337SERBSF10,618

337SERBSF10,618

Site Name (Subject):	SOUTHERN WOOD PIEDMONT COMPANY
Site ID (Document ID):	NCD053488557
Document Name (DocType):	Contractor Report (CONTR)
Report Segment:	
Description:	Remedial Investigation Report, Volume III: Appendix D
Date of Document:	10/7/1994
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Document Category:	FACILITY

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OCT 1 1 1994
SUPERFUND SECTION

REMEDIAL INVESTIGATION REPORT
SOUTHERN WOOD PIEDMONT COMPANY
GULF, NORTH CAROLINA, FACILITY

VOLUME III: APPENDIX D

October 7, 1994

NC0028004

Prepared for:

Southern Wood Piedmont Company
Spartanburg, South Carolina

Prepared by:

GERAGHTY & MILLER, INC.
Environmental Services
2840 Plaza Place - Suite 350
Raleigh, North Carolina 27612
(919) 571-1662

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S0-05440

Received: 04 MAY 90

Mr. Mark Radecke
Geraghty & Miller, Inc.
3724 National Drive, Suite 228
Raleigh, NC 27612

Project: NC02802 Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
05440-1	# 8746	Client
05440-2	# 8747	
05440-3	# 8748	
05440-4	Field Blank	
05440-5	Trip Blank	

PARAMETER	05440-1	05440-2	05440-3	05440-4	05440-5
Semivolatiles					
2-Chlorophenol, mg/l	ND	ND	ND	ND	ND
Phenol, mg/l	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND	ND	ND	ND
Pentachlorophenol, mg/l	ND	0.15	ND	ND	ND
Naphthalene, mg/l	ND	ND	ND	ND	ND
Acenaphthene, mg/l	ND	ND	ND	ND	ND
Phenanthrene, mg/l	ND	ND	ND	ND	ND
Anthracene, mg/l	ND	ND	ND	ND	ND
Fluoranthene, mg/l	ND	ND	ND	ND	ND
Chrysene, mg/l	ND	ND	ND	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND	ND	ND
Carbazole, mg/l	ND	ND	ND	ND	ND
Dilution factor	1	1	1	1	1
Cresol (ortho), mg/l	ND	ND	ND	ND	ND
Cresol m & p, mg/l	ND	ND	ND	ND	ND

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& ENVIRONMENTAL SERVICES, INC.

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
05440-1	# 8746	Client
05440-2	# 8747	
05440-3	# 8748	
05440-4	Field Blank	
05440-5	Trip Blank	

PARAMETER	05440-1	05440-2	05440-3	05440-4	05440-5
Toluene, mg/l	ND	ND	ND	ND	ND
Benzene, mg/l	ND	ND	ND	ND	ND
Aniline, mg/l	ND	ND	ND	ND	ND
Methylene Chloride, mg/l	ND	ND	ND	ND	ND
2-Butanone, mg/l	ND	ND	ND	ND	ND
Fluorene, mg/l	ND	ND	ND	ND	ND
1,2-Dimethylbenzene, mg/l	ND	ND	ND	ND	ND
1,3-Dimethylbenzene, mg/l	ND	ND	ND	ND	ND
1,4-Dimethylbenzene, mg/l	ND	ND	ND	ND	ND
2-Methylnaphthalene, mg/l	ND	ND	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND	ND	ND	ND
Xylenes, mg/l	ND	ND	ND	ND	ND

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Received: 04 MAY 90

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3724 National Drive, Suite 228
Raleigh, NC 27612

Project: NC02802 Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
05440-6	Detection Limits	Client
05440-7	Accuracy (mean % recovery)	
05440-8	Precision (% RPD)	

PARAMETER	05440-6	05440-7	05440-8
Semivolatiles			
2-Chlorophenol, mg/l	0.010	94 %	4.2 %
Phenol, mg/l	0.010	45 %	2.2 %
2,4-Dimethylphenol, mg/l	0.010	71 %	8.4 %
2,4,6-Trichlorophenol, mg/l	0.010	76 %	1.3 %
p-Chloro-m-cresol, mg/l	0.010	84 %	3.6 %
Pentachlorophenol, mg/l	0.050	90 %	13 %
Naphthalene, mg/l	0.010	74 %	5.4 %
Acenaphthene, mg/l	0.010	78 %	5.1 %
Phenanthrene, mg/l	0.010	82 %	8.5 %
Anthracene, mg/l	0.010	78 %	2.6 %
Fluoranthene, mg/l	0.010	74 %	8.1 %
Chrysene, mg/l	0.010	86 %	4.7 %
Benzo(a)Anthracene, mg/l	0.010	80 %	6.2 %
Benzo(b,k)fluoranthene, mg/l	0.010	90 %	14 %
Benzo(a)pyrene, mg/l	0.010	77 %	9.1 %
Indeno(1,2,3-cd)pyrene, mg/l	0.010	90 %	15 %
Dibenzo(a,h)anthracene, mg/l	0.010	70 %	18 %
Carbazole, mg/l	0.010	75 %	4.0 %
Cresol (ortho), mg/l	0.010	---	---
Cresol m & p, mg/l	0.010	---	---
Toluene, mg/l	0.0010	109 %	22 %
Benzene, mg/l	0.0010	101 %	1.2 %
Aniline, mg/l	0.010	---	---

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Raleigh, NC 27612

Project: NC02802 Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
05440-6	Detection Limits	Client
05440-7	Accuracy (mean % recovery)	
05440-8	Precision (% RPD)	

PARAMETER	05440-6	05440-7	05440-8
Methylene Chloride, mg/l	0.0010	---	---
2-Butanone, mg/l	0.010	---	---
Fluorene, mg/l	0.010	---	---
1,2-Dimethylbenzene, mg/l	0.0010	---	---
1,3-Dimethylbenzene, mg/l	0.0010	---	---
1,4-Dimethylbenzene, mg/l	0.0010	---	---
2-Methylnaphthalene, mg/l	0.010	---	---
Ethylbenzene, mg/l	0.0010	---	---
2,3,4,6-Tetrachlorophenol, mg/l	0.010	81 %	8.6 %
Xylenes, mg/l	0.0010	---	---

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Raleigh, NC 27612

Project: NC02802 Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
05440-9	# 8749	Client
05440-10	# 8750	
05440-11	# 8751	
05440-12	# 8752	
05440-13	# 8753	

PARAMETER	05440-9	05440-10	05440-11	05440-12	05440-13
Semivolatiles					
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	5.8	ND	ND	ND
Phenanthrene, mg/kg dw	ND	17	ND	ND	ND
Anthracene, mg/kg dw	ND	ND	ND	ND	ND
Fluoranthene, mg/kg dw	ND	12	ND	ND	19
Chrysene, mg/kg dw	ND	ND	ND	ND	12
Benzo(a)Anthracene, mg/kg dw	ND	ND	ND	ND	7.8
Benzo(b,k)fluoranthene, mg/kg dw	ND	ND	ND	ND	22
Benzo(a)pyrene, mg/kg dw	ND	ND	ND	ND	6.3
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	1	10	1	1	10
Cresol (ortho), mg/kg dw	ND	ND	ND	ND	ND
Cresol m & p, mg/kg dw	ND	ND	ND	ND	ND

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Received: 04 MAY 90

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Geraghty & Miller, Inc.
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Project: NC02802 Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
05440-9	# 8749	Client
05440-10	# 8750	
05440-11	# 8751	
05440-12	# 8752	
05440-13	# 8753	

PARAMETER	05440-9	05440-10	05440-11	05440-12	05440-13
Toluene, mg/kg dw	ND	0.0086	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND
Aniline, mg/kg dw	ND	ND	ND	ND	ND
Methylene Chloride, mg/kg dw	ND	ND	ND	ND	ND
2-Butanone, mg/kg dw	ND	ND	ND	ND	ND
Fluorene, mg/kg dw	ND	7.1	ND	ND	ND
1,2-Dimethylbenzene, mg/kg dw	ND	0.15	ND	ND	ND
1,3-Dimethylbenzene, mg/kg dw	ND	0.18	ND	ND	ND
1,4-Dimethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
2-Methylnaphthalene, mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	0.10	ND	ND	ND
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Xylenes, mg/kg dw dw	ND	0.34	ND	ND	ND
Percent Solids, %	84 %	67 %	89 %	79 %	81 %

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LOG NO: S0-05440

Received: 04 MAY 90

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Raleigh, NC 27612

Project: NC02802 Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
05440-14	# 8754	Client

PARAMETER	05440-14
Semivolatiles	
2-Chlorophenol, mg/kg dw	ND
Phenol, mg/kg dw	ND
2,4-Dimethylphenol, mg/kg dw	ND
2,4,6-Trichlorophenol, mg/kg dw	ND
p-Chloro-m-cresol, mg/kg dw	ND
Pentachlorophenol, mg/kg dw	ND
Naphthalene, mg/kg dw	ND
Acenaphthene, mg/kg dw	ND
Phenanthrene, mg/kg dw	ND
Anthracene, mg/kg dw	ND
Fluoranthene, mg/kg dw	0.88
Chrysene, mg/kg dw	0.45
Benzo(a)Anthracene, mg/kg dw	ND
Benzo(b,k)fluoranthene, mg/kg dw	1.1
Benzo(a)pyrene, mg/kg dw	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND
Carbazole, mg/kg dw	ND
Cresol (ortho), mg/kg dw	ND
Cresol m & p, mg/kg dw	ND
Toluene, mg/kg dw	ND
Benzene, mg/kg dw	ND
Aniline, mg/kg dw	ND
Methylene Chloride, mg/kg dw	ND
2-Butanone, mg/kg dw	ND

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& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S0-05440

Received: 04 MAY 90

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Raleigh, NC 27612

Project: NC02802 Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
05440-14	# 8754	Client

PARAMETER	05440-14
Fluorene, mg/kg dw	ND
1,2-Dimethylbenzene, mg/kg dw	ND
1,3-Dimethylbenzene, mg/kg dw	ND
1,4-Dimethylbenzene, mg/kg dw	ND
2-Methylnaphthalene, mg/kg dw	ND
Ethylbenzene, mg/kg dw	ND
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND
Xylenes, mg/kg dw	ND
Percent Solids, %	81 %

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LOG NO: S0-05440

Received: 04 MAY 90

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Geraghty & Miller, Inc.
3724 National Drive, Suite 228
Raleigh, NC 27612

Project: NC02802 Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	SAMPLED BY
05440-15	Detection Limits	Client
05440-16	Accuracy (mean % recovery)	
05440-17	Precision (% RPD)	

PARAMETER	05440-15	05440-16	05440-17
Semivolatiles			
2-Chlorophenol, mg/kg dw	0.41	128 %	30 %
Phenol, mg/kg dw	0.41	124 %	28 %
2,4-Dimethylphenol, mg/kg dw	0.41	75 %	40 %
2,4,6-Trichlorophenol, mg/kg dw	0.41	115 %	28 %
p-Chloro-m-cresol, mg/kg dw	0.83	84 %	3.6 %
Pentachlorophenol, mg/kg dw	2.1	100 %	15 %
Naphthalene, mg/kg dw	0.41	96 %	27 %
Acenaphthene, mg/kg dw	0.41	104 %	31 %
Phenanthrene, mg/kg dw	0.41	101 %	22 %
Anthracene, mg/kg dw	0.41	92 %	21 %
Fluoranthene, mg/kg dw	0.41	70 %	18 %
Chrysene, mg/kg dw	0.41	103 %	24 %
Benzo(a)Anthracene, mg/kg dw	0.41	97 %	19 %
Benzo(b,k)fluoranthene, mg/kg dw	0.82	139 %	33 %
Benzo(a)pyrene, mg/kg dw	0.41	94 %	34 %
Indeno(1,2,3-cd)pyrene, mg/kg dw	0.41	108 %	37 %
Dibenzo(a,h)anthracene, mg/kg dw	0.41	102 %	38 %
Carbazole, mg/kg dw	0.41	86 %	22 %
Cresol (ortho), mg/kg dw	0.41	---	---
Cresol m & p, mg/kg dw	0.41	---	---
Toluene, mg/kg dw	0.0050	---	---
Benzene, mg/kg dw	0.0050	108 %	4.6 %
Aniline, mg/kg dw	0.41	---	---

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& ENVIRONMENTAL SERVICES, INC.

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Received: 04 MAY 90

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3724 National Drive, Suite 228
Raleigh, NC 27612

Project: NC02802 Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	SAMPLED BY
05440-15	Detection Limits	Client
05440-16	Accuracy (mean % recovery)	
05440-17	Precision (% RPD)	

PARAMETER	05440-15	05440-16	05440-17
Methylene Chloride, mg/kg dw	5.0	---	---
2-Butanone, mg/kg dw	0.050	---	---
Fluorene, mg/kg dw	0.33	---	---
1,2-Dimethylbenzene, mg/kg dw	0.0050	---	---
1,3-Dimethylbenzene, mg/kg dw	0.0050	---	---
1,4-Dimethylbenzene, mg/kg dw	0.0050	---	---
2-Methylnaphthalene, mg/kg dw	0.33	---	---
Ethylbenzene, mg/kg dw	0.0050	---	---
2,3,4,6-Tetrachlorophenol, mg/kg dw	0.33	81 %	8.6 %
Xylenes, mg/kg dw	0.0050	---	---

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Raleigh, NC 27612

Project: NC02802 Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
05440-18	Report Completion Date	Client

PARAMETER	05440-18
Date Reported	06.08.90

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. _____

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number NC02802

Project Location Gulf, NC

Laboratory Savannah

Sampler(s)/Affiliation C. Whipkey/G&M
A. Lacare/G&M

Date/Time Sampled 5/3/90

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	40ml vial VOA	1 l glass (amber)	500 ml glass Soil jar	125 ml amber glass						TOTAL
8746	L	1245		3	1								4
8747	L	1300		3	1								4
8748	L	1400		3	1								4
8749	S	1245				1	1						2
8750	S	1300				1	1						2
8751	S	1400				1	1						2
8752	S	1450				1	1						2
8753	S	1525				1	1						2
8754	S	1600				1	1						2
Field Blank 1	L	1645		3X	1								4
Trip Blank	L	—		3	1								4
S440													
		Spartanburg Site Specific menus metals per Elaine Hedrick 5/7/90 GF											

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 32

Relinquished by: C. Whipkey	Organization: Geraghty & Miller	9:30 AM	Seal Intact? Yes No N/A
Received by: L. Boyd	Organization: Sav. Labs 5/11/90	Date 5/3/90 Time 1730	
Relinquished by:	Organization:		Seal Intact? Yes No N/A
Received by:	Organization:	Date / / Time	

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier Fedex (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S0-09764

Received: 14 AUG 90

Mr. Mark Radecke
Geraghty & Miller, Inc.
3724 National Drive, Suite 228
Raleigh, NC 27612

CC: Blevins/S Watson

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
09764-1	# 8867 (8-13-90)	Client
09764-2	# 8868 (8-13-90)	
09764-3	# 8869 (8-13-90)	

PARAMETER	09764-1	09764-2	09764-3
Semivolatiles			
2-Chlorophenol, mg/l	ND	ND	ND
Phenol, mg/l	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND	ND
Pentachlorophenol, mg/l	ND	ND	ND
Naphthalene, mg/l	ND	ND	ND
Acenaphthene, mg/l	ND	ND	ND
Phenanthrene, mg/l	ND	ND	0.057
Anthracene, mg/l	ND	ND	ND
Fluoranthene, mg/l	ND	ND	0.058
Chrysene, mg/l	ND	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND
Carbazole, mg/l	ND	ND	ND
Dilution factor	1	1	1
Cresol (ortho), mg/l	ND	ND	ND
Cresol m & p, mg/l	ND	ND	ND
Aniline, mg/l	ND	ND	ND
Fluorene, mg/l	ND	ND	0.013
2-Methylnaphthalene, mg/l	ND	ND	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND	ND

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LOG NO: S0-09764

Received: 14 AUG 90

Mr. Mark Radecke
Geraghty & Miller, Inc.
3724 National Drive, Suite 228
Raleigh, NC 27612

CC: Blevins/S Watson

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
09764-1	# 8867 (8-13-90)	Client
09764-2	# 8868 (8-13-90)	
09764-3	# 8869 (8-13-90)	

PARAMETER	09764-1	09764-2	09764-3
Volatile Organics			
Toluene, mg/l	ND	ND	ND
Benzene, mg/l	ND	ND	ND
Methylene Chloride, mg/l	ND	ND	ND
2-butanone (MEK), mg/l	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND
Xylenes, mg/l	ND	ND	ND
Suspended Solids, mg/l	110	ND	21

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S0-09764

Received: 14 AUG 90

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3724 National Drive, Suite 228
Raleigh, NC 27612

CC: Blevins/S Watson

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION . LIQUID SAMPLES	SAMPLED BY
09764-4	RB-1 (8-13-90)	Client

PARAMETER	09764-4
Semivolatiles	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	ND
Acenaphthene, mg/l	ND
Phenanthrene, mg/l	ND
Anthracene, mg/l	ND
Fluoranthene, mg/l	ND
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	ND
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	ND
2-Methylnaphthalene, mg/l	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S0-09764

Received: 14 AUG 90

Mr. Mark Radecke
Geraghty & Miller, Inc.
3724 National Drive, Suite 228
Raleigh, NC 27612

CC: Blevins/S Watson

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
09764-4	RB-1 (8-13-90)	Client

PARAMETER	09764-4
Volatile Organics	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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LOG NO: S0-09764

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3724 National Drive, Suite 228
Raleigh, NC 27612

CC: Blevins/S Watson

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
09764-5	Trip Blank-1	Client

PARAMETER	09764-5
Volatile Organics	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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LOG NO: S0-09764

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3724 National Drive, Suite 228
Raleigh, NC 27612

CC: Blevins/S Watson

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
09764-6	Detection Limits - Liquid	Client
09764-7	Accuracy (mean % recovery) - Liquid	
09764-8	Precision (% RPD) - Liquid	

PARAMETER	09764-6	09764-7	09764-8
Semivolatiles			
2-Chlorophenol, mg/l	0.010	92 %	1.1 %
Phenol, mg/l	0.010	98 %	6.1 %
2,4-Dimethylphenol, mg/l	0.010	88 %	5.6 %
2,4,6-Trichlorophenol, mg/l	0.010	96 %	6.3 %
p-Chloro-m-cresol, mg/l	0.010	96 %	4.2 %
Pentachlorophenol, mg/l	0.050	112 %	7.1 %
Naphthalene, mg/l	0.010	56 %	3.6 %
Acenaphthene, mg/l	0.010	99 %	1.0 %
Phenanthrene, mg/l	0.010	89 %	3.4 %
Anthracene, mg/l	0.010	83 %	2.4 %
Fluoranthene, mg/l	0.010	101 %	4.9 %
Chrysene, mg/l	0.010	98 %	3.1 %
Benzo(a)Anthracene, mg/l	0.010	99 %	4.0 %
Benzo(b,k)fluoranthene, mg/l	0.010	113 %	1.8 %
Benzo(a)pyrene, mg/l	0.010	111 %	3.6 %
Indeno(1,2,3-cd)pyrene, mg/l	0.010	99 %	8.1 %
Dibenzo(a,h)anthracene, mg/l	0.010	101 %	1.9 %
Carbazole, mg/l	0.010	98 %	2.0 %
Cresol (ortho), mg/l	0.010	---	---
Cresol m & p, mg/l	0.010	---	---
Aniline, mg/l	0.010	---	---
Fluorene, mg/l	0.010	---	---
2-Methylnaphthalene, mg/l	0.010	---	---
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---

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Received: 14 AUG 90

Mr. Mark Radecke
Geraghty & Miller, Inc.
3724 National Drive, Suite 228
Raleigh, NC 27612

CC: Blevins/S Watson

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
09764-6	Detection Limits - Liquid	Client
09764-7	Accuracy (mean % recovery) - Liquid	
09764-8	Precision (% RPD) - Liquid	

PARAMETER	09764-6	09764-7	09764-8
Volatile Organics			
Toluene, mg/l	0.0010	123 %	0.8 %
Benzene, mg/l	0.0010	91 %	6.6 %
Methylene Chloride, mg/l	0.0010	---	---
2-butanone (MEK), mg/l	0.010	---	---
Ethylbenzene, mg/l	0.0010	---	---
Xylenes, mg/l	0.0010	---	---
Suspended Solids, mg/l	5.0	98 %	5.1 %

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CC: Blevins/S Watson

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
09764-9	# 8871 (8-13-90)	Client

PARAMETER	09764-9
Semivolatiles	
2-Chlorophenol, mg/kg dw	ND
Phenol, mg/kg dw	ND
2,4-Dimethylphenol, mg/kg dw	ND
2,4,6-Trichlorophenol, mg/kg dw	ND
p-Chloro-m-cresol, mg/kg dw	ND
Pentachlorophenol, mg/kg dw	ND
Naphthalene, mg/kg dw	ND
Acenaphthene, mg/kg dw	1.5
Phenanthrene, mg/kg dw	5.2
Anthracene, mg/kg dw	2.1
Fluoranthene, mg/kg dw	7.5
Chrysene, mg/kg dw	2.5
Benzo(a)Anthracene, mg/kg dw	1.9
Benzo(b,k)fluoranthene, mg/kg dw	3.1
Benzo(a)pyrene, mg/kg dw	0.86
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND
Carbazole, mg/kg dw	ND
Dilution factor	1
Cresol (ortho), mg/kg dw	ND
Cresol m & p, mg/kg dw	ND
Aniline, mg/kg dw	ND
Fluorene, mg/kg dw	1.9
2-Methylnaphthalene, mg/kg dw	ND
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND

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LOG NO: S0-09764

Received: 14 AUG 90

Mr. Mark Radecke
Geraghty & Miller, Inc.
3724 National Drive, Suite 228
Raleigh, NC 27612

CC: Blevins/S Watson

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
09764-9	# 8871 (8-13-90)	Client

PARAMETER	09764-9
Volatile Organics	
Toluene, mg/kg dw	ND
Benzene, mg/kg dw	ND
Methylene Chloride, mg/kg dw	ND
2-butanone (MEK), mg/kg dw	ND
Ethylbenzene, mg/kg dw	ND
Xylenes, mg/kg dw	ND

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LOG NO: S0-09764

Received: 14 AUG 90

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Geraghty & Miller, Inc.
3724 National Drive, Suite 228
Raleigh, NC 27612

CC: Blevins/S Watson

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	SAMPLED BY
09764-10	Detection Limits - Soil	Client
09764-11	Accuracy (mean % recovery) - Soil	
09764-12	Precision (% RPD) - Soil	

PARAMETER	09764-10	09764-11	09764-12
Semivolatiles			
2-Chlorophenol, mg/kg dw	0.33	87 %	10 %
Phenol, mg/kg dw	0.33	96 %	14 %
2,4-Dimethylphenol, mg/kg dw	0.33	85 %	9.4 %
2,4,6-Trichlorophenol, mg/kg dw	0.33	86 %	2.3 %
p-Chloro-m-cresol, mg/kg dw	0.33	96 %	4.2 %
Pentachlorophenol, mg/kg dw	1.7	96 %	14 %
Naphthalene, mg/kg dw	0.33	56 %	0 %
Acenaphthene, mg/kg dw	0.33	98 %	6.1 %
Phenanthrene, mg/kg dw	0.33	87 %	1.2 %
Anthracene, mg/kg dw	0.33	81 %	3.7 %
Fluoranthene, mg/kg dw	0.33	104 %	13 %
Chrysene, mg/kg dw	0.33	98 %	1.0 %
Benzo(a)Anthracene, mg/kg dw	0.33	100 %	0 %
Benzo(b,k)fluoranthene, mg/kg dw	0.33	114 %	2.6 %
Benzo(a)pyrene, mg/kg dw	0.33	103 %	0 %
Indeno(1,2,3-cd)pyrene, mg/kg dw	0.33	109 %	1.8 %
Dibenzo(a,h)anthracene, mg/kg dw	0.33	110 %	0.91 %
Carbazole, mg/kg dw	0.33	103 %	0.98 %
Cresol (ortho), mg/kg dw	0.33	---	---
Cresol m & p, mg/kg dw	0.33	---	---
Aniline, mg/kg dw	0.33	---	---
Fluorene, mg/kg dw	0.33	---	---
2-Methylnaphthalene, mg/kg dw	0.33	---	---
2,3,4,6-Tetrachlorophenol, mg/kg dw	0.33	---	---

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LOG NO: S0-09764

Received: 14 AUG 90

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Geraghty & Miller, Inc.
3724 National Drive, Suite 228
Raleigh, NC 27612

CC: Blevins/S Watson

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	SAMPLED BY
09764-10	Detection Limits - Soil	Client
09764-11	Accuracy (mean % recovery) - Soil	
09764-12	Precision (% RPD) - Soil	

PARAMETER	09764-10	09764-11	09764-12
Volatile Organics			
Toluene, mg/kg dw	0.0050	80 %	3.8 %
Benzene, mg/kg dw	0.0050	90 %	1.1 %
Methylene Chloride, mg/kg dw	0.0050	---	---
2-butanone (MEK), mg/kg dw	0.050	---	---
Ethylbenzene, mg/kg dw	0.0050	---	---
Xylenes, mg/kg dw	0.0050	---	---

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CC: Blevins/S Watson

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
09764-13	Report Completion Date	Client

PARAMETER	09764-13
Date Reported	09.17.90

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. 1246

CHAIN-OF-CUSTODY RECORD

Project Number NC02802

Project Location Gulf, NC

Laboratory Savannah Labs

Sampler(s)/Affiliation C. Whipkey / G&M
D. Rumford / G&M

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	40ml vial VOA - HCl	1 l. amber glass - KOOl BNA.	500ml. plastic TSS	500 ml glass. KOOl - sediment	125 ml amber glass - VOA sediment						TOTAL
TRIPBLANK-1	L			3										3
8867	L	8-13-90 1600		3										3
8868	L	8-13-90 1450		3	2	1								6
8869	L	8-13-90 1510		3	2	1								6
RB-1	L	8-13-90 1620		3	2									5
8867	L	8-13-90 1550			2	1								3
8871	S	8-13-90 1550					1	1						2
9764														

RECEIVED
OCT 04 1990
ENVIRONMENTAL AFFAIRS

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 28

Relinquished by: Chuck Whipkey Organization: Geraghty & Miller
Received by: L. Bonds Organization: Savan. Labs Date 8/14/90 Time 10:30am Seal Intact? (Yes) No N/A

Relinquished by: Organization:
Received by: Organization: Date / / Time Seal Intact? Yes No N/A

Special Instructions/Remarks: See Included CONSTITUENT LIST

Delivery Method: ☐ In Person ☒ Common Carrier Federal Express (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S0-10274

Received: 27 AUG 90

Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Blevins/Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
10274-1	# 9015 (8-24-90)	08-24-90

PARAMETER	10274-1
Semivolatiles (8270)	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	ND
Acenaphthene, mg/l	ND
Phenanthrene, mg/l	ND
Anthracene, mg/l	ND
Fluoranthene, mg/l	ND
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	ND
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	ND
2-Methylnaphthalene, mg/l	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND

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P. O. Box 5447
Spartanburg, SC 29304

CC: Blevins/Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
10274-1	# 9015 (8-24-90)	Client

PARAMETER	10274-1
Purgeables (601 & 602)	
Bromodichloromethane, mg/l	ND
Bromoform, mg/l	ND
Bromomethane, mg/l	ND
Carbon Tetrachloride, mg/l	ND
Chlorobenzene, mg/l	ND
Chloroethane, mg/l	ND
2-Chloroethylvinyl Ether, mg/l	ND
Chloroform, mg/l	0.0086
Chloromethane, mg/l	ND
Dibromochloromethane, mg/l	ND
1,2-Dichlorobenzene, mg/l	ND
1,3-Dichlorobenzene, mg/l	ND
1,4-Dichlorobenzene, mg/l	ND
Dichlorodifluoromethane, mg/l	ND
1,1-Dichloroethane, mg/l	ND
1,2-Dichloroethane, mg/l	ND
1,1-Dichloroethene, mg/l	ND
Cis-trans-1,2-Dichloroethylene, mg/l	ND
1,2-Dichloropropane, mg/l	ND
Cis-1,3-Dichloropropene, mg/l	ND
Trans-1,3-Dichloropropene, mg/l	ND
Methylene Chloride, mg/l	ND
1,1,2,2-Tetrachloroethane, mg/l	ND

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CC: Blevins/Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
10274-1	# 9015 (8-24-90)	Client

PARAMETER	10274-1
Tetrachloroethylene, mg/l	ND
1,1,1-Trichloroethane, mg/l	ND
1,1,2-Trichloroethane, mg/l	ND
Trichloroethene, mg/l	ND
Trichlorofluoromethane, mg/l	ND
Vinyl Chloride, mg/l	ND
Benzene, mg/l	ND
Ethylbenzene, mg/l	ND
Toluene, mg/l	ND
Xylenes, mg/l	ND
Suspended Solids, mg/l	ND

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P. O. Box 5447
Spartanburg, SC 29304

CC: Blevins/Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
10274-2	Trip Blank	Client

PARAMETER	10274-2
Purgeables (601 & 602)	
Bromodichloromethane, mg/l	ND
Bromoform, mg/l	ND
Bromomethane, mg/l	ND
Carbon Tetrachloride, mg/l	ND
Chlorobenzene, mg/l	ND
Chloroethane, mg/l	ND
2-Chloroethylvinyl Ether, mg/l	ND
Chloroform, mg/l	ND
Chloromethane, mg/l	ND
Dibromochloromethane, mg/l	ND
1,2-Dichlorobenzene, mg/l	ND
1,3-Dichlorobenzene, mg/l	ND
1,4-Dichlorobenzene, mg/l	ND
Dichlorodifluoromethane, mg/l	ND
1,1-Dichloroethane, mg/l	ND
1,2-Dichloroethane, mg/l	ND
1,1-Dichloroethene, mg/l	ND
Cis-trans-1,2-Dichloroethylene, mg/l	ND
1,2-Dichloropropane, mg/l	ND
Cis-1,3-Dichloropropene, mg/l	ND
Trans-1,3-Dichloropropene, mg/l	ND
Methylene Chloride, mg/l	ND
1,1,2,2-Tetrachloroethane, mg/l	ND

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Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Blevins/Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
10274-2	Trip Blank	Client

PARAMETER	10274-2
Tetrachloroethylene, mg/l	ND
1,1,1-Trichloroethane, mg/l	ND
1,1,2-Trichloroethane, mg/l	ND
Trichloroethene, mg/l	ND
Trichlorofluoromethane, mg/l	ND
Vinyl Chloride, mg/l	ND
Benzene, mg/l	ND
Ethylbenzene, mg/l	ND
Toluene, mg/l	ND
Xylenes, mg/l	ND

Dilution factor ?

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LOG NO: S0-10274

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Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Blevins/Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
10274-3	Detection Limits	Client
10274-4	Accuracy (mean % recovery)	
10274-5	Precision (% RPD)	

PARAMETER	10274-3	10274-4	10274-5
Semivolatiles			
2-Chlorophenol, mg/l	0.010	51 %	27 %
Phenol, mg/l	0.010	31 %	19 %
2,4-Dimethylphenol, mg/l	0.010	50 %	26 %
2,4,6-Trichlorophenol, mg/l	0.010	54 %	33 %
p-Chloro-m-cresol, mg/l	0.010	67 %	28 %
Pentachlorophenol, mg/l	0.050	68 %	12 %
Naphthalene, mg/l	0.010	56 %	14 %
Acenaphthene, mg/l	0.010	104 %	30 %
Phenanthrene, mg/l	0.010	62 %	13 %
Anthracene, mg/l	0.010	50 %	12 %
Fluoranthene, mg/l	0.010	67 %	18 %
Chrysene, mg/l	0.010	94 %	3.2 %
Benzo(a)Anthracene, mg/l	0.010	97 %	20 %
Benzo(b,k)fluoranthene, mg/l	0.010	84 %	31 %
Benzo(a)pyrene, mg/l	0.010	78 %	28 %
Indeno(1,2,3-cd)pyrene, mg/l	0.010	85 %	22 %
Dibenzo(a,h)anthracene, mg/l	0.010	82 %	21 %
Carbazole, mg/l	0.010	60 %	15 %
Cresol (ortho), mg/l	0.010	---	---
Cresol m & p, mg/l	0.010	---	---
Aniline, mg/l	0.010	---	---
Fluorene, mg/l	0.010	---	---
2-Methylnaphthalene, mg/l	0.010	---	---
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---

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LOG NO: S0-10274

Received: 27 AUG 90

Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Blevins/Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
10274-3	Detection Limits	Client
10274-4	Accuracy (mean % recovery)	
10274-5	Precision (% RPD)	

PARAMETER	10274-3	10274-4	10274-5
Purgeables (601 & 602)			
Bromodichloromethane, mg/l	0.0010	---	---
Bromoform, mg/l	0.0010	---	---
Bromomethane, mg/l	0.0010	---	---
Carbon Tetrachloride, mg/l	0.0010	---	---
Chlorobenzene, mg/l	0.0010	97 %	3.1 %
Chloroethane, mg/l	0.0010	---	---
2-Chloroethylvinyl Ether, mg/l	0.0010	---	---
Chloroform, mg/l	0.0010	---	---
Chloromethane, mg/l	0.0010	---	---
Dibromochloromethane, mg/l	0.0010	---	---
1,2-Dichlorobenzene, mg/l	0.0010	---	---
1,3-Dichlorobenzene, mg/l	0.0010	---	---
1,4-Dichlorobenzene, mg/l	0.0010	---	---
Dichlorodifluoromethane, mg/l	0.0010	---	---
1,1-Dichloroethane, mg/l	0.0010	---	---
1,2-Dichloroethane, mg/l	0.0010	---	---
1,1-Dichloroethene, mg/l	0.0010	79 %	3.8 %
Cis-trans-1,2-Dichloroethylene, mg/l	0.0010	---	---
1,2-Dichloropropane, mg/l	0.0010	---	---
Cis-1,3-Dichloropropene, mg/l	0.0010	---	---
Trans-1,3-Dichloropropene, mg/l	0.0010	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S0-10274

Received: 27 AUG 90

Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Blevins/Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
10274-3	Detection Limits	Client
10274-4	Accuracy (mean % recovery)	
10274-5	Precision (% RPD)	

PARAMETER	10274-3	10274-4	10274-5
Methylene Chloride, mg/l	0.0010	---	---
1,1,2,2-Tetrachloroethane, mg/l	0.0010	---	---
Tetrachloroethylene, mg/l	0.0010	---	---
1,1,1-Trichloroethane, mg/l	0.0010	---	---
1,1,2-Trichloroethane, mg/l	0.0010	---	---
Trichloroethene, mg/l	0.0010	75 %	8.0 %
Trichlorofluoromethane, mg/l	0.0010	---	---
Vinyl Chloride, mg/l	0.0010	---	---
Benzene, mg/l	0.0010	85 %	0 %
Ethylbenzene, mg/l	0.0010	---	---
Toluene, mg/l	0.0010	---	---
Xylenes, mg/l	0.0010	---	---
Suspended Solids, mg/l	5.0	90 %	11 %

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LOG NO: S0-10274

Received: 27 AUG 90

Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Blevins/Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
10274-6	Report Completion Date	Client

PARAMETER	10274-6
Date Reported	10.08.90

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews, Ph. D.

[redacted] per Southern Wood Piedmont request [redacted]

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. _____

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number NC02802

Project Location Gulf, NC

Laboratory Savannah Labs

Sampler(s)/Affiliation C. Whipple / G+M
B. Daniels / G+M

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	SAMPLE BOTTLE / CONTAINER DESCRIPTION: 40 ml VOA vial (HCL) (601/602)	1 l. amber glass BNA (K001)	500 ml plastic TSS							TOTAL
9015	L	8/24/90 1220		~~3~~ 4	2	1							~~6~~ 4
Trip Blank	L			4									
10274													

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers ~~18~~ 14

Relinquished by: Chrystal Hughes	Organization: Geraghty + Miller, Inc	Date 8/24/90	Seal Intact? Yes (No) N/A
Received by: R. Bond	Organization: Shuk Labs	Date 8/25/90 Time 11:20 am	
Relinquished by:	Organization:		Seal Intact? Yes No N/A
Received by:	Organization:	Date / / Time	

Special Instructions/Remarks: ANALYZE SAMPLES FOR VOC (EPA METHODS 601 & 602) INCLUDING GULF SITE SPECIFIC VOC. ANALYZE SAMPLES FOR SITE SPECIFIC BNA (KOOL LIST)

Delivery Method: ☐ In Person ☒ Common Carrier Federal Express (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

G&M Form 00.1.00

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S0-12415

Received: 04 OCT 90

Mr. Mark Radecke
Geraghty & Miller, Inc., Environmental Services
Cross Pointe II, 2840 Plaza Place, Suite 350
Raleigh, NC 27612

Project: NC02802 SW-Gulf
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
12415-1	ETE-4 (# 9084) 10-3-90	10-03-90
12415-2	ETE-5 (# 9085) 10-3-90	10-03-90
12415-3	ETE-1 (# 9081) 10-3-90	10-03-90
12415-4	ETE-2 (# 9082) 10-3-90	10-03-90
12415-5	GM-14S (# 9096) 10-3-90	10-03-90

PARAMETER	12415-1	12415-2	12415-3	12415-4	12415-5
Semivolatiles (8270)					
2-Chlorophenol, mg/l	ND	ND	ND	ND	ND
Phenol, mg/l	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND	ND	ND	ND
Pentachlorophenol, mg/l	ND	ND	ND	ND	ND
Naphthalene, mg/l	ND	ND	ND	ND	ND
Acenaphthene, mg/l	ND	ND	ND	ND	0.015
Phenanthrene, mg/l	ND	ND	ND	ND	ND
Anthracene, mg/l	ND	ND	ND	ND	ND
Fluoranthene, mg/l	ND	ND	ND	ND	ND
Chrysene, mg/l	ND	ND	ND	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND	ND	ND
Carbazole, mg/l	ND	ND	ND	ND	0.018
Dilution factor	1	1	1	1	1

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LOG NO: S0-12415

Received: 04 OCT 90

Mr. Mark Radecke
Geraghty & Miller, Inc., Environmental Services
Cross Pointe II, 2840 Plaza Place, Suite 350
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Project: NC02802 SW-Gulf
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
12415-1	ETE-4 (# 9084) 10-3-90	10-03-90
12415-2	ETE-5 (# 9085) 10-3-90	10-03-90
12415-3	ETE-1 (# 9081) 10-3-90	10-03-90
12415-4	ETE-2 (# 9082) 10-3-90	10-03-90
12415-5	GM-14S (# 9096) 10-3-90	10-03-90

PARAMETER	12415-1	12415-2	12415-3	12415-4	12415-5
Cresol (ortho), mg/l	ND	ND	ND	ND	ND
Cresol m & p, mg/l	ND	ND	ND	ND	ND
Aniline, mg/l	ND	ND	ND	ND	ND
Fluorene, mg/l	ND	ND	ND	ND	ND
2-Methylnaphthalene, mg/l	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND	ND	ND	ND
Volatile Organics (8240)					
Toluene, mg/l	ND	ND	ND	ND	ND
Benzene, mg/l	ND	ND	0.0026	ND	ND
Methylene Chloride, mg/l	ND	ND	ND	ND	ND
2-butanone (MEK), mg/l	ND	ND	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND	ND	ND
Xylenes, mg/l	ND	ND	ND	ND	ND

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& ENVIRONMENTAL SERVICES, INC.

