrate-Nitrite (as N)	X		2.2						1	mg/L				

FACT SHEET Page 2 of 14

f. Description of Discha (as reported by applic

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. Believed Present	b. Believed Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (1) Concentration	(2) Mass	c. LONG TERM AVRG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) Concentration	(2) Mass
b. Nitrogen, Total Organic (as N)		X	6							mg/l			
h. Oil and Grease		X	10						1	mg/l			
i. Phosphorus (as P), Total (7723-14-0)	X		1	20.9					1	MG/L	#/Day		
j. Radioactivity													
(1) Alpha, Total		X	5						1	PCi/L			
(2) Beta, Total		X	17						1	PCi/L			
(3) Radium, Total		X											
(4) Radium 226, Total		X	<0.2						1	PCi/L			
k. Sulfate (as SO_4) (14808-79-8)		X	176						1	mg/L			
l. Sulfide (as S)		X	<1.0						1	mg/l			
m. Sulfite (as SO_3) (14265-45-3)		X	<40						1	MG/L			
n. Surfactants		X	0.16						1	mg/L			
o. Aluminum, Total (7429-90-5)		X	<0.02						1	mg/L			
p. Barium, Total (7440-39-3)		X	.01						1	mg/l			
q. Boron, Total (7440-42-8)		X	<0.1						1	mg/L			
r. Cobalt, Total (7440-48-4)		X											
s. Iron, Total (7439-89-6)		X	0.45						1	mg/L			
t. Magnesium, Total (7439-95-4)		X	1.7						1	mg/L			
u. Molybdenum, Total (7439-98-7)		X	<0.01						1	mg/L			
v. Manganese, Total (7439-96-5)		X	<0.01						1	mg/L			
w. Tin, Total (7440-31-5)		X	<0.8						1	mg/L			
x. Titanium, Total (7440-32-6)		X	<0.4						1	mg/L			

EPA Form 3510-2C (8-90) PAGE V-2 CONTINUE

EPA I.D. NUMBER (copy from Item 1 of Form 1) SCD 991273912 | OUTFALL NUMBER 001

CONTINUED FROM PAGE 3 OF FORM 2-C

Form Approved OMB N

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions y for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not requ column 2-a (*secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or to believe is present. Mark "X" in column 2-c for each pollutant you believe to be absent. If you mark either columns 2-a or 2-b for any pollutant, you must pr suits of at least one analysis for that pollutant. Note that there are seven pages to this part; please review each carefully. Complete one table (*all seven pages*) for See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. Believed Present	b. Believed Absent	c. Believed Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (1) Concentration	(2) Mass	c. LONG TERM AVRG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concentration	b. Mass	5. INTAKE a. LONG TERM AVERAGE VALUE (1) Concentration	(2)
METALS, CYANIDE, AND TOTAL PHENOLS														
1M. Antimony, Total (7440-36-0)	X		X	.07						1	mg/L			
2M. Arsenic Total (7440-38-2)	X	X		<0.3						1	ug/l			
3M. Beryllium, Total, 7440-41-7)	X		X	<.01						1	mg/L			
4M. Cadmium, Total (7440-43-9)	X		X	<.01						1	mg/L			
5M. Chromium, Total (7440-47-3)	X	X		<0.02						5	MG/L			
6M. Copper, Total (7440-50-8)	X	X		0.03						1	MG/L			
7M. Lead, Total (7439-92-1)	X	X		<0.02						1	MG/L			
8M. Mercury, Total (7439-97-6)	X		X	<1.0						1	ug/L			
9M. Nickel, Total (7440-02-0)	X	X		<0.02						1	MG/L			
10M. Selenium, Total (7782-49-2)	X		X	<10						1	ug/L			
11M. Silver, Total (7440-22-4)	X	X		<0.01						1	MG/L			
12M. Thallium, Total (7440-28-0)	X		X	<0.1						1	mg/L			
13M. Zinc, Total (7440-66-6)	X	X		0.02						1	MG/L			
14M. Cyanide, Total (57-12-5)	X		X	32						1	ug/L			
15M. Phenols, Total	X		X	<10						1	ug/L			

DIOXIN

2,3,7,8-Tetra

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION — VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X												
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)	X		X	<10						1	ug/L				
4V. Bis (Chloromethyl) Ether (542-88-1)			X	NOT REQUIRED											
5V. Bromoform (75-25-2)	X		X	<10						1	ug/L				
6V. Carbon Tetrachloride (56-23-5)	X		X	<10						1	ug/L				
7V. Chlorobenzene (108-90-7)	X		X	<10						1	ug/L				
8V. Chlorodibromomethane (124-48-1)	X		X	<10						1	ug/L				
9V. Chloroethane (75-00-3)	X		X	<10						1	ug/L				
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)	X		X	<10						1	ug/L				
12V. Dichlorobromomethane (75-27-4)	X		X	<10						1	ug/L				
13V. Dichlorodifluoromethane (75-71-8)	X		X	NOT REQUIRED											
14V. 1,1-Dichloroethane (75-34-3)	X		X	<10						1	ug/L				
15V. 1,2-Dichloroethane (107-06-2)	X		X	<10						1	ug/L				
16V. 1,1-Dichloroethylene (75-35-4)			X	<10						1	ug/L				
17V. 1,2-Dichloropropane (78-87-5)	X		X	<10						1	ug/L				
18V. 1,3-Dichloropropylene (542-75-6)	X		X	<10						1	ug/L				
19V. Ethylbenzene (100-41-4)	X		X	<10						1	ug/L				
20V. Methyl Bromide (74-83-9)	X		X	<10						1	ug/L				
21V. Methyl Chloride (74-87-3)	X		X	<10						1	ug/L				

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 of Form 1): SCD 991278912 OUTFALL NUMBER: 001