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Received: 04 OCT 90

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Geraghty & Miller, Inc., Environmental Services
Cross Pointe II, 2840 Plaza Place, Suite 350
Raleigh, NC 27612

Project: NC02802 SW-Gulf
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
12415-6	GM-2S (# 9087) 10-3-90	10-03-90
12415-7	GM-10S (# 9093) 10-3-90	10-03-90
12415-8	TB-1 10-3-90	10-03-90
12415-9	TB-2 10-3-90	10-03-90

PARAMETER	12415-6	12415-7	12415-8	12415-9
Semivolatiles (8270)				
2-Chlorophenol, mg/l	ND	ND	ND	ND
Phenol, mg/l	ND	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND	ND	ND
Pentachlorophenol, mg/l	ND	ND	ND	ND
Naphthalene, mg/l	ND	0.024	ND	ND
Acenaphthene, mg/l	ND	ND	ND	ND
Phenanthrene, mg/l	ND	ND	ND	ND
Anthracene, mg/l	ND	ND	ND	ND
Fluoranthene, mg/l	ND	ND	ND	ND
Chrysene, mg/l	ND	ND	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND	ND
Carbazole, mg/l	ND	ND	ND	ND
Dilution factor	1	1	1	1
Cresol (ortho), mg/l	ND	ND	ND	ND
Cresol m & p, mg/l	ND	ND	ND	ND
Aniline, mg/l	ND	ND	ND	ND
Fluorene, mg/l	ND	ND	ND	ND
2-Methylnaphthalene, mg/l	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND	ND	ND

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Received: 04 OCT 90

Mr. Mark Radecke
Geraghty & Miller, Inc., Environmental Services
Cross Pointe II, 2840 Plaza Place, Suite 350
Raleigh, NC 27612

Project: NC02802 SW-Gulf
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
12415-6	GM-2S (# 9087) 10-3-90	10-03-90
12415-7	GM-10S (# 9093) 10-3-90	10-03-90
12415-8	TB-1 10-3-90	10-03-90
12415-9	TB-2 10-3-90	10-03-90

PARAMETER	12415-6	12415-7	12415-8	12415-9
Volatile Organics (8240)				
Toluene, mg/l	ND	ND	ND	ND
Benzene, mg/l	ND	ND	ND	ND
Methylene Chloride, mg/l	ND	ND	ND	ND
2-butanone (MEK), mg/l	ND	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND	ND
Xylenes, mg/l	ND	ND	ND	ND

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5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S0-12415

Received: 04 OCT 90

Mr. Mark Radecke
Geraghty & Miller, Inc., Environmental Services
3724 National Drive, Suite 228
Raleigh, NC 27612

Project: NC02802 SW-Gulf

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
12415-10	Detection Limits	Client
12415-11	Accuracy (mean % recovery)	
12415-12	Precision (% RPD)	

PARAMETER	12415-10	12415-11	12415-12
Semivolatiles			
2-Chlorophenol, mg/l	0.010	68 %	18 %
Phenol, mg/l	0.010	27 %	7.4 %
2,4-Dimethylphenol, mg/l	0.010	68 %	12 %
2,4,6-Trichlorophenol, mg/l	0.010	78 %	22 %
p-Chloro-m-cresol, mg/l	0.010	78 %	14 %
Pentachlorophenol, mg/l	0.050	77 %	1.3 %
Naphthalene, mg/l	0.010	70 %	2.9 %
Acenaphthene, mg/l	0.010	102 %	1.9 %
Phenanthrene, mg/l	0.010	110 %	7.3 %
Anthracene, mg/l	0.010	101 %	8.9 %
Fluoranthene, mg/l	0.010	94 %	5.3 %
Chrysene, mg/l	0.010	110 %	8.2 %
Benzo(a)Anthracene, mg/l	0.010	122 %	5.8 %
Benzo(b,k)fluoranthene, mg/l	0.010	111 %	7.2 %
Benzo(a)pyrene, mg/l	0.010	117 %	3.4 %
Indeno(1,2,3-cd)pyrene, mg/l	0.010	108 %	7.4 %
Dibenzo(a,h)anthracene, mg/l	0.010	110 %	12 %
Carbazole, mg/l	0.010	144 %	3.5 %
Cresol (ortho), mg/l	0.010	---	---
Cresol m & p, mg/l	0.010	---	---
Aniline, mg/l	0.010	---	---
Fluorene, mg/l	0.010	---	---
2-Methylnaphthalene, mg/l	0.010	---	---
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---

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LOG NO: S0-12415

Received: 04 OCT 90

Mr. Mark Radecke
Geraghty & Miller, Inc., Environmental Services
3724 National Drive, Suite 228
Raleigh, NC 27612

Project: NC02802 SW-Gulf

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
12415-10	Detection Limits	Client
12415-11	Accuracy (mean % recovery)	
12415-12	Precision (% RPD)	

PARAMETER	12415-10	12415-11	12415-12
Volatile Organics			
Toluene, mg/l	0.0010	119 %	1.7 %
Benzene, mg/l	0.0010	104 %	2.9 %
Methylene Chloride, mg/l	0.0010	---	---
2-butanone (MEK), mg/l	0.010	---	---
Ethylbenzene, mg/l	0.0010	---	---
Xylenes, mg/l	0.0010	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S0-12415

Received: 04 OCT 90

Mr. Mark Radecke
Geraghty & Miller, Inc., Environmental Services
3724 National Drive, Suite 228
Raleigh, NC 27612

Project: NC02802 SW-Gulf

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
12415-13	Report Completion Date	Client

PARAMETER	12415-13
Date Reported	10.26.90

Methods: EPA SW-846 ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

G[redacted]GH[redacted] & MILLER, INC.
Environmental Services

CHAIN-OF-CUSTODY RECORD

Project Number NC02802

Project Location SWP - Gulf, NC

Laboratory Savannah Labs

Sampler(s) Michelle Newman
Doug Rumford

SAMPLE IDENTITY	Date Sampled	1 Liter Amberglass BNA	40 ml glass w/HCl VOA's									TOTAL
TB-1	10/3/90	1	3									4
9084 / ETE-4	1010 10/3/90	1	3									4
9085 / ETE-5	1115 10/3/90	1	3									4
9081 / ETE-1	1040 10/3/90	1	3									4
9082 / ETE-2	1220 10/3/90	1	3									4
12415												
											Total No. of Bottles/ Containers	20

Relinquished by: Michelle G. Newman	Organization: Geraghty & Miller, Inc.	Date 10/3/90	Time 1800	Seal Intact? Yes No N/A
Received by: Ilona Bonds	Organization: Savah Labs	Date 10/4/90	Time 10:15 am	
Relinquished by:	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / /	Time	

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier Fed-Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

G&M Form 09 12 88

GERAGHTY & MILLER, INC.
Environmental Services

CHAIN-OF-CUSTODY RECORD

Project Number NC02802

Project Location SWP - Gulf, NC

Laboratory Savannah Labs

Sampler(s) Michelle Newman
Doug Rumford

SAMPLE IDENTITY	Date Sampled	1 Liter Amber Glass BNA	40 ml glass w/ HCl VOA's									TOTAL
TB-1	10/3/90	1	3									4
9096/GM-14S	1545 10/3/90	1	3									4
9087/GM-2S	1406 10/3/90	1	3									4
9093/GM-10S	1615 10/3/90	1	3									4
12415												

Total No. of Bottles/Containers: 16

				Seal Intact?
Relinquished by: Michelle E. Ne[illegible]	Organization: Geraghty & Miller	Date 10/3/90	Time 1800	(Yes) No N/A
Received by: Leona Bonds	Organization: South Labs	Date 10/4/90	Time 10:15 am	
Relinquished by:	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / /	Time	

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier Fed - Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

G&M Form 09.12.89

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S0-12449

Received: 05 OCT 90

Mr. Mark Radecke
Geraghty & Miller, Inc., Environmental ServicesPurchase Order: NC02802 Gulf, NC (SWP
3724 National Drive, Suite 228
Raleigh, NC 27612

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
12449-1	# 9091 (10-4-90)	Client
12449-2	# 9089 (10-4-90)	
12449-3	# 9090 (10-4-90)	
12449-4	# 9094 GM-13S (10-4-90)	
12449-5	# 9098 REP-1 (10-4-90)	

PARAMETER	12449-1	12449-2	12449-3	12449-4	12449-5
Volatile Organics					
Toluene, mg/l	ND	ND	ND	0.004	0.003
Benzene, mg/l	ND	ND	ND	0.022	0.021
Methylene Chloride, mg/l	ND	ND	ND	ND	ND
2-butanone (MEK), mg/l	ND	ND	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND	0.007	0.006
Xylenes, mg/l	ND	ND	ND	0.021	0.019

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S0-12449

Received: 05 OCT 90

Mr. Mark Radecke
Geraghty & Miller, Inc., Environmental ServicesPurchase Order: NC02802 Gulf, NC (SWP
3724 National Drive, Suite 228
Raleigh, NC 27612

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
12449-1	# 9091 (10-4-90)	Client
12449-2	# 9089 (10-4-90)	
12449-3	# 9090 (10-4-90)	
12449-4	# 9094 GM-13S (10-4-90)	
12449-5	# 9098 REP-1 (10-4-90)	

PARAMETER	12449-1	12449-2	12449-3	12449-4	12449-5
Semivolatiles					
2-Chlorophenol, mg/l	ND	ND	ND	ND	ND
Phenol, mg/l	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND	ND	ND	ND
Pentachlorophenol, mg/l	ND	ND	ND	8.2	6.5
Naphthalene, mg/l	ND	ND	ND	1.9	1.5
Acenaphthene, mg/l	ND	ND	ND	0.24	0.22
Phenanthrene, mg/l	ND	ND	ND	0.27	0.21
Anthracene, mg/l	ND	ND	ND	ND	ND
Fluoranthene, mg/l	ND	ND	ND	ND	ND
Chrysene, mg/l	ND	ND	ND	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND	ND	ND
Carbazole, mg/l	ND	ND	ND	ND	ND
Dilution factor	1	1	1	10	10

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S0-12449

Received: 05 OCT 90

Mr. Mark Radecke
Geraghty & Miller, Inc., Environmental ServicesPurchase Order: NC02802 Gulf, NC (SWP
3724 National Drive, Suite 228
Raleigh, NC 27612

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
12449-1	# 9091 (10-4-90)	Client
12449-2	# 9089 (10-4-90)	
12449-3	# 9090 (10-4-90)	
12449-4	# 9094 GM-13S (10-4-90)	
12449-5	# 9098 REP-1 (10-4-90)	

PARAMETER	12449-1	12449-2	12449-3	12449-4	12449-5
Cresol (ortho), mg/l	ND	ND	ND	ND	ND
Cresol m & p, mg/l	ND	ND	ND	ND	ND
Aniline, mg/l	ND	ND	ND	ND	ND
Fluorene, mg/l	ND	ND	ND	0.24	0.21
2-Methylnaphthalene, mg/l	ND	ND	ND	0.42	0.28
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND	ND	0.17	0.16

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S0-12449

Received: 05 OCT 90

Mr. Mark Radecke
Geraghty & Miller, Inc., Environmental ServicesPurchase Order: NC02802 Gulf, NC (SWP
3724 National Drive, Suite 228
Raleigh, NC 27612

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
12449-6	# 9083 ETE-3 (10-4-90)	Client
12449-7	# 9092 GM-9S (10-4-90)	
12449-8	TB-4 (10-4-90)	
12449-9	TB-3 (10-4-90)	
12449-10	FB-1 (10-4-90)	

PARAMETER	12449-6	12449-7	12449-8	12449-9	12449-10
Volatile Organics					
Toluene, mg/l	ND	ND	ND	ND	ND
Benzene, mg/l	ND	ND	ND	ND	ND
Methylene Chloride, mg/l	ND	ND	ND	ND	ND
2-butanone (MEK), mg/l	ND	ND	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND	ND	ND
Xylenes, mg/l	ND	ND	ND	ND	ND

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: SO-12449

Received: 05 OCT 90

Mr. Mark Radecke
Geraghty & Miller, Inc., Environmental ServicesPurchase Order: NC02802 Gulf, NC (SWP
3724 National Drive, Suite 228
Raleigh, NC 27612

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
12449-6	# 9083 ETE-3 (10-4-90)	Client
12449-7	# 9092 GM-9S (10-4-90)	
12449-8	TB-4 (10-4-90)	
12449-9	TB-3 (10-4-90)	
12449-10	FB-1 (10-4-90)	

PARAMETER	12449-6	12449-7	12449-8	12449-9	12449-10
Semivolatiles					
2-Chlorophenol, mg/l	ND	ND	ND	ND	ND
Phenol, mg/l	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol mg/l	ND	ND	ND	ND	ND
7/31	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	ND	ND	ND	ND	ND
	1	1	1	1	1

Why were the trips analyzed for 8270?

The data table says NA (Not analyzed)

Let me know if this should be changed?

SL

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Raleigh, NC 27612

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
12449-6	# 9083 ETE-3 (10-4-90)	Client
12449-7	# 9092 GM-9S (10-4-90)	
12449-8	TB-4 (10-4-90)	
12449-9	TB-3 (10-4-90)	
12449-10	FB-1 (10-4-90)	

PARAMETER	12449-6	12449-7	12449-8	12449-9	12449-10
Cresol (ortho), mg/l	ND	ND	ND	ND	ND
Cresol m & p, mg/l	ND	ND	ND	ND	ND
Aniline, mg/l	ND	ND	ND	ND	ND
Fluorene, mg/l	ND	ND	ND	ND	ND
2-Methylnaphthalene, mg/l	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND	ND	ND	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
12449-11	# 9086 GM-1S (10-4-90)	Client

PARAMETER	12449-11
Semivolatiles	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	ND
Acenaphthene, mg/l	ND
Phenanthrene, mg/l	ND
Anthracene, mg/l	ND
Fluoranthene, mg/l	ND
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	ND
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	ND
2-Methylnaphthalene, mg/l	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
12449-11	# 9086 GM-1S (10-4-90)	Client

PARAMETER	12449-11
Volatile Organics	
Toluene, mg/l	0.33
Benzene, mg/l	0.66
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	0.14

Insufficient amount of sample submitted to analyse
Suspended Soilds or Conductivity.

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
12449-12	Detection Limits	Client
12449-13	Accuracy (mean % recovery)	
12449-14	Precision (% RPD)	

PARAMETER			12449-12	12449-13	12449-14
Semivolatiles					
2-Chlorophenol, mg/l			0.010	68 %	18 %
Phenol, mg/l			0.010	27 %	7.4 %
2,4-Dimethylphenol, mg/l			0.010	68 %	12 %
2,4,6-Trichlorophenol, mg/l			0.010	78 %	22 %
p-Chloro-m-cresol, mg/l			0.010	78 %	14 %
Pentachlorophenol, mg/l			0.050	77 %	1.3 %
Naphthalene, mg/l			0.010	70 %	2.9 %
Acenaphthene, mg/l			0.010	102 %	1.9 %
Phenanthrene, mg/l			0.010	110 %	7.3 %
Anthracene, mg/l			0.010	101 %	8.9 %
Fluoranthene, mg/l			0.010	94 %	5.3 %
Chrysene, mg/l			0.010	110 %	8.2 %
Benzo(a)Anthracene, mg/l			0.010	122 %	5.8 %
Benzo(b,k)fluoranthene, mg/l			0.010	111 %	7.2 %
Benzo(a)pyrene, mg/l			0.010	117 %	3.4 %
Indeno(1,2,3-cd)pyrene, mg/l			0.010	108 %	7.4 %
Dibenzo(a,h)anthracene, mg/l			0.010	110 %	12 %
Carbazole, mg/l			0.010	144 %	3.5 %
Cresol (ortho), mg/l			0.010	---	---
Cresol m & p, mg/l			0.010	---	---
Aniline, mg/l			0.010	---	---
Fluorene, mg/l			0.010	---	---
2-Methylnaphthalene, mg/l			0.010	---	---
2,3,4,6-Tetrachlorophenol, mg/l			0.010	---	---

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
12449-12	Detection Limits	Client
12449-13	Accuracy (mean % recovery)	
12449-14	Precision (% RPD)	

PARAMETER	12449-12	12449-13	12449-14
Volatile Organics			
Toluene, mg/l	0.0010	94 %	2.4 %
Benzene, mg/l	0.0010	92 %	2.2 %
Methylene Chloride, mg/l	0.0010	---	---
2-butanone (MEK), mg/l	0.0010	---	---
Ethylbenzene, mg/l	0.0010	---	---
Xylenes, mg/l	0.0010	---	---

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3724 National Drive, Suite 228
Raleigh, NC 27612

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
12449-15	Report Completion Date	Client

PARAMETER	12449-15
Date Reported	11.07.90

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

CHAIN-OF-CUSTODY RECORD

Project Number NCO 2802

Project Location Gulf, NC SWD

Laboratory Savannah Labs

Sampler(s) Michelle Newman, GM
Doug Rumford

SAMPLE BOTTLE / CONTAINER DESCRIPTION

	SAMPLE IDENTITY	Date Sampled	1 L Amber glass BNA 1/SS	40 ml glass w/HCl VOA									TOTAL
	TB-4	10/4/90	1	3									4
1120	9094 GM-135	10/4/90	1	3									4
1125	9098 Rep-1	10/4/90	1	3									4
1030	9083 ETE-3	10/4/90	1	3									4
1330	9092 GM-95	10/4/90	1	3									4
1150	9086 GM-15	10/4/90	1*	3									4
	12449												

Total No. of Bottles/Containers 24

Relinquished by: Michelle E. Newman	Organization: Geraghty & Miller, Inc	Date 10/4/90	Time 1700	Seal Intact? (Yes) No N/A
Received by: L. Bonds	Organization: Savannah Labs	Date 10/5/90	Time 10:00 am	
Relinquished by:	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / /	Time	

Special Instructions/Remarks: * Measure Conductivity of this Sample Please. not full bottle.

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex ☐ Lab Courier ☐ Other

G&M Form 09 12 88

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. _____

CHAIN-OF-CUSTODY RECORD

Project Number: NC02802

Project Location: SWP - GULF

Laboratory: Savannah Labs

Sampler(s)/Affiliation: D. Rumford G+M, M. Newman

SAMPLE BOTTLE / CONTAINER DESCRIPTION

	SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	40 ml Vials w/ Septa Caps HCl	1 liter Amber Glass 4°C * BNA								TOTAL
1505	9091	L	10/4/90		3	1								4
1420	9089	L	10/4/90		3	1								4
1430	9090	L	10/4/90		3	1								4
	TB-3	L	10/4/90		3	1								4
1530	FB-1	L	10/4/90		2	1								3
	12449													

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 19

Relinquished by: G. D. Rumford	Organization: Geraghty & Miller	Date 10/4/90 Time 10/5/90 10:00 am	Seal Intact? (Yes) No N/A
Received by: L. Bonds	Organization: Savah Labs		
Relinquished by:	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by:	Organization:		

Special Instructions/Remarks: * TSS from BNA bottles

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

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5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

RECEIVED
APR 18 1994
G & M RALEIGH

LOG NO: S0-12825
Revised 4-13-94
Received: 11 OCT 90

Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Steve Blevins

Project: NC02802 SWP-Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
12825-1	P-2-B (# 9124) 10-10-90	10-10-90
12825-2	P-1-D (# 9122) 10-10-90	10-10-90
12825-3	P-2-A (# 9123) 10-10-90	10-10-90
12825-4	P-1-C (# 9121) 10-10-90	10-10-90
12825-5	P-3-A (# 9125) 10-10-90	10-10-90

PARAMETER	12825-1	12825-2	12825-3	12825-4	12825-5
Semivolatiles (8270)					
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	890	33	ND	ND	85
Acenaphthene, mg/kg dw	220	56	25	39	96
Phenanthrene, mg/kg dw	850	17	22	18	30
Anthracene, mg/kg dw	100	96	52	62	160
Fluoranthene, mg/kg dw	240	48	38	38	86
Chrysene, mg/kg dw	ND	8.7	8.3	ND	19
Benzo(a)Anthracene, mg/kg dw	ND	8.9	7.6	ND	22
Benzo(b,k)fluoranthene, mg/kg dw	ND	12	15	12	37
Benzo(a)pyrene, mg/kg dw	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	13	ND	ND	23
Dilution factor	200	20	20	20	20

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
12825-1	P-2-B (# 9124) 10-10-90	10-10-90
12825-2	P-1-D (# 9122) 10-10-90	10-10-90
12825-3	P-2-A (# 9123) 10-10-90	10-10-90
12825-4	P-1-C (# 9121) 10-10-90	10-10-90
12825-5	P-3-A (# 9125) 10-10-90	10-10-90

PARAMETER	12825-1	12825-2	12825-3	12825-4	12825-5
Cresol (ortho), mg/kg dw	ND	ND	ND	ND	ND
Cresol m & p, mg/kg dw	ND	ND	ND	ND	ND
Aniline, mg/kg dw	ND	ND	ND	ND	ND
Fluorene, mg/kg dw	310	53	22	31	76
2-Methylnaphthalene, mg/kg dw	150	51	ND	ND	86
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Volatile Organics (8240)					
Toluene, mg/kg dw	0.12	0.015	0.072	0.016	0.21
Benzene, mg/kg dw	ND	ND	ND	ND	ND
Methylene Chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
2-butanone (MEK), mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	0.24	0.31	0.024	0.56	1.0
Xylenes, mg/kg dw	0.77	0.28	0.072	0.29	1.6
Arsenic (7060), mg/kg dw	4.5	3.9	2.4	2.1	14
Barium (6010), mg/kg dw	78	130	140	260	200
Cadmium (6010), mg/kg dw	ND	ND	ND	ND	ND
Chromium (6010), mg/kg dw	27	23	39	16	15
Lead (7421), mg/kg dw	11	6.3	6.1	10	21
Mercury (7470/7471), mg/kg dw	0.024	ND	ND	ND	0.026
Selenium (7740), mg/kg dw	ND	ND	ND	ND	ND
Silver (6010), mg/kg dw	ND	ND	ND	ND	ND

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Project: NC02802 SWP-Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
12825-1	P-2-B (# 9124) 10-10-90	10-10-90
12825-2	P-1-D (# 9122) 10-10-90	10-10-90
12825-3	P-2-A (# 9123) 10-10-90	10-10-90
12825-4	P-1-C (# 9121) 10-10-90	10-10-90
12825-5	P-3-A (# 9125) 10-10-90	10-10-90

PARAMETER	12825-1	12825-2	12825-3	12825-4	12825-5
Copper (6010), mg/kg dw	13	34	34	20	42
Percent Solids, %	83 %	82 %	78 %	90 %	90 %

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
12825-6	P-1-B (# 9120) 10-10-90	10-10-90
12825-7	P-O (# 9126) 10-10-90	10-10-90
12825-8	P-1-A (# 9119) 10-10-90	10-10-90

PARAMETER	12825-6	12825-7	12825-8
Semivolatiles (8270)			
2-Chlorophenol, mg/kg dw	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND
p-Chloro-m-cresol, mg/kg dw	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND
Naphthalene, mg/kg dw	ND	20	ND
Acenaphthene, mg/kg dw	13	34	30
Phenanthrene, mg/kg dw	ND	17	24
Anthracene, mg/kg dw	40	82	75
Fluoranthene, mg/kg dw	27	18	51
Chrysene, mg/kg dw	ND	ND	8.6
Benzo(a)Anthracene, mg/kg dw	ND	ND	ND
Benzo(b,k)fluoranthene, mg/kg dw	9.3	10	15
Benzo(a)pyrene, mg/kg dw	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND
Carbazole, mg/kg dw	ND	18	ND
Dilution factor	20	20	20
Cresol (ortho), mg/kg dw	ND	ND	ND
Cresol m & p, mg/kg dw	ND	ND	ND
Aniline, mg/kg dw	ND	ND	ND
Fluorene, mg/kg dw	12	44	30
2-Methylnaphthalene, mg/kg dw	ND	8.6	ND
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND	ND	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
12825-6	P-1-B (# 9120) 10-10-90	10-10-90
12825-7	P-O (# 9126) 10-10-90	10-10-90
12825-8	P-1-A (# 9119) 10-10-90	10-10-90

PARAMETER	12825-6	12825-7	12825-8
Volatile Organics (8240)			
Toluene, mg/kg dw	0.043	0.0069	0.0084
Benzene, mg/kg dw	0.012	ND	ND
Methylene Chloride (Dichloromethane), mg/kg dw	ND	ND	ND
2-butanone (MEK), mg/kg dw	ND	ND	ND
Ethylbenzene, mg/kg dw	0.17	0.038	0.043
Xylenes, mg/kg dw	0.28	0.050	0.025
Arsenic (7060), mg/kg dw	9.3	5.0	ND
Barium (6010), mg/kg dw	240	210	160
Cadmium (6010), mg/kg dw	ND	ND	ND
Chromium (6010), mg/kg dw	90	35	40
Lead (7421), mg/kg dw	19	9.5	13
Mercury (7470/7471), mg/kg dw	0.024	ND	0.028
Selenium (7740), mg/kg dw	ND	ND	ND
Silver (6010), mg/kg dw	ND	ND	ND
Copper (6010), mg/kg dw	26	39	32
Percent Solids, %	80 %	81 %	79 %

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CC: Steve Blevins

Project: NC02802 SWP-Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES
12825-9	TB-1
12825-10	TB-2

PARAMETER	12825-9	12825-10
Volatile Organics (8240)		
Toluene, mg/l	ND	ND
Benzene, mg/l	ND	ND
Methylene Chloride (Dichloromethane), mg/l	ND	ND
2-butanone (MEK), mg/l	ND	ND
Ethylbenzene, mg/l	ND	ND
Xylenes, mg/l	ND	ND

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S0-12825
Revised 4-13-94
Received: 11 OCT 90

Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Steve Blevins

Project: NC02802 SWP-Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
12825-11	Detection Limits (Soil)
12825-12	Accuracy (mean % recovery) (Soil)
12825-13	Precision (% RPD) (Soil)

PARAMETER	12825-11	12825-12	12825-13
Semivolatiles (8270)			
2-Chlorophenol, mg/kg dw	0.33	96 %	9.4 %
Phenol, mg/kg dw	0.33	103 %	14 %
2,4-Dimethylphenol, mg/kg dw	0.33	70 %	5.7 %
2,4,6-Trichlorophenol, mg/kg dw	0.33	90 %	3.4 %
p-Chloro-m-cresol, mg/kg dw	0.33	91 %	4.4 %
Pentachlorophenol, mg/kg dw	1.7	84 %	7.1 %
Naphthalene, mg/kg dw	0.33	67 %	1.5 %
Acenaphthene, mg/kg dw	0.33	84 %	1.2 %
Phenanthrene, mg/kg dw	0.33	66 %	1.5 %
Anthracene, mg/kg dw	0.33	77 %	1.3 %
Fluoranthene, mg/kg dw	0.33	70 %	4.3 %
Chrysene, mg/kg dw	0.33	92 %	11 %
Benzo(a)Anthracene, mg/kg dw	0.33	94 %	4.3 %
Benzo(b,k)fluoranthene, mg/kg dw	0.33	95 %	19 %
Benzo(a)pyrene, mg/kg dw	0.33	86 %	13 %
Indeno(1,2,3-cd)pyrene, mg/kg dw	0.33	85 %	5.9 %
Dibenzo(a,h)anthracene, mg/kg dw	0.33	85 %	4.7 %
Carbazole, mg/kg dw	0.33	64 %	9.4 %
Cresol (ortho), mg/kg dw	0.33	---	---
Cresol m & p, mg/kg dw	0.33	---	---
Aniline, mg/kg dw	0.33	---	---
Fluorene, mg/kg dw	0.33	---	---
2-Methylnaphthalene, mg/kg dw	0.33	---	---
2,3,4,6-Tetrachlorophenol, mg/kg dw	0.33	---	---

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
12825-11	Detection Limits (Soil)
12825-12	Accuracy (mean % recovery) (Soil)
12825-13	Precision (% RPD) (Soil)

PARAMETER	12825-11	12825-12	12825-13
Volatile Organics (8240)			
Toluene, mg/kg dw	0.0050	110 %	2.7 %
Benzene, mg/kg dw	0.0050	100 %	2.0 %
Methylene Chloride (Dichloromethane), mg/kg dw	0.0050	---	---
2-butanone (MEK), mg/kg dw	0.050	---	---
Ethylbenzene, mg/kg dw	0.0050	---	---
Xylenes, mg/kg dw	5.0	---	---
Arsenic (7060), mg/kg dw	1.0	113 %	0 %
Barium (6010), mg/kg dw	1.0	92 %	1.1 %
Cadmium (6010), mg/kg dw	0.50	81 %	0 %
Chromium (6010), mg/kg dw	1.0	76 %	0 %
Lead (7421), mg/kg dw	0.50	110 %	6.8 %
Mercury (7470/7471), mg/kg dw	0.015	99 %	2.0 %
Selenium (7740), mg/kg dw	1.0	88 %	2.8 %
Silver (6010), mg/kg dw	1.0	82 %	1.2 %
Copper (6010), mg/kg dw	2.5	92 %	0 %

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Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
12825-14	Report Completion Date

PARAMETER	12825-14
Date Reported	11.08.90

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews, Ph. D.

Final Page Of Report

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. 1426

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number NC02802

Project Location SWP - Gulf, NC

Laboratory Savannah Labs

Sampler(s)/Affiliation Michelle (Newman) Lutz (G&M)
Chuck Whipkey (G&M)

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	500 ml glass (wm) BNA's	500 ml glass (wm) Metals	125 ml amber glass VOA's	40 ml glass w/HCl VOA TRIP						TOTAL
9120 P-1B	S	10/10/90 1335		1	1	1							3
* 9126 P-0	S	10/10/90 1430		1	1	1							3
9119 P-1A	S	10/10/90 1410		1	1	1							3
TB-1	L	10/10/90					4						4
12825													
		Run Gulf site specific list for SV and VOC plus AS, BA, CD, CR, PB, HG, SE, AG, CU											per. C. Whipkey 10/11/90 GF

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 13

Relinquished by: Michelle E. Lutz	Organization: Geraghty & Miller	Date 10/10/90 Time	Seal Intact? (Yes) No N/A
Received by: L. Bonds	Organization: Sav. Labs	Date 10/11/90 Time 10:40 am	
Relinquished by:	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by:	Organization:		

Special Instructions/Remarks:
- Pond Samples on Task order * P-0 TCLP (9126)

Delivery Method: ☐ In Person ☒ Common Carrier Fed-Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. 1426

CHAIN-OF-CUSTODY RECORD

Project Number NC02802

Project Location SWP, Gulf, NC

Laboratory Savannah Labs

Sampler(s)/Affiliation Michelle (Newman) Lutz
Chuck Whipkey GM

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	500 ml glass (wm) BNA's	500 ml glass (wm) Metals	125 ml amberglass VOA's	40 ml glass w/HCl VOA TRIP.						TOTAL
9124 P-2-B	S	10/10/90 1115		1	1	1							3
9122 P-1-D	S	10/10/90 1245		1	1	1							3
9123 P-2-A	S	10/10/90 1150		1	1	1							3
9121 P-1-C	S	10/10/90 1220		1	1	1							3
9125 P-3-A	S	10/10/90 1040		1	1	1							3
TB-2	L	10/10/90					3						3
12825													

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 18

Relinquished by: Michelle L. Lutz	Organization: Geraghty & Miller	10/10/90	Seal Intact? (Yes) No N/A
Received by: F. Bonds	Organization: Sav. Labs	Date 10/11/90 Time 10:00 am	
Relinquished by:	Organization:		Seal Intact?
Received by:	Organization:	Date / / Time	Yes No N/A

Special Instructions/Remarks: Pond Samples on Task Order

Delivery Method: ☐ In Person ☒ Common Carrier Fed-Ex (SPECIFY) ☐ Lab Courier ☐ Other

Environmental Services

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NOV 20 1990
ENVIRONMENTAL LABS

Date: 10/25/90

From: Michelle Lutz

To: (Include Name, Company, and Fax Number)

Gloria Fulwood (912) 352-0105
Savannah Labs

Pages To Follow: 1 Charge To: 093

(If transmission is interrupted or received incomplete, please call the number below.)

Message: Southern Wood Piedmont Sample #'s

B-1 9149
B-2 9150
B-3 9151
B-4 9152
B-5 9153
B-6 9154

Mark
Mike.

Koger Center Glenwood • 3724 National Drive, Suite 228 • Raleigh, North Carolina 27612 • (919) 781-8199 • FAX: (919) 781-8099

SL SAVANNAH LABORATORIES
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5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

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Received: 25 OCT 90

Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: NC02802 SWP-Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
13087-1	B-1 (# 9149) 10-24-90	10-24-90
13087-2	B-2 (# 9150) 10-24-90	10-24-90
13087-3	B-3 (# 9151) 10-24-90	10-24-90
13087-4	B-4 (# 9152) 10-24-90	10-24-90
13087-5	B-5 (# 9153) 10-24-90	10-24-90

PARAMETER	13087-1	13087-2	13087-3	13087-4	13087-5
Semivolatiles (8270)					
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	ND	ND	ND
Acenaphthene, mg/kg dw	ND	ND	ND	ND	ND
Phenanthrene, mg/kg dw	ND	ND	ND	ND	ND
Anthracene, mg/kg dw	ND	ND	ND	1.5	ND
Fluoranthene, mg/kg dw	ND	0.58	ND	1.3	ND
Chrysene, mg/kg dw	ND	ND	ND	1.3	ND
Benzo(a)Anthracene, mg/kg dw	ND	ND	ND	0.81	ND
Benzo(b,k)fluoranthene, mg/kg dw	ND	ND	ND	1.3	ND
Benzo(a)pyrene, mg/kg dw	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	ND	ND
Dilution factor	1.0	1.0	1.0	1.0	1.0

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
13087-1	B-1 (# 9149) 10-24-90	10-24-90
13087-2	B-2 (# 9150) 10-24-90	10-24-90
13087-3	B-3 (# 9151) 10-24-90	10-24-90
13087-4	B-4 (# 9152) 10-24-90	10-24-90
13087-5	B-5 (# 9153) 10-24-90	10-24-90

PARAMETER	13087-1	13087-2	13087-3	13087-4	13087-5
Cresol (ortho), mg/kg dw	ND	ND	ND	ND	ND
Cresol m & p, mg/kg dw	ND	ND	ND	ND	ND
Aniline, mg/kg dw	ND	ND	ND	ND	ND
Fluorene, mg/kg dw	ND	ND	ND	ND	ND
2-Methylnaphthalene, mg/kg dw	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Volatile Organics (8240)					
Toluene, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND
Methylene Chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
2-butanone (MEK), mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND	ND
Xylenes, mg/kg dw	ND	ND	ND	ND	ND
Silver (6010), mg/kg dw	ND	ND	ND	ND	ND
Arsenic (7060), mg/kg dw	5.4	5.2	6.8	14	8.2
Barium (6010), mg/kg dw	190	180	120	220	56
Cadmium (6010), mg/kg dw	ND	ND	ND	ND	ND
Chromium (6010), mg/kg dw	30	19	14	19	15
Copper (6010), mg/kg dw	48	48	37	51	13
Mercury (7470/7471), mg/kg dw	0.018	0.012	0.013	0.021	0.020
Lead (7421), mg/kg dw	13	11	10	30	10

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
13087-1	B-1 (# 9149) 10-24-90	10-24-90
13087-2	B-2 (# 9150) 10-24-90	10-24-90
13087-3	B-3 (# 9151) 10-24-90	10-24-90
13087-4	B-4 (# 9152) 10-24-90	10-24-90
13087-5	B-5 (# 9153) 10-24-90	10-24-90

PARAMETER	13087-1	13087-2	13087-3	13087-4	13087-5
Selenium (7740), mg/kg dw	ND	ND	ND	ND	ND
Percent Solids, %	83	81	83	89	87

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
13087-6	B-6 (# 9154) 10-24-90	10-24-90

PARAMETER	13087-6
Semivolatiles (8270)	
2-Chlorophenol, mg/kg dw	ND
Phenol, mg/kg dw	ND
2,4-Dimethylphenol, mg/kg dw	ND
2,4,6-Trichlorophenol, mg/kg dw	ND
p-Chloro-m-cresol, mg/kg dw	ND
Pentachlorophenol, mg/kg dw	ND
Naphthalene, mg/kg dw	ND
Acenaphthene, mg/kg dw	ND
Phenanthrene, mg/kg dw	1.9
Anthracene, mg/kg dw	0.56
Fluoranthene, mg/kg dw	1.2
Chrysene, mg/kg dw	ND
Benzo(a)Anthracene, mg/kg dw	ND
Benzo(b,k)fluoranthene, mg/kg dw	ND
Benzo(a)pyrene, mg/kg dw	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND
Carbazole, mg/kg dw	ND
Dilution factor	1.0
Cresol (ortho), mg/kg dw	ND
Cresol m & p, mg/kg dw	ND
Aniline, mg/kg dw	ND
Fluorene, mg/kg dw	0.43
2-Methylnaphthalene, mg/kg dw	ND
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
13087-6	B-6 (# 9154) 10-24-90	10-24-90

PARAMETER	13087-6
Volatile Organics (8240)	
Toluene, mg/kg dw	ND
Benzene, mg/kg dw	ND
Methylene Chloride (Dichloromethane), mg/kg dw	ND
2-butanone (MEK), mg/kg dw	ND
Ethylbenzene, mg/kg dw	ND
Xylenes, mg/kg dw	ND
Silver (6010), mg/kg dw	ND
Arsenic (7060), mg/kg dw	5.2
Barium (6010), mg/kg dw	57
Cadmium (6010), mg/kg dw	ND
Chromium (6010), mg/kg dw	14
Copper (6010), mg/kg dw	16
Mercury (7470/7471), mg/kg dw	0.026
Lead (7421), mg/kg dw	8.4
Selenium (7740), mg/kg dw	ND
Percent Solids, %	84

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
13087-7	RB-1 (10-24-90)	10-24-90
13087-8	FB-1 (10-24-90)	10-24-90

PARAMETER	13087-7	13087-8
Semivolatiles (8270)		
2-Chlorophenol, mg/l	ND	ND
Phenol, mg/l	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND
Pentachlorophenol, mg/l	ND	ND
Naphthalene, mg/l	ND	ND
Acenaphthene, mg/l	ND	ND
Phenanthrene, mg/l	ND	ND
Anthracene, mg/l	ND	ND
Fluoranthene, mg/l	ND	ND
Chrysene, mg/l	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND
Benzo(a)pyrene, mg/l	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND
Carbazole, mg/l	ND	ND
Dilution factor	1.0	1.0
Cresol (ortho), mg/l	ND	ND
Cresol m & p, mg/l	ND	ND
Aniline, mg/l	ND	ND
Fluorene, mg/l	ND	ND
2-Methylnaphthalene, mg/l	ND	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND

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LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
13087-7	RB-1 (10-24-90)	10-24-90
13087-8	FB-1 (10-24-90)	10-24-90

PARAMETER	13087-7	13087-8
Volatile Organics (8240)		
Toluene, mg/l	ND	ND
Benzene, mg/l	ND	ND
Methylene Chloride (Dichloromethane), mg/l	ND	ND
2-butanone (MEK), mg/l	ND	ND
Ethylbenzene, mg/l	ND	ND
Xylenes, mg/l	ND	ND
Silver (6010), mg/l	ND	ND
Arsenic (7060), mg/l	ND	ND
Barium (6010), mg/l	ND	ND
Cadmium (6010), mg/l	ND	ND
Chromium (6010), mg/l	ND	ND
Copper (6010), mg/l	ND	ND
Mercury (7470/7471), mg/l	ND	ND
Lead (7421), mg/l	ND	ND
Selenium (7740), mg/l	ND	ND

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Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
13087-9	TB-1 (10-24-90)	10-24-90

PARAMETER	13087-9
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride (Dichloromethane), mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
13087-10	Detection Limits
13087-11	Accuracy (mean % recovery)
13087-12	Precision (% RPD)

PARAMETER	13087-10	13087-11	13087-12
Semivolatiles (8270)			
2-Chlorophenol, mg/kg dw	0.33	54 %	0 %
Phenol, mg/kg dw	0.33	74 %	0.9 %
2,4-Dimethylphenol, mg/kg dw	0.33	49 %	5.1 %
2,4,6-Trichlorophenol, mg/kg dw	0.33	47 %	8.4 %
p-Chloro-m-cresol, mg/kg dw	0.33	52 %	0.9 %
Pentachlorophenol, mg/kg dw	1.7	62 %	1.6 %
Naphthalene, mg/kg dw	0.33	97 %	3.1 %
Acenaphthene, mg/kg dw	0.33	93 %	1.1 %
Phenanthrene, mg/kg dw	0.33	99 %	1.0 %
Anthracene, mg/kg dw	0.33	97 %	1.0 %
Fluoranthene, mg/kg dw	0.33	98 %	1.0 %
Chrysene, mg/kg dw	0.33	101 %	3.0 %
Benzo(a)Anthracene, mg/kg dw	0.33	97 %	0 %
Benzo(b,k)fluoranthene, mg/kg dw	0.33	107 %	0.9 %
Benzo(a)pyrene, mg/kg dw	0.33	107 %	2.8 %
Indeno(1,2,3-cd)pyrene, mg/kg dw	0.33	117 %	2.6 %
Dibenzo(a,h)anthracene, mg/kg dw	0.33	116 %	0 %
Carbazole, mg/kg dw	0.33	96 %	3.1 %
Cresol (ortho), mg/kg dw	0.33	---	---
Cresol m & p, mg/kg dw	0.33	---	---
Aniline, mg/kg dw	0.33	---	---
Fluorene, mg/kg dw	0.33	---	---
2-Methylnaphthalene, mg/kg dw	0.33	---	---
2,3,4,6-Tetrachlorophenol, mg/kg dw	0.33	---	---

SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S0-13087
Revised 2-24-94
Received: 25 OCT 90

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FEB 28 1994
ENVIRONMENTAL

Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: NC02802 SWP-Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
13087-10	Detection Limits
13087-11	Accuracy (mean % recovery)
13087-12	Precision (% RPD)

PARAMETER	13087-10	13087-11	13087-12
Volatile Organics (8240)			
Toluene, mg/kg dw	0.0050	109 %	6.4 %
Benzene, mg/kg dw	0.0050	87 %	3.6 %
Methylene Chloride (Dichloromethane), mg/kg dw	0.0050	---	---
2-butanone (MEK), mg/kg dw	0.050	---	---
Ethylbenzene, mg/kg dw	0.0050	---	---
Xylenes, mg/kg dw	0.0050	---	---
Silver (6010), mg/kg dw	1.0	85 %	0 %
Arsenic (7060), mg/kg dw	1.0	104 %	0 %
Barium (6010), mg/kg dw	1.0	95 %	1.1 %
Cadmium (6010), mg/kg dw	0.50	93 %	3.2 %
Chromium (6010), mg/kg dw	1.0	99 %	0 %
Copper (6010), mg/kg dw	2.5	93 %	0 %
Mercury (7470/7471), mg/kg dw	0.015	89 %	8.9 %
Lead (7421), mg/kg dw	0.50	86 %	2.6 %
Selenium (7740), mg/kg dw	1.0	80 %	3.1 %

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Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

ENVIRONMENTAL
Project: NC02802 SWP-Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
13087-13	Detection Limits (Liquid)
13087-14	Accuracy (mean % recovery) (Liquid)
13087-15	Precision (% RPD) (Liquid)

PARAMETER	13087-13	13087-14	13087-15
Semivolatiles (8270)			
2-Chlorophenol, mg/l	0.010	78 %	1.5 %
Phenol, mg/l	0.010	81 %	2.8 %
2,4-Dimethylphenol, mg/l	0.010	---	---
2,4,6-Trichlorophenol, mg/l	0.010	---	---
p-Chloro-m-cresol, mg/l	0.010	82 %	5.1 %
Pentachlorophenol, mg/l	0.050	85 %	1.8 %
Naphthalene, mg/l	0.010	---	---
Acenaphthene, mg/l	0.010	83 %	1.7 %
Phenanthrene, mg/l	0.010	---	---
Anthracene, mg/l	0.010	---	---
Fluoranthene, mg/l	0.010	---	---
Chrysene, mg/l	0.010	---	---
Benzo(a)Anthracene, mg/l	0.010	---	---
Benzo(b,k)fluoranthene, mg/l	0.010	---	---
Benzo(a)pyrene, mg/l	0.010	---	---
Indeno(1,2,3-cd)pyrene, mg/l	0.010	---	---
Dibenzo(a,h)anthracene, mg/l	0.010	---	---
Carbazole, mg/l	0.010	---	---
Cresol (ortho), mg/l	0.010	---	---
Cresol m & p, mg/l	0.010	---	---
Aniline, mg/l	0.010	---	---
Fluorene, mg/l	0.010	---	---
2-Methylnaphthalene, mg/l	0.010	---	---
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---

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LOG NO: S0-13087
Revised 2-24-94
Received: 25 OCT 90

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FEB 28 1994
ENVIRONMENTAL

Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: NC02802 SWP-Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
13087-13	Detection Limits (Liquid)
13087-14	Accuracy (mean % recovery) (Liquid)
13087-15	Precision (% RPD) (Liquid)

PARAMETER	13087-13	13087-14	13087-15
Volatile Organics (8240)			
Toluene, mg/l	0.0010	83 %	1.4 %
Benzene, mg/l	0.0010	93 %	6.4 %
Methylene Chloride (Dichloromethane), mg/l	0.0010	---	---
2-butanone (MEK), mg/l	0.010	---	---
Ethylbenzene, mg/l	0.0010	---	---
Xylenes, mg/l	0.0010	---	---
Silver (6010), mg/l	0.010	118 %	2.5 %
Arsenic (7060), mg/l	0.010	97 %	15 %
Barium (6010), mg/l	0.010	105 %	0 %
Cadmium (6010), mg/l	0.0050	105 %	0.95 %
Chromium (6010), mg/l	0.010	107 %	0 %
Copper (6010), mg/l	0.025	103 %	0.97 %
Mercury (7470/7471), mg/l	0.00020	114 %	1.8 %
Lead (7421), mg/l	0.0050	102 %	2.5 %
Selenium (7740), mg/l	0.010	86 %	3.5 %

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LOG NO: S0-13087
Revised 2-24-94
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Ms. Sandra Watson
Southern Wood Piedmont (SP)
P. O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: NC02802 SWP-Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
13087-16	Report Completion Date

PARAMETER	13087-16
Date Reported	11.15.90

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

Final Page Of Report

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. 0 1990

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number NC02802

Project Location SWP Gulf, NC

Laboratory Savannah Labs

Sampler(s)/Affiliation Michelle Lutz / G+M
Chuck Whipkey / G+M

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	500 ml Plastic Wide Mouth Metals	500 ml glass wm BNA	250 ml amber glass VOC's	1 L amber glass BNA's	500 ml plastic Metals (HNO3)	40 ml glass w/Spk HCl VOA's				TOTAL
RB-1	L	10/24/90 1150					1	1	3				5
FB-1	L	10/24/90 1130	13087				1	1	3				5
B-5 9153	S	10/24/90 1100		1	1	1							3
TB-1	L	10/24/90							3				3
B-3 9151	S	10/24/90 1040		1	1	1							3
B-6 9154	S	10/24/90 1140		1	1	1							3
B-4 9152	S	10/24/90 1025		1	1	1							3
B-1 9149	S	10/24/90 1010		1	1	1							3
B-2 9150	S	10/24/90 0955		1	1	1							3
13087													

Southern Wood ID #'s furnished by phone by Michelle Lutz. 10/25/90. GF
metals are AG, AS, BA, CD, CR, CU, HG, PB, SE per Chuck Whipkey. 10/26/90. GF

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 31

Relinquished by: Michelle S. Lutz Organization: Geraghty & Miller, Inc. 10/24/90
Received by: Carla Longworth Organization: Savannah LAB Date 10/25/90 Time 10:00
Seal Intact? (Yes) No N/A

Relinquished by: Organization:
Received by: Organization: Date / / Time
Seal Intact? Yes No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier Fed-Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

Southprint 90-0136

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. _____

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number N:02802

Project Location SJSP Gulf, NC

Laboratory Savannah Labs

Sampler(s)/Affiliation Michelle Lutz / G&M
Chuck Wikipkey / G&M

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	500 ml Plastic w/o mouth Metals	500 ml glass wm BNA	250 ml amber glass VOC's	1 L amber glass BNA's	500 ml plastic Metals (HNO3)	40 ml glass w/ HCl VOA's				TOTAL
FB-1	L	10/24/90 1150					1	1	3				5
FB-1	L	10/24/90 1312					1	1	3				5
B-5	S	10/24/90 1300		1	1	1							3
TB-1	L	10/24/90							3				3
B-3	S	10/24/90 1040		1	1	1							3
B-10	S	10/24/90 1002		1	1	1							3
B-4	S	10/24/90 1025		1	1	1							3
B-1	S	10/24/90 1012		1	1	1							3
B-2	S	10/24/90 [illegible]		1	1	1							3

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 21

Relinquished by: Michelle E. Lutz	Organization: Geraghty & Miller, Inc.	Date 10/24/90 Time	Seal Intact? Yes No N/A
Received by:	Organization:		
Relinquished by:	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by:	Organization:		

Special Instructions/Remarks:
* Please Note Changes addition of Lab #'s
Thanks

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

G&M Form 09 1 90

10. 25. 90 05:02PM *G&M RALEIGH N. C. P02

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. _____

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number N:028072-

Project Location JSOP Gulf, NC

Laboratory Savannah Labs

Sampler(s)/Affiliation Michelle Lutz / G&M
Chuck Wikipkey / G&M

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	500 ml Plastic wide mouth Metals	500 ml glass wm BNA	250 ml amber glass VOA's	1 L amber glass BNA's	500 ml plastic Metals (HNO3)	40 ml glass w/septa VOA's				TOTAL
FB-1	L	10/24/90 1152					1	1	3				5
FB-1	L	10/24/90 1312					1	1	3				5
B-5	S	10/24/90 1300		1	1	1							3
TB-1	L	10/24/90							3				3
B-3	S	10/24/90 1040		1	1	1							3
B-10	S	10/24/90 1042		1	1	1							3
B-4	S	10/24/90 1035		1	1	1							3
B-1	S	10/24/90 1017		1	1	1							3
B-2	S	10/24/90 [illegible]		1	1	1							3

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 21

Relinquished by: Michelle E. Lutz	Organization: Geraghty & Miller, Inc.	Date 10/24/90 Time	Seal Intact? Yes No N/A
Received by:	Organization:		
Relinquished by:	Organization:		Seal Intact? Yes No N/A
Received by:	Organization:	Date Time	

Special Instructions/Remarks:
* Please Note change: addition of Lab #'s
thanks

Delivery Method: ☐ In Person ☒ Common Carrier Fed. Ex. (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

G&M Form 08 1.90

10. 25. 90 06:02PM *G&M RALEIGH N. C. P02

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APR 08 1991
ENVIRONMENTAL AFFAIRS

LOG NO: S1-32096

Received: 14 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32096-1	CB-3A (# 9406) 3-13-91	Client
32096-2	RB-1 (3-13-91)	

PARAMETER	32096-1	32096-2
Semivolatiles		
2-Chlorophenol, mg/l	ND	ND
Phenol, mg/l	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND
Pentachlorophenol, mg/l	ND	ND
Naphthalene, mg/l	8.1	ND
Acenaphthene, mg/l	1.8	ND
Phenanthrene, mg/l	2.4	ND
Anthracene, mg/l	0.28	ND
Fluoranthene, mg/l	0.81	ND
Chrysene, mg/l	0.099	ND
Benzo(a)Anthracene, mg/l	0.11	ND
Benzo(b,k)fluoranthene, mg/l	0.025	ND
Benzo(a)pyrene, mg/l	0.028	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND
Carbazole, mg/l	0.17	ND
Dilution factor	1	1
Cresol (ortho), mg/l	ND	ND
Cresol m & p, mg/l	ND	ND
Aniline, mg/l	0.063	ND
Fluorene, mg/l	1.5	ND
2-Methylnaphthalene, mg/l	2.9	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND

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ENVIRONMENTAL AFFAIRS

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Received: 14 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32096-1	CB-3A (# 9406) 3-13-91	Client
32096-2	RB-1 (3-13-91)	

PARAMETER	32096-1	32096-2
Volatile Organics (8240)		
Toluene, mg/l	0.11	ND
Benzene, mg/l	0.052	ND
Methylene Chloride, mg/l	ND	ND
2-butanone (MEK), mg/l	ND	ND
Ethylbenzene, mg/l	0.18	ND
Xylenes, mg/l	0.52	ND

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Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32096-3	TB-1	Client

PARAMETER	32096-3
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32096-4	Detection Limits	Client
32096-5	Accuracy (mean % recovery)	
32096-6	Precision (% RPD)	
32096-7	Dates Analyzed	

PARAMETER	32096-4	32096-5	32096-6	32096-7
Semivolatiles				
2-Chlorophenol, mg/l	0.010	74 %	1.4 %	03.19.91
Phenol, mg/l	0.010	28 %	3.6 %	03.19.91
2,4-Dimethylphenol, mg/l	0.010	70 %	8.6 %	03.19.91
2,4,6-Trichlorophenol, mg/l	0.010	74 %	1.4 %	03.19.91
p-Chloro-m-cresol, mg/l	0.010	67 %	3.0 %	03.19.91
Pentachlorophenol, mg/l	0.050	68 %	5.9 %	03.19.91
Naphthalene, mg/l	0.010	69 %	1.5 %	03.19.91
Acenaphthene, mg/l	0.010	73 %	1.4 %	03.19.91
Phenanthrene, mg/l	0.010	79 %	1.3 %	03.19.91
Anthracene, mg/l	0.010	74 %	0 %	03.19.91
Fluoranthene, mg/l	0.010	77 %	1.3 %	03.19.91
Chrysene, mg/l	0.010	83 %	1.2 %	03.19.91
Benzo(a)Anthracene, mg/l	0.010	83 %	0 %	03.19.91
Benzo(b,k)fluoranthene, mg/l	0.010	87 %	3.5 %	03.19.91
Benzo(a)pyrene, mg/l	0.010	90 %	1.1 %	03.19.91
Indeno(1,2,3-cd)pyrene, mg/l	0.010	91 %	2.2 %	03.19.91
Dibenzo(a,h)anthracene, mg/l	0.010	91 %	2.2 %	03.19.91
Carbazole, mg/l	0.010	99 %	2.0 %	03.19.91
Cresol (ortho), mg/l	0.010	---	---	03.19.91
Cresol m & p, mg/l	0.010	---	---	03.19.91
Aniline, mg/l	0.010	---	---	03.19.91
Fluorene, mg/l	0.010	---	---	03.19.91
2-Methylnaphthalene, mg/l	0.010	---	---	03.19.91
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	03.19.91

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LOG NO: S1-32096

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Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32096-4	Detection Limits	Client
32096-5	Accuracy (mean % recovery)	
32096-6	Precision (% RPD)	
32096-7	Dates Analyzed	

PARAMETER	32096-4	32096-5	32096-6	32096-7
Volatile Organics (8240)				
Toluene, mg/l	0.0010	119 %	0.8 %	03.28.91
Benzene, mg/l	0.0010	123 %	0 %	03.28.91
Methylene Chloride, mg/l	0.0010	---	---	03.28.91
2-butanone (MEK), mg/l	0.010	---	---	03.28.91
Ethylbenzene, mg/l	0.0010	---	---	03.28.91
Xylenes, mg/l	0.0010	---	---	03.28.91

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LOG NO: S1-32096

Received: 14 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32096-8	Report Completion Date	Client

PARAMETER	32096-8
Date Reported	04.01.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews Ph.D.

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. N/A

CHAIN-OF-CUSTODY RECORD

Project Number NC02804

Project Location SWP-GULF, NC

Laboratory SAVANNAH LAB

Sampler(s)/Affiliation T. WARBURTON (G&M)

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	SAMPLE BOTTLE / CONTAINER DESCRIPTION: KOOL/BNA 8270	L glass w/tfe	VOA 8240	40ml vial w/tfe							TOTAL
RB-1	L	3-13-91 13:00		1	4									5
CB-3A/9406A	L	3-13-91 14:00		1	4									5
TB-1	L	—			4									4
320916														

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APR 04 1991

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 14

Relinquished by: [signature]	Organization: Geraghty & Miller	Date 3/13/91 Time 15:00	Seal Intact? Yes No N/A
Received by:	Organization:		
Relinquished by: L. Bonds	Organization:	Date 3/14/91 Time 9:37am	Seal Intact? Yes No N/A
Received by:	Organization: Sarah Reda		

Special Instructions/Remarks: P/S leg samples under Southern Wood Piedmont
Note: Sample identity +/+
G&M label SWP code

Delivery Method: ☐ In Person ☒ Common Carrier FED-EX (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

G&M Form 09 1 90

Southpoint 90-0136

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MAS
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APR 15 1991
ENVIRONMENTAL AFFAIRS

LOG NO: S1-32352

Received: 28 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32352-1	CB-4 (# 9426A) 3-26-91	Client

PARAMETER	32352-1
Semivolatiles	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	ND
Acenaphthene, mg/l	ND
Phenanthrene, mg/l	ND
Anthracene, mg/l	ND
Fluoranthene, mg/l	ND
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	ND
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	ND
2-Methylnaphthalene, mg/l	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

RECEIVED
APR 15 1991
ENVIRONMENTAL AFFAIRS

LOG NO: S1-32352

Received: 28 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32352-1	CB-4 (# 9426A) 3-26-91	Client

PARAMETER	32352-1
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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Received: 28 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32352-2	TB-1 (3-26-91)	Client

PARAMETER	32352-2
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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LOG NO: S1-32352

Received: 28 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32352-3	Detection Limits	Client
32352-4	Accuracy (mean % recovery)	
32352-5	Precision (% RPD)	
32352-6	Date's Analyzed	

PARAMETER	32352-3	32352-4	32352-5	32352-6
Semivolatiles				
2-Chlorophenol, mg/l	0.010	63 %	6.3 %	04.01.91
Phenol, mg/l	0.010	21 %	9.5 %	04.01.91
2,4-Dimethylphenol, mg/l	0.010	58 %	5.2 %	04.01.91
2,4,6-Trichlorophenol, mg/l	0.010	77 %	0 %	04.01.91
p-Chloro-m-cresol, mg/l	0.010	64 %	7.8 %	04.01.91
Pentachlorophenol, mg/l	0.050	53 %	5.7 %	04.01.91
Naphthalene, mg/l	0.010	74 %	4.0 %	04.01.91
Acenaphthene, mg/l	0.010	76 %	1.3 %	04.01.91
Phenanthrene, mg/l	0.010	86 %	1.2 %	04.01.91
Anthracene, mg/l	0.010	82 %	1.2 %	04.01.91
Fluoranthene, mg/l	0.010	79 %	0 %	04.01.91
Chrysene, mg/l	0.010	88 %	6.8 %	04.01.91
Benzo(a)Anthracene, mg/l	0.010	97 %	8.2 %	04.01.91
Benzo(b,k)fluoranthene, mg/l	0.010	58 %	8.6 %	04.01.91
Benzo(a)pyrene, mg/l	0.010	84 %	1.2 %	04.01.91
Indeno(1,2,3-cd)pyrene, mg/l	0.010	86 %	1.2 %	04.01.91
Dibenzo(a,h)anthracene, mg/l	0.010	80 %	2.5 %	04.01.91
Carbazole, mg/l	0.010	130 %	2.3 %	04.01.91
Cresol (ortho), mg/l	0.010	---	---	04.01.91
Cresol m & p, mg/l	0.010	---	---	04.01.91
Aniline, mg/l	0.010	---	---	04.01.91
Fluorene, mg/l	0.010	---	---	04.01.91
2-Methylnaphthalene, mg/l	0.010	---	---	04.01.91
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	04.01.91

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-32352

Received: 28 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32352-3	Detection Limits	Client
32352-4	Accuracy (mean % recovery)	
32352-5	Precision (% RPD)	
32352-6	Date's Analyzed	

PARAMETER	32352-3	32352-4	32352-5	32352-6
Volatile Organics (8240)				
Toluene, mg/l	0.0010	106 %	1.0 %	04.08.91
Benzene, mg/l	0.0010	88 %	3.6 %	04.08.91
Methylene Chloride, mg/l	0.0010	---	---	04.08.91
2-butanone (MEK), mg/l	0.010	---	---	04.08.91
Ethylbenzene, mg/l	0.0010	---	---	04.08.91
Xylenes, mg/l	0.0010	---	---	04.08.91

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-32352

Received: 28 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32352-7	Report Complection Date	Client

PARAMETER	32352-7
Date Reported	04.11.91

Methods: EPA SW-846
ND = Not Detected

James W. Andrews

J. W. Andrews, Ph. D.

[redacted] & MILLER, INC.
Environmental Services

CHAIN-OF-CUSTODY RECORD

Project Number NC02804

Project Location SWP-GULF

Laboratory SAVANNAH LABS

Sampler(s) T. WARBURTON - G&M

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	K001/BNA 8270 1L amber glass	VOA 8240 40ml vial w/ TFE									TOTAL
CB-4/9426A (1)	3-26-91 15:30	1	4									5
TB-1 (2)	3-26-91 15:30		4									4
32352												

RECEIVED APR 15 1991 ENVIRONMENTAL AFFAIRS

Total No. of Bottles/Containers: 9

Relinquished by: [signature]	Organization: Geraghty & Miller	Date 3/26/91	Time 17:30	Seal Intact?
Received by: L. Bonds	Organization: Sav. Labs	Date 3/27/91	Time 10:15 am	(Yes) No N/A
Relinquished by:	Organization:	Date / /	Time	Seal Intact?
Received by:	Organization:	Date / /	Time	Yes No N/A

Special Instructions/Remarks: Note: log under Southern Wood Piedmont
rush analysis - 1 week

RUSH

Delivery Method: ☐ In Person ☐ Common Carrier Fed-Ex (SPECIFY) ☐ Lab Courier ☐ Other ______ (SPECIFY)

G&M Form 09 12-88

Southprint 89-1951

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RECEIVED
APR 10 1991
G & M RALEIGH

LOG NO: S1-32383

Received: 28 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, SC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32383-1	CB-4B (# 9426B) 3-27-91	Client

PARAMETER	32383-1
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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LOG NO: S1-32383

Received: 28 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, SC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32383-1	CB-4B (# 9426B) 3-27-91	Client

PARAMETER	32383-1
Semivolatiles	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	ND
Acenaphthene, mg/l	ND
Phenanthrene, mg/l	ND
Anthracene, mg/l	ND
Fluoranthene, mg/l	ND
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	ND
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	ND
2-Methylnaphthalene, mg/l	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND

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LOG NO: S1-32383

Received: 28 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, SC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32383-2	TB-1 (3-27-91)	Client

PARAMETER	32383-2
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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LOG NO: S1-32383

Received: 28 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, SC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32383-3	Detection Limits	Client
32383-4	Accuracy (mean % recovery)	
32383-5	Precision (% RPD)	
32383-6	Date's Analyzed	

PARAMETER	32383-3	32383-4	32383-5	32383-6
Volatile Organics (8240)				
Toluene, mg/l	0.0050	104 %	1.9 %	04.04.91
Benzene, mg/l	0.0050	98 %	0 %	04.04.91
Methylene Chloride, mg/l	0.0050	---	---	04.04.91
2-butanone (MEK), mg/l	0.10	---	---	04.04.91
Ethylbenzene, mg/l	0.0050	---	---	04.04.91
Xylenes, mg/l	0.0050	---	---	04.04.91

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LOG NO: S1-32383

Received: 28 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, SC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32383-3	Detection Limits	Client
32383-4	Accuracy (mean % recovery)	
32383-5	Precision (% RPD)	
32383-6	Date's Analyzed	

PARAMETER	32383-3	32383-4	32383-5	32383-6
Semivolatiles				
2-Chlorophenol, mg/l	0.010	66 %	0 %	3.29/31.91
Phenol, mg/l	0.010	25 %	0 %	3.29/31.91
2,4-Dimethylphenol, mg/l	0.010	77 %	2.6 %	3.29/31.91
2,4,6-Trichlorophenol, mg/l	0.010	91 %	2.2 %	3.29/31.91
p-Chloro-m-cresol, mg/l	0.010	78 %	0 %	3.29/31.91
Pentachlorophenol, mg/l	0.050	107 %	0 %	3.29/31.91
Naphthalene, mg/l	0.010	74 %	1.4 %	3.29/31.91
Acenaphthene, mg/l	0.010	76 %	2.6 %	3.29/31.91
Phenanthrene, mg/l	0.010	84 %	1.2 %	3.29/31.91
Anthracene, mg/l	0.010	81 %	1.2 %	3.29/31.91
Fluoranthene, mg/l	0.010	89 %	2.2 %	3.29/31.91
Chrysene, mg/l	0.010	91 %	1.1 %	3.29/31.91
Benzo(a)Anthracene, mg/l	0.010	94 %	3.2 %	3.29/31.91
Benzo(b,k)fluoranthene, mg/l	0.010	88 %	3.4 %	3.29/31.91
Benzo(a)pyrene, mg/l	0.010	90 %	0 %	3.29/31.91
Indeno(1,2,3-cd)pyrene, mg/l	0.010	96 %	3.1 %	3.29/31.91
Dibenzo(a,h)anthracene, mg/l	0.010	97 %	2.1 %	3.29/31.91
Carbazole, mg/l	0.010	111 %	1.8 %	3.29/31.91
Cresol (ortho), mg/l	0.010	---	---	3.29/31.91
Cresol m & p, mg/l	0.010	---	---	3.29/31.91
Aniline, mg/l	0.010	---	---	3.29/31.91
Fluorene, mg/l	0.010	---	---	3.29/31.91
2-Methylnaphthalene, mg/l	0.010	---	---	3.29/31.91
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	3.29/31.91

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-32383

Received: 28 MAR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, SC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32383-7	Report Completion Date	Client

PARAMETER	32383-7
Date Reported	04.08.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. N/A

CHAIN-OF-CUSTODY RECORD

Project Number NCO 2804

Project Location SWP-GULF

Laboratory SAVANNAH LABS

Sampler(s)/Affiliation T. WARBURTON G&M

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	Kool/BNA 8270	1L amber glass	VOA 8240	40ml vials w/TFE							TOTAL
CB-4B/9426B	L	3-27-91 16:00		1	4									5
TB-1	L	14:00			4									4
32383														

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 9

Relinquished by: Thomas R. Warburton Organization: Geraghty & Miller
Received by: _____ Organization: _____ Date 3/27/91 Time 17:30 — Seal Intact? (Yes) No N/A

Relinquished by: _____ Organization: _____
Received by: L. Bonds Organization: Savannah Labs Date 3/28/91 Time 10:15 am — Seal Intact? (Yes) No N/A

Special Instructions/Remarks: Note: log under Southern Wood Piedmont
rush analysis - 1 week

RUSH

Delivery Method: ☐ In Person ☒ Common Carrier Fed-Ex ☐ Lab Courier ☐ Other

MAS
JMD

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APR 15 1991
ENVIRONMENTAL AFFAIRS

LOG NO: S1-32475

Received: 03 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32475-1	CB-5A (# 9427A) 4-2-91	Client

PARAMETER	32475-1
Semivolatiles	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	ND
Acenaphthene, mg/l	ND
Phenanthrene, mg/l	ND
Anthracene, mg/l	ND
Fluoranthene, mg/l	ND
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	ND
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	ND
2-Methylnaphthalene, mg/l	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-32475

Received: 03 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32475-1	CB-5A (# 9427A) 4-2-91	Client

PARAMETER	32475-1
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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Received: 03 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32475-2	TB-1 (4-2-91)	Client

PARAMETER	32475-2
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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RECEIVED
APR 15 1991
ENVIRONMENTAL AFFAIRS

LOG NO: S1-32475

Received: 03 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32475-3	Detection Limits	Client
32475-4	Accuracy (mean % recovery)	
32475-5	Precision (% RPD)	
32475-6	Dates Analyzed	

PARAMETER	32475-3	32475-4	32475-5	32475-6
Semivolatiles				
2-Chlorophenol, mg/l	0.010	74 %	22 %	04.08.91
Phenol, mg/l	0.010	26 %	23 %	04.08.91
2,4-Dimethylphenol, mg/l	0.010	71 %	18 %	04.08.91
2,4,6-Trichlorophenol, mg/l	0.010	72 %	17 %	04.08.91
p-Chloro-m-cresol, mg/l	0.010	72 %	15 %	04.08.91
Pentachlorophenol, mg/l	0.050	62 %	1.6 %	04.08.91
Naphthalene, mg/l	0.010	71 %	16 %	04.08.91
Acenaphthene, mg/l	0.010	78 %	18 %	04.08.91
Phenanthrene, mg/l	0.010	86 %	4.7 %	04.08.91
Anthracene, mg/l	0.010	82 %	0 %	04.08.91
Fluoranthene, mg/l	0.010	83 %	2.4 %	04.08.91
Chrysene, mg/l	0.010	86 %	5.8 %	04.08.91
Benzo(a)Anthracene, mg/l	0.010	93 %	7.6 %	04.08.91
Benzo(b,k)fluoranthene, mg/l	0.010	92 %	8.2 %	04.08.91
Benzo(a)pyrene, mg/l	0.010	90 %	6.7 %	04.08.91
Indeno(1,2,3-cd)pyrene, mg/l	0.010	87 %	13 %	04.08.91
Dibenzo(a,h)anthracene, mg/l	0.010	86 %	11 %	04.08.91
Carbazole, mg/l	0.010	117 %	0 %	04.08.91
Cresol (ortho), mg/l	0.010	---	---	04.08.91
Cresol m & p, mg/l	0.010	---	---	04.08.91
Aniline, mg/l	0.010	---	---	04.08.91
Fluorene, mg/l	0.010	---	---	04.08.91
2-Methylnaphthalene, mg/l	0.010	---	---	04.08.91
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	04.08.91

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-32475

Received: 03 APR 91

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P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32475-3	Detection Limits	Client
32475-4	Accuracy (mean % recovery)	
32475-5	Precision (% RPD)	
32475-6	Dates Analyzed	

PARAMETER	32475-3	32475-4	32475-5	32475-6
Volatile Organics (8240)				
Toluene, mg/l	0.0010	118 %	14 %	04.06.91
Benzene, mg/l	0.0010	102 %	12 %	04.06.91
Methylene Chloride, mg/l	0.0010	---	---	04.06.91
2-butanone (MEK), mg/l	0.010	---	---	04.06.91
Ethylbenzene, mg/l	0.0010	---	---	04.06.91
Xylenes, mg/l	0.0010	---	---	04.06.91

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LOG NO: S1-32475

Received: 03 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32475-7	Report Complection Date	Client

PARAMETER	32475-7
Date Reported	04.11.91

Methods: EPA SW-846
ND = Not Detected

James W. Andrews

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. N/A

CHAIN-OF-CUSTODY RECORD

Project Number NC02804

Project Location SWP-GULF

Laboratory SAVANNAH LABS

Sampler(s)/Affiliation T. WARBURTON (G&M)

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	Kool/BUN 8270	1L amber glass VOA 8240	40ml vials w ice							TOTAL
CB-5A/9427A	L	4-2-91 17:00		1	4								5
TB-1	L	4-2-91			4								4

SAMPLE BOTTLE / CONTAINER DESCRIPTION

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 5

Relinquished by: Thomas R. Warburton Organization: Geraghty & Miller SL#32475
Received by: L. Johnson Organization: SAVH LABS 4-3-91 10:00 Date 4/2/91 Time 18:00
Seal Intact? Yes No N/A

Relinquished by: Organization:
Received by: Organization: Date / / Time
Seal Intact? Yes No N/A

Special Instructions/Remarks: Note: Pls. log under Southern Wood Piedmont
Rush Analysis — 1 wk

Delivery Method: ☐ In Person ☒ Common Carrier Fed-Ex ☐ Lab Courier ☐ Other

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LOG NO: S1-32533

Received: 05 APR 91

APR 15 1991

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32533-1	CB-5B (# 9427B) 4-4-91	Client

PARAMETER	32533-1
Semivolatiles	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	ND
Acenaphthene, mg/l	ND
Phenanthrene, mg/l	ND
Anthracene, mg/l	ND
Fluoranthene, mg/l	ND
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	ND
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	ND
2-Methylnaphthalene, mg/l	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND

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Ms. Sandra Watson
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P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32533-1	CB-5B (# 9427B) 4-4-91	Client

PARAMETER	32533-1
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32533-2	TB-1 (4-4-91)	Client

PARAMETER	32533-2
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32533-3	Detection Limits	Client
32533-4	Accuracy (mean % recovery)	
32533-5	Precision (% RPD)	
32533-6	Dates Analyzed	

PARAMETER	32533-3	32533-4	32533-5	32533-6
Semivolatiles				
2-Chlorophenol, mg/l	0.010	74 %	22 %	04.08.91
Phenol, mg/l	0.010	26 %	23 %	04.08.91
2,4-Dimethylphenol, mg/l	0.010	71 %	18 %	04.08.91
2,4,6-Trichlorophenol, mg/l	0.010	72 %	17 %	04.08.91
p-Chloro-m-cresol, mg/l	0.010	72 %	15 %	04.08.91
Pentachlorophenol, mg/l	0.050	62 %	1.6 %	04.08.91
Naphthalene, mg/l	0.010	71 %	16 %	04.08.91
Acenaphthene, mg/l	0.010	78 %	18 %	04.08.91
Phenanthrene, mg/l	0.010	86 %	4.7 %	04.08.91
Anthracene, mg/l	0.010	82 %	0 %	04.08.91
Fluoranthene, mg/l	0.010	83 %	2.4 %	04.08.91
Chrysene, mg/l	0.010	86 %	5.8 %	04.08.91
Benzo(a)Anthracene, mg/l	0.010	93 %	7.6 %	04.08.91
Benzo(b,k)fluoranthene, mg/l	0.010	92 %	8.2 %	04.08.91
Benzo(a)pyrene, mg/l	0.010	90 %	6.7 %	04.08.91
Indeno(1,2,3-cd)pyrene, mg/l	0.010	87 %	13 %	04.08.91
Dibenzo(a,h)anthracene, mg/l	0.010	86 %	11 %	04.08.91
Carbazole, mg/l	0.010	117 %	0 %	04.08.91
Cresol (ortho), mg/l	0.010	---	---	04.08.91
Cresol m & p, mg/l	0.010	---	---	04.08.91
Aniline, mg/l	0.010	---	---	04.08.91
Fluorene, mg/l	0.010	---	---	04.08.91
2-Methylnaphthalene, mg/l	0.010	---	---	04.08.91
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	04.08.91

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LOG NO: S1-32533

Received: 05 APR 91

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P.O. Box 5447
Spartanburg, SC 29304

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32533-3	Detection Limits	Client
32533-4	Accuracy (mean % recovery)	
32533-5	Precision (% RPD)	
32533-6	Dates Analyzed	

PARAMETER	32533-3	32533-4	32533-5	32533-6
Volatile Organics (8240)				
Toluene, mg/l	0.0050	118 %	14 %	04.09.91
Benzene, mg/l	0.0050	102 %	12 %	04.09.91
Methylene Chloride, mg/l	0.0050	---	---	04.09.91
2-butanone (MEK), mg/l	0.10	---	---	04.09.91
Ethylbenzene, mg/l	0.0050	---	---	04.09.91
Xylenes, mg/l	0.0050	---	---	04.09.91

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Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32533-7	Report Completion Date	Client

PARAMETER	32533-7
Date Reported	04.12.91

Methods: EPA SW-846

J. W. Andrews

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. N/A

CHAIN-OF-CUSTODY RECORD

Project Number NCO 28 04

Project Location SWP-GULF

Laboratory SAVANNAH LABS

Sampler(s)/Affiliation T. WARBURTON (G&M)

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	Kool/BNA 8270	1L amber glass	VOA 8240	40ml vials w/ TFE							TOTAL
CB-5B/9427B	L	4-4-91 15:30		1		4								5
TB-1	L	4-4-91 —				4								4

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 9

Relinquished by: Thomas R. Warburton Organization: Geraghty & Miller
Received by: Organization: Date 4/4/91 Time 16:00
Seal Intact? Yes No N/A

Relinquished by: Organization:
Received by: L. Johnson SLT#32533 Organization: SAVH LABS Date 4/5/91 Time 10:10
Seal Intact? Yes No N/A

Special Instructions/Remarks: Note: PS. log under Southern Wood Piedmont
Rush Analysis — 1 wk.

RUSH

Delivery Method: ☐ In Person ☒ Common Carrier Fed-Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

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LOG NO: S1-32577

Received: 09 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32577-1	CB-6A (# 9428A) 4-8-91	Client

PARAMETER	32577-1
Semivolatiles	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	0.017
2,4,6-Trichlorophenol, mg/l	0.029
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	6.8
Naphthalene, mg/l	3.5
Acenaphthene, mg/l	0.86
Phenanthrene, mg/l	1.1
Anthracene, mg/l	0.12
Fluoranthene, mg/l	0.43
Chrysene, mg/l	0.069
Benzo(a)Anthracene, mg/l	0.066
Benzo(b,k)fluoranthene, mg/l	0.043
Benzo(a)pyrene, mg/l	0.022
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	0.15
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	0.015
Aniline, mg/l	0.022
Fluorene, mg/l	0.56
2-Methylnaphthalene, mg/l	0.90
2,3,4,6-Tetrachlorophenol, mg/l	ND

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LOG NO: S1-32577

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P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32577-1	CB-6A (# 9428A) 4-8-91	Client

PARAMETER	32577-1
Volatile Organics (8240)	
Toluene, mg/l	0.069
Benzene, mg/l	0.030
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	0.052
Xylenes, mg/l	0.20

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LOG NO: S1-32577

Received: 09 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32577-2	TB-1 (4-8-91)	Client

PARAMETER	32577-2
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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LOG NO: S1-32577

Received: 09 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32577-3	Detection Limits	Client
32577-4	Accuracy (mean % recovery)	
32577-5	Precision (% RPD)	
32577-6	Dates Analyzed	

PARAMETER	32577-3	32577-4	32577-5	32577-6
Semivolatiles				
2-Chlorophenol, mg/l	0.010	75 %	1.3 %	4.10/11.91
Phenol, mg/l	0.010	28 %	3.6 %	4.10/11.91
2,4-Dimethylphenol, mg/l	0.010	81 %	3.7 %	4.10/11.91
2,4,6-Trichlorophenol, mg/l	0.010	90 %	13 %	4.10/11.91
p-Chloro-m-cresol, mg/l	0.010	84 %	3.6 %	4.10/11.91
Pentachlorophenol, mg/l	0.050	90 %	1.1 %	4.10/11.91
Naphthalene, mg/l	0.010	85 %	7.1 %	4.10/11.91
Acenaphthene, mg/l	0.010	98 %	11 %	4.10/11.91
Phenanthrene, mg/l	0.010	102 %	5.9 %	4.10/11.91
Anthracene, mg/l	0.010	102 %	3.9 %	4.10/11.91
Fluoranthene, mg/l	0.010	106 %	5.7 %	4.10/11.91
Chrysene, mg/l	0.010	104 %	16 %	4.10/11.91
Benzo(a)Anthracene, mg/l	0.010	100 %	6.0 %	4.10/11.91
Benzo(b,k)fluoranthene, mg/l	0.010	97 %	8.1 %	4.10/11.91
Benzo(a)pyrene, mg/l	0.010	98 %	5.1 %	4.10/11.91
Indeno(1,2,3-cd)pyrene, mg/l	0.010	90 %	5.6 %	4.10/11.91
Dibenzo(a,h)anthracene, mg/l	0.010	92 %	1.1 %	4.10/11.91
Carbazole, mg/l	0.010	102 %	5.9 %	4.10/11.91
Cresol (ortho), mg/l	0.010	---	---	4.10/11.91
Cresol m & p, mg/l	0.010	---	---	4.10/11.91
Aniline, mg/l	0.010	---	---	4.10/11.91
Fluorene, mg/l	0.010	---	---	4.10/11.91
2-Methylnaphthalene, mg/l	0.010	---	---	4.10/11.91
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	4.10/11.91

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LOG NO: S1-32577

Received: 09 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32577-3	Detection Limits	Client
32577-4	Accuracy (mean % recovery)	
32577-5	Precision (% RPD)	
32577-6	Dates Analyzed	

PARAMETER	32577-3	32577-4	32577-5	32577-6
Volatile Organics (8240)				
Toluene, mg/l	0.0050	120 %	7.5 %	04.11.91
Benzene, mg/l	0.0050	105 %	5.7 %	04.11.91
Methylene Chloride, mg/l	0.0050	---	---	04.11.91
2-butanone (MEK), mg/l	0.10	---	---	04.11.91
Ethylbenzene, mg/l	0.0050	---	---	04.11.91
Xylenes, mg/l	0.0050	---	---	04.11.91

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LOG NO: S1-32577

Received: 09 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32577-7	Report Completion Date	Client

PARAMETER	32577-7
Date Reported	04.16.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews, Ph. D.

MILLER, INC. Environmental Services

Laboratory Work Order No. [illegible] CHAIN-OF-CUSTODY RECORD Page 1 of 1

Project Number NCO2804

Project Location SWP-GULF

Laboratory SAVANNAH LABS

Sampler(s)/Affiliation T. WARBURTON (G.M.)

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	Kool /BNA 8270	1L amber glass VOA - 8240	40ml. vials w/HCl							TOTAL
CB-6A/9426A	L	4-8-91 15:30		1	4								5
TB-1	L	4-8-91			4								4

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 9

Relinquished by: [signature] Organization: Alderman / Miller
Received by: J. Johnson Organization: SAUH DABS SWH 32577 Date 4/8/91 Time 17:00
Seal Intact? Yes No N/A

Relinquished by: Organization:
Received by: Organization: Date / / Time
Seal Intact? Yes No N/A

Special Instructions/Remarks: Note: Record under Southern Wood Piedmont
RUSH ANALYSIS — 1wk.