Form Approved OMB No. 158-R0173

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION — VOLATILE COMPOUNDS (continued)															
22V. Methylene Chloride (75-09-2)	X		X	<10						1	ug/L				
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X		X	<10						1	ug/L				
24V. Tetrachloroethylene (127-18-4)	X		X	<10						1	ug/L				
25V. Toluene (108-88-3)	X		X	<10						1	ug/L				
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X		X	<10						1	ug/L				
27V. 1,1,1-Trichloroethane (71-55-6)	X		X	<10						1	ug/L				
28V. 1,1,2-Trichloroethane (79-00-5)	X		X	<10						1	ug/L				
29V. Trichloroethylene (79-01-6)	X		X	<10						1	ug/L				
30V. Trichlorofluoromethane (75-69-4)	X		X	<10						1	ug/L				
31V. Vinyl Chloride (75-01-4)	X		X	<10						1	ug/L				
GC/MS FRACTION — ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X		X	<20						1	"				
2A. 2,4-Dichlorophenol (120-83-2)	X		X	<20						1	"				
3A. 2,4-Dimethylphenol (105-67-9)	X		X	<20						1	"				
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X		X	<20						1	"				
5A. 2,4-Dinitrophenol (51-28-5)	X		X	<20						1	"				
6A. 2-Nitrophenol (88-75-5)	X		X	<20						1	"				
7A. 4-Nitrophenol (100-02-7)	X		X	<20						1					
8A. P-Chloro-M-Cresol (59-50-7)	X		X	<20						1	"				
9A. Pentachlorophenol (87-86-5)	X		X	<20						1					
10A. Phenol (108-95-2)	X	X		11	0.184					1	ug/L				

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (If available)	2. MARK "X" a. TEST-ED	b. REQUIRED	c. REQUIRED ANALYSIS	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS															
12. Acenaphthene (83-32-9)	X		X	<20											
28. Acenaphthylene (208-96-8)	X		X	<20											
39. Anthracene (120-12-7)	X		X	<20											
46. Benzidine (92-87-5)	X		X	<20											
59. Benzo (a) Anthracene (56-55-3)	X		X	<20											
60. Benzo (a) Pyrene (50-32-8)	X		X	<20											
70. 3,4-Benzo-fluoranthene (205-99-2)	X		X	<20											
86. Benzo (ghi) Perylene (191-24-2)	X		X	<20											
87. Benzo (k) Fluoranthene (207-08-9)	X		X	<20											
100. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X		X	<20											
110. Bis (2-Chloro-ethyl) Ether (111-44-4)	X		X	<20											
120. Bis (2-Chloro-isopropyl) Ether (108-60-1)	X		X	<20											
126. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X		X	<20											
140. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X		X	<20											
150. Butyl Benzyl Phthalate (85-68-7)	X		X	<20											
160. 2-Chloro-naphthalene (91-58-7)	X		X	<20											
172. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X		X	<20											
183. Chrysene (218-01-9)	X		X	<20											
194. Dibenzo (a,h) Anthracene (53-70-3)	X		X	<20											
209. 1,2-Dichloro-benzene (95-50-1)	X		X	<20											
210. 1,3-Dichloro-benzene (541-73-1)	X		X	<20											

EPA Form 3510-2C (8-90) A — PAGE V-4 — CONTINUE ON PAGE

CONTINUED FROM PAGE V-4 — SCD 991278912 — 001

Form Approved OMB No. 158-R01

1. POLLUTANT AND CAS NUMBER (If available)	2. MARK "X" a. TEST-ED	b. REQUIRED	c. REQUIRED ANALYSIS	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE a. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS (continued)														
220. 1,4-Dichloro-benzene (106-46-7)	X		X	<20										
230. 3,3'-Dichloro-benzidine (91-94-1)	X		X	<20										
240. Diethyl Phthalate (84-66-2)	X		X	<20										
250. Dimethyl Phthalate (131-11-3)	X		X	<20										
260. Di-n-Butyl Phthalate (84-74-2)	X		X	<20										
270. 2,4-Dinitro-toluene (121-14-2)	X		X	<20										
280. 2,6-Dinitro-toluene (606-20-2)	X		X	<20										
290. Di-n-Octyl Phthalate (117-84-0)	X		X	<20										
300. 1,2-Diphenyl-hydrazine (as Azobenzene) (122-66-7)	X		X	<20										
310. Fluoranthene (206-44-0)	X		X	<20										
320. Fluorene (86-73-7)	X		X	<20										
330. Hexachlorobenzene (118-74-1)	X		X	<20										
340. Hexachlorobutadiene (87-68-3)	X		X	<20										
350. Hexachlorocyclopentadiene (77-47-4)	X		X	<20										
360. Hexachloroethane (67-72-1)	X		X	<20										
370. Indeno (1,2,3-cd) Pyrene (193-39-5)	X		X	<20										
380. Isophorone (78-59-1)	X		X	<20										
390. Naphthalene (91-20-3)	X		X	<20										
400. Nitrobenzene (98-95-3)	X		X	<20										
410. N-Nitro-sodimethylamine (62-75-9)	X		X	<20										

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)														
43B. N-nitrosodimethylamine (62-75-9)	X		X	< 20										
44B. Phenanthrene (85-01-8)	X		X	< 20										
45B. Pyrene (129-00-0)	X		X	< 20										
46B. 1,2,4-Trichlorobenzene (120-82-1)	X		X	< 20										
GC/MS FRACTION – PESTICIDES														
1P. Aldrin (309-00-2)			TESTING NOT REQUIRED											
2P. α-BHC (319-84-6)														
3P. β-BHC (319-85-7)														
4P. γ-BHC (58-89-9)														
5P. δ-BHC (319-86-8)														
6P. Chlordane (57-74-9)														
7P. 4,4'-DDT (50-29-3)														
8P. 4,4'-DDE (72-55-9)														
9P. 4,4'-DDD (72-54-8)														
10P. Dieldrin (60-57-1)														
11P. α-Endosulfan (115-29-7)														
12P. β-Endosulfan (115-29-7)														
13P. Endosulfan Sulfate (1031-07-8)														
14P. Endrin (72-20-8)														
15P. Endrin Aldehyde (7421-93-4)														
16P. Heptachlor (76-44-8)														

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CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1) SCD 991278912 OUTFALL NUMBER 001

Form Approved OMB

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS
GC/MS FRACTION – PESTICIDES (continued)														
17P. Heptachlor Epoxide (1024-57-3)			TESTING NOT REQUIRED											
18P. PCB-1242 (53469-21-9)														
19P. PCB-1254 (11097-69-1)														
20P. PCB-1221 (11104-28-2)														
21P. PCB-1232 (11141-16-5)														
22P. PCB-1248 (12672-29-6)														
23P. PCB-1260 (11096-82-5)														
24P. PCB-1016 (12674-11-2)														
25P. Toxaphene (8001-35-2)														

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2. PROPOSED EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from outfall(s) serial number(s)001: process wastewater, sanitary wastewater, boiler blowdown, cooling water discharge & filter backwash.