RUSH

Delivery Method: ☐ In Person ☒ Common Carrier FED-EX (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

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LOG NO: S1-32688

25 1991

Received: 16 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32688-1	CB-6B (# 9428B) 4-15-91	Client

PARAMETER	32688-1
Volatile Organics (8240)	
Toluene, mg/l	0.018
Benzene, mg/l	0.0067
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	0.018
Xylenes, mg/l	0.058

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LOG NO: S1-32688

Received: 16 APR 91

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CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32688-1	CB-6B (# 9428B) 4-15-91	Client

PARAMETER	32688-1
Semivolatiles	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	0.60
Naphthalene, mg/l	1.9
Acenaphthene, mg/l	0.54
Phenanthrene, mg/l	0.65
Anthracene, mg/l	0.12
Fluoranthene, mg/l	0.25
Chrysene, mg/l	0.037
Benzo(a)Anthracene, mg/l	0.041
Benzo(b,k)fluoranthene, mg/l	0.026
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	0.14
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	0.45
2-Methylnaphthalene, mg/l	0.60
2,3,4,6-Tetrachlorophenol, mg/l	ND

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LOG NO: S1-32688

Received: 16 APR 91

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P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32688-2	TB-1 (4-15-91)	Client

PARAMETER	32688-2
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S1-32688

Received: 16 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32688-3	Detection Limits	Client
32688-4	Accuracy (mean % recovery)	
32688-5	Precision (% RPD)	
32688-6	Dates Analyzed	

PARAMETER	32688-3	32688-4	32688-5	32688-6
Semivolatiles				
2-Chlorophenol, mg/l	0.010	95 %	23 %	4.18/19.91
Phenol, mg/l	0.010	38 %	29 %	4.18/19.91
2,4-Dimethylphenol, mg/l	0.010	81 %	26 %	4.18/19.91
2,4,6-Trichlorophenol, mg/l	0.010	99 %	21 %	4.18/19.91
p-Chloro-m-cresol, mg/l	0.010	88 %	23 %	4.18/19.91
Pentachlorophenol, mg/l	0.050	97 %	22 %	4.18/19.91
Naphthalene, mg/l	0.010	84 %	23 %	4.18/19.91
Acenaphthene, mg/l	0.010	92 %	22 %	4.18/19.91
Phenanthrene, mg/l	0.010	98 %	24 %	4.18/19.91
Anthracene, mg/l	0.010	104 %	23 %	4.18/19.91
Fluoranthene, mg/l	0.010	104 %	21 %	4.18/19.91
Chrysene, mg/l	0.010	105 %	26 %	4.18/19.91
Benzo(a)Anthracene, mg/l	0.010	110 %	25 %	4.18/19.91
Benzo(b,k)fluoranthene, mg/l	0.010	111 %	28 %	4.18/19.91
Benzo(a)pyrene, mg/l	0.010	107 %	27 %	4.18/19.91
Indeno(1,2,3-cd)pyrene, mg/l	0.010	106 %	28 %	4.18/19.91
Dibenzo(a,h)anthracene, mg/l	0.010	110 %	29 %	4.18/19.91
Carbazole, mg/l	0.010	116 %	25 %	4.18/19.91
Cresol (ortho), mg/l	0.010	---	---	4.18/19.91
Cresol m & p, mg/l	0.010	---	---	4.18/19.91
Aniline, mg/l	0.010	---	---	4.18/19.91
Fluorene, mg/l	0.010	---	---	4.18/19.91
2-Methylnaphthalene, mg/l	0.010	---	---	4.18/19.91
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	4.18/19.91

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-32688

Received: 16 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32688-3	Detection Limits	Client
32688-4	Accuracy (mean % recovery)	
32688-5	Precision (% RPD)	
32688-6	Dates Analyzed	

PARAMETER	32688-3	32688-4	32688-5	32688-6
Volatile Organics (8240)				
Toluene, mg/l	0.0050	103 %	1.9 %	04.22.91
Benzene, mg/l	0.0050	88 %	2.3 %	04.22.91
Methylene Chloride, mg/l	0.0050	---	---	04.22.91
2-butanone (MEK), mg/l	0.10	---	---	04.22.91
Ethylbenzene, mg/l	0.0050	---	---	04.22.91
Xylenes, mg/l	0.0050	---	---	04.22.91

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& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-32688

Received: 16 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32688-7	Report Completion Date	Client

PARAMETER	32688-7
Date Reported	04.23.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. N/A

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number NCO 2804

Project Location SWP - GULF

Laboratory SAVANNAH LABS

Sampler(s)/Affiliation T. WARBURTON (G&M)

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	KOOI/BNA 8270	1L amber glass w/TFE	VOA 8240 4oz/vial w/TFE							TOTAL
CB-GB/9428B	L	4-15-91 14:00		1	4								5
TB-1	L	4-15-91			4								4

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 9

Relinquished by: [signature] Organization: Geraghty & Miller
Received by: L. Johnson SCH-32688 Organization: SAVH V CA.05 4/16/91 9:45 Date 4/15/91 Time 15:00
Seal Intact? Yes No N/A

Relinquished by: Organization:
Received by: Organization: Date / / Time
Seal Intact? Yes No N/A

Special Instructions/Remarks: PB log under Southern Wood Piedmont
"Rush Analysis - 1wk"

RUSH

Delivery Method: ☐ In Person ☒ Common Carrier Fed-Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

SL SAVANNAH LABORATORIES
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RECEIVED
MAY - 3 1991
G & M RALEIGH

LOG NO: S1-32794

Received: 19 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32794-1	CB-7A (# 9429A) 4-18-91	Client

PARAMETER	32794-1
Semivolatiles	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	0.48
2,4-Dimethylphenol, mg/l	1.6
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	6.6
Acenaphthene, mg/l	0.44
Phenanthrene, mg/l	0.26
Anthracene, mg/l	0.030
Fluoranthene, mg/l	0.042
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	0.16
Dilution factor	1
Cresol (ortho), mg/l	1.2
Cresol m & p, mg/l	2.1
Aniline, mg/l	ND
Fluorene, mg/l	0.26
2-Methylnaphthalene, mg/l	0.93
2,3,4,6-Tetrachlorophenol, mg/l	ND

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LOG NO: S1-32794

Received: 19 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32794-1	CB-7A (# 9429A) 4-18-91	Client

PARAMETER	32794-1
Volatile Organics (8240)	
Toluene, mg/l	0.42
Benzene, mg/l	0.27
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	0.13
Xylenes, mg/l	0.47

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LOG NO: S1-32794

Received: 19 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32794-2	TB-1 (4-18-91)	Client

PARAMETER	32794-2
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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LOG NO: S1-32794

Received: 19 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32794-3	Detection Limits	Client
32794-4	Accuracy (mean % recovery)	
32794-5	Precision (% RPD)	
32794-6	Dates Analyzed	

PARAMETER	32794-3	32794-4	32794-5	32794-6
Semivolatiles				
2-Chlorophenol, mg/l	0.010	101 %	3.0 %	4.26/30.91
Phenol, mg/l	0.010	43 %	7.1 %	4.26/30.91
2,4-Dimethylphenol, mg/l	0.010	82 %	0 %	4.26/30.91
2,4,6-Trichlorophenol, mg/l	0.010	92 %	5.5 %	4.26/30.91
p-Chloro-m-cresol, mg/l	0.010	84 %	0 %	4.26/30.91
Pentachlorophenol, mg/l	0.050	72 %	2.8 %	4.26/30.91
Naphthalene, mg/l	0.010	73 %	0 %	4.26/30.91
Acenaphthene, mg/l	0.010	83 %	0 %	4.26/30.91
Phenanthrene, mg/l	0.010	82 %	0 %	4.26/30.91
Anthracene, mg/l	0.010	86 %	1.2 %	4.26/30.91
Fluoranthene, mg/l	0.010	74 %	8.1 %	4.26/30.91
Chrysene, mg/l	0.010	87 %	2.3 %	4.26/30.91
Benzo(a)Anthracene, mg/l	0.010	85 %	1.2 %	4.26/30.91
Benzo(b,k)fluoranthene, mg/l	0.010	76 %	3.3 %	4.26/30.91
Benzo(a)pyrene, mg/l	0.010	83 %	1.2 %	4.26/30.91
Indeno(1,2,3-cd)pyrene, mg/l	0.010	89 %	1.1 %	4.26/30.91
Dibenzo(a,h)anthracene, mg/l	0.010	93 %	1.1 %	4.26/30.91
Carbazole, mg/l	0.010	113 %	7.1 %	4.26/30.91
Cresol (ortho), mg/l	0.010	---	---	4.26/30.91
Cresol m & p, mg/l	0.010	---	---	4.26/30.91
Aniline, mg/l	0.010	---	---	4.26/30.91
Fluorene, mg/l	0.010	---	---	4.26/30.91
2-Methylnaphthalene, mg/l	0.010	---	---	4.26/30.91
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	4.26/30.91

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-32794

Received: 19 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32794-3	Detection Limits	Client
32794-4	Accuracy (mean % recovery)	
32794-5	Precision (% RPD)	
32794-6	Dates Analyzed	

PARAMETER	32794-3	32794-4	32794-5	32794-6
Volatile Organics (8240)				
Toluene, mg/l	0.0050	101 %	5.0 %	04.26.91
Benzene, mg/l	0.0050	86 %	4.7 %	04.26.91
Methylene Chloride, mg/l	0.0050	---	---	04.26.91
2-butanone (MEK), mg/l	0.10	---	---	04.26.91
Ethylbenzene, mg/l	0.0050	---	---	04.26.91
Xylenes, mg/l	0.0050	---	---	04.26.91

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-32794

Received: 19 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32794-7	Report Completion Date	Client

PARAMETER	32794-7
Date Reported	05.01.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. N/A

CHAIN-OF-CUSTODY RECORD

Project Number NCO 28.04

Project Location SWP - GULF

Laboratory SAVANNAH LABS

Sampler(s)/Affiliation TURBERTON (G&M)

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	Kool/BNA 8270	1L amber glass	VOA 8240	40ml vials/HCl							TOTAL
CB-7A/9429A	L	4-18-91 10:00		1	4									5
TB-1	L	4-18-91			4									4

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 9

Relinquished by: [signature] Organization: Geraghty & Miller
Received by: L. Johnson SL#32794 Organization: SAVANNAH LABS 4-19-89 10:30 Date 4.18.91 Time 15:00
Seal Intact? (Yes) No N/A

Relinquished by: Organization:
Received by: Organization: Date / / Time
Seal Intact? Yes No N/A

Special Instructions/Remarks: pls. log under Southern Wood Piedmont
Rush Analysis - 1wk

RUSH

Delivery Method: ☐ In Person ☒ Common Carrier Fed-Ex ☐ Lab Courier ☐ Other

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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RECEIVED
[illegible]-3
G & M RALEIGH

LOG NO: S1-32851

Received: 24 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32851-1	CB-8A (# 9430A)	Client

PARAMETER	32851-1
Semivolatiles	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	1.1
Acenaphthene, mg/l	0.24
Phenanthrene, mg/l	0.44
Anthracene, mg/l	0.056
Fluoranthene, mg/l	0.17
Chrysene, mg/l	0.018
Benzo(a)Anthracene, mg/l	0.017
Benzo(b,k)fluoranthene, mg/l	0.012
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	0.084
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	0.20
2-Methylnaphthalene, mg/l	0.34
2,3,4,6-Tetrachlorophenol, mg/l	ND

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& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-32851

Received: 24 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32851-1	CB-8A (# 9430A)	Client

PARAMETER	32851-1
Volatile Organics (8240)	
Toluene, mg/l	0.0057
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	0.0050
Xylenes, mg/l	0.016

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& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-32851

Received: 24 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32851-2	TB-1	Client

PARAMETER	32851-2
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-32851

Received: 24 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32851-3	Detection Limits	Client
32851-4	Accuracy (mean % recovery)	
32851-5	Precision (% RPD)	
32851-6	Dates Analyzed	

PARAMETER	32851-3	32851-4	32851-5	32851-6
Semivolatiles				
2-Chlorophenol, mg/l	0.010	84 %	1.2 %	04.30.91
Phenol, mg/l	0.010	35 %	2.9 %	04.30.91
2,4-Dimethylphenol, mg/l	0.010	83 %	4.8 %	04.30.91
2,4,6-Trichlorophenol, mg/l	0.010	86 %	8.2 %	04.30.91
p-Chloro-m-cresol, mg/l	0.010	77 %	1.3 %	04.30.91
Pentachlorophenol, mg/l	0.050	81 %	6.2 %	04.30.91
Naphthalene, mg/l	0.010	75 %	0 %	04.30.91
Acenaphthene, mg/l	0.010	87 %	4.6 %	04.30.91
Phenanthrene, mg/l	0.010	93 %	3.2 %	04.30.91
Anthracene, mg/l	0.010	96 %	1.0 %	04.30.91
Fluoranthene, mg/l	0.010	90 %	2.2 %	04.30.91
Chrysene, mg/l	0.010	96 %	1.0 %	04.30.91
Benzo(a)Anthracene, mg/l	0.010	93 %	4.3 %	04.30.91
Benzo(b,k)fluoranthene, mg/l	0.010	96 %	6.4 %	04.30.91
Benzo(a)pyrene, mg/l	0.010	98 %	1.0 %	04.30.91
Indeno(1,2,3-cd)pyrene, mg/l	0.010	95 %	6.3 %	04.30.91
Dibenzo(a,h)anthracene, mg/l	0.010	96 %	8.3 %	04.30.91
Carbazole, mg/l	0.010	---	---	04.30.91
Cresol (ortho), mg/l	0.010	---	---	04.30.91
Cresol m & p, mg/l	0.010	---	---	04.30.91
Aniline, mg/l	0.010	---	---	04.30.91
Fluorene, mg/l	0.010	---	---	04.30.91
2-Methylnaphthalene, mg/l	0.010	---	---	04.30.91
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	04.30.91

SL SAVANNAH LABORATORIES
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LOG NO: S1-32851

Received: 24 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32851-3	Detection Limits	Client
32851-4	Accuracy (mean % recovery)	
32851-5	Precision (% RPD)	
32851-6	Dates Analyzed	

PARAMETER	32851-3	32851-4	32851-5	32851-6
Volatile Organics (8240)				
Toluene, mg/l	0.0050	108 %	5.6 %	04.30.91
Benzene, mg/l	0.0050	92 %	6.5 %	04.30.91
Methylene Chloride, mg/l	0.0050	---	---	04.30.91
2-butanone (MEK), mg/l	0.10	---	---	04.30.91
Ethylbenzene, mg/l	0.0050	---	---	04.30.91
Xylenes, mg/l	0.0050	---	---	04.30.91

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LOG NO: S1-32851

Received: 24 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32851-7	Report Completion Date	Client

PARAMETER	32851-7
Date Reported	05.01.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

& MILLER, INC.
Environmental Services

Laboratory Task Order No. N/A

CHAIN-OF-CUSTODY RECORD

Project Number NCO 2804

Project Location SWP-GULF

Laboratory SAVANNAH LABS.

Sampler(s)/Affiliation T. WARBURTON (G&M)

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	Fool/BNA 8270	1L amber glass	VOA 8240	40ml vial w/ septa							TOTAL
CB-8H/9424H (9430A)	L			1	4									5
TB-1	L				4									4
* SWP # should be 9430A per Tom Warburton (G&M). 4/24/91. GF														

RUSH

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 9

Relinquished by: [signature]	Organization: Geraghty / Miller	Date 4-24-91 Time 10:20	Seal Intact? Yes No N/A
Received by: J. Johnson	Organization: SAVH LABS/ SVH 32851	Date 4/23/91 Time 17:00	
Relinquished by:	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by:	Organization:		

Special Instructions/Remarks: 2 lbs ice under Southern Wood Preservant
Rush Analysis - 1wk.
Note - use list of constituents from original report

Delivery Method: ☐ In Person ☑ Common Carrier Fed Ex. ☐ Lab Courier ☐ Other

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G & M RALEIGH

LOG NO: S1-32883

Received: 25 APR 91
Corrected Copy 9-17-91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
32883-1	CB-8B (# 9430B) 4-24-91	04-24-91

PARAMETER	32883-1
Semivolatiles (8270)	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	0.051
Acenaphthene, mg/l	0.015
Phenanthrene, mg/l	0.043
Anthracene, mg/l	ND
Fluoranthene, mg/l	0.022
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	ND
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	0.017
2-Methylnaphthalene, mg/l	0.018
2,3,4,6-Tetrachlorophenol, mg/l	ND

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CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
32883-1	CB-8B (# 9430B) 4-24-91	04-24-91

PARAMETER	32883-1
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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LOG NO: S1-32883

Received: 25 APR 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
32883-2	TB-1 (4-24-91)	Client

PARAMETER	32883-2
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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LOG NO: S1-32883

Received: 25 APR 91

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CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32883-3	Detection Limits	Client
32883-4	Accuracy (mean % recovery)	
32883-5	Precision (% RPD)	
32883-6	Dates Analyzed	

PARAMETER	32883-3	32883-4	32883-5	32883-6
Semivolatiles				
2-Chlorophenol, mg/l	0.010	88 %	1.1 %	04.30.91
Phenol, mg/l	0.010	50 %	6.1 %	04.30.91
2,4-Dimethylphenol, mg/l	0.010	74 %	0 %	04.30.91
2,4,6-Trichlorophenol, mg/l	0.010	77 %	5.2 %	04.30.91
p-Chloro-m-cresol, mg/l	0.010	86 %	1.2 %	04.30.91
Pentachlorophenol, mg/l	0.050	41 %	15 %	04.30.91
Naphthalene, mg/l	0.010	74 %	0 %	04.30.91
Acenaphthene, mg/l	0.010	75 %	2.7 %	04.30.91
Phenanthrene, mg/l	0.010	84 %	0 %	04.30.91
Anthracene, mg/l	0.010	82 %	1.2 %	04.30.91
Fluoranthene, mg/l	0.010	84 %	0 %	04.30.91
Chrysene, mg/l	0.010	87 %	1.2 %	04.30.91
Benzo(a)Anthracene, mg/l	0.010	94 %	1.1 %	04.30.91
Benzo(b,k)fluoranthene, mg/l	0.010	103 %	6.8 %	04.30.91
Benzo(a)pyrene, mg/l	0.010	99 %	0 %	04.30.91
Indeno(1,2,3-cd)pyrene, mg/l	0.010	88 %	6.8 %	04.30.91
Dibenzo(a,h)anthracene, mg/l	0.010	86 %	8.2 %	04.30.91
Carbazole, mg/l	0.010	109 %	2.8 %	04.30.91
Cresol (ortho), mg/l	0.010	---	---	04.30.91
Cresol m & p, mg/l	0.010	---	---	04.30.91
Aniline, mg/l	0.010	---	---	04.30.91
Fluorene, mg/l	0.010	---	---	04.30.91
2-Methylnaphthalene, mg/l	0.010	---	---	04.30.91
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	04.30.91

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LOG NO: S1-32883

Received: 25 APR 91

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P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32883-3	Detection Limits	Client
32883-4	Accuracy (mean % recovery)	
32883-5	Precision (% RPD)	
32883-6	Dates Analyzed	

PARAMETER	32883-3	32883-4	32883-5	32883-6
Volatile Organics (8240)				
Toluene, mg/l	0.0050	108 %	5.6 %	04.30.91
Benzene, mg/l	0.0050	92 %	6.5 %	04.30.91
Methylene Chloride, mg/l	0.0050	---	---	04.30.91
2-butanone (MEK), mg/l	0.10	---	---	04.30.91
Ethylbenzene, mg/l	0.0050	---	---	04.30.91
Xylenes, mg/l	0.0050	---	---	04.30.91

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CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , REPORT FOR LIQUID SAMPLES	SAMPLED BY
32883-7	Report Completion Date	Client

PARAMETER	32883-7
Date Reported	05.02.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. N/A

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number NCO 2804

Project Location SLUP - GULF

Laboratory SAVANNAH

Sampler(s)/Affiliation T. WARBURTON G&M

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	K001/BNA 8270 1L amber glass	VOA 8240 40ml vial w/ TFE								TOTAL
CB-8B/9430B	L	4-24-91 10:30		1	4								5
TB-1	L	4-24-91			4								4

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 9

Relinquished by: Thomas R. Robinson Organization: Geraghty & Miller
Received by: Organization: Date 4/24/91 Time 15:00
Seal Intact? Yes No N/A

Relinquished by: Organization:
Received by: L. Bonds SL# 32883 Organization: Date / / Time
Seal Intact? Yes No N/A

Special Instructions/Remarks: pf. log under Southern Wood Piedmont
Rush Analysis - Twk.

RUSH

Delivery Method: ☐ In Person ☒ Common Carrier Fed-Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

G&M Form 09 1-90

Southpoint 90 0136

FMD

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-33139

Received: 03 MAY 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Drip Track Borings

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
33139-1	DTB-4A (# 9505) 5-2-91	Client
33139-2	DTB-4B (# 9506) 5-2-91	
33139-3	DTB-4C (# 9507) 5-2-91	
33139-4	DTB-1A (# 9502) 5-2-91	
33139-5	DTB-1B (# 9503) 5-2-91	

PARAMETER	33139-1	33139-2	33139-3	33139-4	33139-5
Semivolatiles					
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	44	5.6	ND	0.70	ND
Acenaphthene, mg/kg dw	54	1.5	ND	ND	ND
Phenanthrene, mg/kg dw	120	3.5	ND	ND	0.79
Anthracene, mg/kg dw	35	0.47	ND	ND	ND
Fluoranthene, mg/kg dw	94	1.8	ND	0.70	0.66
Chrysene, mg/kg dw	ND	ND	ND	ND	ND
Benzo(a)Anthracene, mg/kg dw	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene, mg/kg dw	ND	ND	ND	ND	ND
Benzo(a)pyrene, mg/kg dw	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	0.44	ND	ND	ND
Dilution factor	50	1	1	1	1

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-33139
Received: 03 MAY 91

Ms. Sandra Watson
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CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
33139-1	DTB-4A (# 9505) 5-2-91	Client
33139-2	DTB-4B (# 9506) 5-2-91	
33139-3	DTB-4C (# 9507) 5-2-91	
33139-4	DTB-1A (# 9502) 5-2-91	
33139-5	DTB-1B (# 9503) 5-2-91	

PARAMETER	33139-1	33139-2	33139-3	33139-4	33139-5
Cresol (ortho), mg/kg dw	ND	ND	ND	ND	ND
Cresol m & p, mg/kg dw	ND	ND	ND	ND	ND
Aniline, mg/kg dw	ND	ND	ND	ND	ND
Fluorene, mg/kg dw	ND	1.5	ND	ND	ND
2-Methylnaphthalene, mg/kg dw	ND	1.5	ND	ND	ND
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Volatile Organics (8240)					
Toluene, mg/kg dw	ND	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND
Methylene Chloride, mg/kg dw	ND	ND	ND	ND	ND
2-butanone (MEK), mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	0.012	ND	ND	ND
Xylenes, mg/kg dw	ND	ND	ND	ND	ND

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-33139

Received: 03 MAY 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
33139-6	DTB-1C (# 9504) 5-2-91	Client
33139-7	DTB-9A (# 9508) 5-2-91	
33139-8	DTB-9B (# 9509) 5-2-91	
33139-9	DTB-9C (# 9510) 5-2-91	

PARAMETER	33139-6	33139-7	33139-8	33139-9
Semivolatiles				
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND
p-Chloro-m-cresol, mg/kg dw	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	1.5	ND	ND
Acenaphthene, mg/kg dw	ND	4.2	ND	ND
Phenanthrene, mg/kg dw	ND	17	ND	ND
Anthracene, mg/kg dw	ND	3.5	ND	ND
Fluoranthene, mg/kg dw	ND	4.2	ND	ND
Chrysene, mg/kg dw	ND	5.0	ND	ND
Benzo(a)Anthracene, mg/kg dw	ND	5.7	ND	ND
Benzo(b,k)fluoranthene, mg/kg dw	ND	2.8	ND	ND
Benzo(a)pyrene, mg/kg dw	ND	1.5	ND	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	0.53	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	1.4	ND	ND
Dilution factor	1	1	1	1
Cresol (ortho), mg/kg dw	ND	ND	ND	ND
Cresol m & p, mg/kg dw	ND	ND	ND	ND
Aniline, mg/kg dw	ND	ND	ND	ND
Fluorene, mg/kg dw	ND	ND	ND	ND
2-Methylnaphthalene, mg/kg dw	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND	ND	ND	ND

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Southern Wood Piedmont (GULF)
P.O. Box 5447
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CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
33139-6	DTB-1C (# 9504) 5-2-91	Client
33139-7	DTB-9A (# 9508) 5-2-91	
33139-8	DTB-9B (# 9509) 5-2-91	
33139-9	DTB-9C (# 9510) 5-2-91	

PARAMETER	33139-6	33139-7	33139-8	33139-9
Volatile Organics (8240)				
Toluene, mg/kg dw	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND
Methylene Chloride, mg/kg dw	ND	ND	ND	ND
2-butanone (MEK), mg/kg dw	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	0.0086	0.0092
Xylenes, mg/kg dw	ND	ND	ND	ND

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P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
33139-10	TB-1 (5-2-91)	Client
33139-11	TB-2 (5-2-91)	
33139-12	TB-3 (5-2-91)	
33139-13	TB-4 (5-2-91)	
33139-14	TB-5 (5-2-91)	

PARAMETER	33139-10	33139-11	33139-12	33139-13	33139-14
Volatile Organics (8240)					
Toluene, mg/l	ND	ND	ND	ND	ND
Benzene, mg/l	ND	ND	ND	ND	ND
Methylene Chloride, mg/l	ND	ND	ND	ND	ND
2-butanone (MEK), mg/l	ND	ND	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND	ND	ND
Xylenes, mg/l	ND	ND	ND	ND	ND

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Received: 03 MAY 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
33139-15	TB-6 (5-2-91)	Client

PARAMETER	33139-15
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	SAMPLED BY
33139-16	Detection Limits - Soil	Client
33139-17	Accuracy (mean % recovery) - Soil	
33139-18	Precision (% RPD) - Soil	
33139-19	Dates Analyzed	

PARAMETER	33139-16	33139-17	33139-18	33139-19
Semivolatiles				
2-Chlorophenol, mg/kg dw	0.33	78 %	18 %	5.18/24.91
Phenol, mg/kg dw	0.33	84 %	16 %	5.18/24.91
2,4-Dimethylphenol, mg/kg dw	0.33	68 %	4.4 %	5.18/24.91
2,4,6-Trichlorophenol, mg/kg dw	0.33	64 %	12 %	5.18/24.91
p-Chloro-m-cresol, mg/kg dw	0.33	77 %	18 %	5.18/24.91
Pentachlorophenol, mg/kg dw	1.7	68 %	25 %	5.18/24.91
Naphthalene, mg/kg dw	0.33	59 %	6.8 %	5.18/24.91
Acenaphthene, mg/kg dw	0.33	83 %	17 %	5.18/24.91
Phenanthrene, mg/kg dw	0.33	61 %	5.0 %	5.18/24.91
Anthracene, mg/kg dw	0.33	69 %	5.8 %	5.18/24.91
Fluoranthene, mg/kg dw	0.33	67 %	4.5 %	5.18/24.91
Chrysene, mg/kg dw	0.33	63 %	8.0 %	5.18/24.91
Benzo(a)Anthracene, mg/kg dw	0.33	62 %	6.5 %	5.18/24.91
Benzo(b,k)fluoranthene, mg/kg dw	0.33	62 %	7.3 %	5.18/24.91
Benzo(a)pyrene, mg/kg dw	0.33	60 %	6.7 %	5.18/24.91
Indeno(1,2,3-cd)pyrene, mg/kg dw	0.33	50 %	12 %	5.18/24.91
Dibenzo(a,h)anthracene, mg/kg dw	0.33	51 %	12 %	5.18/24.91
Carbazole, mg/kg dw	0.33	112 %	6.3 %	5.18/24.91
Cresol (ortho), mg/kg dw	0.33	---	---	5.18/24.91
Cresol m & p, mg/kg dw	0.33	---	---	5.18/24.91
Aniline, mg/kg dw	0.33	---	---	5.18/24.91
Fluorene, mg/kg dw	0.33	---	---	5.18/24.91
2-Methylnaphthalene, mg/kg dw	0.33	---	---	5.18/24.91
2,3,4,6-Tetrachlorophenol, mg/kg dw	0.33	---	---	5.18/24.91

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-33139

Received: 03 MAY 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	SAMPLED BY
33139-16	Detection Limits - Soil	Client
33139-17	Accuracy (mean % recovery) - Soil	
33139-18	Precision (% RPD) - Soil	
33139-19	Dates Analyzed	

PARAMETER	33139-16	33139-17	33139-18	33139-19
Volatile Organics (8240)				
Toluene, mg/kg dw	0.0050	104 %	0.96 %	05.15.91
Benzene, mg/kg dw	0.0050	86 %	1.2 %	05.15.91
Methylene Chloride, mg/kg dw	0.0050	---	---	05.15.91
2-butanone (MEK), mg/kg dw	0.050	---	---	05.15.91
Ethylbenzene, mg/kg dw	0.0050	---	---	05.15.91
Xylenes, mg/kg dw	0.0050	---	---	05.15.91

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.
5102 LaRoche Avenue (31404) • P.O. Box 13548 • Savannah, GA 31416-0548 • (912) 354-7858 • Fax (912) 352-0165

RECEIVED
JUN 07 1991

LOG NO: S1-33139

Received: 03 MAY 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	SAMPLED BY
33139-20	Report Completion Date	Client

PARAMETER	33139-20
Date Reported	06.04.91

Methods: EPA SW-846
ND - Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

CHAIN-OF-CUSTODY RECORD

Page____ of____

Project Number: NC02804
Project Location: SWP - Gulf
Laboratory: Savannah
Sampler(s): G. D. Rumford

RECEIVED
JUN 07 1991
ENVIRONMENTAL AFFAIRS

	SAMPLE IDENTITY	Date Sampled	500 ml Glass K001 8270 4°C	125 ml Amber Glass VOC 8240 4°C	40 ml vial w/ septa VOC 8240 HCl								TOTAL
345	DTB-9A	5/2/91	1	1									2
350	DTB-9B	5/2/91	1	1									2
355	DTB-9C	5/2/91	1	1									2.
	TB-1				3								3
												Total No. of Bottles/ Containers	9

Relinquished by: G. D. Rumford	Organization: Geraghty + Miller	Date 5/2/91	Time 1730	Seal Intact?
Received by: L. Bond	Organization: Savah. Rela Sec 33139	Date 5/3/91	Time 10:30 am	(Yes) No N/A
Relinquished by:	Organization:	Date / /	Time	Seal Intact?
Received by:	Organization:	Date / /	Time	Yes No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier FED EX ☐ Lab Courier ☐ Other ____

GERAGHTY & MILLER, INC.
Environmental Services

CHAIN-OF-CUSTODY RECORD

Page ____ of ____

Project Number: NC02804
Project Location: SWP - Gulf
Laboratory: Savannah Labs
Sampler(s): E.D. Rumford, G + M

RECEIVED
JUN 07 1991
ENVIRONMENTAL AFFAIRS

	SAMPLE IDENTITY	Date Sampled	500ml Glass Kool 8270 4°C	125 ml Amber Glass VOC 8240 4°C	40 ml vial w/ stopper VOC 624 HCl								TOTAL
430	DTB-4A	5/2/91	1	1									2
0005	TB-6	"			2								2
435	DTB-4B	"	1	1									2
	TB-4	"			4								4
440	DTB-4C	"	1	1									2
	TB-5	"			4								4
510	DTB-1A	"	1	1									2
	TB-3	"			3								3
515	DTB-1B	"	1	1									2
	TB-2	"			4								4
1520	DTB-1C	"	1	1									2
												Total No. of Bottles/ Containers	29

Relinquished by: E.D. Rumford	Organization: Geraghty + Miller	Date 5/2/91	Time 1730	Seal Intact? (Yes) No N/A
Received by: L. Bond	Organization: SL# 33139	Date 5/3/91	Time 10:30 am	
Relinquished by:	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / /	Time	

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other ____ (SPECIFY)

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-35121

Received: 10 AUG 91

corrected copy

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: GULF, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
35121-1	CB-9A (# 9642)	08-09-91
35121-2	CB-9B (# 9643)	08-09-91
35121-3	CB-9C (# 9644)	08-09-91
35121-4	CB-9D (# 9645)	08-09-91

PARAMETER	35121-1	35121-2	35121-3	35121-4
Volatile Organics (8240)				
Toluene, mg/kg dw	ND	ND	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND
Methylene Chloride, mg/kg dw	ND	ND	ND	ND
2-butanone (MEK), mg/kg dw	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	ND	ND	ND
Xylenes, mg/kg dw	ND	ND	ND	ND

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SEP 06 1991
ENVIRONMENTAL AFFAIRS

LOG NO: S1-35121

Received: 10 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: GULF, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
35121-1	CB-9A (# 9642)	08-09-91
35121-2	CB-9B (# 9643)	08-09-91
35121-3	CB-9C (# 9644)	08-09-91
35121-4	CB-9D (# 9645)	08-09-91

PARAMETER	35121-1	35121-2	35121-3	35121-4
Semivolatiles (8270)				
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND
p-Chloro-m-cresol, mg/kg dw	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	1.9	ND
Acenaphthene, mg/kg dw	ND	ND	5.0	ND
Phenanthrene, mg/kg dw	ND	ND	18	ND
Anthracene, mg/kg dw	ND	ND	3.3	ND
Fluoranthene, mg/kg dw	ND	ND	12	ND
Chrysene, mg/kg dw	ND	ND	2.0	ND
Benzo(a)Anthracene, mg/kg dw	ND	ND	1.8	ND
Benzo(b,k)fluoranthene, mg/kg dw	ND	ND	1.4	ND
Benzo(a)pyrene, mg/kg dw	ND	ND	0.53	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	2.1	ND
Dilution factor	1	1	1	1
Cresol (ortho), mg/kg dw	ND	ND	ND	ND
Cresol m & p, mg/kg dw	ND	ND	ND	ND
Aniline, mg/kg dw	ND	ND	ND	ND
Fluorene, mg/kg dw	ND	ND	7.3	ND
2-Methylnaphthalene, mg/kg dw	ND	ND	2.8	ND
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND	ND	ND	ND

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-35121

Received: 10 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: GULF, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
35121-1	CB-9A (# 9642)	08-09-91
35121-2	CB-9B (# 9643)	08-09-91
35121-3	CB-9C (# 9644)	08-09-91
35121-4	CB-9D (# 9645)	08-09-91

PARAMETER	35121-1	35121-2	35121-3	35121-4
Percent Solids, %	100 %	99 %	99 %	99 %

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-35121

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Ms. Sandra Watson
Southern Wood Piedmont (GULF
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: GULF, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35121-5	TB-1	08-09-91

PARAMETER	35121-5
Volatile Organics (8240)	
Toluene, mg/kg dw	ND
Benzene, mg/kg dw	ND
Methylene Chloride, mg/kg dw	ND
2-butanone (MEK), mg/kg dw	ND
Ethylbenzene, mg/kg dw	ND
Xylenes, mg/kg dw	ND

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-35121

Received: 10 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: GULF, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
35121-6	Detection Limits
35121-7	Accuracy (mean % recovery)
35121-8	Precision (% RPD)
35121-9	Analyst Initials
35121-10	EPA Method Number

PARAMETER	35121-6	35121-7	35121-8	35121-9	35121-10
Volatile Organics (8240)					
Toluene, mg/kg dw	1.0	97 %	9.3 %	GW	8240
Benzene, mg/kg dw	1.0	86 %	1.2 %	GW	8240
Methylene Chloride, mg/kg dw	1.0	---	---	GW	8240
2-butanone (MEK), mg/kg dw	1.0	---	---	GW	8240
Ethylbenzene, mg/kg dw	1.0	---	---	GW	8240
Xylenes, mg/kg dw	1.0	---	---	GW	8240

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CONFIDENTIAL AFFAIRS

LOG NO: S1-35121

Received: 10 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: GULF, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
35121-6	Detection Limits
35121-7	Accuracy (mean % recovery)
35121-8	Precision (% RPD)
35121-9	Analyst Initials
35121-10	EPA Method Number

PARAMETER	35121-6	35121-7	35121-8	35121-9	35121-10
Semivolatiles (8270)					
2-Chlorophenol, mg/kg dw	0.33	86 %	14 %	NHD	8270
Phenol, mg/kg dw	0.33	78 %	14 %	NHD	8270
2,4-Dimethylphenol, mg/kg dw	0.33	72 %	14 %	NHD	8270
2,4,6-Trichlorophenol, mg/kg dw	0.33	69 %	17 %	NHD	8270
p-Chloro-m-cresol, mg/kg dw	0.33	71 %	20 %	NHD	8270
Pentachlorophenol, mg/kg dw	1.7	41 %	32 %	NHD	8270
Naphthalene, mg/kg dw	0.33	70 %	14 %	NHD	8270
Acenaphthene, mg/kg dw	0.33	74 %	15 %	NHD	8270
Phenanthrene, mg/kg dw	0.33	76 %	12 %	NHD	8270
Anthracene, mg/kg dw	0.33	78 %	13 %	NHD	8270
Fluoranthene, mg/kg dw	0.33	85 %	13 %	NHD	8270
Chrysene, mg/kg dw	0.33	78 %	22 %	NHD	8270
Benzo(a)Anthracene, mg/kg dw	0.33	78 %	20 %	NHD	8270
Benzo(b,k)fluoranthene, mg/kg dw	0.33	79 %	22 %	NHD	8270
Benzo(a)pyrene, mg/kg dw	0.33	79 %	20 %	NHD	8270
Indeno(1,2,3-cd)pyrene, mg/kg dw	0.33	78 %	19 %	NHD	8270
Dibenzo(a,h)anthracene, mg/kg dw	0.33	70 %	17 %	NHD	8270
Carbazole, mg/kg dw	0.33	---	---	NHD	8270
Cresol (ortho), mg/kg dw	0.33	---	---	NHD	8270
Cresol m & p, mg/kg dw	0.33	---	---	NHD	8270
Aniline, mg/kg dw	0.33	---	---	NHD	8270
Fluorene, mg/kg dw	0.33	---	---	NHD	8270
2-Methylnaphthalene, mg/kg dw	0.33	---	---	NHD	8270
2,3,4,6-Tetrachlorophenol, mg/kg dw	0.33	---	---	NHD	8270

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SEP 06 1991
ENVIRONMENTAL AFFAIRS

LOG NO: S1-35121

Received: 10 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: GULF, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
35121-11	Dates Analyzed

PARAMETER	35121-11
Volatile Organics (8240)	
Toluene	08.19.91
Benzene	08.19.91
Methylene Chloride	08.19.91
2-butanone (MEK)	08.19.91
Ethylbenzene	08.19.91
Xylenes	08.19.91

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SEP 06 1991
ENVIRONMENTAL AFFAIRS

LOG NO: S1-35121

Received: 10 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: GULF, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

35121-11 Dates Analyzed

PARAMETER	35121-11
Semivolatiles (8270)	
2-Chlorophenol	8.23/26.91
Phenol	8.23/26.91
2,4-Dimethylphenol	8.23/26.91
2,4,6-Trichlorophenol	8.23/26.91
p-Chloro-m-cresol	8.23/26.91
Pentachlorophenol	8.23/26.91
Naphthalene	8.23/26.91
Acenaphthene	8.23/26.91
Phenanthrene	8.23/26.91
Anthracene	8.23/26.91
Fluoranthene	8.23/26.91
Chrysene	8.23/26.91
Benzo(a)Anthracene	8.23/26.91
Benzo(b,k)fluoranthene	8.23/26.91
Benzo(a)pyrene	8.23/26.91
Indeno(1,2,3-cd)pyrene	8.23/26.91
Dibenzo(a,h)anthracene	8.23/26.91
Carbazole	8.23/26.91
Cresol (ortho)	8.23/26.91
Cresol m & p	8.23/26.91
Aniline	8.23/26.91
Fluorene	8.23/26.91
2-Methylnaphthalene	8.23/26.91
2,3,4,6-Tetrachlorophenol	8.23/26.91

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& ENVIRONMENTAL SERVICES INC
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RECEIVED
SEP 06 1991
ENVIRONMENTAL AFFAIRS

LOG NO: S1-35121

Received: 10 AUG 91

Ms. Sandra Wenner
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: GULF, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35121-12	Report Completion Date

PARAMETER	35121-12
Date Reported	08.29.91

Methods: EPA SW-846
ND = Not Detected

James W. Andrews

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Page 1 of 1

CHAIN-OF-CUSTODY RECORD

Project Number NC02804

Project Location SWP - [illegible] NC

Laboratory SAVANNAH LABS

Sampler(s) T. WARBURTON G/M

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	125ml amber glass jar VOA 8240	500ml glass jar K001 /BNA 8270	40ml. vials - teflon cap VOA 8240							TOTAL
CB-9A / 9642	8-9-91 11:00	1	1								2
CB-9B / 9643	8-9-91 11:15	1	1								2
CB-9C / 9644	8-9-91 11:30	1	1								2
CB-9D / 9645	8-9-91 11:45	1	1								2
TB-1	8-9-91			4							4

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ENVIRONMENTAL AFFAIRS

Total No. of Bottles/ Containers: 12

Relinquished by: Thomas R. Warburton Organization: Geraghty & Miller Date 8/9/91 Time 14:00
Received by: Organization: Date / / Time
Seal Intact? (Yes) No N/A

Relinquished by: Organization: Date / / Time
Received by: J. Johnson SCH 351821 Organization: SAV LABS Date 8/10/91 Time 12:00
Seal Intact? (Yes) No N/A

Special Instructions/Remarks:
Pls log under SWP codes
└ Southern Wood Piedmont

Delivery Method: ☐ In Person ☒ Common Carrier Fed. Express (SPECIFY) ☐ Lab Courier ☐ Other ________ (SPECIFY)

G&M Form 00 12/88

Southpoint 89 1951

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SDW
MAS

Affected to delete values reported less than Det. Limit

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FEB 28 1994
ENVIRONMENTAL

LOG NO: S1-33264
Revised 2-24-94
Received: 10 MAY 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
33264-1	# 9521 (5-9-91)	05-09-91
33264-2	# 9522 (5-9-91)	05-09-91
33264-3	# 9523 (5-9-91)	05-09-91
33264-4	# 9524 (5-9-91)	05-09-91
33264-5	# 9525 (5-9-91)	05-09-91

PARAMETER	33264-1	33264-2	33264-3	33264-4	33264-5
Semivolatiles (8270)					
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	0.33	33	23	6.3	ND
Acenaphthene, mg/kg dw	0.43	120	21	14	8.7
Phenanthrene, mg/kg dw	1.1	260	39	28	24
Anthracene, mg/kg dw	ND	110	8.0	9.0	20
Fluoranthene, mg/kg dw	0.67	190	28	23	23
Chrysene, mg/kg dw	ND	40	7.3	5.0	7.0
Benzo(a)Anthracene, mg/kg dw	ND	40	7.3	5.0	6.0
Benzo(b,k)fluoranthene, mg/kg dw	ND	ND	ND	ND	ND
Benzo(a)pyrene, mg/kg dw	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	ND	ND	3.3	3.7
Dilution factor	1	100	10	10	10

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LOG NO: S1-33264
Revised 2-24-94
Received: 10 MAY 91

RECEIVED
FEB 28 1994
ENVIRONMENTAL

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
33264-1	# 9521 (5-9-91)	05-09-91
33264-2	# 9522 (5-9-91)	05-09-91
33264-3	# 9523 (5-9-91)	05-09-91
33264-4	# 9524 (5-9-91)	05-09-91
33264-5	# 9525 (5-9-91)	05-09-91

PARAMETER	33264-1	33264-2	33264-3	33264-4	33264-5
Cresol (ortho), mg/kg dw	ND	ND	ND	ND	ND
Cresol m & p, mg/kg dw	ND	ND	ND	ND	ND
Aniline, mg/kg dw	ND	ND	ND	ND	ND
Fluorene, mg/kg dw	0.53	160	31	21	14
2-Methylnaphthalene, mg/kg dw	0.43	47	18	8.3	ND
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Volatile Organics (8240)					
Toluene, mg/kg dw	ND	0.054	0.024	ND	ND
Benzene, mg/kg dw	ND	ND	ND	ND	ND
Methylene Chloride (Dichloromethane), mg/kg dw	ND	ND	ND	ND	ND
2-butanone (MEK), mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	0.11	0.039	ND	ND
Xylenes, mg/kg dw	ND	0.39	0.12	ND	ND
Percent Solids, %	85	81	80	81	77

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-33264
Revised 2-24-94
Received: 10 MAY 91

RECEIVED
FEB 28 1994
ENVIRONMENTAL

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
33264-6	# 9526 (5-9-91)	05-09-91
33264-7	# 9527 (5-9-91)	05-09-91

PARAMETER	33264-6	33264-7
Semivolatiles (8270)		
2-Chlorophenol, mg/kg dw	ND	ND
Phenol, mg/kg dw	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND
p-Chloro-m-cresol, mg/kg dw	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND
Naphthalene, mg/kg dw	310	22
Acenaphthene, mg/kg dw	290	20
Phenanthrene, mg/kg dw	440	33
Anthracene, mg/kg dw	190	15
Fluoranthene, mg/kg dw	360	32
Chrysene, mg/kg dw	ND	6.5
Benzo(a)Anthracene, mg/kg dw	ND	6.2
Benzo(b,k)fluoranthene, mg/kg dw	ND	ND
Benzo(a)pyrene, mg/kg dw	ND	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND
Carbazole, mg/kg dw	110	7.2
Dilution factor	100	10
Cresol (ortho), mg/kg dw	ND	ND
Cresol m & p, mg/kg dw	ND	ND
Aniline, mg/kg dw	ND	ND
Fluorene, mg/kg dw	420	33
2-Methylnaphthalene, mg/kg dw	230	13
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND	ND

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LOG NO: S1-33264
Revised 2-24-94
Received: 10 MAY 91

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ENVIRONMENTAL

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
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Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
33264-6	# 9526 (5-9-91)	05-09-91
33264-7	# 9527 (5-9-91)	05-09-91

PARAMETER	33264-6	33264-7
Volatile Organics (8240)		
Toluene, mg/kg dw	ND	ND
Benzene, mg/kg dw	ND	ND
Methylene Chloride (Dichloromethane), mg/kg dw	ND	ND
2-butanone (MEK), mg/kg dw	ND	ND
Ethylbenzene, mg/kg dw	ND	0.043
Xylenes, mg/kg dw	0.70	0.15
Percent Solids, %	79	84

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Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES
33264-8	TB-2
33264-9	TB-3

PARAMETER	33264-8	33264-9
Volatile Organics (8240)		
Toluene, mg/l	ND	ND
Benzene, mg/l	ND	ND
Methylene Chloride (Dichloromethane), mg/l	ND	ND
2-butanone (MEK), mg/l	ND	ND
Ethylbenzene, mg/l	ND	ND
Xylenes, mg/l	ND	ND

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ENVIRONMENTAL

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
33264-10	Detection Limits
33264-11	Accuracy (mean % recovery)
33264-12	Precision (% RPD)
33264-13	Dates Analyzed

PARAMETER	33264-10	33264-11	33264-12	33264-13
Semivolatiles (8270)				
2-Chlorophenol, mg/kg dw	0.33	39 %	11 %	05.27.91
Phenol, mg/kg dw	0.33	56 %	12 %	05.27.91
2,4-Dimethylphenol, mg/kg dw	0.33	---	---	05.27.91
2,4,6-Trichlorophenol, mg/kg dw	0.33	---	---	05.27.91
p-Chloro-m-cresol, mg/kg dw	0.33	48 %	12 %	05.27.91
Pentachlorophenol, mg/kg dw	1.7	53 %	8.2 %	05.27.91
Naphthalene, mg/kg dw	0.33	---	---	05.27.91
Acenaphthene, mg/kg dw	0.33	86 %	7.3 %	05.27.91
Phenanthrene, mg/kg dw	0.33	---	---	05.27.91
Anthracene, mg/kg dw	0.33	---	---	05.27.91
Fluoranthene, mg/kg dw	0.33	---	---	05.27.91
Chrysene, mg/kg dw	0.33	---	---	05.27.91
Benzo(a)Anthracene, mg/kg dw	0.33	---	---	05.27.91
Benzo(b,k)fluoranthene, mg/kg dw	0.33	---	---	05.27.91
Benzo(a)pyrene, mg/kg dw	0.33	---	---	05.27.91
Indeno(1,2,3-cd)pyrene, mg/kg dw	0.33	---	---	05.27.91
Dibenzo(a,h)anthracene, mg/kg dw	0.33	---	---	05.27.91
Carbazole, mg/kg dw	0.33	---	---	05.27.91
Cresol (ortho), mg/kg dw	0.33	---	---	05.27.91
Cresol m & p, mg/kg dw	0.33	---	---	05.27.91
Aniline, mg/kg dw	1.7	---	---	05.27.91
Fluorene, mg/kg dw	0.33	---	---	05.27.91
2-Methylnaphthalene, mg/kg dw	0.33	---	---	05.27.91
2,3,4,6-Tetrachlorophenol, mg/kg dw	0.33	---	---	05.27.91

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ENVIRONMENTAL

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Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radeck

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
33264-10	Detection Limits
33264-11	Accuracy (mean % recovery)
33264-12	Precision (% RPD)
33264-13	Dates Analyzed

PARAMETER	33264-10	33264-11	33264-12	33264-13
Volatile Organics (8240)				
Toluene, mg/kg dw	0.0050	102 %	2.9 %	05.23.91
Benzene, mg/kg dw	0.0050	84 %	3.6 %	05.23.91
Methylene Chloride (Dichloromethane), mg/kg dw	0.0050	---	---	05.23.91
2-butanone (MEK), mg/kg dw	0.050	---	---	05.23.91
Ethylbenzene, mg/kg dw	0.0050	---	---	05.23.91
Xylenes, mg/kg dw	0.0050	---	---	05.23.91

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Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
33264-14	Report Completion Date

PARAMETER	33264-14
Date Reported	06.14.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

Final Page Of Report

GERAGHTY & MILLER, INC.
Environmental Services

CHAIN-OF-CUSTODY RECORD

Page ____ of ____

Project Number: NC02804
Project Location: SWP - Gulf
Laboratory: Savannah Labs
Sampler(s): D. Rumford

RECEIVED
JUN 18 1991
ENVIRONMENTAL AFFAIRS

	SAMPLE IDENTITY	Date Sampled	40 ml vial w/ septa VOC HCl	125 ml amber glass VOC HCl	500 ml glass KW01 4°C								TOTAL
0930	9521	5/9/91	*	1	1								2
1045	9522	"		1	1								2
1110	9523	"		1	1								2
1135	9524	"		1	1								2
1215	9525	"		1	1								2
1240	9526	"		1	1								2
1315	9527	"		1	1								2
	TB-2		4										4
	TB-3		4										4
												Total No. of Bottles/ Containers	22

Relinquished by: G.D. Rumford	Organization: Geraghty + Miller	Date 5/9/91	Time 1800	Seal Intact?
Received by: L. Bond	Organization: SL # 33264	Date 5/10/91	Time 10:00am	(Yes) No N/A
Relinquished by:	Organization:	Date / /	Time	Seal Intact?
Received by:	Organization:	Date / /	Time	Yes No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other ____ (SPECIFY)

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SEP - 9 1991
G & M RALEIGH

LOG NO: S1-35162

Received: 14 AUG 91

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P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35162-1	ETE-3 (# 9613)	08-13-91
35162-2	GM-6S (# 9619)	08-13-91
35162-3	GM-7S (# 9620)	08-13-91
35162-4	GM-8S (# 9622)	08-13-91

PARAMETER	35162-1	35162-2	35162-3	35162-4
Volatile Organics (8240)				
Toluene, mg/l	ND	ND	ND	ND
Benzene, mg/l	ND	ND	ND	ND
Methylene Chloride, mg/l	ND	ND	ND	ND
2-butanone (MEK), mg/l	ND	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND	ND
Xylenes, mg/l	ND	ND	ND	ND

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REPORT OF RESULTS

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35162-2	GM-6S (# 9619)	08-13-91
35162-3	GM-7S (# 9620)	08-13-91
35162-4	GM-8S (# 9622)	08-13-91

PARAMETER	35162-1	35162-2	35162-3	35162-4
Semivolatiles (8270)				
2-Chlorophenol, mg/l	ND	ND	ND	ND
Phenol, mg/l	ND	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND	ND	ND
Pentachlorophenol, mg/l	ND	ND	ND	ND
Naphthalene, mg/l	ND	ND	ND	ND
Acenaphthene, mg/l	ND	ND	ND	ND
Phenanthrene, mg/l	ND	ND	ND	ND
Anthracene, mg/l	ND	ND	ND	ND
Fluoranthene, mg/l	ND	ND	ND	ND
Chrysene, mg/l	ND	ND	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND	ND
Carbazole, mg/l	ND	ND	ND	ND
Dilution factor	1	1	1	1
Cresol (ortho), mg/l	ND	ND	ND	ND
Cresol m & p, mg/l	ND	ND	ND	ND
Aniline, mg/l	ND	ND	ND	ND
Fluorene, mg/l	ND	ND	ND	ND
2-Methylnaphthalene, mg/l	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND	ND	ND

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35162-2	GM-6S (# 9619)	08-13-91
35162-3	GM-7S (# 9620)	08-13-91
35162-4	GM-8S (# 9622)	08-13-91

PARAMETER	35162-1	35162-2	35162-3	35162-4
pH, units	6.9	6.9	7.5	7.0

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35162-5	GM-3S (# 9618)	08-13-91
35162-6	ETE-2 (# 9612)	08-13-91
35162-7	GM-17S (# 9640)	08-13-91
35162-8	GM-2S (# 9617)	08-13-91

PARAMETER	35162-5	35162-6	35162-7	35162-8
Volatile Organics (8240)				
Toluene, mg/l	ND	ND	ND	ND
Benzene, mg/l	ND	ND	ND	ND
Methylene Chloride, mg/l	ND	ND	ND	ND
2-butanone (MEK), mg/l	ND	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND	ND
Xylenes, mg/l	ND	ND	ND	ND

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35162-6	ETE-2 (# 9612)	08-13-91
35162-7	GM-17S (# 9640)	08-13-91
35162-8	GM-2S (# 9617)	08-13-91

PARAMETER	35162-5	35162-6	35162-7	35162-8
Semivolatiles (8270)				
2-Chlorophenol, mg/l	ND	ND	ND	ND
Phenol, mg/l	ND	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND	ND	ND
Pentachlorophenol, mg/l	ND	ND	ND	ND
Naphthalene, mg/l	ND	ND	ND	ND
Acenaphthene, mg/l	ND	ND	ND	ND
Phenanthrene, mg/l	ND	ND	ND	ND
Anthracene, mg/l	ND	ND	ND	ND
Fluoranthene, mg/l	ND	ND	ND	ND
Chrysene, mg/l	ND	ND	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND	ND
Carbazole, mg/l	ND	ND	ND	ND
Dilution factor	1	1	1	1
Cresol (ortho), mg/l	ND	ND	ND	ND
Cresol m & p, mg/l	ND	ND	ND	ND
Aniline, mg/l	ND	ND	ND	ND
Fluorene, mg/l	ND	ND	ND	ND
2-Methylnaphthalene, mg/l	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND	ND	ND

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Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES
35162-9	TB-1

PARAMETER	35162-9
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35162-10	Detection Limits
35162-11	Accuracy (mean % recovery)
35162-12	Precision (% RPD)
35162-13	Analyst Initials
35162-14	EPA Method Number

PARAMETER	35162-10	35162-11	35162-12	35162-13	35162-14
Volatile Organics (8240)					
Toluene, mg/l	0.0050	---	---	CP	8240
Benzene, mg/l	0.0050	86 %	3.7 %	CP	8240
Methylene Chloride, mg/l	0.0050	---	---	CP	8240
2-butanone (MEK), mg/l	0.10	---	---	CP	8240
Ethylbenzene, mg/l	0.0050	---	---	CP	8240
Xylenes, mg/l	0.0050	---	---	CP	8240

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35162-10	Detection Limits
35162-11	Accuracy (mean % recovery)
35162-12	Precision (% RPD)
35162-13	Analyst Initials
35162-14	EPA Method Number

PARAMETER	35162-10	35162-11	35162-12	35162-13	35162-14
Semivolatiles (8270)					
2-Chlorophenol, mg/l	0.010	64 %	0 %	NHD	8270
Phenol, mg/l	0.010	25 %	0 %	NHD	8270
2,4-Dimethylphenol, mg/l	0.010	59 %	5.1 %	NHD	8270
2,4,6-Trichlorophenol, mg/l	0.010	66 %	3.0 %	NHD	8270
p-Chloro-m-cresol, mg/l	0.010	55 %	7.3 %	NHD	8270
Pentachlorophenol, mg/l	0.050	80 %	5.0 %	NHD	8270
Naphthalene, mg/l	0.010	74 %	5.4 %	NHD	8270
Acenaphthene, mg/l	0.010	71 %	2.8 %	NHD	8270
Phenanthrene, mg/l	0.010	76 %	4.0 %	NHD	8270
Anthracene, mg/l	0.010	80 %	1.3 %	NHD	8270
Fluoranthene, mg/l	0.010	83 %	7.2 %	NHD	8270
Chrysene, mg/l	0.010	72 %	11 %	NHD	8270
Benzo(a)Anthracene, mg/l	0.010	70 %	8.6 %	NHD	8270
Benzo(b,k)fluoranthene, mg/l	0.010	80 %	3.4 %	NHD	8270
Benzo(a)pyrene, mg/l	0.010	79 %	3.8 %	NHD	8270
Indeno(1,2,3-cd)pyrene, mg/l	0.010	70 %	1.4 %	NHD	8270
Dibenzo(a,h)anthracene, mg/l	0.010	72 %	2.8 %	NHD	8270
Carbazole, mg/l	0.010	109 %	6.5 %	NHD	8270
Cresol (ortho), mg/l	0.010	---	---	NHD	8270
Cresol m & p, mg/l	0.010	---	---	NHD	8270
Aniline, mg/l	0.010	---	---	NHD	8270
Fluorene, mg/l	0.010	---	---	NHD	8270
2-Methylnaphthalene, mg/l	0.010	---	---	NHD	8270
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	NHD	8270

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LOG NO: S1-35162

Received: 14 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35162-10	Detection Limits
35162-11	Accuracy (mean % recovery)
35162-12	Precision (% RPD)
35162-13	Analyst Initials
35162-14	EPA Method Number

PARAMETER	35162-10	35162-11	35162-12	35162-13	35162-14
pH, units	0-14	100 %	0 %	NK	150.1

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Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35162-15	Dates Analyzed

PARAMETER	35162-15
Volatile Organics (8240)	
Toluene	08.26.91
Benzene	08.26.91
Methylene Chloride	08.26.91
2-butanone (MEK)	08.26.91
Ethylbenzene	08.26.91
Xylenes	08.26.91

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LOG NO: S1-35162

Received: 14 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35162-15	Dates Analyzed

PARAMETER	35162-15
Semivolatiles (8270)	
2-Chlorophenol	08.19.91
Phenol	08.19.91
2,4-Dimethylphenol	08.19.91
2,4,6-Trichlorophenol	08.19.91
p-Chloro-m-cresol	08.19.91
Pentachlorophenol	08.19.91
Naphthalene	08.19.91
Acenaphthene	08.19.91
Phenanthrene	08.19.91
Anthracene	08.19.91
Fluoranthene	08.19.91
Chrysene	08.19.91
Benzo(a)Anthracene	08.19.91
Benzo(b,k)fluoranthene	08.19.91
Benzo(a)pyrene	08.19.91
Indeno(1,2,3-cd)pyrene	08.19.91
Dibenzo(a,h)anthracene	08.19.91
Carbazole	08.19.91
Cresol (ortho)	08.19.91
Cresol m & p	08.19.91
Aniline	08.19.91
Fluorene	08.19.91
2-Methylnaphthalene	08.19.91
2,3,4,6-Tetrachlorophenol	08.19.91
pH	08.14.91

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Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35162-16	Report Completion Date

PARAMETER	35162-16
Date Reported	08.29.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. _____

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number: NC02804

Project Location: SWT - GWIF

Laboratory: Savannah Labs

Sampler(s)/Affiliation: G.D. Rumford, P. Jacobs

	SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	1 liter Amber Glass BNA 8270 + HOOL	40 ml vial w/ septa VOC 8240 HCL								TOTAL
345	9616/GM-17S	L			1	4								5
115	9617/GM-2S	L			1	4								5
50	9619/GM-6S	L				4								4
750	GM-8S/9622	L				4								4
530	GM-3S/9618	L				4								4
1455	ETE-2/9612	L				4								4
100	ETE-3/9613	L				4								4
130	GM-7S/9620	L				4								4
	TB-1	L				4								4

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 38

Relinquished by: G.D. Rumford Organization: Geraghty + Miller
Received by: _____ Organization: _____ Date 8/13/91 Time 1930
Seal Intact? Yes No N/A

Relinquished by: _____ Organization: _____
Received by: J. Johnson SLA#35162 Organization: SAV LABS Date 8/14/91 Time 10:00
Seal Intact? (Yes) No N/A

Special Instructions/Remarks: _____

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

& MILLER, INC.
Environmental Services

Laboratory Task Order No. _____

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number: NC02.904
Project Location: SWP - GULF
Laboratory: Savannah Labs
Sampler(s)/Affiliation: G. D. Rumford

SAMPLE BOTTLE / CONTAINER DESCRIPTION

	SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	1 Liter Amber Glass BNA 8270 / KOH 4°C	250 ml Glass pH 4°C								TOTAL
600	ETF-3/9613	L	8/13/91		1	1								2
530	GM-3S/9618	L	"		1									1
550	GM-6S/9619	L	"		1	1								2
730	GM-7S/9620	L	"		1	1								2
750	GM-9S/9622	L	"		1	1								2
155	ETE-2/9612	L	"		1									1

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 10

Relinquished by: G. D. Rumford Organization: Burns & Miller
Received by: _____ Organization: _____ Date 8/13/91 Time 1930 Seal Intact? Yes No N/A

Relinquished by: _____ Organization: _____
Received by: L. Johnson SLH 35162 Organization: SAV LABS Date 8/14/91 Time 10:00 Seal Intact? (Yes) No N/A

Special Instructions/Remarks: _____

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

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G & M RALEIGH

LOG NO: S1-35205

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CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35205-1	GM-9S (# 9623)	08-14-91
35205-2	GM-9D (# 9624)	08-14-91
35205-3	GM-10S (# 9625)	08-14-91
35205-4	GM-7D (# 9621)	08-14-91
35205-5	GM-1S (# 9616)	08-14-91

PARAMETER	35205-1	35205-2	35205-3	35205-4	35205-5
Volatile Organics (8240)					
Toluene, mg/l	ND	ND	ND	ND	0.012
Benzene, mg/l	ND	ND	ND	ND	0.025
Methylene Chloride, mg/l	ND	ND	ND	ND	ND
2-butanone (MEK), mg/l	ND	ND	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND	ND	0.0087
Xylenes, mg/l	ND	ND	ND	ND	0.039

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CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35205-1	GM-9S (# 9623)	08-14-91
35205-2	GM-9D (# 9624)	08-14-91
35205-3	GM-10S (# 9625)	08-14-91
35205-4	GM-7D (# 9621)	08-14-91
35205-5	GM-1S (# 9616)	08-14-91

PARAMETER	35205-1	35205-2	35205-3	35205-4	35205-5
Semivolatiles (8270)					
2-Chlorophenol, mg/l	ND	ND	ND	ND	ND
Phenol, mg/l	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND	ND	ND	ND
Pentachlorophenol, mg/l	ND	ND	ND	ND	ND
Naphthalene, mg/l	ND	ND	ND	ND	ND
Acenaphthene, mg/l	ND	ND	ND	ND	ND
Phenanthrene, mg/l	ND	ND	ND	ND	ND
Anthracene, mg/l	ND	ND	ND	ND	ND
Fluoranthene, mg/l	ND	ND	ND	ND	ND
Chrysene, mg/l	ND	ND	ND	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND	ND	ND
Carbazole, mg/l	ND	ND	ND	ND	ND
Dilution factor	1	1	1	1	1
Cresol (ortho), mg/l	ND	ND	ND	ND	ND
Cresol m & p, mg/l	ND	ND	ND	ND	ND
Aniline, mg/l	ND	ND	ND	ND	ND
Fluorene, mg/l	ND	ND	ND	ND	ND
2-Methylnaphthalene, mg/l	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND	ND	ND	ND

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Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35205-1	GM-9S (# 9623)	08-14-91
35205-2	GM-9D (# 9624)	08-14-91
35205-3	GM-10S (# 9625)	08-14-91
35205-4	GM-7D (# 9621)	08-14-91
35205-5	GM-1S (# 9616)	08-14-91

PARAMETER	35205-1	35205-2	35205-3	35205-4	35205-5
pH, units	7.4	7.4	7.6	7.6	8.0

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35205-6	ETE-1 (# 9611)	08-14-91
35205-7	ETE-5 (# 9615)	08-14-91

PARAMETER	35205-6	35205-7
Volatile Organics (8240)		
Toluene, mg/l	ND	ND
Benzene, mg/l	ND	ND
Methylene Chloride, mg/l	ND	ND
2-butanone (MEK), mg/l	ND	ND
Ethylbenzene, mg/l	ND	ND
Xylenes, mg/l	ND	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35205-6	ETE-1 (# 9611)	08-14-91
35205-7	ETE-5 (# 9615)	08-14-91

PARAMETER	35205-6	35205-7
Semivolatiles (8270)		
2-Chlorophenol, mg/l	ND	ND
Phenol, mg/l	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND
Pentachlorophenol, mg/l	ND	ND
Naphthalene, mg/l	ND	ND
Acenaphthene, mg/l	ND	ND
Phenanthrene, mg/l	ND	ND
Anthracene, mg/l	ND	ND
Fluoranthene, mg/l	ND	ND
Chrysene, mg/l	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND
Benzo(a)pyrene, mg/l	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND
Carbazole, mg/l	ND	ND
Dilution factor	1	1
Cresol (ortho), mg/l	ND	ND
Cresol m & p, mg/l	ND	ND
Aniline, mg/l	ND	ND
Fluorene, mg/l	ND	ND
2-Methylnaphthalene, mg/l	ND	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND
pH, units	7.8	7.6

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35205-8	FB-1	08-14-91

PARAMETER	35205-8
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35205-8	FB-1	08-14-91

PARAMETER	35205-8
Semivolatiles (8270)	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	ND
Acenaphthene, mg/l	ND
Phenanthrene, mg/l	ND
Anthracene, mg/l	ND
Fluoranthene, mg/l	ND
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	ND
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	ND
2-Methylnaphthalene, mg/l	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35205-9	TB-2	08-14-91

PARAMETER	35205-9
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35205-10	Detection Limits
35205-11	Accuracy (mean % recovery)
35205-12	Precision (% RPD)
35205-13	Analyst Initials
35205-14	EPA Method Number

PARAMETER	35205-10	35205-11	35205-12	35205-13	35205-14
Volatile Organics (8240)					
Toluene, mg/l	0.0050	---	---	CP	8240
Benzene, mg/l	0.0050	91 %	0.20 %	CP	8240
Methylene Chloride, mg/l	0.0050	---	---	CP	8240
2-butanone (MEK), mg/l	0.10	---	---	CP	8240
Ethylbenzene, mg/l	0.0050	---	---	CP	8240
Xylenes, mg/l	0.0050	---	---	CP	8240

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Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35205-10	Detection Limits
35205-11	Accuracy (mean % recovery)
35205-12	Precision (% RPD)
35205-13	Analyst Initials
35205-14	EPA Method Number

PARAMETER	35205-10	35205-11	35205-12	35205-13	35205-14
Semivolatiles (8270)					
2-Chlorophenol, mg/l	0.010	95 %	1.1 %	NHD	8270
Phenol, mg/l	0.010	50 %	10 %	NHD	8270
2,4-Dimethylphenol, mg/l	0.010	92 %	23 %	NHD	8270
2,4,6-Trichlorophenol, mg/l	0.010	63 %	9.5 %	NHD	8270
p-Chloro-m-cresol, mg/l	0.010	89 %	10 %	NHD	8270
Pentachlorophenol, mg/l	0.050	39 %	23 %	NHD	8270
Naphthalene, mg/l	0.010	89 %	0 %	NHD	8270
Acenaphthene, mg/l	0.010	92 %	0 %	NHD	8270
Phenanthrene, mg/l	0.010	100 %	0 %	NHD	8270
Anthracene, mg/l	0.010	110 %	0 %	NHD	8270
Fluoranthene, mg/l	0.010	98 %	2.0 %	NHD	8270
Chrysene, mg/l	0.010	89 %	0 %	NHD	8270
Benzo(a)Anthracene, mg/l	0.010	110 %	1.0 %	NHD	8270
Benzo(b,k)fluoranthene, mg/l	0.010	109 %	3.0 %	NHD	8270
Benzo(a)pyrene, mg/l	0.010	109 %	1.0 %	NHD	8270
Indeno(1,2,3-cd)pyrene, mg/l	0.010	100 %	2.0 %	NHD	8270
Dibenzo(a,h)anthracene, mg/l	0.010	100 %	2.0 %	NHD	8270
Carbazole, mg/l	0.010	---	---	NHD	8270
Cresol (ortho), mg/l	0.010	---	---	NHD	8270
Cresol m & p, mg/l	0.010	---	---	NHD	8270
Aniline, mg/l	0.010	---	---	NHD	8270
Fluorene, mg/l	0.010	---	---	NHD	8270
2-Methylnaphthalene, mg/l	0.010	---	---	NHD	8270
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	NHD	8270

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LOG NO: S1-35205

Received: 15 AUG 91

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P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35205-10	Detection Limits
35205-11	Accuracy (mean % recovery)
35205-12	Precision (% RPD)
35205-13	Analyst Initials
35205-14	EPA Method Number

PARAMETER	35205-10	35205-11	35205-12	35205-13	35205-14
pH, units	0-14	100 %	0 %	NK	150.1

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CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35205-15	Dates Analyzed

PARAMETER	35205-15
Volatile Organics (8240)	
Toluene	08.28.91
Benzene	08.28.91
Methylene Chloride	08.28.91
2-butanone (MEK)	08.28.91
Ethylbenzene	08.28.91
Xylenes	08.28.91

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Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35205-15	Dates Analyzed

PARAMETER	35205-15
Semivolatiles (8270)	
2-Chlorophenol	8.22/26.91
Phenol	8.22/26.91
2,4-Dimethylphenol	8.22/26.91
2,4,6-Trichlorophenol	8.22/26.91
p-Chloro-m-cresol	8.22/26.91
Pentachlorophenol	8.22/26.91
Naphthalene	8.22/26.91
Acenaphthene	8.22/26.91
Phenanthrene	8.22/26.91
Anthracene	8.22/26.91
Fluoranthene	8.22/26.91
Chrysene	8.22/26.91
Benzo(a)Anthracene	8.22/26.91
Benzo(b,k)fluoranthene	8.22/26.91
Benzo(a)pyrene	8.22/26.91
Indeno(1,2,3-cd)pyrene	8.22/26.91
Dibenzo(a,h)anthracene	8.22/26.91
Carbazole	8.22/26.91
Cresol (ortho)	8.22/26.91
Cresol m & p	8.22/26.91
Aniline	8.22/26.91
Fluorene	8.22/26.91
2-Methylnaphthalene	8.22/26.91
2,3,4,6-Tetrachlorophenol	8.22/26.91
pH	08.15.91

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Received: 15 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35205-16	Report Completion Date

PARAMETER	35205-16
Date Reported	09.05.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. 77A

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number NC02804

Project Location SWP - Gulf

Laboratory Savannah Labs

Sampler(s)/Affiliation P. Jacobs, D. Rumford

	SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	1 L Amber Glass Kool, BNA 8270 4°C									TOTAL
515	FB-1	L	8-14-91		1									1
255	ETE-1/9611	L	8-14-91		1									1
015	GM-95/9623	L	8-14-91		1									1
625	GM-70/9621	L	8-14-91		1									1
050	GM-90/9624	L	8-14-91		1									1
1442	GM-105/9625	L	8-14-91		1									1
1122	ETE-5/9615	L	8-14-91		1									1
1200	GM-15/9616	L	8-14-91		1									1

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 8

Relinquished by: P. Jacobs Received by:	Organization: Geraghty & Miller Organization:	Date 8-14-91 Time 1830 Date / / Time	Seal Intact? Yes No N/A
Relinquished by: Received by: L. Bonds SL 35205	Organization: Organization: SL	Date 8/15/91 Time 10:00 a	Seal Intact? (Yes) No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier Fed EX (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

Southwind 90 0130

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. N/A

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number NC02804
Project Location SWD-Gulf
Laboratory Savannah Labs
Sampler(s)/Affiliation P. Jacobs, D. Rumford

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	1L Amber Glass PH									TOTAL
GM-70/9621	L	8-14-91		1									1
GM-105/9625	L	8-14-91		1									1
GM-95/9623	L	8-14-91		1									1
ETE-5/9615	L	8-14-91		1									1
GM-1s/9616	L	8-14-91		1									1
GM-90/9624	L	8-14-91		1									1
ETE-1/9611	L	8-14-91		1									1

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 7

Relinquished by: P. Jacobs Received by:	Organization: Geraghty + Miller Organization:	Date 8-14-91 Time 1830 Date / / Time	Seal Intact? Yes No N/A
Relinquished by: L. Bond ~~SL35208~~ Received by:	Organization: Organization: SL 35205	Date 8/15/91 Time 10:00 a	Seal Intact? (Yes) No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier Fed EX (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

G&M Form 00.1.00 Southwest 90.0120

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. N/A

CHAIN-OF-CUSTODY RECORD

Page 1 of

Project Number NC02804

Project Location SWP-Gulf

Laboratory Savannah Labs

Sampler(s)/Affiliation P. Jacobs, D. Rumford

SAMPLE BOTTLE / CONTAINER DESCRIPTION

	SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	40ml vial w/septa VOC 8240	HCL								TOTAL
	TB-2	L	8-14-91		4									4
1015	GM-9S/9623	L	8-14-91		4									4
1050	GM-9D/9624	L	8-14-91		4									4
1442	GM-10S/9625	L	8-14-91		4									4
1625	GM-7D/9621	L	8-14-91		4									4
1200	GM-1S/9616	L	8-14-91		4									4
1255	ETE-1/9611	L	8-14-91		4									4
1122	ETE-5/9615	L	8-14-91		4									4
1515	EB-1	L	8-14-91		4									4

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 36

Relinquished by: P. Jacobs Received by:	Organization: Geraghty & Miller Organization:	8-14-91 1830 Date / / Time	Seal Intact? Yes No N/A
Relinquished by: L. Bond SL 35205 Received by:	Organization: Organization: SL 35205	Date 8/15/91 Time 10:00am	Seal Intact? (Yes) No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

RECEIVED SEP - 9 1991 G & M RALEIGH

LOG NO: S1-35229

Received: 16 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35229-1	GM-11S (# 9627)	08-15-91
35229-2	GM-11RD (# 9629)	08-15-91
35229-3	GM-11RM (# 9628)	08-15-91
35229-4	GM-14S (# 9633)	08-15-91
35229-5	GM-10D (# 9626)	08-15-91

PARAMETER	35229-1	35229-2	35229-3	35229-4	35229-5
Volatile Organics (8240)					
Toluene, mg/l	ND	ND	ND	ND	ND
Benzene, mg/l	ND	ND	ND	ND	ND
Methylene Chloride, mg/l	ND	ND	ND	ND	ND
2-butanone (MEK), mg/l	ND	ND	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	ND	ND	ND
Xylenes, mg/l	ND	ND	ND	ND	ND

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-35229

Received: 16 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35229-1	GM-11S (# 9627)	08-15-91
35229-2	GM-11RD (# 9629)	08-15-91
35229-3	GM-11RM (# 9628)	08-15-91
35229-4	GM-14S (# 9633)	08-15-91
35229-5	GM-10D (# 9626)	08-15-91

PARAMETER	35229-1	35229-2	35229-3	35229-4	35229-5
Semivolatiles (8270)					
2-Chlorophenol, mg/l	ND	ND	ND	ND	ND
Phenol, mg/l	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/l	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND	ND	ND	ND
Pentachlorophenol, mg/l	ND	ND	ND	ND	ND
Naphthalene, mg/l	ND	ND	ND	ND	ND
Acenaphthene, mg/l	ND	ND	ND	0.029	ND
Phenanthrene, mg/l	ND	ND	ND	ND	ND
Anthracene, mg/l	ND	ND	ND	ND	ND
Fluoranthene, mg/l	ND	ND	ND	ND	ND
Chrysene, mg/l	ND	ND	ND	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND	ND	ND
Carbazole, mg/l	ND	ND	ND	0.025	ND
Dilution factor	1	1	1	1	1
Cresol (ortho), mg/l	ND	ND	ND	ND	ND
Cresol m & p, mg/l	ND	ND	ND	ND	ND
Aniline, mg/l	ND	ND	ND	ND	ND
Fluorene, mg/l	ND	ND	ND	ND	ND
2-Methylnaphthalene, mg/l	ND	ND	ND	0.014	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND	ND	ND	ND

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LOG NO: S1-35229

Received: 16 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35229-1	GM-11S (# 9627)	08-15-91
35229-2	GM-11RD (# 9629)	08-15-91
35229-3	GM-11RM (# 9628)	08-15-91
35229-4	GM-14S (# 9633)	08-15-91
35229-5	GM-10D (# 9626)	08-15-91

PARAMETER	35229-1	35229-2	35229-3	35229-4	35229-5
pH, units	7.9	8.3	8.2	7.9	8.1

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LOG NO: S1-35229

Received: 16 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35229-6	REP-1	08-15-91

PARAMETER	35229-6
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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LOG NO: S1-35229

Received: 16 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35229-6	REP-1	08-15-91

PARAMETER	35229-6
Semivolatiles (8270)	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	ND
Naphthalene, mg/l	ND
Acenaphthene, mg/l	0.033
Phenanthrene, mg/l	ND
Anthracene, mg/l	ND
Fluoranthene, mg/l	ND
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	0.018
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	ND
2-Methylnaphthalene, mg/l	0.014
2,3,4,6-Tetrachlorophenol, mg/l	ND
pH, units	7.2

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LOG NO: S1-35229

Received: 16 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35229-7	TB-3	08-15-91

PARAMETER	35229-7
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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LOG NO: S1-35229

Received: 16 AUG 91

Ms. Sandra Watson
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P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35229-8	Detection Limits
35229-9	Accuracy (mean % recovery)
35229-10	Precision (% RPD)
35229-11	Analyst Initials
35229-12	EPA Method Number

PARAMETER	35229-8	35229-9	35229-10	35229-11	35229-12
Volatile Organics (8240)					
Toluene, mg/l	0.0050	---	---	CP	8240
Benzene, mg/l	0.0050	86 %	3.7 %	CP	8240
Methylene Chloride, mg/l	0.0050	---	---	CP	8240
2-butanone (MEK), mg/l	0.10	---	---	CP	8240
Ethylbenzene, mg/l	0.0050	---	---	CP	8240
Xylenes, mg/l	0.0050	---	---	CP	8240

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LOG NO: S1-35229

Received: 16 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35229-8	Detection Limits
35229-9	Accuracy (mean % recovery)
35229-10	Precision (% RPD)
35229-11	Analyst Initials
35229-12	EPA Method Number

PARAMETER	35229-8	35229-9	35229-10	35229-11	35229-12
Semivolatiles (8270)					
2-Chlorophenol, mg/l	0.010	95 %	1.1 %	NHD	8270
Phenol, mg/l	0.010	50 %	10 %	NHD	8270
2,4-Dimethylphenol, mg/l	0.010	92 %	2.3 %	NHD	8270
2,4,6-Trichlorophenol, mg/l	0.010	63 %	9.5 %	NHD	8270
p-Chloro-m-cresol, mg/l	0.010	89 %	10 %	NHD	8270
Pentachlorophenol, mg/l	0.050	39 %	23 %	NHD	8270
Naphthalene, mg/l	0.010	89 %	0 %	NHD	8270
Acenaphthene, mg/l	0.010	92 %	0 %	NHD	8270
Phenanthrene, mg/l	0.010	100 %	0 %	NHD	8270
Anthracene, mg/l	0.010	110 %	0 %	NHD	8270
Fluoranthene, mg/l	0.010	98 %	2.0 %	NHD	8270
Chrysene, mg/l	0.010	89 %	0 %	NHD	8270
Benzo(a)Anthracene, mg/l	0.010	110 %	1.0 %	NHD	8270
Benzo(b,k)fluoranthene, mg/l	0.010	109 %	2.9 %	NHD	8270
Benzo(a)pyrene, mg/l	0.010	109 %	1.0 %	NHD	8270
Indeno(1,2,3-cd)pyrene, mg/l	0.010	100 %	2.0 %	NHD	8270
Dibenzo(a,h)anthracene, mg/l	0.010	100 %	2.0 %	NHD	8270
Carbazole, mg/l	0.010	---	---	NHD	8270
Cresol (ortho), mg/l	0.010	---	---	NHD	8270
Cresol m & p, mg/l	0.010	---	---	NHD	8270
Aniline, mg/l	0.010	---	---	NHD	8270
Fluorene, mg/l	0.010	---	---	NHD	8270
2-Methylnaphthalene, mg/l	0.010	---	---	NHD	8270
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	NHD	8270

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-35229

Received: 16 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35229-8	Detection Limits
35229-9	Accuracy (mean % recovery)
35229-10	Precision (% RPD)
35229-11	Analyst Initials
35229-12	EPA Method Number

PARAMETER	35229-8	35229-9	35229-10	35229-11	35229-12
pH, units	0-14	101 %	0 %	NK	150.1

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-35229

Received: 16 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

35229-13 Dates Analyzed

PARAMETER	35229-13
Volatile Organics (8240)	
Toluene	08.27.91
Benzene	08.27.91
Methylene Chloride	08.27.91
2-butanone (MEK)	08.27.91
Ethylbenzene	08.27.91
Xylenes	08.27.91

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-35229

Received: 16 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35229-13	Dates Analyzed

PARAMETER	35229-13
Semivolatiles (8270)	
2-Chlorophenol	8.22/26.91
Phenol	8.22/26.91
2,4-Dimethylphenol	8.22/26.91
2,4,6-Trichlorophenol	8.22/26.91
p-Chloro-m-cresol	8.22/26.91
Pentachlorophenol	8.22/26.91
Naphthalene	8.22/26.91
Acenaphthene	8.22/26.91
Phenanthrene	8.22/26.91
Anthracene	8.22/26.91
Fluoranthene	8.22/26.91
Chrysene	8.22/26.91
Benzo(a)Anthracene	8.22/26.91
Benzo(b,k)fluoranthene	8.22/26.91
Benzo(a)pyrene	8.22/26.91
Indeno(1,2,3-cd)pyrene	8.22/26.91
Dibenzo(a,h)anthracene	8.22/26.91
Carbazole	8.22/26.91
Cresol (ortho)	8.22/26.91
Cresol m & p	8.22/26.91
Aniline	8.22/26.91
Fluorene	8.22/26.91
2-Methylnaphthalene	8.22/26.91
2,3,4,6-Tetrachlorophenol	8.22/26.91
pH	08.19.91

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S1-35229

Received: 16 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35229-14	Report Completion Date

PARAMETER	35229-14
Date Reported	08.30.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

CHAIN-OF-CUSTODY RECORD

Project Number NC02884
Project Location SWP-Gulf
Laboratory Savannah Labs
Sampler(s) D. Rumford
P. Jacobs

SAMPLE BOTTLE / CONTAINER DESCRIPTION

	SAMPLE IDENTITY	Date Sampled	40ml vial w/ septa VOC8240	HCL									TOTAL
	TB-3	8-15-91	4										4
55	GM-11S/9627	8-15-91	4										4
30	GM-11BD/9629	8-15-91	4										4
55	GM-10D/9626	8-15-91	4										4
	REP-1	8-15-91	4										4
50	GM-11RM/9628	8-15-91	4										4
45	GM-14S/9633	8-15-91	4										4
												Total No. of Bottles/ Containers	28

15.2

Relinquished by: P. Jacobs	Organization: Geraghty & Miller	Date 8/15/91	Time 1830	Seal Intact? (Yes) No N/A
Received by: L. Bonab	Organization: SL 35229	Date 8/16/91	Time 10:30am	
Relinquished by:	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / /	Time	

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

GERAGHTY & MILLER, INC.
Environmental Services

CHAIN-OF-CUSTODY RECORD

Project Number WC02804
Project Location SWP-Gulf
Laboratory Savannah Labs
Sampler(s) P. Rumford
P. Jacobs

	SAMPLE IDENTITY	Date Sampled	1L Amber Glass BNA 8270 Rec'd 4°C	1L Amber Glass PTH 4°C									TOTAL
555	GM-11S/9627	8-15-91	1	1									2
530	GM-11RD/9629	8-15-91	1	1									2
458	GM-11RM/9628	8-15-91	1	1									2
645	GM-14S/9633	8-15-91	1	1									2
	REP-1	8-15-91	1										1
305	GM-10D/9626	8-15-91	1	1									2
												Total No. of Bottles/ Containers	11

17.5

Relinquished by: P. Jacobs	Organization: Geraghty & Miller	Date 8/15/91	Time 1830	Seal Intact?
Received by: L. Bond	Organization: SL 85229	Date 8-16-91	Time 10:30am	(Yes) No N/A
Relinquished by:	Organization:	Date / /	Time	Seal Intact?
Received by:	Organization:	Date / /	Time	Yes No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

20W
LMD

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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RECEIVED
JUN 17 1991
ENVIRONMENTAL AFFAIRS

LOG NO: S1-33231

Received: 09 MAY 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
33231-1	# 9515 (5-8-91) Pond Area N of RR Track	Client

PARAMETER	33231-1
Semivolatiles	
2-Chlorophenol, mg/kg dw	ND
Phenol, mg/kg dw	ND
2,4-Dimethylphenol, mg/kg dw	ND
2,4,6-Trichlorophenol, mg/kg dw	ND
p-Chloro-m-cresol, mg/kg dw	ND
Pentachlorophenol, mg/kg dw	ND
Naphthalene, mg/kg dw	ND
Acenaphthene, mg/kg dw	ND
Phenanthrene, mg/kg dw	ND
Anthracene, mg/kg dw	ND
Fluoranthene, mg/kg dw	ND
Chrysene, mg/kg dw	ND
Benzo(a)Anthracene, mg/kg dw	ND
Benzo(b,k)fluoranthene, mg/kg dw	ND
Benzo(a)pyrene, mg/kg dw	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND
Carbazole, mg/kg dw	ND
Dilution factor	1
Cresol (ortho), mg/kg dw	ND
Cresol m & p, mg/kg dw	ND
Aniline, mg/kg dw	ND
Fluorene, mg/kg dw	ND
2-Methylnaphthalene, mg/kg dw	ND
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND

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ENVIRONMENTAL AFFAIRS

LOG NO: S1-33231

Received: 09 MAY 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
33231-1	# 9515 (5-8-91)	Client

PARAMETER	33231-1
Percent Solids, %	79 %

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Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
33231-2	# 9516 (5-8-91)	Client
33231-3	# 9517 (5-8-91)	
33231-4	# 9518 (5-8-91)	
33231-5	# 9519 (5-8-91)	
33231-6	# 9520 (5-8-91)	

PARAMETER	33231-2	33231-3	33231-4	33231-5	33231-6
Semivolatiles					
2-Chlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Phenol, mg/kg dw	ND	ND	ND	ND	ND
2,4-Dimethylphenol, mg/kg dw	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol, mg/kg dw	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/kg dw	ND	ND	ND	ND	ND
Pentachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Naphthalene, mg/kg dw	ND	ND	3.1	ND	ND
Acenaphthene, mg/kg dw	0.95	670	2.3	ND	730
Phenanthrene, mg/kg dw	2.2	660	3.6	ND	710
Anthracene, mg/kg dw	0.61	280	1.7	ND	200
Fluoranthene, mg/kg dw	2.7	430	3.2	46	420
Chrysene, mg/kg dw	0.81	82	1.3	ND	71
Benzo(a)Anthracene, mg/kg dw	0.96	ND	1.5	ND	ND
Benzo(b,k)fluoranthene, mg/kg dw	0.47	ND	0.56	ND	ND
Benzo(a)pyrene, mg/kg dw	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/kg dw	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/kg dw	ND	ND	ND	ND	ND
Carbazole, mg/kg dw	ND	120	0.51	ND	78
Dilution factor	1	200	1	100	200