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	kg/day (lbs/day)		Other Units (Specify)			
	Monthly Average	Daily Max.	Monthly Average	Daily Max.	Measurement Frequency	Sample Type
Flow-m3/day (MGD)	-	-	MR	MR	Daily	Continuous
BOD_5	363(800)	545(1200)	-	-	1/week	24Hr. Composite
TSS	424(930)	844(1860)	-	-	1/week	24Hr. Composite
COD	6395(14068)	12788(28135)	-	-	1/week	24Hr. Composite
Sulfide	(11.3)25	(22.6)50	-	-	2/month	Grab
Phenol	(5.7)12.5	(11.3)25	-	-	2/month	Grab
Total Chromium	(2.3)5	(3.4)7.5	-	-	2/month	24Hr. Composite
Total Phosphorus	MR	MR	-	-	1/month	24Hr. Composite
Total Cyanide	1.04(2.3)	2.09(4.6)	-	-	1/month	Grab
Formaldehyde	-	-	-	0.094 mg/l	1/month	Grab
Color	-	-	MR	MR	1/month	24Hr. Composite
Fecal Coliform	-	-	200/100ml	400/100ml	1/week	Grab
Dissolved Oxygen	A minimum of 5.0 mg/l at all times				1/week	Grab
Ammonia(March-October)	178.5	357.0	10 mg/l	20 mg/l	1/week	Grab
Ammonia(Nov.-February)	MR	MR	MR	MR	1/week	Grab
Temperature	-	-	-	<32.2°C(90°F)	1/week	Grab

Limits are based on a flow of 2.14 MGD.
MR = Monitor and Report

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored daily by a continuous recorder.
3. There shall be no discharge of floating solids or visible foam in other than trace amounts; nor, shall the effluent cause a visible sheen on the receiving waters.
4. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at or near the outfall but prior to actual discharge or mixing with the receiving stream.

3. MONITORING REQUIREMENTS

The applicant will be required to monitor regularly for flow and those parameters limited in Section 2 above with sufficient frequency to ensure compliance with the permit conditions. Frequency, methods of sampling, and reporting dates will be specified in the final permit.

4. PROPOSED COMPLIANCE SCHEDULE FOR ATTAINING EFFLUENT LIMITATIONS

N/A

5. PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE

The permittee shall provide for the performance of routine daily treatment plant inspections by a certified operator of the appropriate grade as defined in Part II.C.1. The inspection shall include, but is not limited to, areas which require a visual observation to determine efficient operations and for which immediate corrective measures can be taken using the O & M manual as a guide. All inspections shall be recorded and shall include the date, time and name of the person making the inspection, corrective measures taken, and routine equipment maintenance, repair, or replacement performed. The permittee shall maintain all records of inspections at the permittee facility as required by Part I.C.7., and the records shall be made available for on-site review during normal working hours.

The permittee shall update and maintain a Best Management Practices (BMP) plan to identify and control the discharge of significant amounts of oils and the hazardous and toxic substances listed in 40 CFR Part 117 and Tables II and III of Appendix D to 40 CFR Part 122. The plan shall include a listing of all potential sources of spills or leaks of these materials, a method for containment, a description of training, inspection and security procedures, and emergency response measures to be taken in the event of a discharge to surface waters or plans and/or procedures which constitute an equivalent BMP. Sources of such discharges may include materials storage areas; in-plant transfer, process and material handling areas; loading and unloading operations; plant site runoff; and sludge and waste disposal areas. The BMP plan shall be updated in accordance with good engineering practices, shall be documented in narrative form, and shall include any necessary plot plans, drawings, or maps. The BMP plan shall be maintained at the plant site and shall be available for inspection by EPA and Department personnel.

The permittee shall monitor all parameters consistent with conditions established by this permit on the 2nd Monday of every calendar month, unless otherwise approved by this Department. Additional monitoring, as necessary to meet the frequency requirements of this permit (Part I.A. Effluent Limitations and Monitoring Requirements) shall be performed by the permittee.

(a). On a monthly basis, a three-brood chronic renewal test shall be conducted using a control and instream waste concentrations (IWC) of 4.0%. The test will be conducted using Ceriodaphnia dubia as the test organism and in accordance with "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" (EPA/600/5-89/01) and "South Carolina Procedures for Pass/Fail Modifications of the Ceriodaphnia 48-hour Acute Toxicity Test and Ceriodaphnia Survival and Reproduction Test" (SCDHEC, May, 1989). The raw data and results shall be submitted to the Department in accordance with Part I(c)(3) of this permit for each test. The test must be performed by a DHEC certified laboratory.

(b). If any test results indicate a significant difference in the test species reproduction or survival between the control and instream waste concentration at the 95% confidence level (p=0.05) the test shall be deemed a failure.

(c). If a test failed, a toxicity evaluation plan shall be submitted to the Enforcement Section of the Bureau of Water Pollution Control within sixty (60) days of notification to the Department of test results.

(d). The permittee must indicate on the discharge monitoring report forms whether the test passed or failed. If the test failed, the number "1" shall be placed on the form, if the test passed, the number "0" shall be placed on the form.

(e). Twelve consecutive acceptable months of toxicity testing results may result in quarterly testing in lieu of monthly tests.

Unless authorized elsewhere in this Permit, the permittee must meet the following requirements concerning maintenance chemicals for the following waste streams: once-through noncontact cooling water, recirculated cooling water, boiler blowdown water, and air washer water. Maintenance chemicals shall be defined as any man-induced additives to the above-referenced waste streams.

a. The discharge, in detectable amounts, of any of the one hundred and twenty-six priority pollutants is prohibited, if the pollutants are present due to the use of maintenance chemicals.

b. Slimicides, algicides and biocides are to be used in accordance with registration requirements of the Federal Insecticides, Fungicide and Rodenticide Act.

c. The use of maintenance chemicals containing bis(tributyltin) oxide is prohibited unless written approval is obtained from SCDHEC.

d. Any maintenance chemicals added to the above referenced waste streams must degrade rapidly, either due to hydrolytic decomposition or biodegradation.

e. Discharges of maintenance chemicals added to waste streams must be limited to concentrations which protect indigenous aquatic populations in the receiving stream.

f. The permittee must keep sufficient documentation on-site that would show that the above requirements are being met. The information shall be made available for on-site review by Department personnel during normal working hours.

g. The occurrence of instream problems may necessitate the submittal of chemical additive data and permit modification to include additional monitoring and limitations.

Wastewater treatment plant sludge is to be disposed of in accordance with the rules and regulations of the Bureau of Solid and Hazardous Waste Management, Industrial Waste Permit #IWP-135.

6. WATER QUALITY STANDARDS AND EFFLUENT STANDARDS APPLIED TO THE DISCHARGE

This permit draft was written in conformance with EPA Guidelines for Textile Mills (40 CFR 410), Best Professional Judgment, Standard Bureau Operating Procedures, Human Health Criterion, and Water Quality Standards.

7. PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS

a. Comment Period

The Department of Health and Environmental Control proposes to issue an NPDES permit to this applicant subject to the effluent limitations and special conditions outlined above. These determinations are tentative.

Interested persons are invited to submit written comments on the permit application or on DHEC's proposed determinations to the following address:

South Carolina Department of Health and Environmental Control
NPDES Administration
2600 Bull Street
Columbia, South Carolina 29201

All comments received prior to
will be considered in the formulation of final determinations with regard to this application.

b. Public Hearing

The Department of Health and Environmental Control Commissioner may hold a public hearing if there is a significant degree of public interest in a proposed permit or group of permits. Public notice of such a hearing will be circulated in newspapers in the geographical area of the discharge and to those on the DHEC mailing list at least thirty days prior to the hearing.

Following the public hearing, the Commissioner may make such modifications in the terms and conditions of the proposed permit as may be appropriate and shall issue or deny the permit. Notice of issuance or denial will be circulated to those who participated in the hearing and to appropriate persons on the DHEC mailing list.

If the permit is issued, it will become effective the first of the month following date of issuance and will be the final action of DHEC unless an adjudicatory hearing is granted.

c. Adjudicatory Hearings

Any person may submit a request for an administrative adjudicatory hearing to consider the final permit and its conditions. If you wish to request an administrative adjudicatory hearing, such request must be made in accordance with Regulation 61-79, Volume 25, S.C. Code of Laws, 1976, as amended. As required by this regulation, two (2) copies of the request must be served on the South Carolina Board of Health and Environmental Control, 2600 Bull Street, South Carolina 29201, within fifteen (15) days following issuance of the permit. Service may be effected by personal delivery or by first class mail.

The following elements must, at a minimum, be included within the request:

1. A title indicating the nature of the proceeding and the parties involved;

2. The complete name and address of the party filing the pleading and, if applicable, the organization(s) or interests which he represents;

3. If the requesting party is to be represented by counsel, the name and address of the attorney;

4. A clear and concise statement of the requesting party's affected interest;

5. A clear and concise statement of the issues upon which the request is based and, where applicable, the contested sections of the permit. (It should be noted that any uncontested portions of the permit will become effective according to its terms on the effective date specified in the permit).

6. A statement of the relief sought by the requesting party.

In the event that such a request is filed, the contested provisions of the permit will be stayed and will not become effective until the administrative review process is complete. All uncontested provisions of the permit will be considered issued and effective on the effective date set out in the permit and must be complied with by the facility. Final determination of permit conditions following an adjudicatory hearing will be in accordance with Regulation 61-72.

Information pertaining to adjudicatory matters may be obtained by contacting the Legal Office of the Department of Health and Environmental Control, 2600 Bull Street, Columbia, South Carolina or by calling 803/734-4910.

d. Issuance of the Permit when no Hearings are Held

If no public hearing or adjudicatory hearing is held, and, after review of the comments received, DHEC's determinations are substantially unchanged, the permit will issue and become effective the first of the month following date of issue. This will be the final action of the Department of Health and Environmental Control.

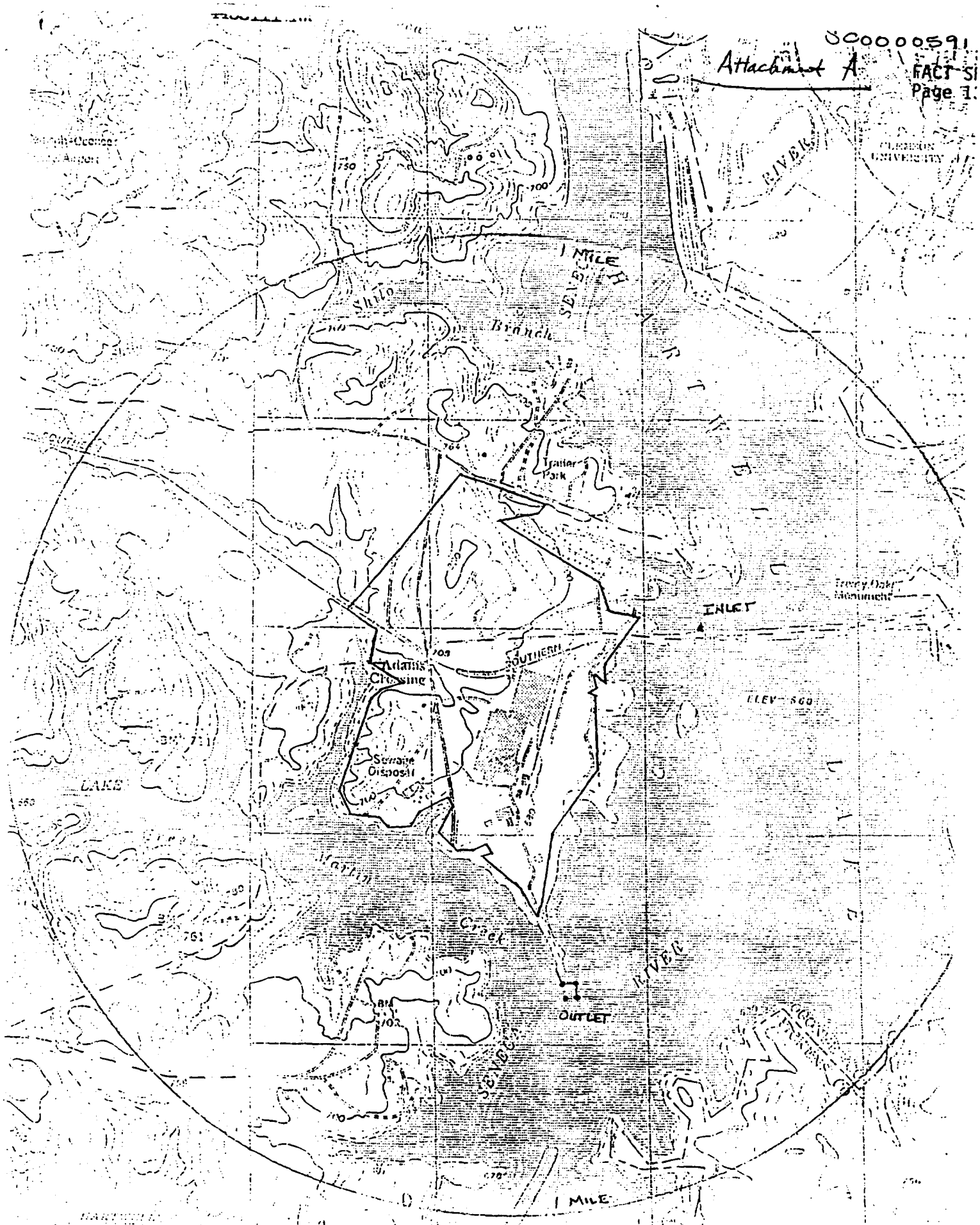
If no hearings are held, but there have been substantial changes, public notice of DHEC's revised determination will be made. Following termination of the 15-day comment period and will be the final action of Department of Health and Environmental Control, unless a public or adjudicatory hearing is granted.