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CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	SAMPLED BY
33231-2	# 9516 (5-8-91)	Client
33231-3	# 9517 (5-8-91)	
33231-4	# 9518 (5-8-91)	
33231-5	# 9519 (5-8-91)	
33231-6	# 9520 (5-8-91)	

PARAMETER	33231-2	33231-3	33231-4	33231-5	33231-6
Cresol (ortho), mg/kg dw	ND	ND	ND	ND	ND
Cresol m & p, mg/kg dw	ND	ND	ND	ND	ND
Aniline, mg/kg dw	ND	ND	ND	ND	ND
Fluorene, mg/kg dw	1.1	810	3.1	ND	840
2-Methylnaphthalene, mg/kg dw	ND	980	2.2	ND	ND
2,3,4,6-Tetrachlorophenol, mg/kg dw	ND	ND	ND	ND	ND
Volatile Organics (8240)					
Toluene, mg/kg dw	ND	0.92	ND	ND	10.0
Benzene, mg/kg dw	ND	ND	ND	ND	ND
Methylene Chloride, mg/kg dw	ND	ND	ND	ND	ND
2-butanone (MEK), mg/kg dw	ND	ND	ND	ND	ND
Ethylbenzene, mg/kg dw	ND	2.2	ND	ND	11.0
Xylenes, mg/kg dw	ND	6.90	ND	0.26	37.0
Percent Solids, %	88 %	70 %	84 %	86 %	77 %

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Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	SAMPLED BY
33231-7	TB-1	Client

PARAMETER	33231-7
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride, mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	SAMPLED BY
33231-8	Detection Limits	Client
33231-9	Accuracy (mean % recovery)	
33231-10	Precsion (% RPD)	
33231-11	Dates Analyzed	

PARAMETER	33231-8	33231-9	33231-10	33231-11
Semivolatiles				
2-Chlorophenol, mg/kg dw	0.33	39 %	11 %	05.27.91
Phenol, mg/kg dw	0.33	56 %	12 %	05.27.91
2,4-Dimethylphenol, mg/kg dw	0.33	---	---	05.27.91
2,4,6-Trichlorophenol, mg/kg dw	0.33	---	---	05.27.91
p-Chloro-m-cresol, mg/kg dw	0.33	48 %	12 %	05.27.91
Pentachlorophenol, mg/kg dw	1.7	53 %	8.2 %	05.27.91
Naphthalene, mg/kg dw	0.33	---	---	05.27.91
Acenaphthene, mg/kg dw	0.33	86 %	7.3 %	05.27.91
Phenanthrene, mg/kg dw	0.33	---	---	05.27.91
Anthracene, mg/kg dw	0.33	---	---	05.27.91
Fluoranthene, mg/kg dw	0.33	---	---	05.27.91
Chrysene, mg/kg dw	0.33	---	---	05.27.91
Benzo(a)Anthracene, mg/kg dw	0.33	---	---	05.27.91
Benzo(b,k)fluoranthene, mg/kg dw	0.33	---	---	05.27.91
Benzo(a)pyrene, mg/kg dw	0.33	---	---	05.27.91
Indeno(1,2,3-cd)pyrene, mg/kg dw	0.33	---	---	05.27.91
Dibenzo(a,h)anthracene, mg/kg dw	0.33	---	---	05.27.91
Carbazole, mg/kg dw	0.33	---	---	05.27.91
Cresol (ortho), mg/kg dw	0.33	---	---	05.27.91
Cresol m & p, mg/kg dw	0.33	---	---	05.27.91
Aniline, mg/kg dw	1.7	---	---	05.27.91
Fluorene, mg/kg dw	0.33	---	---	05.27.91
2-Methylnaphthalene, mg/kg dw	0.33	---	---	05.27.91
2,3,4,6-Tetrachlorophenol, mg/kg dw	0.33	---	---	05.27.91

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LOG NO: S1-33231
Received: 09 MAY 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	SAMPLED BY
33231-8	Detection Limits	Client
33231-9	Accuracy (mean % recovery)	
33231-10	Precsion (% RPD)	
33231-11	Dates Analyzed	

PARAMETER	33231-8	33231-9	33231-10	33231-11
Volatile Organics (8240)				
Toluene, mg/kg dw	0.0050	113 %	1.8 %	05.21.91
Benzene, mg/kg dw	0.0050	91 %	2.2 %	05.21.91
Methylene Chloride, mg/kg dw	0.0050	---	---	05.21.91
2-butanone (MEK), mg/kg dw	0.050	---	---	05.21.91
Ethylbenzene, mg/kg dw	0.0050	---	---	05.21.91
Xylenes, mg/kg dw	0.0050	---	---	05.21.91

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CC: Mark Radecke

Project: Gulf, NC

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	SAMPLED BY
33231-12	Report Completion Date	Client

PARAMETER	33231-12
Date Reported	06.14.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. _____

CHAIN-OF-CUSTODY RECORD

Page _____ of _____

Project Number: NC02804

Project Location: SWP - Gulf

Laboratory: Savannah Labs

Sampler(s)/Affiliation: G.D. Rumford

SAMPLE BOTTLE / CONTAINER DESCRIPTION

	SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	40 ml vials w/ septa VOC	500 ml glass HCl K001 4°C	125 ml Amber glass VOC 4°C							TOTAL
1120	9515	S	5/8/91			1								1
1425	9516	S	"			1	1							2
1450	9517	S	"			1	1							2
1530	9518	S	"			1	1							2
1625	9519	S	"			1	1							2
1635	9520	S	"			1	1							2
	TB-1	L			4									4

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 15

RECEIVED JUN 17 1991 ENVIRONMENTAL AFFAIRS

Relinquished by: G.D. Rumford Organization: Geraghty & Miller
Received by: J. Johnson SL#33231 Organization: SAVH LAB'S 5/9/91 10:00AM Date 5/8/91 Time 1830
Seal Intact? (Yes) No N/A

Relinquished by: _____ Organization: _____
Received by: _____ Organization: _____ Date / / Time _____
Seal Intact? Yes No N/A

Special Instructions/Remarks: _____

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

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ENVIRONMENTAL

LOG NO: S1-35256
Revised 2-24-94
Received: 17 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35256-1	GM-16D (# 9638)	08-16-91
35256-2	GM-15S (# 9634)	08-16-91
35256-3	GM-16S (# 9637)	08-16-91
35256-4	GM-12S (# 9630)	08-16-91
35256-5	GM-15RM (# 9635)	08-16-91

PARAMETER	35256-1	35256-2	35256-3	35256-4	35256-5
Semivolatiles (8270)					
2-Chlorophenol, mg/l	ND	ND	ND	ND	ND
Phenol, mg/l	ND	ND	1.1	ND	0.069
2,4-Dimethylphenol, mg/l	ND	ND	0.73	ND	0.043
2,4,6-Trichlorophenol, mg/l	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND	ND	ND	ND
Pentachlorophenol, mg/l	1.1	0.087	37	ND	ND
Naphthalene, mg/l	3.7	5.0	52	ND	0.57
Acenaphthene, mg/l	0.48	1.5	29	ND	0.059
Phenanthrene, mg/l	0.30	2.1	65	ND	0.033
Anthracene, mg/l	0.023	0.25	10	ND	ND
Fluoranthene, mg/l	0.061	0.86	41	ND	0.014
Chrysene, mg/l	ND	0.095	5.3	ND	ND
Benzo(a)Anthracene, mg/l	ND	0.10	5.8	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	0.072	4.7	ND	ND
Benzo(a)pyrene, mg/l	ND	0.030	1.9	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	0.40	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND	ND	ND
Carbazole, mg/l	0.30	0.026	6.1	ND	0.021
Dilution factor	1	1	10	1	1

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ENVIRONMENTAL AFFAIRS

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Rabecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35256-1	GM-16D (# 9638)	08-16-91
35256-2	GM-15S (# 9634)	08-16-91
35256-3	GM-16S (# 9637)	08-16-91
35256-4	GM-12S (# 9630)	08-16-91
35256-5	GM-15RM (# 9635)	08-16-91

PARAMETER	35256-1	35256-2	35256-3	35256-4	35256-5
Cresol (ortho), mg/l	ND	ND	ND	ND	0.065
Cresol m & p, mg/l	ND	ND	0.68	ND	0.098
Aniline, mg/l	ND	ND	0.24	ND	ND
Fluorene, mg/l	0.30	1.1	34	ND	0.031
2-Methylnaphthalene, mg/l	0.65	2.2	27	ND	0.097
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND	ND	ND	ND
Volatile Organics (8240)					
Toluene, mg/l	0.020	ND	0.10	ND	0.010
Benzene, mg/l	0.018	0.020	0.10	ND	0.010
Methylene Chloride (Dichloromethane), mg/l	ND	ND	ND	ND	ND
2-butanone (MEK), mg/l	ND	ND	ND	ND	ND
Ethylbenzene, mg/l	0.020	0.020	0.10	ND	ND
Xylenes, mg/l	0.024	0.060	0.20	ND	0.010
pH, units	7.5	7.4	7.5	7.0	7.4

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Received: 17 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35256-6	TB-4	08-16-91

PARAMETER	35256-6
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	ND
Methylene Chloride (Dichloromethane), mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	ND

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FEB 28 1994
ENVIRONMENTAL

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35256-7	Detection Limits
35256-8	Accuracy (mean % recovery)
35256-9	Precision (% RPD)
35256-10	Analyst Initials
35256-11	EPA Method Number

PARAMETER	35256-7	35256-8	35256-9	35256-10	35256-11
Semivolatiles (8270)					
2-Chlorophenol, mg/l	0.010	92 %	2.2 %	NHD	8270
Phenol, mg/l	0.010	39 %	0 %	NHD	8270
2,4-Dimethylphenol, mg/l	0.010	82 %	7.3 %	NHD	8270
2,4,6-Trichlorophenol, mg/l	0.010	86 %	2.3 %	NHD	8270
p-Chloro-m-cresol, mg/l	0.010	82 %	3.7 %	NHD	8270
Pentachlorophenol, mg/l	0.050	106 %	1.0 %	NHD	8270
Naphthalene, mg/l	0.010	71 %	4.2 %	NHD	8270
Acenaphthene, mg/l	0.010	77 %	1.3 %	NHD	8270
Phenanthrene, mg/l	0.010	85 %	0 %	NHD	8270
Anthracene, mg/l	0.010	86 %	2.3 %	NHD	8270
Fluoranthene, mg/l	0.010	93 %	4.3 %	NHD	8270
Chrysene, mg/l	0.010	96 %	3.1 %	NHD	8270
Benzo(a)Anthracene, mg/l	0.010	91 %	0 %	NHD	8270
Benzo(b,k)fluoranthene, mg/l	0.010	121 %	0.5 %	NHD	8270
Benzo(a)pyrene, mg/l	0.010	122 %	1.0 %	NHD	8270
Indeno(1,2,3-cd)pyrene, mg/l	0.010	121 %	3.3 %	NHD	8270
Dibenzo(a,h)anthracene, mg/l	0.010	111 %	2.7 %	NHD	8270
Carbazole, mg/l	0.010	---	---	NHD	8270
Cresol (ortho), mg/l	0.010	---	---	NHD	8270
Cresol m & p, mg/l	0.010	---	---	NHD	8270
Aniline, mg/l	0.010	---	---	NHD	8270
Fluorene, mg/l	0.010	---	---	NHD	8270
2-Methylnaphthalene, mg/l	0.010	---	---	NHD	8270
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	NHD	8270

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LOG NO: S1-35256
Revised 2-24-94
Received: 17 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35256-7	Detection Limits
35256-8	Accuracy (mean % recovery)
35256-9	Precision (% RPD)
35256-10	Analyst Initials
35256-11	EPA Method Number

PARAMETER	35256-7	35256-8	35256-9	35256-10	35256-11
Volatile Organics (8240)					
Toluene, mg/l	0.0050	92 %	3.3 %	BA	8240
Benzene, mg/l	0.0050	92 %	4.3 %	BA	8240
Methylene Chloride (Dichloromethane), mg/l	0.0050	---	---	BA	8240
2-butanone (MEK), mg/l	0.10	---	---	BA	8240
Ethylbenzene, mg/l	0.0050	---	---	BA	8240
Xylenes, mg/l	0.0050	---	---	BA	8240

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ENVIRONMENTAL

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Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35256-12	Dates Analyzed

PARAMETER	35256-12
Volatile Organics (8240)	
Toluene	08.29.91
Benzene	08.29.91
Methylene Chloride (Dichloromethane)	08.29.91
2-butanone (MEK)	08.29.91
Ethylbenzene	08.29.91
Xylenes	08.29.91

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& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S1-35256
Revised 2-24-94
Received: 17 AUG 91

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FEB 28 1994
ENVIRONMENTAL

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

35256-12 Dates Analyzed

PARAMETER	35256-12
Semivolatiles (8270)	
2-Chlorophenol	8.23/26.91
Phenol	8.23/26.91
2,4-Dimethylphenol	8.23/26.91
2,4,6-Trichlorophenol	8.23/26.91
p-Chloro-m-cresol	8.23/26.91
Pentachlorophenol	8.23/26.91
Naphthalene	8.23/26.91
Acenaphthene	8.23/26.91
Phenanthrene	8.23/26.91
Anthracene	8.23/26.91
Fluoranthene	8.23/26.91
Chrysene	8.23/26.91
Benzo(a)Anthracene	8.23/26.91
Benzo(b,k)fluoranthene	8.23/26.91
Benzo(a)pyrene	8.23/26.91
Indeno(1,2,3-cd)pyrene	8.23/26.91
Dibenzo(a,h)anthracene	8.23/26.91
Carbazole	8.23/26.91
Cresol (ortho)	8.23/26.91
Cresol m & p	8.23/26.91
Aniline	8.23/26.91
Fluorene	8.23/26.91
2-Methylnaphthalene	8.23/26.91
2,3,4,6-Tetrachlorophenol	8.23/26.91

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Spartanburg, SC 29304

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FEB 28 1994
ENVIRONMENTAL

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35256-13	Report Completion Date

PARAMETER	35256-13
Date Reported	09.12.91

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

Final Page Of Report

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LOG NO: S1-35285
Revised 2-24-94
Received: 20 AUG 91

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35285-1	GM-16RD (# 9639)	08-19-91
35285-2	GM-13S (# 9631)	08-19-91
35285-3	GM-13D (# 9632)	08-19-91
35285-4	GM-15RD (# 9636)	08-19-91
35285-5	ETE-4 (# 9614)	08-19-91

PARAMETER	35285-1	35285-2	35285-3	35285-4	35285-5
Volatile Organics (8240)					
Toluene, mg/l	ND	ND	0.030	0.25	ND
Benzene, mg/l	ND	0.02	0.050	0.25	ND
Methylene Chloride (Dichloromethane), mg/l	ND	ND	ND	ND	ND
2-butanone (MEK), mg/l	ND	ND	ND	ND	ND
Ethylbenzene, mg/l	ND	ND	0.010	0.060	ND
Xylenes, mg/l	ND	0.020	0.040	0.25	ND

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Revised 2-24-94
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Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35285-1	GM-16RD (# 9639)	08-19-91
35285-2	GM-13S (# 9631)	08-19-91
35285-3	GM-13D (# 9632)	08-19-91
35285-4	GM-15RD (# 9636)	08-19-91
35285-5	ETE-4 (# 9614)	08-19-91

PARAMETER	35285-1	35285-2	35285-3	35285-4	35285-5
Semivolatiles (8270)					
2-Chlorophenol, mg/l	ND	ND	ND	ND	ND
Phenol, mg/l	ND	ND	ND	0.62	ND
2,4-Dimethylphenol, mg/l	ND	ND	ND	2.3	ND
2,4,6-Trichlorophenol, mg/l	ND	ND	ND	ND	ND
p-Chloro-m-cresol, mg/l	ND	ND	ND	ND	ND
Pentachlorophenol, mg/l	1.2	1.9	20	0.95	ND
Naphthalene, mg/l	0.051	0.77	7.6	6.1	ND
Acenaphthene, mg/l	0.038	0.078	2.2	1.1	ND
Phenanthrene, mg/l	0.054	0.18	5.1	1.2	ND
Anthracene, mg/l	ND	0.013	ND	ND	ND
Fluoranthene, mg/l	0.020	0.011	2.3	ND	ND
Chrysene, mg/l	ND	ND	ND	ND	ND
Benzo(a)Anthracene, mg/l	ND	ND	ND	ND	ND
Benzo(b,k)fluoranthene, mg/l	ND	ND	ND	ND	ND
Benzo(a)pyrene, mg/l	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene, mg/l	ND	ND	ND	ND	ND
Carbazole, mg/l	ND	0.18	1.3	0.91	ND
Dilution factor	1	1	100	50	1

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Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35285-1	GM-16RD (# 9639)	08-19-91
35285-2	GM-13S (# 9631)	08-19-91
35285-3	GM-13D (# 9632)	08-19-91
35285-4	GM-15RD (# 9636)	08-19-91
35285-5	ETE-4 (# 9614)	08-19-91

PARAMETER	35285-1	35285-2	35285-3	35285-4	35285-5
Cresol (ortho), mg/l	ND	ND	ND	1.5	ND
Cresol m & p, mg/l	ND	ND	ND	2.4	ND
Aniline, mg/l	ND	ND	ND	ND	ND
Fluorene, mg/l	0.042	0.14	2.3	0.80	ND
2-Methylnaphthalene, mg/l	0.038	0.10	1.8	1.4	ND
2,3,4,6-Tetrachlorophenol, mg/l	ND	ND	ND	ND	ND

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LOG NO: S1-35285
Revised 2-24-94
Received: 20 AUG 91

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P.O. Box 5447
Spartanburg, SC 29304

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FEB 28 1994
ENVIRONMENTAL ...

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35285-6	REP-2	08-19-91

PARAMETER	35285-6
Volatile Organics (8240)	
Toluene, mg/l	ND
Benzene, mg/l	0.010
Methylene Chloride (Dichloromethane), mg/l	ND
2-butanone (MEK), mg/l	ND
Ethylbenzene, mg/l	ND
Xylenes, mg/l	0.010

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CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
35285-6	REP-2	08-19-91

PARAMETER	35285-6
Semivolatiles (8270)	
2-Chlorophenol, mg/l	ND
Phenol, mg/l	ND
2,4-Dimethylphenol, mg/l	ND
2,4,6-Trichlorophenol, mg/l	ND
p-Chloro-m-cresol, mg/l	ND
Pentachlorophenol, mg/l	2.4
Naphthalene, mg/l	0.46
Acenaphthene, mg/l	0.065
Phenanthrene, mg/l	0.13
Anthracene, mg/l	0.013
Fluoranthene, mg/l	0.011
Chrysene, mg/l	ND
Benzo(a)Anthracene, mg/l	ND
Benzo(b,k)fluoranthene, mg/l	ND
Benzo(a)pyrene, mg/l	ND
Indeno(1,2,3-cd)pyrene, mg/l	ND
Dibenzo(a,h)anthracene, mg/l	ND
Carbazole, mg/l	0.14
Dilution factor	1
Cresol (ortho), mg/l	ND
Cresol m & p, mg/l	ND
Aniline, mg/l	ND
Fluorene, mg/l	0.19
2-Methylnaphthalene, mg/l	0.046
2,3,4,6-Tetrachlorophenol, mg/l	ND

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CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35285-7	Detection Limits
35285-8	Accuracy (mean % recovery)
35285-9	Precision (% RPD)
35285-10	Analyst Initials
35285-11	EPA Method Number

PARAMETER	35285-7	35285-8	35285-9	35285-10	35285-11
Volatile Organics (8240)					
Toluene, mg/l	0.0050	92 %	3.3 %	BA	8240
Benzene, mg/l	0.0050	92 %	4.3 %	BA	8240
Methylene Chloride (Dichloromethane), mg/l	0.0050	---	---	BA	8240
2-butanone (MEK), mg/l	0.0050	---	---	BA	8240
Ethylbenzene, mg/l	0.0050	---	---	BA	8240
Xylenes, mg/l	0.0050	---	---	BA	8240

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35285-7	Detection Limits
35285-8	Accuracy (mean % recovery)
35285-9	Precision (% RPD)
35285-10	Analyst Initials
35285-11	EPA Method Number

PARAMETER	35285-7	35285-8	35285-9	35285-10	35285-11
Semivolatiles (8270)					
2-Chlorophenol, mg/l	0.010	92 %	2.2 %	NHD	8270
Phenol, mg/l	0.010	39 %	0 %	NHD	8270
2,4-Dimethylphenol, mg/l	0.010	82 %	7.3 %	NHD	8270
2,4,6-Trichlorophenol, mg/l	0.010	86 %	2.3 %	NHD	8270
p-Chloro-m-cresol, mg/l	0.010	82 %	3.7 %	NHD	8270
Pentachlorophenol, mg/l	0.050	106 %	1.0 %	NHD	8270
Naphthalene, mg/l	0.010	71 %	4.2 %	NHD	8270
Acenaphthene, mg/l	0.010	77 %	1.3 %	NHD	8270
Phenanthrene, mg/l	0.010	85 %	0 %	NHD	8270
Anthracene, mg/l	0.010	86 %	2.3 %	NHD	8270
Fluoranthene, mg/l	0.010	93 %	4.3 %	NHD	8270
Chrysene, mg/l	0.010	96 %	3.1 %	NHD	8270
Benzo(a)Anthracene, mg/l	0.010	91 %	0 %	NHD	8270
Benzo(b,k)fluoranthene, mg/l	0.010	121 %	0.5 %	NHD	8270
Benzo(a)pyrene, mg/l	0.010	122 %	1.0 %	NHD	8270
Indeno(1,2,3-cd)pyrene, mg/l	0.010	121 %	3.3 %	NHD	8270
Dibenzo(a,h)anthracene, mg/l	0.010	111 %	2.7 %	NHD	8270
Carbazole, mg/l	0.010	---	---	NHD	8270
Cresol (ortho), mg/l	0.010	---	---	NHD	8270
Cresol m & p, mg/l	0.010	---	---	NHD	8270
Aniline, mg/l	0.010	---	---	NHD	8270
Fluorene, mg/l	0.010	---	---	NHD	8270
2-Methylnaphthalene, mg/l	0.010	---	---	NHD	8270
2,3,4,6-Tetrachlorophenol, mg/l	0.010	---	---	NHD	8270

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: S1-35285
Revised 2-24-94
Received: 20 AUG 91

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ENVIRONMENTAL

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

CC: Mark Radecke

Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
35285-12	Dates Analyzed

PARAMETER	35285-12
Volatile Organics (8240)	
Toluene	08.30.91
Benzene	08.30.91
Methylene Chloride (Dichloromethane)	08.30.91
2-butanone (MEK)	08.30.91
Ethylbenzene	08.30.91
Xylenes	08.30.91

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Project: Gulf, NC
Sampled By: Client

REPORT OF RESULTS

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

35[illegible]85-12 Dates Analyzed

PARAMETER	35285-12
Semivolatiles (8270)	
2-Chlorophenol	8.23/26.91
P[illegible]enol	8.23/26.91
2[illegible]-Dimethylphenol	8.23/26.91
2,4,6-Trichlorophenol	8.23/26.91
p[illegible]hloro-m-cresol	8.23/26.91
P[illegible]tachlorophenol	8.23/26.91
Naphthalene	8.23/26.91
Acenaphthene	8.23/26.91
P[illegible]nanthrene	8.23/26.91
A[illegible]hracene	8.23/26.91
Fluoranthene	8.23/26.91
C[illegible]ysene	8.23/26.91
B[illegible]zo(a)Anthracene	8.23/26.91
Benzo(b,k)fluoranthene	8.23/26.91
Benzo(a)pyrene	8.23/26.91
I[illegible]eno(1,2,3-cd)pyrene	8.23/26.91
Di[illegible]enzo(a,h)anthracene	8.23/26.91
Carbazole	8.23/26.91
Cr[illegible]sol (ortho)	8.23/26.91
Cr[illegible]sol m & p	8.23/26.91
[illegible]iline	8.23/26.91
Fl[illegible]rene	8.23/26.91
-[illegible]thylnaphthalene	8.23/26.91
,3,4,6-Tetrachlorophenol	8.23/26.91

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ENVIRONMENTAL AFFAIRS

LOG NO: S3-43955
Received: 14 JUL 93

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: NC0028.004/SWP-Gulf
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED
43955-1	ETE-1 (11348)	07-12-93
43955-2	GM-1S (11347)	07-12-93
43955-3	HP-1 (11349)	07-13-93
43955-4	RS-1 (-)	07-13-93
43955-5	FB-1 (-)	07-13-93

PARAMETER	43955-1	43955-2	43955-3	43955-4	43955-5
Hydrocarbons (Modified 8015)					
Hydrocarbons as Gasoline, mg/l	0.35	ND	34	ND	ND
Hydrocarbons (Modified 8015 - Ext.)					
Hydrocarbons as Kerosene, mg/l	ND	ND	ND	ND	ND
Hydrocarbons as Diesel Fuel, mg/l	ND	ND	ND	ND	ND
Hydrocarbons as Heavy Oils, mg/l	ND	ND	ND	ND	ND
Hydrocarbons as Mineral Spirits, mg/l	ND	ND	ND	ND	ND
Hydrocarbons as Varsol, mg/l	ND	ND	ND	ND	ND
Hydrocarbons as Fuel Oil, mg/l	ND	ND	ND	ND	ND

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ENVIRONMENTAL

LOG NO: S3-43955

Received: 14 JUL 93

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: NC0028.004/SWP-Gulf
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
43955-7	Detection Limits
43955-8	Accuracy (mean % recovery)
43955-9	Precision (% RPD)
43955-10	Analyst Initials
43955-11	EPA Method Numbers

PARAMETER	43955-7	43955-8	43955-9	43955-10	43955-11
Hydrocarbons (Modified 8015)					
Hydrocarbons as Gasoline, mg/l	0.050	110 %	18 %	AJ	MOD-8015
Hydrocarbons (Modified 8015 - Ext.)					
Hydrocarbons as Kerosene, mg/l	0.30	---	---	---	---
Hydrocarbons as Diesel Fuel, mg/l	0.30	80 %	14 %	RP	MOD-8100
Hydrocarbons as Heavy Oils, mg/l	0.30	---	---	---	---
Hydrocarbons as Mineral Spirits, mg/l	0.30	---	---	---	---
Hydrocarbons as Varsol, mg/l	0.30	---	---	---	---
Hydrocarbons as Fuel Oil, mg/l	0.30	---	---	---	---

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Project: NC0028.004/SWP-Gulf
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
43955-12	Dates Analyzed

PARAMETER	43955-12
Hydrocarbons (Modified 8015)	
Hydrocarbons as Gasoline	07.16.93
Hydrocarbons (Modified 8015 - Ext.)	
Hydrocarbons as Diesel Fuel	07.23.93

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Project: NC0028.004/SWP-Gulf
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
43955-13	Report Completion Date

PARAMETER	43955-13
Date Reported	07.29.93

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews

J. W. Andrews, Ph. D.

Final Page Of Report

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. N/A

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number [redacted]

Project Location [redacted]

Laboratory [redacted]

Sampler(s)/Affiliation [redacted]

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	[redacted]	[redacted]								TOTAL
ETE-1(11348)	L	7-12-93 15:15		4	2 *								6
GM-1S(11347)	L	7-12-93 14:45		4	2								6
HP-1(11349)	L	7-13-93 10:30		4	2 *								6
~~SB-1~~													~~X~~
~~SB-2~~													~~X~~
RS-1 (-)	L	7-13-93 11:15		4	2 *								6
FB-1 (-)	L	7-13-93 11:00		4	2 *								6
TB-1 (-)	L	7-13-93		4									4

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 34

Relinquished by: [signature]	Organization: [illegible]	Date / / Time	Seal Intact?
Received by:	Organization:	Date / / Time	Yes No N/A
Relinquished by:	Organization:	Date / / Time	Seal Intact?
Received by: J Baker 43955	Organization: SAV LABS	Date 7/14/93 Time 10:15	Yes No N/A

Special Instructions/Remarks: * Rec'd 1 liter glass jar broken 7/14/93 RW

Delivery Method: ☐ In Person ☒ Common Carrier Fed-EX ☐ Lab Courier ☐ Other

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ENVIRONMENTAL Affairs

LOG NO: S3-43962

Received: 14 JUL 93

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: NC0028.004/SWP-GULF
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43962-1	SB-1 (11340)	07-12-93
43962-2	SB-2 (11341)	07-12-93
43962-3	SB-3 (11342)	07-12-93
43962-4	SB-4 (11343)	07-13-93
43962-5	SB-5 (11344)	07-13-93

PARAMETER	43962-1	43962-2	43962-3	43962-4	43962-5
Hydrocarbons (Modified 8015)					
Hydrocarbons as Gasoline, mg/kg dw	ND	ND	ND	ND	25
Hydrocarbons (Modified 8015 - Ext.)					
Hydrocarbons as Kerosene, mg/kg dw	ND	ND	ND	ND	ND
Hydrocarbons as Diesel Fuel, mg/kg dw	ND	ND	ND	ND	56
Hydrocarbons as Heavy Oils, mg/kg dw	ND	ND	ND	ND	ND
Hydrocarbons as Mineral Spirits, mg/kg dw	ND	ND	ND	ND	ND
Hydrocarbons as Varsol, mg/kg dw	ND	ND	ND	ND	ND
Hydrocarbons as Fuel Oil, mg/kg dw	ND	ND	ND	ND	ND
Percent Solids, %	91	91	85	91	85

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LOG NO: S3-43962

Received: 14 JUL 93

Ms. Sandra Watson
Southern Wood Piedmont (GULF)
P.O. Box 5447
Spartanburg, SC 29304

Project: NC0028.004/SWP-GULF
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43962-6	SB-6 (11345)	07-13-93
43962-7	SB-7 (11346)	07-13-93

PARAMETER	43962-6	43962-7
Hydrocarbons (Modified 8015)		
Hydrocarbons as Gasoline, mg/kg dw	ND	ND
Hydrocarbons (Modified 8015 - Ext.)		
Hydrocarbons as Kerosene, mg/kg dw	ND	ND
Hydrocarbons as Diesel Fuel, mg/kg dw	ND	ND
Hydrocarbons as Heavy Oils, mg/kg dw	ND	ND
Hydrocarbons as Mineral Spirits, mg/kg dw	ND	ND
Hydrocarbons as Varsol, mg/kg dw	ND	ND
Hydrocarbons as Fuel Oil, mg/kg dw	ND	ND
Percent Solids, %	77	84

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Project: NC0028.004/SWP-GULF
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43962-8	Detection Limits Soil
43962-9	Accuracy (mean % recovery)
43962-10	Precision (% RPD)
43962-11	Analyst Initials
43962-12	EPA Method Numbers

PARAMETER		43962-8	43962-9	43962-10	43962-11	43962-12
Hydrocarbons (Modified 8015)						
Hydrocarbons as Gasoline, mg/kg dw	0.25		104 %	8.7 %	AP	MOD-8015
Hydrocarbons (Modified 8015 - Ext.)						
Hydrocarbons as Kerosene, mg/kg dw	10		---	---	---	---
Hydrocarbons as Diesel Fuel, mg/kg dw	10		95 %	7.4 %	RP	MOD-8100
Hydrocarbons as Heavy Oils, mg/kg dw	10		---	---	---	---
Hydrocarbons as Mineral Spirits, mg/kg dw	10		---	---	---	---
Hydrocarbons as Varsol, mg/kg dw	10		---	---	---	---
Hydrocarbons as Fuel Oil, mg/kg dw	10		---	---	---	---

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Project: NC0028.004/SWP-GULF
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43962-13	Dates Analyzed

PARAMETER	43962-13
Hydrocarbons (Modified 8015)	
Hydrocarbons as Gasoline, mg/l	7.16/17.93
Hydrocarbons (Modified 8015 - Ext.)	
Hydrocarbons as Diesel Fuel, mg/l	07.16.93

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Project: NC0028.004/SWP-GULF
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
43962-14	Report Completion Date

PARAMETER	43962-14
Date Reported	07.29.93

Methods: EPA SW-846
ND = Not Detected

J. W. Andrews.

J. W. Andrews, Ph. D.

Final Page Of Report

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. N/A

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number NC0028.004

Project Location SLOP - GULF

Laboratory SAVANNAH LABS

Sampler(s)/Affiliation T Warburton

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	TPH as Gasoline 8015 125-ml amber glass	TPH as Diesel Lead 8100 250-ml glass jar 4°C								TOTAL
SB-1 (11340)	S	7-12-93 12:35		1	1								2
SB-2 (11341)	S	7-12-93 15:10		1	1								2
SB-3 (11342)	S	7-12-93 17:15		1	1								2
SB-4 (11343)	S	7-13-93 8:20		1	1								2
SB-5 (11344)	S	7-13-93 10:00		1	1								2
SB-6 (11345)	S	7-13-93 11:35		1	1								2
SB-7 (11346)	S	7-13-93 12:15		1	1								2

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 14

Relinquished by: [signature]	Organization: Geraghty & Miller	Date / / Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / / Time	
Relinquished by:	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / / Time	

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier: Fed-Ex ☐ Lab Courier ☐ Other

2UW
MAS

Report
Prepared
for

S O U T H E R N W O O D P I E D M O N T C O M P A N Y

P.O. BOX 5447
SPARTANBURG, S.C. 29304

Attention : SANDRA WATSON

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by

Chester LabNet - Houston
8300 Westpark Drive
Houston, Texas 77063
(713) 266-6800

CERTIFIED BY : Bobby Barrientos

Bobby Barrientos
Project Manager

PROJECT ID : SWP
P.O. NUMBER : 12-53101.00

WORK ORDER : H93-12.73
DATE RECEIVED : 9-DEC-1993

SAMPLE & ANALYSIS SUMMARY

Chester LabNet Sample ID	Client's Sample Name	Date Collected	Sample Matrix
H93-12.73-001	LAB BLANK	7-DEC-1993	WATER
H93-12.73-002	ETE-1	7-DEC-1993	WATER
H93-12.73-003	ETE-2	7-DEC-1993	WATER
H93-12.73-004	ETE-3	7-DEC-1993	WATER
H93-12.73-005	ETE-4	7-DEC-1993	WATER
H93-12.73-006	ETE-5	7-DEC-1993	WATER
H93-12.73-007	GM-1S	7-DEC-1993	WATER
H93-12.73-008	GM-2S	7-DEC-1993	WATER
H93-12.73-009	GM-3S	7-DEC-1993	WATER
H93-12.73-010	GM-6S	7-DEC-1993	WATER
H93-12.73-011	MW-3C	7-DEC-1993	WATER
H93-12.73-012	GM-15RM	8-DEC-1993	WATER
H93-12.73-013	MW-13C	8-DEC-1993	WATER
H93-12.73-014	MW-18A	8-DEC-1993	WATER
H93-12.73-015	GM-16RD	8-DEC-1993	WATER
H93-12.73-016	GM-7D	8-DEC-1993	WATER
H93-12.73-017	GM-7S	8-DEC-1993	WATER
H93-12.73-018	GM-8S	8-DEC-1993	WATER
H93-12.73-019	GM-12S	8-DEC-1993	WATER
H93-12.73-020	GM-13S	8-DEC-1993	WATER
H93-12.73-021	GM-14S	8-DEC-1993	WATER
H93-12.73-022	GM-9D	7-DEC-1993	WATER
H93-12.73-023	GM-9S	7-DEC-1993	WATER
H93-12.73-024	MW-10C	7-DEC-1993	WATER
H93-12.73-025	GM-10D	7-DEC-1993	WATER
H93-12.73-026	GM-10S	7-DEC-1993	WATER
H93-12.73-027	GM-11RD	7-DEC-1993	WATER
H93-12.73-028	GM-11RM	7-DEC-1993	WATER
H93-12.73-029	GM-11S	7-DEC-1993	WATER
H93-12.73-030	GM-17S	7-DEC-1993	WATER
H93-12.73-031	TRIP BLANK	2-DEC-1993	WATER
H93-12.73-032	FIELD BLANK	8-DEC-1993	WATER
H93-12.73-033	FIELD BLANK	7-DEC-1993	WATER
H93-12.73-034	BLANK MS	7-DEC-1993	WATER
H93-12.73-035	BLANK MSD	7-DEC-1993	WATER

Analysis ID	Parameter Description
BTEX_8020	BTEX by Method 8020
EXT_8270	Extraction by EPA 8270
GC8010	Chlorinated Volatiles
SV_TCL	Semivolatiles (Target Compound List)

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CASE NARRATIVE

CONTRACTOR: CHESTER LABNET DOC. CONT NO:

CLIENT.: SOUTHERN PIEDMONT PROJ NO.: 12-53101.0

LAB NO.:H92-12.7349 SITE: SWP-GULF

I. RECEIPT

A. DATE: December 09, 1993 .

B. NO. OF SAMPLES: One per parameter (3 parameters)

C. CLIENT SAMPLE ID's: ETE-1; ETE-2; ETE-3; ETE-4, ETE-5, GM-1S; GM-2S, GM-3S, GM-6S, MW-3C; GM-15RM; MW-13C; MW-18A; GM-16RD; GM-7D; GM-7S; GM-8S; GM-12S; GM-13S; GM-14S; GM-9D; GM-9S; MW-10C; GM-10D; GM-10S; GM-11RD; GM-11RM; GM-11S; GM-17S; TRIP BLANK; (2) - FIELD BLANK.

D. SAMPLE TYPE: Water (Groundwater)

E. ANALYSIS REQUESTED: Semivolatiles-Method 8270; and Volatiles-Method 8020/8010 per contracted Scope of Work.

F. SHIPPING PROBLEMS: None

G. DOCUMENTATION PROBLEMS: None

H. QC DISTRIBUTION (MS AND MSD)
MS/MSD not designated for any particular sample; therefore a QA/QC spike introduce to Samples received. Blank spike/dup demonstrates laboratory QA/QC meeting the recoveries within the Limits range presented for data package.

LEVEL	MATRIX	All Parameters	Sample
Low	Water-Blank Spike	8270 Method	
Low	Water-MS/MSD	8010/8020 Method	GM-15RD GM-1S

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II. PREPARATION

A. ANALYTICAL LEVELS: Not Applicable.

B. EXTRACTION PROBLEMS: None.

III. ANALYSIS

A. ANALYSIS PROBLEMS: 4-Nitrophenol percent recoveries on the high side due to Blank Spike makeup.

B. SURROGATE PROBLEMS: A few surrogate recoveries were outside required and advisory QC limits for Semivolatiles (8270).

IV. COMMENTS

Robert R. Barrientos — January 13, 1994

Robert R. Barrientos - Project Manager — Date

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QC Report

Date received: 9-DEC-1993 Customer: Southern Wood Piedmont co. Job name: H93-12.73

Parameters	Detection Limit	Analyst Initial	EPA Method	Dates Analyzed	Dates Extracted
BTEX 8020					
Benzene	0.002 mg/L	MIM	8020	DEC-13/14/15-93	NA
Toluene	0.003 mg/L	MIM	8020	DEC-13/14/15-93	NA
Ethyl Benzene	0.003 mg/L	MIM	8020	DEC-13/14/15-93	NA
2-Butanone (MEK)	0.005 mg/L	MIM	8020	DEC-13/14/15-93	NA
Total Xylenes	0.003 mg/L	MIM	8020	DEC-13/14/15-93	NA
GC8010					
Methylene Chloride	0.002 mg/L	MIM	8010	DEC-13/14/15/16-93	NA
SV TCL					
Phenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
2-Chlorophenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
2-Methylphenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
3+4-Methylphenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
2,4-Dimethylphenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Naphthalene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
p-chloro-m-cresol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
2-Methylnaphthalene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
2,4,6-Trichlorophenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Acenaphthene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Fluorene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Pentachlorophenol	0.050 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Phenanthrene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Anthracene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Fluoranthene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Benzo(a)anthracene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Chrysene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Benzo(b)fluoranthene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Benzo(k)fluoranthene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Benzo(a)pyrene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Indeno(1,2,3-cd)pyrene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Dibenzo(a,h)anthracene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Carbazole	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Aniline	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
2,3,4,6-Tetrachlorophenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93

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Keystone Lab - Houston
Water Surrogate Recovery Summary
Keystone Work Order # H93-12.73

Client Sample Name	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	S7 2CP	S8 DCB
LAB BLANK	84	75	99	55	69	14	62	69
EIE-1	81	66	53	57	69	90	62	62
EIE-2	80	67	63	67	84	101	71	67
EIE-3	94	80	52	59	76	78	71	79
EIE-4	23 *	21 *	25 *	20	25	14	22	22
EIE-5	88	73	55	73	100	90	79	79
GM-1S	82	67	38	50	41	102	60	73
GM-2S	102	76	52	69	105	107	77	81
GM-3S	90	76	60	46	60	44	53	78
GM-6S	80	69	64	78	71	97	71	68
MW-3C	76	66	76	9 *	5 *	16	8 *	65
GM-15RM	DL	DL	DL	DL	DL	DL	DL	DL
MW-13C	DL	DL	DL	DL	DL	DL	DL	DL
MW-18A	83	60	22 *	71	66	78	64	61
GM-16RD	DL	DL	DL	DL	DL	DL	DL	DL
GM-7D	93	93	65	85	77	104	83	79
GM-7S	100	79	60	74	78	84	62	77
GM-8S	71	59	61	36	31	26	35	57
GM-12S	94	83	61	55	44	43	44	75
GM-13S	107	52	10	64	80	52	62	49
GM-14S	DL	DL	DL	DL	DL	DL	DL	DL
GM-9D	89	64	43	8 *	1 *	1 *	4 *	67
GM-9S	119 *	66	17 *	57	73	34	64	72
MW-10C	85	65	66	65	64	88	61	63
GM-10D	116 *	72	47	71	101	68	77	75
GM-10S	97	67	59	79	99	101	77	70
GM-11RD	82	69	45	76	84	90	63	69
GM-11RM	90	62	59	57	73	76	61	64
GM-11S	76	66	56	80	76	81	61	66
GM-17S	76	72	86	52	60	77	54	69
FIELD BLANK # 1	92	66	51	66	87	78	64	65
FIELD BLANK # 2	81	68	80	75	77	86	68	64
BLANK MS	92	67	80	69	86	86	66	62
BLANK MSD	108	77	85	76	111 *	109	70	78

Surrogate Name	QC LIMITS	Surrogate Name	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	35-114	S2 (FBP) = 2-Fluorobiphenyl	43-116
S3 (TPH) = Terphenyl-d14	33-141	S4 (PHL) = Phenol-d5	10-110
S5 (2FP) = 2-Fluorophenol	21-110	S6 (TBP) = 2,4,6-Tribromophenol	10-123
S7 (2CP) = 2-Chlorophenol-d4	33-110**	S8 (DCB) = 1,2-Dichlorobenzene-d4	16-110**

15 out of 248 : outside of QC limits.