SC0000591

Attachment A

FACT SI

Page 1



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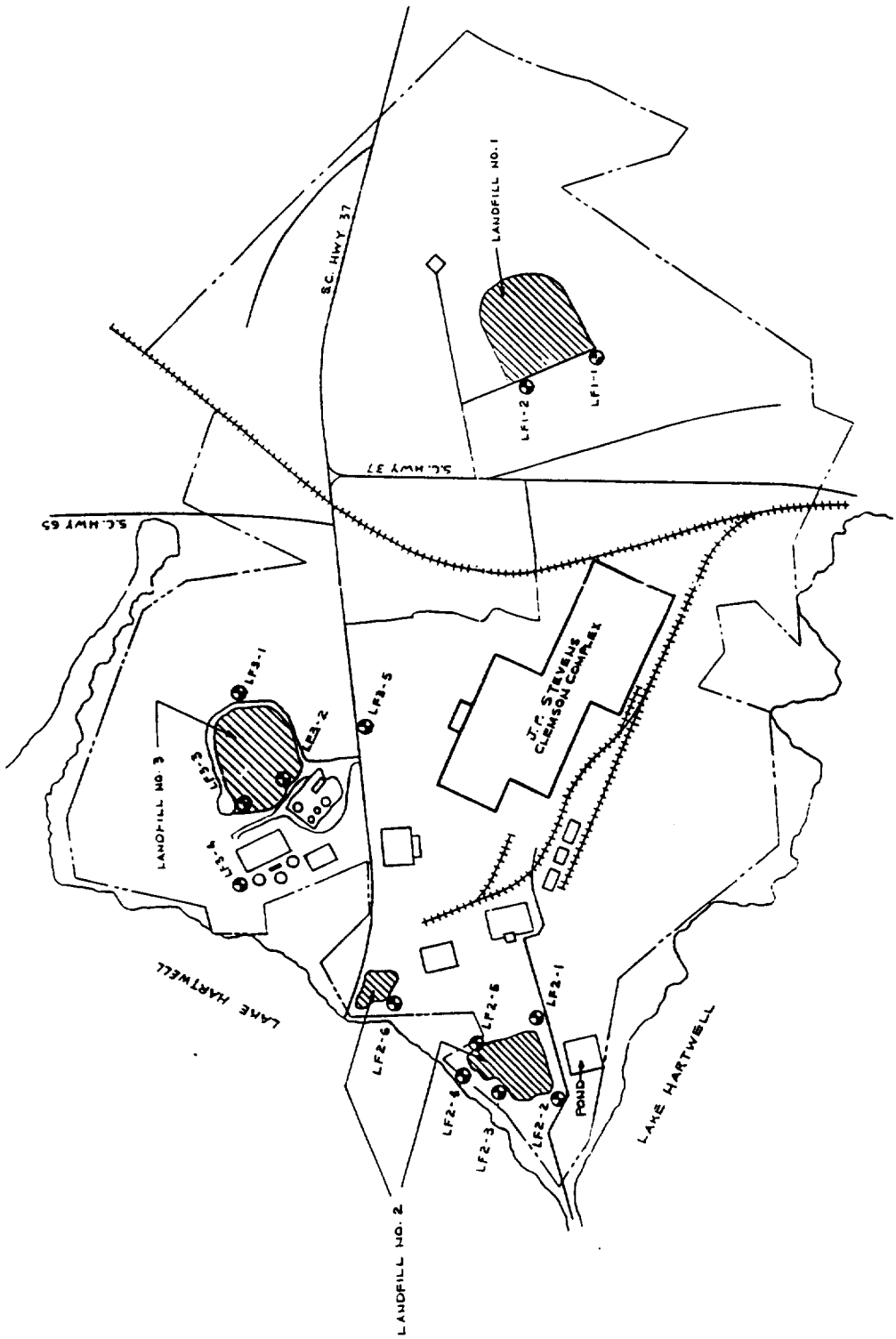
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LANDFILL NO. 1
LF1-1
LF1-2
S.C. HWY 37
S.C. HWY 93
LF3-1
LF3-2
LF3-3
LF3-4
LF3-5
LANDFILL NO. 3
J.F. STEVENS CLEMSON COMPLEX
LAKE HARTWELL
LF2-6
LF2-6
LF2-1
LF2-4
LF2-5
LF2-2
LF2-3
POND
LAKE HARTWELL
LANDFILL NO. 2
LEGEND:
EXISTING MONITORING WELL
ENGINEERING DEP.
WESTPOINT PEPPERE
SCALE N.T.S.

REFERENCE NO. 25

TELEPHONE CONTACT SUMMARY
DYNAMAC CORPORATION

Renee Harris
On (Date): 10/16/93
At (Time): 2:45 p.m.

Signature/Date: R. Renee Harris 10/16/93
J.P. Stevens and Company
EPA ID No. SCD003345097

Person(s) contacted: Teresa Turner
Title/Position: Secretary
Phone No.: 803-885-2723
Organization: Seneca Water Department
Address (City/State): Seneca, SC

GENERAL SUBJECT

Source of Water Supply for Seneca Water Department.