* = Values are outside of QC limits ** = Advisory QC Limits NA = Not Applicable

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Keystone Lab - Houston
Water Surrogate Recovery Summary
Keystone Work Order # H93-12.73

Client Sample Name	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	S7 2CP	S8 DCB
LAB BLANK	63	44	61	55	53	55	47	47
EIE-4 REX	88	89	95	96	93	128 *	84	77
MW-3C REX	76	74	71	28	20 *	31	25 *	74
GM-9D REX	67	70	58	39	27	25	36	69
GM-9S REX	71	68	39	73	77	88	66	64
GM-10D REX	88	77	80	90	85	95	77	78

Surrogate Name	QC LIMITS	Surrogate Name	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	35-114	S2 (FBP) = 2-Fluorobiphenyl	43-116
S3 (TPH) = Terphenyl-d14	33-141	S4 (PHL) = Phenol-d5	10-110
S5 (2FP) = 2-Fluorophenol	21-110	S6 (TBP) = 2,4,6-Tribromophenol	10-123
S7 (2CP) = 2-Chlorophenol-d4	33-110**	S8 (DCB) = 1,2-Dichlorobenzene-d4	16-110**

3 out of 48 : outside of QC limits.

* = Values are outside of QC limits

** = Advisory QC Limits

NA = Not Applicable
REX = Re-extraction

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CHESTER LABNET - HOUSTON

SURROGATE RECOVERY SUMMARY

Client Name:
Chester LabNet Work Order # H93-12.73

CLIENT SAMPLE NUMBER	TRIFLUORO-TOLUENE % RECOVERY	BROMOCHLORO-METHANE % RECOVERY
1. LAB BLANK 1	100	110
2. LAB BLANK 2	98	110
3. LAB BLANK 3	93	100
4. EDB-1	100	95
5. EDB-2	100	99
6. EDB-3	100	110
7. EDB-4	100	110
8. EDB-5	100	110
9. G4-1S	100	110
10. G4-2S	100	99
11. G4-3S	99	92
12. G4-6S	100	120
13. MW-3C	100	110
14. G4-15RM	100	83
15. MW-13C	95	78
16. MW-18A	100	92
17. G4-16RD	110	92
18. G4-7D	100	82
19. G4-7S	98	71
20. G4-8S	100	85
21. G4-12S	99	120
22. G4-13S	110	84
23. G4-14S	98	85
24. G4-9D	94	86
25. G4-9S	96	81
26. MW-10C	110	76
27. G4-10D	100	91
28. G4-10S	98	97
29. G4-11RD	110	90
30. G4-11RM	99	86
31. G4-11S	100	110
32. G4-17S	110	100
33. TRIP BLANK	96	NA
34. FIELD BLANK 8-DEC-1993	100	90
35. FIELD BLANK 7-DEC-1993	99	77
36. BLANK SPIKE	93	130
37. BLANK SPIKE DUP	100	120

Column to be used to flag recovery values
* Values outside of Advisory QC limits.
NA - NOT APPLICABLE

TRIFLUOROTOLUENE ADVISORY QC LIMITS (73 - 125%)
BROMOCHLOROMETHANE ADVISORY QC LIMITS (67 - 128%)

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Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples					
ystone ID		73-001	73-002	73-003	73-004	73-005	73-006
Sampling Point		QA QC	X	X	X	X	X
ate Sampled		7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993
stomer ID		LAB BLANK	EIE-1	EIE-2	EIE-3	EIE-4	EIE-5
rameters	Units						
EX 8020							
Benzene	mg/L	ND	ND	ND	ND	ND	ND
Toluene	mg/L	ND	ND	ND	ND	ND	ND
Ethyl Benzene	mg/L	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
8010							
thylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		1	1	1	1	1	1
FIELD INFORMATION							
Date Collected			12.7.93	12.7.93	12.7.93	12.7.93	12.7.93
Water Level (casing top) ft.			8.81	18.93	11.79	6.34	17.05
Well Depth, ft.			31.73	36.74	22.12	31.12	19.56
pH			6.6	7.8	7.7	8.1	7.6
			6.9	7.4	7.2	7.8	7.6
				7.1	7.4	7.8	7.5
Specific Conductance			450	200	250	560	620
			430	200	260	560	580
				200	250	550	560

ND = NONE DETECTED

RECEIVED

00002

Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples					
Keystone ID		73-007	73-008	73-009	73-010	73-011	73-012
Sampling Point		X	X	X	X	X	X
Date Sampled		7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	8-DEC-1993
Customer ID		GM-1S	GM-2S	GM-3S	GM-6S	MW-3C	GM-15RM
Parameters	Units						
BTEX 8020							
Benzene	mg/L	.018	ND	ND	ND	ND	.025
Toluene	mg/L	ND	ND	ND	ND	ND	.0035
Ethyl Benzene	mg/L	ND	ND	ND	ND	ND	.013
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	.026
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	ND	ND	ND	1.4
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	.12
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	ND	ND	.11
Fluorene	mg/L	ND	ND	ND	ND	ND	.02
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	.02
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		1	1	1	1	1	40
FIELD INFORMATION							
Date Collected		12.7.93	12.7.93	12.7.93	12.7.93	12.7.93	12.8.93
Water Level (casing top) ft.		10.19	19.34	12.07	9.18	11.73	14.74
Well Depth, ft.		18.51	24.27	15.32	16.51	49.11	55.48
pH		7.6	6.9	7.3	9.7	7.4	7.5
		7.6	7.1	7.5	9.2	7.4	7.3
		7.4		7.6	8.5	7.2	7.3
Specific Conductance		1170	600	750	470	300	1100
		1140	590	830	430	330	1050
		1140		850	450	350	1070

ND = NONE DETECTED

Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples					
Keystone ID		73-013	73-014	73-015	73-016	73-017	73-018
Sampling Point		X	X	X	X	X	X
Date Sampled		8-DEC-1993	8-DEC-1993	8-DEC-1993	8-DEC-1993	8-DEC-1993	8-DEC-1993
Customer ID		MW-13C	MW-18A	GM-16FD	GM-7D	GM-7S	GM-8S
Parameters	Units						
BTEX 8020							
Benzene	mg/L	.056	ND	.0036	ND	ND	ND
Toluene	mg/L	.077	ND	ND	ND	ND	ND
Ethyl Benzene	mg/L	.045	ND	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	.087	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	.31	ND	ND	ND	ND	ND
Naphthalene	mg/L	4.1 *	ND	.047	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	.31	ND	.028	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	.14	ND	.018	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	.35	ND	.10	ND	ND	ND
Phenanthrene	mg/L	ND	ND	.011	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbozole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		40	1	10	1	1	1
FIELD INFORMATION							
Date Collected		12.7.93	12.8.93	12.8.93	12.8.93	12.8.93	12.8.93
Water Level (casing top) ft.		12.77	31.09	10.00	6.30	6.78	15.52
Well Depth, ft.		99.11	121.11	98.64	28.83	16.80	20.73
pH		8.4	9.1	9.8	7.9	7.5	8.0
		7.9	7.8	9.7	7.7	7.6	7.3
		7.8			7.6	7.4	7.4
Specific Conductance		700	390	300	750	1380	350
		720	410	310	770	1480	380
		700			760	1460	320

ND = NONE DETECTED

* COMPOUND TAKEN FROM A 1:100 DILUTION

Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples					
Keystone ID		73-019	73-020	73-021	73-022	73-023	73-024
Sampling Point		X	X	X	X	X	X
Date Sampled		8-DEC-1993	8-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993
Customer ID		GM-12S	GM-13S	GM-14S	GM-9D	GM-9S	MW-10C
Parameters	Units						
BTEX 8020							
Benzene	mg/L	ND	ND	ND	.011	ND	.0024
Toluene	mg/L	ND	ND	ND	ND	ND	ND
Ethyl Benzene	mg/L	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	NR	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	NR	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	NR	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	NR	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	NR	ND	ND	ND
Naphthalene	mg/L	ND	ND	.57 *	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	NR	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	.066	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	NR	ND	ND	ND
Acenaphthene	mg/L	ND	ND	.078	ND	ND	ND
Fluorene	mg/L	ND	ND	.027	ND	ND	ND
Pentachlorophenol	mg/L	ND	.060	NR	ND	ND	ND
Phenanthrene	mg/L	ND	ND	.013	ND	ND	ND
Anthracene	mg/L	ND	ND	NR	ND	ND	ND
Fluoranthene	mg/L	ND	ND	NR	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	NR	ND	ND	ND
Chrysene	mg/L	ND	ND	NR	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	NR	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	NR	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	NR	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	NR	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	NR	ND	ND	ND
Carbazole	mg/L	ND	ND	NR	ND	ND	ND
Aniline	mg/L	ND	ND	NR	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	NR	ND	ND	ND
Dilution Factor:		1	1	1	1	1	1
FIELD INFORMATION							
Date Collected		12.8.93	12.8.93	12.08.93	12.07.93	12.07.93	12.07.93
Water Level (casing top) ft.		11.55	12.27	7.01	15.31	15.87	37.49
Well Depth, ft.		16.13	18.08	21.22	38.84	22.47	130.24
pH		6.4	7.6	8.2	7.1	7.5	8.0
		6.3	7.1	7.9	7.2	7.4	8.2
		6.3	6.7	7.8	7.1	7.8	
Specific Conductance		650	140	450	540	210	1130
		650	140	480	520	210	1100
		710	130	470	510	210	

* = COMPOUND AMOUNT TAKEN FROM A 1:20 DILUTION. ND = NONE DETECTED NR = NOT REQUIRED

Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples					
Keystone ID		73-025	73-026	73-027	73-028	73-029	73-030
Sampling Point		X	X	X	X	X	X
Date Sampled		7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993
Customer ID		GM-10D	GM-10S	GM-11RD	GM-11RM	GM-11S	GM-17S
Parameters	Units						
BTEX 8020							
Benzene	mg/L	ND	ND	ND	ND	ND	ND
Toluene	mg/L	ND	ND	ND	ND	ND	ND
Ethyl Benzene	mg/L	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		1	1	1	1	1	1
FIELD INFORMATION							
Date Collected		12.7.93	12.7.93	12.7.93	12.7.93	12.7.93	12.07.93
Water Level (casing top) ft.		29.46	27.41	33.50	25.46	25.09	20.73
Well Depth, ft.		58.33	42.92	99.39	65.46	38.74	25.59
pH		8.0	7.9	7.3	8.4	8.1	8.1
		8.0	7.4	8.0	8.0	7.6	7.8
			7.4	8.2			7.6
Specific Conductance		1210	650	370	300	730	110
		650	1960	310	800	820	130
			72000	300			130

ND = NONE DETECTED

JAN 18 1994

Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: HS3-12.73

		Samples				
Keystone ID		73-031	73-032	73-033	73-034	73-035
Sampling Point		X	X	X	X	X
Date Sampled		2-DEC-1993	8-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993
Customer ID		TRIP BLANK	FIELD BLANK	FIELD BLANK	BLANK MS	BLANK MSD
Parameters	Units					
BTEX 8020						
Benzene	mg/L	ND	ND	ND	41 *	42 *
Toluene	mg/L	ND	ND	ND	40 *	47 *
Ethyl Benzene	mg/L	ND	ND	ND	40 *	47 *
2-Butanone (MEK)	mg/L	ND	ND	ND	110 *	140 *
Total Xylenes	mg/L	ND	ND	ND	ND *	ND *
GC8010						
Methylene Chloride	mg/L	ND	ND	ND	46 *	39 *
SV TCL						
Phenol	mg/L	NR	ND	ND	61 *	88 *
2-Chlorophenol	mg/L	NR	ND	ND	70 *	87 *
2-Methylphenol	mg/L	NR	ND	ND	30 *	31 *
3+4-Methylphenol	mg/L	NR	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	NR	ND	ND	ND	ND
Naphthalene	mg/L	NR	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	NR	ND	ND	72 *	81 *
2-Methylnaphthalene	mg/L	NR	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	NR	ND	ND	ND	ND
Acenaphthene	mg/L	NR	ND	ND	38 *	45 *
Fluorene	mg/L	NR	ND	ND	ND	ND
Pentachlorophenol	mg/L	NR	ND	ND	66 *	70 *
Phenanthrene	mg/L	NR	ND	ND	ND	ND
Anthracene	mg/L	NR	ND	ND	ND	ND
Fluoranthene	mg/L	NR	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	NR	ND	ND	ND	ND
Chrysene	mg/L	NR	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	NR	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	NR	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	NR	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	NR	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	NR	ND	ND	ND	ND
Carbazole	mg/L	NR	ND	ND	ND	ND
Aniline	mg/L	NR	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	NR	ND	ND	ND	ND
Dilution Factor		—	1	1	1	1

FIELD INFORMATION
Date Collected
Water Level (casing top) ft.
Well Depth, ft.
pH

Specific Conductance

NR = NOT REQUIRED * = PERCENT RECOVERY
ND = NONE DETECTED

RECEIVED JAN 18 1994 Environmental

23-FEB-1994

RE-EXTRACTIONS

Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples					
Keystone ID		73-05	73-11	73-22	73-23	73-25	73-01
Sampling Point		X	X	X	X	X	X
Date Sampled		7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	6-JAN-1994
Customer ID		EIE-4 (REX)	MW-3C (REX)	GM-9D (REX)	GM-9S (REX)	GM-10D (REX)	LAB BLK
Parameters	Units						
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		1	1	1	1	1	1
FIELD INFORMATION							
Date Collected		12.7.93	12.7.93	12.7.93	12.7.93	12.7.93	
Water Level (casing top) ft.		6.34	11.73	15.31	15.87	29.46	
Well Depth, ft.		31.12	49.11	38.84	22.47	58.33	
pH		8.1	7.4	7.1	7.5	8.0	
		7.8	7.4	7.2	7.4	8.0	
		7.8	7.2	7.1	7.8		
Specific Conductance		560	300	540	210	1210	
		560	330	520	210	650	
		550	350	510	210		

ND = NONE DETECTED

RECEIVED
MAR 0 3 1994
ENVIRONMENTAL ...

LABORATORY QA/QC DATA

RECEIVED
JAN 18 1994
ENVIRONMENTAL

KEYSTONE LAB - HOUSTON

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY SUMMARY

Site :
Level :

Keystone Work Order : H93-12.73
Client Sample Name : BLANK SPIKE

Section	Compound	Conc. Spike added (ug/L)	Sample Result	Conc. MS	% Rec.	Conc. MSD	% Rec.	RPD	QC RPD	Limits Rec-Rec
B/N	1,2,4-Trichlorobenzene.....	50	0	28	56	39	78	33*	28	39-98
	Acenapthene.....	50	0	38	76	45	90	17	31	46-118
	2,4-Dinitrotoluene.....	50	0	46	92	49	98*	6	38	24-96
	Pyrene.....	50	0	50	100	59	118	17	31	26-127
	N-Nitroso-Di-n-Propylamine.	50	0	30	60	31	62	3	38	41-116
	1,4-Dichlorobenzene.....	50	0	28	56	36	72	25	28	36-97
ACID	Pentachlorophenol.....	75	0	66	88	70	93	6	50	9-103
	Phenol.....	75	0	61	81	88	117*	36	42	12-89
	2-Chlorophenol.....	75	0	70	93	87	116	22	40	27-123
	4-Chloro-3-Methylphenol....	75	0	72	96	81	108*	12	42	23-97
	4-Nitrophenol.....	75	0	330	440*	410	547*	22	50	10-80

Relative Percent Difference

B/N's : 1 out of 6 were outside QC limits
ACIDs : 0 out of 5 were outside QC limits

Percent Spike Recovery

B/N's : 1 out of 12 were outside QC limits
ACIDs : 4 out of 10 were outside QC limits

* - Asterisked values are outside QC limits

RECEIVED
JAN 18 1994
ENVIRONMENTAL

KEYSTONE LAB - HOUSTON

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY SUMMARY

Site :
Level :

Keystone Work Order : H93-12.73
Client Sample Name : BLK SPK/BLK SPK DUP

Fraction	Compound	Conc. Spike added (µg/L)	Sample Result	Conc. MS	% Rec.	Conc. MSD	% Rec.	RPD	QC RPD	Limits Rec-Rec
8020	Benzene.....	40	0	41	103	42	105	2	20	80-123
	Toluene.....	40	0	40	100	47	118	17	21	69-127
	Ethylbenzene.....	40	0	40	100	47	118	17	19	72-124
	Total Xylenes.....	120	0	110	92	140	117	24	26	70-130
8010	Methylene Chloride.....	40	0	46	115	39	98	16	25	46-143

Relative Percent Difference

BTEX's : 0 out of 4 were outside QC limits
8010's : 0 out of 1 were outside QC limits

Percent Spike Recovery

BTEX's : 0 out of 8 were outside QC limits
8010's : 0 out of 2 were outside QC limits

* - Asterisked values are outside QC limits

RECEIVED
JAN 18 1994
ENVIRONMENTAL

Chester LabNet ☒ Houston ☐ Monroeville ☐ Portland

CHAIN-OF-CUSTODY RECORD

Project Manager: Greg Kuntz
Project Name: SWP Gulf, NC
Purchase Order No.: ~~12-5310~~ 12-53101.00
Sampler(s): Greg Kuntz, James Leaphart

Company: Viro Group, Inc
Address: 1445 Pisgah Church Rd
Lexington, SC 29072
Phone # 803-957-6270 Fax 803-957-3845
Mail Report To:

Requested Turn Around Time: Standard

COMMENTS: Gulf Site Specific - see Sandra Watson 803-599-1082

Field Blank 12-7-93 3:00
Field Blank 12-8-93 10:30

1. HNO3 2. H2SO4 3. H3PO4 4. HCl 5. NaOH 6. Na2S2O3 7. None 8. Other(s)

SAMPLE IDENTITY:	Date Sampled	Time Sampled	Matrix: Soil	Water	Air	Other	Preservative	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Btex	Metals	TPH	Other Analyses				No. of Containers	REMARKS:
ETE-1 SWP Log# 11528	12-7-93	1:05		X			4	2	2											4	
ETE-2 11529		2:10																			
ETE-3 11530		3:30																			
ETE-4 11531		12:05																			
ETE-5 11532		12:30																			
GM-1S 11533		1:20																			
GM-2S 11534		2:50																			
GM-3S 11535		4:05																			
GM-16S 11536		4:25																			
MW-3C 11537		1:15																			
GM15RM 11544	12-8-93	9:35																			
MW-13C 11545		11:15																			
MW-18A 11546		8:50																			
GM-16RD 11547		10:30																			

Chester LabNet-Houston
Lab ID # H93 12 73
Iced yes
pH N/A
Temperature 0°
Date 12/9/93
Initials

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Gregory B. Kuntz	12-8-93	2:30	[illegible]	12-8	1425
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
			Glenda Fowler	12/9/93	0930
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
☐ In Person
☒ Common Carrier Fed Ex (specify)
☐ Lab Courier
☐ Other

Airbill # 768973011 2 3
768973014 5

00011

Chester LabNet

☒ Houston ☐ Monroeville ☐ Portland

CHAIN-OF-CUSTODY RECORD

Project Manager: Greg Kuntz
Project Name: SWP-Gulf
Purchase Order No.: 12-53101.00
Sampler(s): Greg Kuntz, James Leaphart

Company: ViroGroup, Inc
Address: 1445 Pisgah Church Rd
Lexington, SC 29072
Phone #: 803-957-6270 Fax: 803-957-3845
Mail Report To: Greg Kuntz

Requested Turn Around Time: Standard

COMMENTS: Gulf Site Specific
Call Sandra Watson @
803-599-1082.

1. HNO3 2. H2SO4 3. H3PO4 4. HCl 5. NaOH 6. Na2SO3 7. None 8. Other(s)

SAMPLE IDENTITY:	Date Sampled	Time Sampled	Matrix: Soil	Water	Air	Other	Preservative	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Btex	Metals	TPH	Other Analyses				No. of Containers	REMARKS:
GM-7D SWP log# 11538	12-8-93	2:15		X			4	2	2											4	
GM-7S 11539	↓	1:25		↓			↓	↓	↓											↓	
GM-8S 11540		1:00																			
GM-12S 11541		2:30																			
GM-13S 11542		1:40																			
GM-14S 11543	↓	3:15		↓			↓	↓	↓											↓	

Chester LabNet-Houston
Lab ID #: 1493-1273
Iced: yes
pH: N/A
Temperature: 0°
Date: 12/9/93
Initial: [illegible]

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Gregory B. Kuntz	12/8/93	10:39	Tomara L Harder	12/8/93	6:19
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
			Glinda Forney	12/9/93	0930
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
- ☐ In Person
- ☐ Common Carrier: FedEx (specify)
- ☐ Lab Courier
- ☐ Other

Airbill #: #7689730112 5
#7689730145

00012

Chester LabNet ☒ Houston ☐ Monroeville ☐ Portland

CHAIN-OF-CUSTODY RECORD

Project Manager: Greg Kuntz
Project Name: SWP-Gulf, NC
Purchase Order No.: 12-53101.00
Sampler(s): Greg Kuntz, Jamie Leaphart

Company: ViroGroup, Inc.
Address: 1445 Pisgah Church Rd
Lexington, SC 29072
Phone #: 803-957-6270 Fax: 803-957-3845
Mail Report To:

Requested Turn Around Time: Standard

COMMENTS: Gulf Site Specific
Call Sandra Watson at SWP 803-599-1082

1. HNO_3 2. H_2SO_4 3. H_3PO_4 4. HCl 5. NaOH 6. Na_2SO_3 7. None 8. Other(s)

SAMPLE IDENTITY:	Date Sampled	Time Sampled	Matrix: Soil	Water	Air	Other	Preservative	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Blex	Metals	TPH	Other Analyses	No. of Containers	REMARKS:
GM-9D SWP log# 11519	12/7/93	11:20		X			4	2	2									
GM-9S 11520	↓	11:05		↓			↓	↓	↓									
MW-10C 11521	↓	9:45		↓			↓	↓	↓									
GM-10D 11522	↓	10:00		↓			↓	↓	↓									
GM-10S 11523	↓	10:10		↓			↓	↓	↓									
GM-11RD 11524	↓	9:15		↓			↓	↓	↓									
GM-11RM 11525	↓	9:00		↓			↓	↓	↓									
GM-11S 11526	↓	9:25		↓			↓	↓	↓									
GM-17S 11527	↓	10:35		↓			↓	↓	↓									
Trip Blank								↓										
Field Blank	12/8/93	1030		X				2	2									Not on C-O-C SMJ 12-9-93
Field Blank	12/7/93	3:00		X				2	2									

Chester LabNet-Houston
Lab ID #: H93-12-73
Iced: yes
pH: N/A
Temperature: 0°
Date: 12/9/93
Initials: [illegible]

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Gregory B. Kuntz	12/8/93	2:30	[illegible]	12-8	1425
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
			Glinda Forlan	12/9/93	0930
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
☐ In Person
☒ Common Carrier: Fed Ex (specify)
☐ Lab Courier
☐ Other

Airbill #: #7689730112 3
#7689730145

00013

Chester LabNet

☒ Houston ☐ Monroeville ☐ Portland

CHAIN-OF-CUSTODY RECORD

Project Manager: Carla Kurtz
Project Name: [illegible]
Purchase Order No.: 12 5361.00
Sampler(s): [illegible]

Company: [illegible] Inc
Address: [illegible]
[illegible], SC [illegible]
Phone #: [illegible] Fax: [illegible]
Mail Report To: Carla Kurtz

Requested Turn Around Time: Standard

COMMENTS: Gulf Site Specific
Call [illegible] [illegible]
[illegible]

Matrix: 1. HNO3 2. H2SO4 3. H3PO4 4. HCl 5. NaOH 6. Na2SO3 7. None 8. Other(s)

SAMPLE IDENTITY:	Date Sampled	Time Sampled	Soil	Water	Air	Other	Preservative	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Btex	Metals	TPH	Other Analyses				No. of Containers	REMARKS:
GM-7D Surface 11535	[illegible]	1:15		X			4	2	2											4	
GM-7S 11539		1:25																			
GM-8S 11540		[illegible]																			
GM-12S 11541		2:30																			
GM-13S 11542		1:40																			
GM-14S 11543		3:15																			

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
[illegible]	[illegible]	[illegible]	[illegible]	12/8/93	[illegible]
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
- ☐ In Person
- ☐ Common Carrier: FedEx (specify)
- ☐ Lab Courier
- ☐ Other

Airbill #

Chester LabNet ☐ Houston ☐ Monroeville ☐ Portland

CHAIN-OF-CUSTODY RECORD

Page ____ of ____

Project Manager [illegible]
Project Name [illegible]
Purchase Order No. 12-[illegible]
Sampler(s) Greg Kuntz

Company Vironmental Inc.
Address 1445 [illegible] Blvd
Kennelon SC 29672
Phone # 703-[illegible] Fax [illegible]
Mail Report To: Greg Kuntz

Requested Turn Around Time: Rush

COMMENTS: Rush turn around on #11548. If detection, call Bill Arnold at [illegible] 803 579-1635 and run #11549 at standard turn around for TCLP list.

1. HNO3 5. NaOH
2. H2SO4 6. Na2SO3
3. H3PO4 7. None
4. HCl 8. Other(s)

SAMPLE IDENTITY:	Date Sampled	Time Sampled	Matrix: Soil	Matrix: Water	Matrix: Air	Matrix: Other	Preservative	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Btex	Metals	TPH	TCLP	Other Analyses				No. of Containers	REMARKS:
Sample #11548 [illegible]	[illegible]	3:15		X				2	2												4	[illegible]
Sample #11549	[illegible]	3:15		X												4					4	TCLP list:
																						Benzene
																						[illegible]
																						[illegible]
																						[illegible]
																						Hexachlorobenzene
																						Lead
																						Mercury
																						[illegible] phenol
																						Pyridine
																						2,4,5 trichlorophenol
																						2,4,6 trichlorophenol

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Gregory B. Kuntz	[illegible]	6:20	Pamela J. Handel	[illegible]	6:20
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
- ☐ In Person
- ☐ Common Carrier [illegible] (specify)
- ☐ Lab Courier
- ☐ Other

Airbill #

ViroGroup
Air•Water•Soil
TECHNOLOGY

ETE Division
PO Box 1867
1445 Pisgah Church Rd.
Lexington, SC 29072
(803) 957-6270

AQUEOUS SAMPLE COLLECTION SUMMARY SHEET

SITE NAME/CITY/COUNTY: SWP – Gulf, N.C. PROJECT NUMBER: 12-53101.00

SAMPLED BY: Kuntz/Leaphart WEATHER: Clear 40 – 60 SAMPLE TYPE: Groundwater

SAMPLING METHOD: Bailer SPLITS/SPIKES/DUPLICATES: None

SAMPLING CONTAINERS: (NUMBER/SIZE/TYPE) 2/40ml/g;2/1L/AG REASON FOR SAMPLING: 2nd Semi-annual 1993

PARAMETERS REQUESTED: VOC & SV LAB PERFORMING ANALYSIS: Chester Lab Net RESPIRATORY PROTECTION: None

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(GAL) VOLUME PURGED	(C) TEMP.	PPM COND.	pH	REMARKS
ETE-1	12-7-93	13:05	31.73	8.81	Bailer	V.T. Brown	3.73	18	450	6.6	Dry 8 Gallons
							3.74	17	430	6.9	
							0.54				
ETE-2	12-7-93	14:10	36.74	18.93	"	T. Brown	2.90	18	200	7.8	No Tag
							2.90	18	200	7.4	
							2.90	18	200	7.1	
ETE-3	12-7-93	15:30	22.12	11.79	"	T. Black	1.68	19	250	7.7	
							1.68	19	260	7.2	
							1.68	18	250	7.4	
ETE-4	12-7-93	12:05	31.12	6.34	"	T. Brown	4.04	15	560	8.1	
							4.04	15	560	7.8	
							4.04	15	550	7.8	

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(GAL) VOLUME PURGED	(C) TEMP.	PPM COND.	pH	REMARKS
ETE-5	12-7-93	12:30	19.56	17.05	Bailer	T. Brown	0.40	18	620	7.6	
							0.41	18	580	7.6	
							0.41	18	560	7.5	
GM-1S	12-7-93	13:20	18.51	10.19	•	S.T. Pinkish Brown	1.36	18	1170	7.6	Dry 3 Gallons
							1.36	19	1140	7.6	
							0.28	18	1140	7.4	
GM-2S	12-7-93	14:50	24.27	19.34	•	T. Brown	0.80	18	600	6.9	Dry 1.5 Gallons
							0.70	18	590	7.1	
GM-3S	12-7-93	16:05	15.32	12.07	•	S.T. Brown	0.53	17	750	7.3	
							0.53	17	830	7.5	
							0.53	17	850	7.6	
GM-6S	12-7-93	16:25	16.51	9.18	•	S.T. Brown	1.19	17	470	9.7	
							1.19	17	430	9.2	
							1.19	17	450	8.5	
GM-7D	12-8-93	14:15	28.83	6.30	•	T. Brown	3.67	17	750	7.9	
							3.67	17	770	7.7	
							3.67	17	760	7.6	
GM-7S	12-8-93	13:25	16.80	6.78	•	T. Brown	1.63	17	1380	7.5	
							1.63	17	1480	7.6	
							1.63	17	1460	7.4	
GM-8S	12-8-93	13:00	20.73	15.52	•	T. Brown	0.85	17	350	8.0	
							0.85	17	380	7.3	
							0.85	17	320	7.4	

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(GAL) VOLUME PURGED	(C) TEMP.	PPM COND.	pH	REMARKS
GM-9D	12-7-93	11:20	38.84	15.31	•	Clear	3.84	17	540	7.1	Unidentified Odor
							3.84	17	520	7.2	
							3.84	17	510	7.1	
GM-9S	12-7-93	11:05	22.47	15.86	•	S.T. Brown	1.08	17	210	7.5	Dry 2.5 Gallons
							1.08	17	210	7.4	
							0.34	17	210	7.8	
GM-10D	12-7-93	10:00	58.33	29.46	•	S.T. Pinkish Brown	4.70	15	1210	8.0	Dry 7.5 Gallons
							2.80	15	650	8.0	
GM-10S	12-7-93	10:10	42.92	27.41	•	S.T. Pinkish Brown	2.53	13	650	7.9	Pad Cracked
							1.97	16	1960	7.4	Dry 4.5 Gallons
								16	>2000	7.4	
GM-11RD	12-7-93	9:15	99.39	33.50	Sub Pump 2.5 GPM	S.T. Light Pink	10.74	16	370	7.3	Slight Sulphur Odor
							10.74	16	310	8.0	
							10.74	16	300	8.2	
GM-11RM	12-7-93	9:00	65.46	25.46	Bailer	Clear	6.52	15	300	8.4	Dry 13 Gallons
							6.48	17	800	8.0	
GM-11S	12-7-93	9:25	38.74	25.09	•	S.T. Pinkish Brown	2.23	15	730	8.1	Dry 3.5 Gallons
							1.27	16	820	7.6	
GM-12S	12-8-93	14:30	16.13	11.55	•	T. Brown	0.75	16	650	6.4	
							0.75	15	650	6.3	
							0.75	15	710	6.3	

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(GAL) VOLUME PURGED	(C) TEMP.	PPM COND.	pH	REMARKS
GM-13D			33.21	12.68							Slight Odor
											No Sample Collected
											1.12' FP
GM-13S	12-8-93	13:40	18.08	12.27	Bailer	V.T. Brown	0.95	18	140	7.6	
							0.95	18	140	7.1	
							0.95	18	130	6.7	
GM-14S	12-8-93	15:15	21.22	7.01	"	T. Brown	2.32	17	450	8.2	Moderate Odor
							2.32	17	480	7.9	
							2.32	17	470	7.8	
GM-15RD			100.07	15.44							Strong Odor
											0.75' FP
											No Sample Collected
GM-15RM	12-8-93	9:35	55.48	14.74	Sub Pump 1.5 GPM	Clear	6.64	15	1100	7.5	Moderate Odor
							6.64	15	1050	7.3	Sheen
							6.64	15	1070	7.3	
GM-15S			21.53	12.99							0.42' FP
											No Sample Collected
GM-16D			38.59	9.96							0.01' FP
											No Sample Collected
GM-16RD	12-8-93	10:30	98.64	10:00	Sub Pump	S.T. Brown	14.45	15	300	9.8	Dry 18 Gallons
							3.55	16	310	9.7	Slight Odor

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(GAL) VOLUME PURGED	(C) TEMP.	PPM COND.	pH	REMARKS
GMS-16S			19.83	9.48							0.06' FP
											No Sample Collected
GMS-17S	12-7-93	10:35	25.59	20.37	Bailer	T. Brown	0.85	16	110	8.1	
							0.85	16	130	7.8	
							0.85	16	130	7.6	
MW-3C	12-7-93	13:15	49.11	11.73	Bailer	S.T. Brown	6.09	18	300	7.4	No Cap
							6.09	18	330	7.4	
							6.10	17	350	7.2	
MW-10C	12-7-93	9:45	130.24	37.49	Sub Pump	S.T. Pinkish Brown	15.11	15	1130	8.0	Dry 1 Volume
								15	1100	8.2	Sulphur Odor
MW-13C	12-7-93	11:15	99.11	12.77	Sub Pump 5 GPM	Clear	14.07	16	700	8.4	Slight Odor
							14.07	16	720	7.9	
							14.08	16	700	7.8	
MW-18A	12-8-93	8:50	121.11	31.09	Sub Pump	V.T. Pinkish Brown	14.67	13	390	9.1	Tag On Ground
								16	410	8.7	Dry 1 Volume
Field Blank	12-7-93	15:00									
Field Blank	12-8-93	10:30									

Chester LabNet ☒ Houston ☐ Monroeville ☐ Portland

CHAIN-OF-CUSTODY RECORD

Project Manager: Greg Kuntz
Project Name: SWP [illegible] NC
Purchase Order No.: 12-5[illegible]
Sampler(s): Greg Kuntz, Tim [illegible]

Company: Virocon Inc.
Address: 1445 Dixon Church Rd
Lexington SC 29072
Phone #: 803 [illegible] Fax: 803-707-5515
Mail Report To:

Requested Turn Around Time: Standard

912 354-7858
31404

COMMENTS: Gulf Site Specific
Collection center
at SWP
803-997-1012

Mark: 1. HNO_3 2. H_2SO_4 3. H_3PO_4 4. HCl 5. NaOH 6. Na_2SO_3 7. None 8. Other(s)

SAMPLE IDENTITY:	Date Sampled	Time Sampled	Soil	Water	Air	Other	Preservative	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Btex	Metals	TPH	Other Analyses				No. of Containers	REMARKS:
GM-9D SWP Log# 11519	12/7/97	11:20		X			4	2	2												
GM-9S 11520	↓	11:05		↓			↓	↓	↓												
MW-10C 11521	↓	9:45		↓			↓	↓	↓												
GM-10D 11522	↓	10:00		↓			↓	↓	↓												
GM-10S 11523	↓	10:10		↓			↓	↓	↓												
GM-11RD 11524	↓	9:15		↓			↓	↓	↓												
GM-11RM 11525	↓	9:00		↓			↓	↓	↓												
GM-11S 11526	↓	9:25		↓			↓	↓	↓												
GM-17S 11527	↓	10:35		↓			↓	↓	↓												
Trip Blank								↓													

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Jeremy B. Kuntz	12/8/97	[illegible]	[illegible]	[illegible]	[illegible]
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
- ☐ In Person
- ☒ Common Carrier: Fedex (specify)
- ☐ Lab Courier
- ☐ Other

Airbill #

Chester LabNet ☒ Houston ☐ Monroeville ☐ Portland

CHAIN-OF-CUSTODY RECORD

Project Manager: Greg Kuntz
Project Name: SWP - Gulf MC
Purchase Order No.: 12-5210.00
Sampler(s): Greg Kuntz, James Leonhart

Company: Viro Group, Inc
Address: 1445 Pisgah Church Rd
Lexington, SC 29072
Phone #: 803-957-6270 Fax: 803-957-3845
Mail Report To:

Requested Turn Around Time: Standard

COMMENTS: Gulf Site Specific [illegible] 803-[illegible]-1042

Field Blank 12-7-93 3:00
Field Blank 12-8-93 10:35

Matrix: 1. HNO3 2. H2SO4 3. H3PO4 4. HCl 5. NaOH 6. Na2S2O3 7. None 8. Other(s)

SAMPLE IDENTITY:	Date Sampled	Time Sampled	Soil	Water	Air	Other	Preservative	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Btex	Metals	TPH	Other Analyses				No. of Containers	REMARKS:
ETE-1 Surplate 11528	12-7-93	1:05		X			4	2	2											4	
ETE-2 11529		2:10																			
ETE-3 11530		3:30																			
ETE-4 11531		12:05																			
ETE-5 11532		12:30																			
GM-1S 11533		1:20																			
GM-2S 11534		2:50																			
GM-3S 11535		4:05																			
GM-10S 11536		4:25																			
MW-3C 11537		1:15																			
GM15RM 11544	12-8-93	9:35																			
MW-13C 11545		11:15																			
MW-15A 11546		5:50																			
GM-16RD 11547		10:30																			

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Greg B. Kuntz	12-8-93	[illegible]	[illegible]	12-8	[illegible]
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
- ☐ In Person
- ☒ Common Carrier: Fed Ex (specify)
- ☐ Lab Courier
- ☐ Other

Airbill #

RECEIVED
JAN 0 5 1993
ENVIRONMENTAL AFFAIRS

MAS
G. Kurtz

Report
Prepared
for

S O U T H E R N W O O D P I E D M O N T C O M P A N Y

P.O. BOX 5447
SPARTANBURG, S.C. 29304

Attention : SANDRA B.WATSON

by

Keystone Lab - Houston
A Division of CHESTER LabNet
8300 Westpark Drive
Houston, Texas 77063
(713) 266-6800

CERTIFIED BY : Bobby Barrientos

Bobby Barrientos
Project Manager

PROJECT ID : SOUTHERN PIEDMONT, GULF NC
P.O. NUMBER : 531-06-001

WORK ORDER : H92-12.36
H92-12.52
DATE RECEIVED : 4-DEC-1992
5-DEC-1992

SAMPLE & ANALYSIS SUMMARY

Keystone Sample ID	Client's Sample Name	Date Collected	Sample Matrix
H92-12.36-001	LAB BLANK	3-DEC-1992	WATER
H92-12.36-002	ETE-2	3-DEC-1992	WATER
H92-12.36-003	ETE-3	3-DEC-1992	WATER
H92-12.36-004	ETE-5	3-DEC-1992	WATER
H92-12.36-005	GM-2S	3-DEC-1992	WATER
H92-12.36-006	GM-3S	3-DEC-1992	WATER
H92-12.36-007	GM-6S	3-DEC-1992	WATER
H92-12.36-008	GM-7D	3-DEC-1992	WATER
H92-12.36-009	GM-7S	3-DEC-1992	WATER
H92-12.36-010	GM-9D	3-DEC-1992	WATER
H92-12.36-011	GM-9S	3-DEC-1992	WATER
H92-12.36-012	GM-10S	3-DEC-1992	WATER
H92-12.36-013	GM-12S	3-DEC-1992	WATER
H92-12.36-014	GM-13S	3-DEC-1992	WATER
H92-12.36-015	GM-14S	3-DEC-1992	WATER
H92-12.36-016	GM-16D	3-DEC-1992	WATER
H92-12.36-017	GM-16S	3-DEC-1992	WATER
H92-12.36-018	GM-17S	3-DEC-1992	WATER
H92-12.36-019	FIELD BLANK	3-DEC-1992	WATER
H92-12.36-020	GM-10D	3-DEC-1992	WATER
H92-12.36-021	TRIP BLANK	3-DEC-1992	WATER

Analysis ID	Parameter Description
BTEX_8020	BTEX by Method 8020
EXT_8270	Extraction by EPA 8270
GC8010	Chlorinated Volatiles
SV_TCL	Semivolatiles (Target Compound List)

RECEIVED
JAN 05 1993
ENVIRONMENTAL AFFAIRS

SAMPLE & ANALYSIS SUMMARY

Keystone Sample ID	Client's Sample Name	Date Collected	Sample Matrix
H92-12.52-001	LAB BLANK	4-DEC-1992	WATER
H92-12.52-002	ETE-1	4-DEC-1992	WATER
H92-12.52-003	ETE-4	4-DEC-1992	WATER
H92-12.52-004	GM-1S	4-DEC-1992	WATER
H92-12.52-005	GM-8S	4-DEC-1992	WATER
H92-12.52-006	GM-11S	4-DEC-1992	WATER
H92-12.52-007	GM-11RM	4-DEC-1992	WATER
H92-12.52-008	GM-11RD	4-DEC-1992	WATER
H92-12.52-009	MW-13C	4-DEC-1992	WATER
H92-12.52-010	GM-15RM	4-DEC-1992	WATER
H92-12.52-011	GM-16RD	4-DEC-1992	WATER
H92-12.52-012	FIELD BLANK	5-DEC-1992	WATER

Analysis ID	Parameter Description
BTEX_8020	BTEX by Method 8020
EXT_8270	Extraction by EPA 8270
GC8010	Chlorinated Volatiles
SV_TCL	Semivolatiles (Target Compound List)

RECEIVED
JAN 05 1993
ENVIRONMENTAL AFFAIRS

CASE NARRATIVE

CONTRACTOR: CHESTER LABNET

DOC. CONT NO:

CLIENT.: SOUTHERN PIEDMONT, GULF

PROJ NO.: 531-06-001

LAB NO.:H92-12.36/H92-12.52

SITE: SWP-GULF

I. RECEIPT

A. DATE: December 4 AND 5, 1991.

B. NO. OF SAMPLES: One per parameter (3 parameters)

C. CLIENT SAMPLE ID's: DEC.4TH
ETE-2, ETE-3, ETE-5, GM-2S, GM-3S, GM-6S, GM-7D, GM-7S
GM-9D, GM-9S, GM-10S, GM-12S, GM-13S, GM-14S, GM-16D,
GM-16S, GM-17S, FIELD BLANK, GM-10D, TRIP BLANK.