CONVERSATION SUMMARY

Ms. Turner state that the Seneca Water Department obtains all of its water from the Keowee Lake. The Seneca Water Department serves approximately 8,000 - 9,000 connections.

REFERENCE NO. 26

TELEPHONE CONTACT SUMMARY
DYNAMAC CORPORATION

Renee Harris
On (Date): 11/3/93
At (Time): 9:00 a.m.

Signature/Date: 11/3/93/ V. Renee Harris
J.P. Stevens and Company
EPA ID No. SCD003345097

Person(s) contacted: Connie Finger
Title/Position: Administrative Specialist
Phone No.: 803-231-5803
Organization: Duke Power Anderson Water Operations
Address (City/State): Anderson, SC

GENERAL SUBJECT

Water source, population served and number of connections served for Duke Power Anderson Water Operations.

CONVERSATION SUMMARY

Ms. Finger stated that Duke Power Anderson Water Operations obtains its water from a surface water intake on Lake Hartwell. The water company serves approximately 14,600 connections directly and resells the water to approximately 11 other water companies. Clemson University and the City of Clemson obtains its water from the Duke Power Anderson Water Operations.

REFERENCE NO. 27

TELEPHONE CONTACT SUMMARY
DYNAMAC CORPORATION

Renee Harris
On (Date): 11/2/93
At (Time): 4:10 p.m.

Signature/Date: V. Renee Harris 11/2/93
J.P. Stevens and Company
EPA ID No. SCD003345097

Person(s) contacted: David W. Smith
Title/Position: Environmental Specialist
Phone No.: 803-737-0800
Organization: Water Resources Commission
Address (City/State): Columbia, SC

GENERAL SUBJECT

Location of surface water intakes on Lake Hartwell.

CONVERSATION SUMMARY

Ms. Smith stated that there are four surface water intakes on Lake Hartwell located near the city of Clemson and within 15 miles downstream of the city of Clemson. The names and locations of operations using surface water intakes on Lake Hartwell are as follows:

Duke Power Anderson Water Operations
34° 33' 22" North latitude
82° 44' 29" West longitude

J.P. Stevens and Company
34° 38' 55" North latitude
82° 51' 20" West longitude

Milliken and Company
34° 41' 30" North latitude
82° 51' 20" West longitude

Clemson University Water System
34° 40' 30" North latitude
82° 51' 20" West longitude

REFERENCE NO. 28

PROJECT NOTE
DYNAMAC CORPORATION

Renee Harris
On (Date): 11/4/93

Signature/Date: [illegible] 11/4/93
J.P. Stevens and Company
EPA ID No. SCD003345097

Person(s) contacted: name not given
Title/Position: Secretary
Phone No.: 803-654-1200
Organization: Clemson Chamber of Commerce
Address (City/State): P.O. Box 202, Clemson, SC 29633

GENERAL SUBJECT

Industrial facilities within the vicinity of the city of Clemson.

CONVERSATION SUMMARY

The secretary mailed a list of company names and addresses to Dynamac, regarding the industrial facilities within the vicinity of the city of Clemson. Westpoint Pepperell is listed, and and therefore the facility is currently in operation.

INDUSTRIES

BASF
Mr. John Rich
Central, SC 29620
639-6311

Central Textiles
Mr. Tom Freeman
P.O. Box 68
Central, SC 29630
639-2492

Clemson Yarns
P.O. Box 127
Norris, SC 29667
639-4404
John Johnson, Plant Manager

Defore-Milliken & Company
Mr. Bob Hackle
P.O. Box 1031
Clemson, SC 29633

Dunlop Slazenger Corp.
Mr.A.C. Ihle, Plant Mgr.
P.O. Box 604
Westminster, SC 29693
647-5406

Dyncast, Inc.
Mr. Jim Newman, Plant Mgr.
P.O. Box 1214
Seneca, SC 29679
882-5652

Englehard Corporation
Mr. Ruel Cheatham
P.O. Box 1739
Seneca, SC 29679
882-9841

Fibertech Corporation
Ms. Ellie Wilson
P.O. Box 8
Pendleton, SC 29670
646-9990

Greenfield Industries
Mr. F.Dennis Smith, Dir. Opers.
P.O. Box 872
Clemson, SC 29631
654-4922

Jacobs Chuck Mfg. Co.
Mr. Dennis Claramut, Pres.
PO Box 592
Clemson, SC 29693
654-5926

The Kendall Company
Mr. Arnold Groves, Plant Mgr.
PO Box 918
Seneca, SC 29679
882-7203

Metromont Materials
Mr. Craig Miller
Rt. 2, Box 541
Seneca, SC 29678
882-4616

Milliken & Company
P.O. Box 158
Pendleton, SC 29670
646-3204

NCR Corporation
Mr. Stephen A. Sefick
P.O. Box 800
Liberty, SC 29657
843-1778

Phillips Fibers Corporation
P.O. Box P 66
Seneca, SC 29679
882-5660

Sangamo-Weston, Inc.
P.O. Box 75
West Union, SC 29696
638-3601

Westpoint Pepperell
Mr. J. Gregory Matthews, Pers.
Clemson Plant
Clemson, SC 29631
654-3030

REFERENCE NO. 29

PROJECT NOTE
DYNAMAC CORPORATION

Renee Harris
On (Date): 11/3/93
At (Time): 2:00 p.m.

Signature/Date: V. Renee Harris 11/3/93
J.P. Stevens and Company
EPA ID No. SCD003345097

GENERAL SUBJECT

The map of the city of Seneca, town of Clemson, and Duke Power water lines was obtained from the file material for J.P. Stevens and Company, from the SSI reference material. The water line map was used to plot the water lines on the topographic map (Reference 2), which was used for determining the number of wells located within a 4-mile radius of J.P. Stevens.

WF

South Carolina Department of Health and Environmental Control

2600 Bull Street
Columbia, S.C. 29201

Commissioner
Michael D. Jarrett

REFERENCE 30

[illegible], Chairman
John B. Pate, M.D., Vice-Chairman
William E. Applegate, III, Secretary
Toney Graham, Jr., M.D.
John H. Burriss
Richard E. Jabbour, D.D.S.
Currie B. Spivey, Jr.

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

February 28, 1990

Mr. Terry Y. Treece
West Point Pepperell
Cherry Rd.
Clemson, S.C. 29633

Re: Notice of Violation
J.P. Stevens/Clemson Plt.
NPDES Permit #SC0000591
Pickens County

Dear Mr. Treece:

A review of the Discharge Monitoring Reports submitted for the above referenced facility for the period November and December 1989, revealed the following NPDES Permit violations:

1) Fecal coliform limit exceeded.
2) Total suspended solids limit exceeded.
3) Biochemical oxygen demand limit exceeded.

Failure to comply with the conditions of the NPDES permit violates the Pollution Control Act, S.C. Code of Laws, Ann. Section 48-1-90 and Section 48-1-110, (1987), and subjects you to civil penalties as provided therein.

You are requested to respond in writing within thirty (30) days from receipt of this notice. Your answer should include the following: (a) the reasons for noncompliance, (b) what corrective measure will be taken, and (c) when the facility will be back in compliance. Specifically, include information on what steps are being taken to halt the re-occurrence of filamentous sludge bulking

as reported in your correspondence to the Department dated 1/30/90 (attached). The Department is interested in what actions your facility proposes to initiate for a permanent solution to prevent effluent violations not the treatment of these symptoms after violations occur.

Sincerely,

Jeffry L. Newman
Environmental Quality Manager
Water Quality Assessment and
Enforcement Division

JLN\jh
cc: Doug Johns
Steve Thomas
Earl Hunter

REFERENCE 31

Water Resources Data South Carolina Water Year 1990

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT SC-90-1
Prepared in cooperation with the State of South Carolina
and with other local and Federal agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in South Carolina write to
District Chief, Water Resources Division
U.S. Geological Survey
Stephenson Center-Suite 129
720 Gracern Road
Columbia, South Carolina 29210-7651

1990

This volume of the annual hydrologic data report of South Carolina is one of a series of annual reports that document hydrologic data gathered from the U. S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for South Carolina are contained in one volume.

This report is the culmination of a concerted effort by dedicated personnel of the U. S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

J. M. Barton	D. E. Leary
B. W. Church	S. W. Logan
F. H. Dew	K. B. Long
J. T. Dover	Frank Melendez
P. A. Drewes	J. W. Miller
J. W. Erbland	L. C. Morey
J. W. Gissendanner	G. L. Murray
D. L. Graves	D. D. Nagle
J. M. Hall	I. S. Roberts
H. E. Herlong	W. J. Stringfield
N. M. Hurley	R. A. Thorn
A. A. Jackson	B. F. Walh

Jan Marie Bullock typed the text of the report.

This report was prepared in cooperation with the State of South Carolina and with other agencies under the general supervision of R. N. Cherry, District Chief, South Carolina.

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. USGS/WRD/HD-91/272	2.	3. Recipient's Accession No.
4. Title and Subtitle: Water Resources Data South Carolina Water Year 1990			5. Report Date: March 1991
			6.
7. Author(s): C.S. Bennett, T.W. Cooney, K.H. Jones, P.A. Conrads			8. Performing Organization Rept. No. USGS-WRD-SC-90-1
9. Performing Organization Name and Address: U.S. Geological Survey, Water Resources Division, Stephenson Center-Suite 129, 720 Gracern Rd., Columbia, SC 29210-7651			10. Project/Task/Work Unit No.
			11. Contract(C) or Grant(G) No. (C) (G)
12. Sponsoring Organization Name and Address: U.S. Geological Survey, Water Resources Division, Stephenson Center-Suite 129, 720 Gracern Rd., Columbia, SC 29210-7651			13. Type of Report & Period Covered: Annual-Oct. 1, 1989 to Sept. 30, 1990
			14.

15. Supplementary Notes

Prepared in cooperation with the State of South Carolina and with other agencies.

16. Abstract (Limit: 200 words)

Water resources data for the 1990 water year for South Carolina consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and levels of ground-water wells. This volume contains records for water discharge at 120 gaging stations, stage only at 22 gaging stations, stage and contents at 13 lakes and reservoirs, water-quality at 44 gaging stations, and water levels at 62 observation wells. Also included are data for 41 crest-stage partial-record stations and discharge measurement information at 4 locations. Locations of these sites are shown on figures 3, 4, 5, 6, and 7. Additional water data were collected at various sites not involved in the systematic data-collection program. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in South Carolina.

17. Document Analysis a. Descriptors

*South Carolina, *Hydrologic Data, *Surface Water, *Ground Water, *Water Quality, Flow Rate, Gaging Stations, Lakes, Reservoirs, Chemical Analyses, Sediments, Water Temperatures, Sampling Sites, Water Levels, Water Analyses.

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement	19. Security Class (This Report)	21. No. of Pages
No restriction on distribution. This report may be purchased: National Technical Information Service, Springfield, VA 22161	Unclassified	505
	20. Security Class (This Page) Unclassified	22. Price

(See ANSI-Z39.18) See Instructions on Reverse

OPTIONAL FORM 272 (4-77) (Formerly NTIS-35) Department of Commerce

02185200 LITTLE RIVER NEAR WALHALLA, SC

LOCATION.--Lat 34°50'11", long 82°58'48", Oconee County, Hydrologic Unit 03060101, at downstream side of bridge on County Road 24, 0.5 mi downstream from Oconee Creek, 3.5 mi south of Salem, and 6.5 mi northeast of Walhalla.

DRAINAGE AREA.--72.0 mi^2.

PERIOD OF RECORD.--March 1967 to current year.

GAGE.--Water-stage recorder and data collection platform. Datum of gage is 807.63 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good, except for estimated daily discharges: Aug. 29 - 31, which are fair.

AVERAGE DISCHARGE.--23 years, 175 ft^3/s, 33.01 in/yr.

EXTREMES FOR PERIOD OF RECORD.-- Maximum discharge, 12,800 ft^3/s, June 4, 1967, gage height, 12.29 ft (revised); minimum, 12 ft^3/s, Aug. 3,4, 1986, gage height, 0.84 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 1	1400	* 4690	* 7.03	Mar. 17	0900	4380	6.77

Minimum discharge, 49 ft^3/s, Sept. 8, gage height, 1.08 ft; minimum daily, 52 ft^3/s, Sept. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2830	142	147	400	245	240	276	188	133	81	74	67
2	1030	140	141	271	223	379	267	179	136	80	74	63
3	488	139	133	202	215	731	257	174	141	78	72	59
4	344	136	129	222	341	415	248	177	136	78	72	57
5	277	134	128	222	266	338	241	175	129	76	72	55
6	237	150	126	234	234	300	233	166	126	76	77	53
7	217	150	127	221	238	271	232	163	124	76	86	52
8	203	156	250	291	225	280	224	157	121	76	75	52
9	192	150	226	252	238	334	220	206	120	75	72	107
10	186	140	197	221	681	308	230	513	125	74	85	107
11	181	136	181	206	408	291	256	262	115	74	73	132
12	175	135	385	196	331	276	224	216	109	74	71	220
13	171	133	357	188	299	265	217	202	106	83	69	262
14	167	141	257	183	284	257	215	188	106	160	69	237
15	163	161	218	180	273	252	217	176	106	119	69	186
16	162	292	197	177	537	564	212	168	105	94	81	127
17	200	197	179	176	426	2350	208	168	108	85	69	103
18	184	175	170	177	312	732	200	157	103	100	69	92
19	194	162	169	172	325	498	193	152	100	140	69	83
20	169	156	164	190	277	413	192	168	95	95	69	80
21	157	151	158	496	248	363	188	161	94	113	69	76
22	153	164	152	268	300	333	189	153	91	124	83	113
23	151	253	147	228	292	308	188	148	91	100	107	91
24	149	189	146	220	254	299	186	147	83	90	72	80
25	147	174	145	626	233	289	183	143	81	100	77	76
26	146	165	144	406	235	292	179	142	80	91	71	74
27	145	155	165	301	241	294	175	140	80	81	67	72
28	143	157	205	283	244	279	225	140	82	76	67	70
29	131	151	203	357	---	282	233	158	88	76	65	69
30	135	147	216	347	---	283	200	139	88	76	63	69
31	144	---	403	279	---	289	---	136	---	74	77	---
TOTAL	9371	4831	5965	8192	8425	12805	6508	5562	3202	2795	2285	2984
MEAN	302	161	192	264	301	413	217	179	107	90.2	73.7	99.5
MAX	2830	292	403	626	681	2350	276	513	141	160	107	262
MIN	131	133	126	172	215	240	175	136	80	74	63	52

CAL YR 1989 TOTAL 64919 MEAN 178 MAX 2830 MIN 54
WTR YR 1990 TOTAL 72925 MEAN 200 MAX 2830 MIN 52

02186000 TWELVE MILE CREEK NEAR LIBERTY, SC

LOCATION.--Lat 34°48'05'', long 82°44'55'', Pickens County, Hydrologic Unit 03060101, on left bank, 40 ft downstream from bridge on State Road 137, 0.8 mi downstream from Rices Creek, and 3.4 mi west of Liberty.

DRAINAGE AREA.--106 mi^2.

PERIOD OF RECORD.--May 1967 to July 1968 (discharge measurements only), July 1954 to September 1964, May 1989 to current year.

GAGE.--Data collection platform. Datum of gage is 822.18 ft above National Geodetic Vertical datum of 1929 (levels by Soil Conservation Service).

REMARKS.--May 1989 to September 1989: Records good, except for estimated daily discharges: June 20 - 27, July 1, July 31, Aug. 1, which are poor.

WATER YEAR 1990: Records good, except for period of intake lag, July 25 to Aug. 29, which are fair, and estimated daily discharges: Oct. 1 - 3, Oct. 26 to Dec. 6, Mar. 17, 18, which are poor.

AVERAGE DISCHARGE.--11 years (1955 - 1964 , 1990), 198 ft^3/s, 25.37 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,360 ft^3/s, Dec. 12, 1961, gage height, 12.23 ft; minimum, 30 ft^3/s, Sept. 23, 1955, gage height, 1.79 ft.

EXTREMES FOR CURRENT YEAR.--May 1989 to September 1989: Maximum discharge, 4,110 ft^3/s, July 3, gage height, 10.69 ft; minimum, 71 ft^3/s, July 14, 15, gage height, 1.95 ft.

WATER YEAR 1990: Maximum discharge, 4,660 ft^3/s, Mar. 17, gage height, 11.37 ft, from floodmarks; minimum, 65 ft^3/s, Aug. 19, 21, gage height, 1.86.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	106	200	92
2	---	---	---	---	---	---	---	---	---	104	144	91
3	---	---	---	---	---	---	---	---	---	1760	133	86
4	---	---	---	---	---	---	---	---	---	1840	119	78
5	---	---	---	---	---	---	---	---	---	532	113	77
6	---	---	---	---	---	---	---	---	---	318	109	77
7	---	---	---	---	---	---	---	---	---	267	115	88
8	---	---	---	---	---	---	---	---	78	245	106	89
9	---	---	---	---	---	---	---	---	144	193	105	84
10	---	---	---	---	---	---	---	---	125	169	96	80
11	---	---	---	---	---	---	---	---	89	157	93	77
12	---	---	---	---	---	---	---	---	77	161	92	76
13	---	---	---	---	---	---	---	---	78	146	107	81
14	---	---	---	---	---	---	---	---	75	141	98	88
15	---	---	---	---	---	---	---	---	116	133	101	109
16	---	---	---	---	---	---	---	---	312	132	99	180
17	---	---	---	---	---	---	---	---	386	128	95	121
18	---	---	---	---	---	---	---	---	175	155	99	97
19	---	---	---	---	---	---	---	---	228	138	99	87
20	---	---	---	---	---	---	---	---	350	197	94	83
21	---	---	---	---	---	---	---	---	300	228	91	83
22	---	---	---	---	---	---	---	---	260	393	87	136
23	---	---	---	---	---	---	---	---	200	237	87	130
24	---	---	---	---	---	---	---	---	170	189	80	101
25	---	---	---	---	---	---	---	---	150	160	101	137
26	---	---	---	---	---	---	---	---	130	141	126	296
27	---	---	---	---	---	---	---	---	125	143	164	169
28	---	---	---	---	---	---	---	---	119	172	110	125
29	---	---	---	---	---	---	---	---	119	136	103	132
30	---	---	---	---	---	---	---	---	116	125	119	276
31	---	---	---	---	---	---	---	---	---	120	105	---
TOTAL	---	---	---	---	---	---	---	---	3922	9066	3390	3426
MEAN	---	---	---	---	---	---	---	---	171	292	109	114
MAX	---	---	---	---	---	---	---	---	386	1840	200	296
MIN	---	---	---	---	---	---	---	---	75	104	80	76

WTR YR 1989 TOTAL 19804 MEAN 172 MAX 1840 MIN 75