CLIENT SAMPLE ID'S: DEC.5TH
ETE-1,ETE-4,GM-1S,GM-8S,GM-11S,GM-11RM,GM-11RD,MW-13C,
GM-15RM,GM-16RD, FIELD BLANK.

D. SAMPLE TYPE: Water (Groundwater)

E. ANALYSIS REQUESTED: Semivolatiles-Method 8270; and Volatiles-Method 8020/8010 per contracted Scope of Work.

F. SHIPPING PROBLEMS: None

G. DOCUMENTATION PROBLEMS: None

H. QC DISTRIBUTION (MS AND MSD)

LEVEL	MATRIX	All Parameters
LOW	WATER	GM-10S (METHOD 8020/8010)
LOW	WATER	BATCH (METHOD 8270)

II. PREPARATION

A. ANALYTICAL LEVELS: Not Applicable.

B. EXTRACTION PROBLEMS: None.

III. ANALYSIS

A. ANALYSIS PROBLEMS: Samples ETE-3, GM-13S and GM-14S required re_extraction due to surrogates outside Method QC limits.

B. SURROGATE PROBLEMS: A few surrogate recoveries were outside required and advisory QC limits for Semivolatiles (8270). Trifluorotoluene and Bromochloromethane surrogates exhibited values outside QC limits for Volatiles (8020/8010).

IV. COMMENTS

Robert R. Barrientos

Robert R. Barrientos - Project Manager

January 04, 1991

Date

Summary of Analytical Results

Date received: 4-DEC-1992 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H92-12.36

		Samples					
Keystone ID		36-001	36-002	36-003	36-004	36-005	36-006
Station Loc.		QA QC	10727	10728	10729	10730	10731
Date Sampled		3-DEC-1992	3-DEC-1992	3-DEC-1992	3-DEC-1992	3-DEC-1992	3-DEC-1992
Customer ID		LAB BLANK	EIE-2	EIE-3	EIE-5	GM-2S	GM-3S
Parameters	Units						
BTEX 8020							
Benzene	mg/L	ND	ND	ND	ND	ND	ND
Toluene	mg/L	ND	ND	ND	ND	ND	ND
Ethyl Benzene	mg/L	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		1	1	1	1	1	1
FIELD INFORMATION							
Date Collected			12.3.92	12.3.92	12.3.92	12.3.92	12.3.92
Water Level (casing top) ft.			19.15	11.80	16.92	19.98	12.16
Well Depth, ft.			36.52	21.90	19.36	24.06	15.12
pH			6.9	6.8	7.6	6.0	6.3
			6.9	6.5	6.8	6.1	6.5
			6.2	6.5		6.3	
Specific Conductance			370	420	320	650	240
			340	350	840	660	220
			320	350		660	

ND = NONE DETECTED

Summary of Analytical Results

Date received: 4-DEC-1992 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: HS2-12.36

		Samples					
Keystone ID		36-007	36-008	36-009	36-010	36-011	36-012
Station Loc.		10732	10733	10734	10735	10736	107838
Date Sampled		3-DEC-1992	3-DEC-1992	3-DEC-1992	3-DEC-1992	3-DEC-1992	3-DEC-1992
Customer ID		GM-6S	GM-7D	GM-7S	GM-9D	GM-9S	GM-10S
Parameters	Units						
BTEX 8020							
Benzene	mg/L	ND	ND	ND	ND	ND	ND
Toluene	mg/L	ND	ND	ND	ND	ND	ND
Ethyl Benzene	mg/L	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		1	1	1	1	1	1
FIELD INFORMATION							
Date Collected		12.4.92	12.3.92	12.3.92	12.3.92	12.3.92	12.3.92
Water Level (casing top) ft.		9.37	4.61	4.61	14.96	14.77	26.46
Well Depth, ft.		16.38	28.57	16.63	38.55	22.26	42.95
pH		8.9	7.6	7.4	7.0	7.6	7.0
		8.9	7.6	7.5	7.5	7.0	7.0
		8.1		7.5	7.0	6.6	7.0
Specific Conductance		870	270	350	800	420	225
		760	220	340	840	360	225
		750		360	850	350	220

ND = NONE DETECTED

Summary of Analytical Results

Date received: 4-DEC-1992 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H92-12.36

		Samples					
Keystone ID		36-013	36-014	36-015	36-016	36-017	36-018
Station Loc.		10739	10740	10741	10742	10743	10744
Date Sampled		3-DEC-1992	3-DEC-1992	3-DEC-1992	3-DEC-1992	3-DEC-1992	3-DEC-1992
Customer ID		GM-12S	GM-13S	GM-14S	GM-16D	GM-16S	GM-17S
Parameters	Units						
BTEX 8020							
Benzene	mg/L	ND	ND	ND	0.019	0.160	0.0034
Toluene	mg/L	ND	ND	ND	0.024	0.069	ND
Ethyl Benzene	mg/L	ND	ND	ND	0.012	0.11	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	0.046	0.380	0.004
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	0.055	3.7	4.8	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	0.027	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	11.0	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	4.4	ND
Dilution Factor		1	1	1	100	100	1
FIELD INFORMATION							
Date Collected		12.3.92	12.3.92	12.3.92	12.3.92	12.3.92	12.3.92
Water Level (casing top) ft.		6.37	11.78	4.67	9.50	8.72	20.05
Well Depth, ft.		16.06	19.96	21.25	38.23	20.10	25.40
pH		7.0	7.0	7.1	6.8	6.8	7.5
		7.1	6.9	7.2	6.8	6.8	6.1
		7.1	6.5	7.2	6.8	6.8	6.0
Specific Conductance		650	175	900	920	1790	150
		510	170	800	990	1830	170
		500	170	800	990	1840	160

ND = NONE DETECTED

Summary of Analytical Results

Date received: 4-DEC-1992 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H92-12.36

		Samples		
Keystone ID		36-019	36-020	36-021
Station Loc.		QA/QC	10737	QC/QC
Date Sampled		3-DEC-1992	3-DEC-1992	3-DEC-1992
Customer ID		FIELD BLANK	GM-10D	TRIP BLANK
Parameters	Units			
BTEX 8020				
Benzene	mg/L	ND	ND	ND
Toluene	mg/L	ND	ND	ND
Ethyl Benzene	mg/L	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND
GC8010				
Methylene Chloride	mg/L	ND	ND	ND
SV TCL				
Phenol	mg/L	ND	ND	NR
2-Chlorophenol	mg/L	ND	ND	NR
2-Methylphenol	mg/L	ND	ND	NR
3+4-Methylphenol	mg/L	ND	ND	NR
2,4-Dimethylphenol	mg/L	ND	ND	NR
Naphthalene	mg/L	ND	ND	NR
p-chloro-m-cresol	mg/L	ND	ND	NR
2-Methylnaphthalene	mg/L	ND	ND	NR
2,4,6-Trichlorophenol	mg/L	ND	ND	NR
Acenaphthene	mg/L	ND	ND	NR
Fluorene	mg/L	ND	ND	NR
Pentachlorophenol	mg/L	ND	ND	NR
Phenanthrene	mg/L	ND	ND	NR
Anthracene	mg/L	ND	ND	NR
Fluoranthene	mg/L	ND	ND	NR
Benzo(a)anthracene	mg/L	ND	ND	NR
Chrysene	mg/L	ND	ND	NR
Benzo(b)fluoranthene	mg/L	ND	ND	NR
Benzo(k)fluoranthene	mg/L	ND	ND	NR
Benzo(a)pyrene	mg/L	ND	ND	NR
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	NR
Dibenzo(a,h)anthracene	mg/L	ND	ND	NR
Carbazole	mg/L	ND	ND	NR
Aniline	mg/L	ND	ND	NR
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	NR
Dilution Factor:		1	1	NR
FIELD INFORMATION				
Date Collected			12.3.92	
Water Level (casing top) ft.			29.07	
Well Depth, ft.			57.53	
pH			7.5	
			7.6	
			7.6	
Specific Conductance			1000	
			960	
			950	

* = COMPOUND AMOUNT TAKEN FROM A 1:5 DILUTION.
** = COMPOUND AMOUNT TAKEN FROM A 1:4 DILUTION.

ND = NONE DETECTED
NR = NOT REQUIRED

Summary of Analytical Results

Date received: 5-DEC-1992 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H92-12.52

		Samples					
Keystone ID		52-001	52-002	52-003	52-004	52-005	52-006
Station Loc.		QA QC	10745	10754	10755	10756	10757
Date Sampled		4-DEC-1992	4-DEC-1992	4-DEC-1992	4-DEC-1992	4-DEC-1992	4-DEC-1992
Customer ID		LAB BLANK	EIE-1	EIE-4	GM-1S	GM-8S	GM-11S
Parameters	Units						
BTEX 8020							
Benzene	mg/L	ND	ND	ND	0.010	ND	ND
Toluene	mg/L	ND	ND	ND	ND	ND	ND
Ethyl Benzene	mg/L	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	0.006	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		1	1	1	1	1	1
FIELD INFORMATION							
Date Collected			12.4.92	12.4.92	12.3.92	12.3.92	12.4.92
Water Level (casing top) ft.			8.16	5.09	9.41	13.86	20.38
Well Depth, ft.			31.49	31.11	18.31	20.54	38.20
pH			7.5	8.1	7.6	7.9	7.0
			7.6	7.6	7.1	7.6	7.0
				7.6	7.2	7.0	7.0
Specific Conductance			860	950	880	350	1100
			820	970	750	300	1190
				970	640	320	1190

ND = NONE DETECTED

Summary of Analytical Results

Date received: 5-DEC-1992 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H92-12.52

		Samples					
Keystone ID		52-007	52-008	52-009	52-010	52-011	52-012
Station Loc.		10758	10759	10760	10761	10762	QA/QC
Date Sampled		4-DEC-1992	4-DEC-1992	4-DEC-1992	4-DEC-1992	4-DEC-1992	5-DEC-1992
Customer ID		GM-11RM	GM-11RD	MW-13C	GM-15RM	GM-16RD	FIELD BLANK
Parameters	Units						
BTEX 8020							
Benzene	mg/L	ND	ND	0.071	0.014	0.022	ND
Toluene	mg/L	ND	ND	0.10	0.004	ND	ND
Ethyl Benzene	mg/L	ND	ND	0.041	0.006	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	0.007	ND	ND
Total Xylenes	mg/L	ND	ND	0.080	0.012	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	NR
SV TCL							
Phenol	mg/L	ND	ND	0.059	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	0.11	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	0.20	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	0.25	ND	ND	ND
Naphthalene	mg/L	ND	ND	1.5*	0.20*	0.06	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	0.063	0.035	0.026	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	0.039	0.024	ND
Fluorene	mg/L	ND	ND	1.8*	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	0.160	ND
Phenanthrene	mg/L	ND	ND	ND	0.028	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	0.560 *	ND	1.200**	ND
Dilution Factor:		1	2	5	2	2	1
FIELD INFORMATION							
Date Collected		12.4.92	12.4.92	12.3.92	12.4.92	12.3.92	
Water Level (casing top) ft.		22.75	33.09	12.70	13.17	9.35	
Well Depth, ft.		65.49	48.69	98.81	55.95	98.28	
pH		7.0	7.0	8.3	7.0	9.5	
		7.0	7.0	7.9	7.0	9.1	
			7.0	7.9	7.0	9.1	
Specific Conductance		850	385	900	900	300	
		1100	400	900	1340	255	
			400	900	1340	290	

* = COMPOUND AMOUNT TAKEN FROM A 1:5 DILUTION.
** = COMPOUND AMOUNT TAKEN FROM A 1:4 DILUTION.

ND = NONE DETECTED
NR = NOT REQUIRED

Keystone Lab - Houston
Water Surrogate Recovery Summary
Keystone Work Order # H92-12.36

Client Sample Name	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	S7 2CP	S8 DCB
LAB BLANK	74	79	70	70	72	54	49	74
EIE-2	68	61	42	18	14 *	20	13	69
EIE-3	79	82	18 *	0 *	5 *	0 *	0 *	76
EIE-5	61	72	58	63	63	73	45	67
GM-2S	67	72	55	61	64	76	45	63
GM-2S RE	59	65	54	56	46	41	37	60
GM-3S	61	76	43	30	26	18	24 *	69
GM-6S	68	69	57	55	54	63	39	65
GM-7D	74	71	37	61	62	62	42	70
GM-7S	73	73	57	69	68	77	48	65
GM-9D	73	72	57	50	50	67	41	69
GM-9S	72	65	12 *	76	73	71	50	64
GM-10S	83	82	62	89	84	88	53	74
GM-12S	29 *	74	59	76	69	70	51	4 *
GM-13S	70	62	9 *	88	75	36	52	75
GM-14S	6 *	39 *	59	68	68	75	42	3 *
GM-16D	DL	DL	DL	DL	DL	DL	DL	DL
GM-16S	DL	DL	DL	DL	DL	DL	DL	DL
GM-16S DL	DL	DL	DL	DL	DL	DL	DL	DL
GM-17S	66	72	48	67	69	76	45	39
FIELD BLANK	35	30 *	83	78	86	87	52	16
FIELD BLANK RE	36	48	73	80	90	86	52	19
GM-10D	64	67	72	67	68	75	49	62

Surrogate Name	QC LIMITS	Surrogate Name	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	35-114	S2 (FBP) = 2-Fluorobiphenyl	43-116
S3 (TPH) = Terphenyl-d14	33-141	S4 (PHL) = Phenol-d5	10-110
S5 (2FP) = 2-Fluorphenol	21-110	S6 (TBP) = 2,4,6-Tribromphenol	10-123
S7 (2CP) = 2-Chlorophenol-d4	33-110**	S8 (DCB) = 1,2-Dichlorobenzene-d4	16-110**

15 out of 160 : outside of QC limits.

* = Values are outside of QC limits ** = Advisory QC Limits NA = Not Applicable
DL = DILUTION

Keystone Lab - Houston
Water Surrogate Recovery Summary
Keystone Work Order # H92-12.52

Client Sample Name	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	S7 2CP	S8 DCB
SBLK 1 (LLW)	61	59	49	73	62	50	46	52
SBLK 2 (LLW) REX	72	63	47	39	24	32	24	45
EIE-1	54	61	37	11	8 *	15	10 *	59
EIE-1 RE	56	65	46	10	8 *	17	9 *	53
EIE-1 REX	69	64	29 *	35	9 *	6 *	10 *	63
EIE-4	58	61	46	55	48	36	39	65
GM-8S	51	50	27 *	9 *	6 *	1 *	8 *	55
GM-11S	58	52	26 *	75	77	51	55	69
GM-11RM	62	58	62	18	1 *	35	3 *	56
GM-11RD	53	47	19 *	74	72	43	48	53
MW-13C	41	46	54	65	57	26	40	40
MW-13C DL	DL	DL	DL	DL	DL	DL	DL	DL
GM-15RM	52	48	18 *	41	32	18	25 *	53
GM-15RM DL	62	43	16 *	32	25	23	21 *	48
GM-16RD	49	51	44	60	55	42	37	48
GM-16RD DL	DL	DL	DL	DL	DL	DL	DL	DL
FIELD BLANK	62	65	65	71	67	53	47	63

Surrogate Name	QC LIMITS	Surrogate Name	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	35-114	S2 (FBP) = 2-Fluorobiphenyl	43-116
S3 (TPH) = Terphenyl-d14	33-141	S4 (PHL) = Phenol-d5	10-110
S5 (2FP) = 2-Fluorophenol	21-110	S6 (TBP) = 2,4,6-Tribromophenol	10-123
S7 (2CP) = 2-Chlorophenol-d4	33-110**	S8 (DCB) = 1,2-Dichlorobenzene-d4	16-110**

21 out of 120 : outside of QC limits.

* = Values are outside of QC limits ** = Advisory QC Limits NA = Not Applicable

30-DEC-1992

QC Report

Date received: 5-DEC-1992 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H92-12.36

Parameters	Detection Limit	Analyst Initial	EPA Method	Dates Analyzed
BTEX 8020				
Benzene	0.002 mg/L	LS	8020	12-5/6-92
Toluene	0.003 mg/L	LS	8020	12-5/6-92
Ethyl Benzene	0.003 mg/L	LS	8020	12-5/6-92
2-Butanone (MEK)	0.005 mg/L	LS	8020	12-5/6-92
Total Xylenes	0.003 mg/L	LS	8020	12-5/6-92
GC8010				
Methylene Chloride	0.002 mg/L	LS	8010	12-5/6-92
SV TCL				
Phenol	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
2-Chlorophenol	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
2-Methylphenol	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
3+4-Methylphenol	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
2,4-Dimethylphenol	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Naphthalene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
p-chloro-m-cresol	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
2-Methylnaphthalene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
2,4,6-Trichlorophenol	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Acenaphthene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Fluorene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Pentachlorophenol	0.050 mg/L	JDD	8270	12-7/11/18/21/22-92
Phenanthrene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Anthracene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Fluoranthene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Benzo(a)anthracene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Chrysene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Benzo(b)fluoranthene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Benzo(k)fluoranthene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Benzo(a)pyrene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Indeno(1,2,3-cd)pyrene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Dibenzo(a,h)anthracene	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Carbazole	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
Aniline	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92
2,3,4,6-Tetrachlorophenol	0.010 mg/L	JDD	8270	12-7/11/18/21/22-92

QC Report

Date received: 5-DEC-1992 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H92-12.52

Parameters	Detection Limit	Analyst Initial	EPA Method	Dates Analyzed
BTEX 8020				
Benzene	0.002 mg/L	LS	8020	12-7-92
Toluene	0.003 mg/L	LS	8020	12-7-92
Ethyl Benzene	0.003 mg/L	LS	8020	12-7-92
2-Butanone (MEK)	0.005 mg/L	LS	8020	12-7-92
Total Xylenes	0.003 mg/L	LS	8020	12-7-92
GC8010				
Methylene Chloride	0.002 mg/L	LS	8010	12-7/8-92
SV TCL				
Phenol	0.010 mg/l	SC	8270	12-7/14-92
2-Chlorophenol	0.010 mg/l	SC	8270	12-7/14-92
2-Methylphenol	0.010 mg/l	SC	8270	12-7/14-92
3+4-Methylphenol	0.010 mg/l	SC	8270	12-7/14-92
2,4-Dimethylphenol	0.010 mg/l	SC	8270	12-7/14-92
Naphthalene	0.010 mg/l	SC	8270	12-7/14-92
p-chloro-m-cresol	0.010 mg/l	SC	8270	12-7/14-92
2-Methylnaphthalene	0.010 mg/l	SC	8270	12-7/14-92
2,4,6-Trichlorophenol	0.010 mg/l	SC	8270	12-7/14-92
Acenaphthene	0.010 mg/l	SC	8270	12-7/14-92
Fluorene	0.010 mg/l	SC	8270	12-7/14-92
Pentachlorophenol	0.050 mg/L	SC	8270	12-7/14-92
Phenanthrene	0.010 mg/l	SC	8270	12-7/14-92
Anthracene	0.010 mg/l	SC	8270	12-7/14-92
Fluoranthene	0.010 mg/l	SC	8270	12-7/14-92
Benzo(a)anthracene	0.010 mg/l	SC	8270	12-7/14-92
Chrysene	0.010 mg/l	SC	8270	12-7/14-92
Benzo(b)fluoranthene	0.010 mg/l	SC	8270	12-7/14-92
Benzo(k)fluoranthene	0.010 mg/l	SC	8270	12-7/14-92
Benzo(a)pyrene	0.010 mg/l	SC	8270	12-7/14-92
Indeno(1,2,3-cd)pyrene	0.010 mg/l	SC	8270	12-7/14-92
Dibenzo(a,h)anthracene	0.010 mg/l	SC	8270	12-7/14-92
Carbazole	0.010 mg/l	SC	8270	12-7/14-92
Aniline	0.010 mg/l	SC	8270	12-7/14-92
2,3,4,6-Tetrachlorophenol	0.010 mg/l	SC	8270	12-7/14-92

Chester LabNet

KEYSTONE LAB - HOUSTON

WATER TFT SURROGATE RECOVERY

(TRIFLUOROTOLUENE)

Client : Southern Wood Piedmont Co. Keystone WO: H92-12.36

SAMPLE NO.	% RECOVERY
1. Lab Blank	96
2. ETE-2	74
3. ETE-3	71
4. ETE-5	74
5. GM-2S	73
6. GM-3S	68
7. GM-6S	69
8. GM-7D	67
9. GM-7S	74
10.GM-9D	110
11.GM-9S	110
12.GM-10S	110
13.GM-12S	110
14.GM-13S	110
15.GM-14S	110
16.GM-16D	110
17.GM-16S	52 *
18.GM-17S	64
19.FIELD BLANK	65
20.GM-10D	64 *
21.TRIP BLANK	60 *
22.GM-10D MS	94
23.GM-10D MSD	87

Column to be used to flag recovery values
* Values outside of Advisory QC limits.
D Surrogates diluted out

ADVISORY QC LIMITS (65 - 120%)

Chester LabNet

KEYSTONE LAB - HOUSTON

WATER TFT SURROGATE RECOVERY

(TRIFLUOROTOLUENE)

Client : Southern Wood Piedmont Co. Keystone WO: H92-12.52

SAMPLE NO.	% RECOVERY
1. Lab Blank	110
2. ETE-1	100
3. ETE-4	100
4. GM-1S	96
5. GM-8S	100
6. GM-11S	110
7. GM-11RM	110
8. GM-11RD	110
9. MW-13C	95
10. GM-15RM	110
11. GM-16RD	99
12. FIELD BLANK	110

\# Column to be used to flag recovery values
* Values outside of Advisory QC limits.
D Surrogates diluted out

ADVISORY QC LIMITS (65 - 120%)

Chester LabNet

KEYSTONE LAB - HOUSTON

W A T E R T F T S U R R O G A T E R E C O V E R Y

(BROMOCHLOROMETHANE)

Client : Southern Wood Piedmont Co. Keystone WO: H92-12.~~52~~ 34 RB

SAMPLE NO.	‡ RECOVERY
1. Lab Blank	71
2. Lab Blank	75
3. ETE-2	58 *
4. ETE-3	45 *
5. ETE-5	69
6. GM-2S	54
7. GM-3S	66
8. GM-6S	72
9. GM-7D	38 *
10.GM-7S	58 *
11.GM-9D	74
12.GM-9S	77
13.GM-10S	75
14.GM-12S	84
15.GM-13S	76
16.GM-14S	79

‡ Column to be used to flag recovery values
* Values outside of Advisory QC limits.
D Surrogates diluted out

ADVISORY QC LIMITS (65 - 125%)

Chester LabNet

KEYSTONE LAB - HOUSTON

W A T E R T F T S U R R O G A T E R E C O V E R Y

(BROMOCHLOROMETHANE)

Client : Southern Wood Piedmont Co. Keystone WO: H92-12.52

SAMPLE NO.	‡ RECOVERY
1. Lab Blank	76
2. ETE-1	72
3. ETE-4	71
4. GM-1S	75
5. GM-8S	73
6. GM-11S	71
7. GM-11RM	59 *
8. GM-11RD	49 *
9. MW-13C	68
10. GM-15RM	67
11. GM-16RD	72

‡ Column to be used to flag recovery values
* Values outside of Advisory QC limits.
D Surrogates diluted out

ADVISORY QC LIMITS (65 - 125%)

KEYSTONE LAB - HOUSTON

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY SUMMARY

Site : S. Wood Piedmont Co.
Level :

Keystone Work Order : H92-12.36
Client Sample Name : GM-10S

Fraction	Compound	Conc. Spike added (µg/L)	Sample Result	Conc. MS	% Rec.	Conc. MSD	% Rec.	RPD	QC RPD	Limits Rec-Rec
8020	Benzene.....	50	0	64	128 *	64	128 *	0	20	80-123
	Toluene.....	50	0	60	120	61	122	1	21	69-127
	Ethylbenzene.....	50	0	66	132 *	71	142 *	7	19	72-124
	Chlorobenzene.....	150	0	190	126	210	140 *	2	26	70-130
8010	Methylene Chloride.....	50	0	53	106	47	94	12	15	56-123

* - Asterisked values are outside QC limits

KEYSTONE LAB - HOUSTON

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY SUMMARY

Site : BATCH
Level : LOW

Keystone Work Order : H92-11.240
Client Sample Name : BATCH

Fraction	Compound	Conc. Spike added (µg/L)	Sample Result	Conc. MS	% Rec.	Conc. MSD	% Rec.	RPD	QC RPD	Limits Rec-Rec
B/N	1,2,4-Trichlorobenzene.....	50	0	22	44	26	52	17	28	39-98
	Acenapthene.....	50	0	28	56	32	64	13	31	46-118
	2,4-Dinitrotoluene.....	50	0	24	48	26	52	8	38	24-96
	Pyrene.....	50	0	26	52	31	62	18	31	26-127
	N-Nitroso-Di-n-Propylamine.	50	0	19	38*	22	44	15	38	41-116
	1,4-Dichlorobenzene.....	50	0	27	54	27	54	0	28	36-97
ACID	Pentachlorophenol.....	75	0	42	56	49	65	15	50	9-103
	Phenol.....	75	0	28	37	32	43	13	42	12-89
	2-Chlorophenol.....	75	0	26	35	29	39	11	40	27-123
	4-Chloro-3-Methylphenol....	75	0	31	41	36	48	15	42	23-97
	4-Nitrophenol.....	75	0	27	36	31	41	14	50	10-80

Relative Percent Difference

B/N's : 0 out of 6 were outside QC limits
ACIDs : 0 out of 5 were outside QC limits

Percent Spike Recovery

B/N's : 1 out of 12 were outside QC limits
ACIDs : 0 out of 10 were outside QC limits

* - Asterisked values are outside QC limits.

Chain-of Custody Record

Environmental Technology Engineering, Inc.

P.O. Box 1867
1445 Pisgah Church Rd.
Lexington, S.C. 29072
(803) 957-6270

0732

PROJ. NO.: 531-06-001

PROJECT NAME/LOCATION: SWP-Gulf, NC

SAMPLERS: (Signature) Gregory B. Kurtz / James H. Maney

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	SW	VOC								REMARKS
							SWP-Gulf SAC Specific List									
ETE-2	12-3-92	10:45			SWP # 10727	4	2	2								
ETE-3		11:35			10728											
ETE-5		15:00			10729											
GM-2S		10:15			10730											
GM-3S		11:15			10731											
GM-6S		12:15			10732											
GM-7D		15:45			10733											
GM-7S		16:15			10734											
GM-9D		12:45			10735											
GM-9S		12:30			10736											
GM-10S		~~11:00~~ 15:15			10738											
GM-12S		~~15:45~~ 11:00			10739											
GM-13S		13:00			10740											
GM-14S		16:25			10741											
GM16D	↓	12:30			10742	↓	↓	↓								

Keystone Lab Location
Lead 1/4
pH —
Temperature 7.0
Date 12/4/92
Initials D

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
James H. Maney	12-3-92 / 1700				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		D. Massoudi	12/4/92 / 0700		Sample # GM-9S all VOA vials arrived BROKEN!

Original to Laboratory, copies to sampler and files.

00018

Chain-of Custody Record

Environmental Technology Engineering, Inc.

P.O. Box 1867
1445 Pisgah Church Rd.
Lexington, S.C. 29072
(803) 957-6270

0733

PROJ. NO.: 531-06-001

PROJECT NAME/LOCATION: SWP-Gulf, NC

SAMPLERS: (Signature) Gregory B. Kunz / James H. Maney

SWP Gulf Site-Specific List

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	1 SV	1 VOL	REMARKS
GM-16S	12-3-92	11:45		X	SWP# ~~10739~~ 10743	4	2	2	
GM-17S	↓	9:45		↓	~~10743~~ 10744	↓	↓	↓	
Field Blank	↓	16:45							
GM-10D	↓	16:00		↓	~~10744~~ 10737	↓	↓	↓	

Preservatives Confirmed
Yes
pH
Temperature 7.0
Date 12/4/92
Initials

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
James H. Maney	12-3-92 / 1700				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		D. Morrison	12/4/92 09:00 Am		

Original to Laboratory, copies to sampler and files.

000019

ETE, INC.

PO Box 1867
1445 Pisgah Church Rd.
Lexington, SC 29072
(803) 957-6270

AQUEOUS SAMPLE COLLECTION SUMMARY SHEET

SITE NAME/CITY/COUNTY: SWP - GULF

PROJECT NUMBER: 531-06-001

SAMPLED BY: Massey & Kuntz

WEATHER: Sunny 30° to 50°

SAMPLE TYPE: Groundwater

SAMPLING METHOD: Dedicated Bailer

SPLITS/SPIKES/DUPLICATES:

SAMPLING CONTAINERS: (NUMBER/SIZE/TYPE) 2/1L/AG; 2/40ml/G

REASON FOR SAMPLING: Semi-Annual Sampling

PARAMETERS REQUESTED: SV and VOC

LAB PERFORMING ANALYSIS: Keystone Lab

RESPIRATORY PROTECTION: None

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(Gal) VOLUME PURGED	(°C) TEMP.	(uMhos) COND.	pH	REMARKS
ETE-1	12-4-92	08:00	31.49	8.16	Ded. Bailer	V.T. Pinkish Brown	3.80	14	860	7.5	
							1.90	14	820	7.6	Dry 1.5 Volumes
ETE-2	12-3-92	10:45	36.52	19.15	"	T. Yellowish Brown	2.83	16	370	6.9	
							2.83	16	340	6.9	
							2.83	16	320	6.2	
ETE-3	12-3-92	11:35	21.90	11.80	"	V.T. Dark Brown	1.65	18	420	6.8	
							1.65	18	350	6.5	
							1.65	18	350	6.5	

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(Gal) VOLUME PURGED	(°C) TEMP.	(uMhos) COND.	pH	REMARKS
ETE-4	12-4-92	08:45	31.11	5.09	Ded. Bailer	S.T. Brownish Pink	4.24	13	950	8.1	
							4.24	13	970	7.6	
							4.24	12	970	7.6	
ETE-5	12-3-92	15:00	19.36	16.92	"	T. Brown	0.40	18	320	7.6	
							0.20	18	840	6.8	Dry 1.5 Volumes
GM-1S	12-3-92	18:00	18.31	9.41	"	T. Brown	1.45	16	880	7.6	
							1.45	17	750	7.1	
							1.45	17	640	7.2	Dry 3 Volumes
GM-2S	12-3-92	10:15	24.06	19.98	"	S.T. Yellow	0.67	17	650	6.0	
							0.67	17	660	6.1	
							0.67	18	660	6.3	
GM-3S	12-3-92	11:15	15.12	12.16	"	S.T. Whitish Tan	0.48	17	240	6.3	
							0.48	17	220	6.5	Dry 1 Volume
GM-6S	12-3-92	12:15	16.38	9.37	"	Clear	1.14	18	870	8.9	
							1.14	18	760	8.9	
							1.14	18	750	8.1	
GM-7D	12-3-92	15:45	28.57	4.61	"	S.T. Brownish Pink	3.90	15	270	7.6	
							3.90	15	220	7.6	Dry 2 Volumes

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(Gal) VOLUME PURGED	(°C) TEMP.	(uMhos) COND.	pH	REMARKS
GM-7S	12-3-92	16:15	16.63	4.61	Ded. Bailer	T. Brownish Pink	1.96	14	350	7.4	
							1.96	14	340	7.5	
							1.96	14	360	7.5	
GM-8S	12-3-92	17:30	20.54	13.86	"	T. Brown	1.09	13	350	7.9	
							1.09	15	300	7.6	
							1.09	15	320	7.0	
GM-9D	12-3-92	12:45	38.55	14.96	"	Clear	3.85	15	800	7.0	
							3.85	15	840	7.5	
							3.85	16	850	7.0	
GM-9S	12-3-92	12:30	22.26	14.77	"	T. Yellow	1.22	16	420	7.6	
							1.22	17	360	7.0	
							1.22	16	350	6.6	Dry 3 Volumes
GM-10D	12-3-92	16:00	57.53	29.07	"	Clear	4.64	16	1000	7.5	
							4.64	16	960	7.6	
							4.64	16	950	7.6	
GM-10S	12-3-92	15:15	42.95	26.46	"	S.T. Brown	2.69	16	225	7.0	
							2.69	17	225	7.0	
							2.69	16	220	7.0	
GM-11RD	12-4-92	08:30	48.69	33.09	"	Clear	2.54	14	385	7.0	Protective Casing Lid Bent,
							2.54	15	400	7.0	Open and no Lock. Cap was on
							2.54	15	400	7.0	Well. Depth of Well should of been 96.5'. Tagged bottom at 48.69'. Possible Lock Dropped in Well.

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(Gal) VOLUME PURGED	(°C) TEMP.	(uMhos) COND.	pH	REMARKS
GM-11RM	12-4-92	08:00	65.49	22.75	Sub. Pump	Clear	6.97	15	850	7.0	Dry 1 Volume. Hinge Broken.
								15	1100	7.0	Protective Casing Open.
											Cap on Well.
GM-11S	12-4-92	09:00	38.20	20.38	Ded. Bailer	S.T. White	2.90	14	1100	7.0	–
							2.90	15	1190	7.0	
							2.90	15	1190	7.0	
GM-12S	12-3-92	11:00	16.06	6.37		S.T. White	1.58	14	650	7.0	
							1.58	13	510	7.1	
							1.58	13	500	7.1	
GM-13D	12-3-92	11:45	32.51	12.16							6.5" Heavy Free Product.
											No Sample Collected.
GM-13S	12-3-92	13:00	19.96	11.78		Clear	1.33	16	175	7.0	
							1.33	17	170	6.9	
							1.33	17	170	6.5	
MW-13C	12-3-92	21:45	98.81	12.70	Sub. Pump	T. Gray	14.04	13	900	8.3	Slight Creosote Odor
							14.04	14	900	7.9	Haspe and Lock Busted Off
							14.04	16	900	7.9	Protective Casing.
GM-14S	12-3-92	10:25	21.25	4.67	Ded. Bailer	T. Reddish Orange	2.70	11	900	7.1	Creosote Odor
							2.70	13	800	7.2	
							2.70	13	800	7.2	

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(Gal) VOLUME PURGED	(°C) TEMP.	(uMhos) COND.	pH	REMARKS
GM-15RD	12-4-92	10:30	97.87	13.78							2.5" Heavy Free Product.
											No Sample Collected.
GM-15RM	12-4-92	10:00	55.95	13.17	Sub. Pump	T. Pinkish Brown	6.97	14	900	7.0	Slight Creosote Odor.
							6.97	15	1340	7.0	
							6.97	15	1340	7.0	
GM-15S	12-4-92	09:30	21.48	11.41							1" Heavy Free Product.
											Trace Light Product.
											No Sample Collected.
GM-16D	12-3-92	12:30	38.23	9.50	Ded. Bailer	S.T. White	4.68	15	920	6.8	Slight Creosote Odor.
							4.68	16	990	6.8	
							4.68	16	990	6.8	
GM-16RD	12-3-92	20:30	98.28	9.35	Sub. Pump	T. Dark Gray	14.50	14	300	9.5	Slight Creosote Odor.
							14.50	14	255	9.1	High pH in well.
							14.50	14	290	9.1	
GM-16S	12-3-92	11:45	20.10	8.72	Ded. Bailer	S.T. White	1.85	16	1790	6.8	Trace Light Product.
							1.85	16	1830	6.8	Bailer Slightly Stained.
							1.85	16	1840	6.8	Creosote Odor.
GM-17S	12-3-92	09:45	25.40	20.05		S.T. Yellow White	0.87	15	150	7.5	
							0.87	16	170	6.1	
							0.87	16	160	6.0	

Chain-of Custody Record

Environmental Technology Engineering, Inc.

P.O. Box 1867
1445 Pisgah Church Rd.
Lexington, S.C. 29072
(803) 957-6270

0732

PROJ. NO.: 531-06-001

PROJECT NAME/LOCATION: SWP - Gulf, NC

SAMPLERS: (Signature) [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	SWP Gulf SAC Specific List: SV	VOC	REMARKS
ETE-2	12-3-92	10:45			SWP # 10727	4	2	2	
ETE-3		11:35			10728				
ETE-5		15:00			10729				
CM-25		10:15			10730				
CM-35		11:15			10731				
CM-50		12:15			10732				
CM-70		15:45			10733				
CM-75		10:15			10734				
CM-90		12:45			10735				
CM-95		12:30			10736				
CM-105		15:15 ~~[illegible]~~			10737				
CM-125		11:00 ~~[illegible]~~			10739				
CM-135		13:00			10740				
CM-145		12:35			10741				
CM-160	↓	12:30			10742	↓	↓	↓	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	12-3-92 PM				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

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Chain-of Custody Record

Environmental Technology Engineering, Inc.

P.O. Box 1867
1445 Pisgah Church Rd.
Lexington, S.C. 29072
(803) 957-6270

0733

PROJECT NAME/LOCATION: SWI Cont. NC

PROJ. NO.: 53[illegible]

SAMPLERS: (Signature) [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	SUP Cont	Site Specific Cont								REMARKS
GM-165	[illegible]	11:45		X	[illegible] ~~10743~~ 10743	4	2	2								
GM-175	↓	9:45			~~10743~~ 10744											
FL-1[illegible]	↓	16:45														
GM-100	↓	16:00		↓	~~10744~~ 10737	[illegible]	[illegible]	[illegible]								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	[illegible]				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

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Environmental Technology Engineering, Inc.
P.O. Box 1867
1445 Pisgah Church Rd.
Lexington, S.C. 29072
(803) 957-6270

0734

Chain-of Custody Record

PROJ. NO.: 531-06-001
PROJECT NAME/LOCATION: SWP Gulf
SAMPLERS: (Signature) [illegible] / Greg Kuntz

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION Lot #	NO. OF CONTAINERS	1,2 VOC	SWP Gulf Site Specific								REMARKS
ETE-1	12/4	0800			10754	4	X	X								
ETE-4	12/4	0845			10754	4	X	X								
GM-15	12/4	1200			10755	4	X	X								
GM-85	12/3	1730			10756	4	X	X								Brutt. t. th
GM-11	12/4	0900			10757	4	X	X								
GM-11RM	12/4	0900			10758	4	X	X								
GM-11RD	12/4	0830			10759	4	X	X								GREG KUNTZ
MW-13C	12/3	2145			10760	4	X	X								@ ETE
GM-15RM	12/4	1000			10761	4	X	X								
GM-16	12/3	2030			10762	4	X	X								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	12/4 1530				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Original to Laboratory, copies to sampler and files.

SBW
MAS
ETE Dwg Kurtz
G+M Pan Pierce

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ENVIRONMENTAL AFFAIRS

Report
Prepared
for
GULF, NC

S O U T H E R N W O O D P I E D M O N T C O M P A N Y

P.O. BOX 5447
SPARTANBURG, S.C. 29304

Attention : SANDRA WATSON

by

Chester LabNet - Houston
8300 Westpark Drive
Houston, Texas 77063
(713) 266-6800

CERTIFIED BY : Bobby Barrientos

Bobby Barrientos
Project Manager

PROJECT ID : SWP
P.O. NUMBER : 531-06-001

WORK ORDER : H93-06.49
DATE RECEIVED : 5-JUN-1993

SAMPLE & ANALYSIS SUMMARY

Chester LabNet Sample ID	Client's Sample Name	Date Collected	Sample Matrix
H93-06.49-001	LAB BLANK	3-JUN-1993	WATER
H93-06.49-002	GM-2S	3-JUN-1993	WATER
H93-06.49-003	GM-13C	3-JUN-1993	WATER
H93-06.49-004	GM-13S	4-JUN-1993	WATER
H93-06.49-005	MW-3C	4-JUN-1993	WATER
H93-06.49-006	ETE-2	3-JUN-1993	WATER
H93-06.49-007	GM-15RM	4-JUN-1993	WATER
H93-06.49-008	GM-15RD	4-JUN-1993	WATER
H93-06.49-009	GM-6S	3-JUN-1993	WATER
H93-06.49-010	FIELD BLANK	4-JUN-1993	WATER
H93-06.49-011	GM-9S	3-JUN-1993	WATER
H93-06.49-012	GM-17S	3-JUN-1993	WATER
H93-06.49-013	GM-10D	3-JUN-1993	WATER
H93-06.49-014	ETE-3	3-JUN-1993	WATER
H93-06.49-015	GM-9D	3-JUN-1993	WATER
H93-06.49-016	GM-3S	3-JUN-1993	WATER
H93-06.49-017	GM-10S	3-JUN-1993	WATER
H93-06.49-018	GM-11RM	3-JUN-1993	WATER
H93-06.49-019	GM-11S	3-JUN-1993	WATER
H93-06.49-020	GM-16S	3-JUN-1993	WATER
H93-06.49-021	GM-14S	3-JUN-1993	WATER
H93-06.49-022	ETE-4	4-JUN-1993	WATER
H93-06.49-023	MW-10C	4-JUN-1993	WATER
H93-06.49-024	GM-7S	3-JUN-1993	WATER
H93-06.49-025	GM-8S	3-JUN-1993	WATER
H93-06.49-026	GM-1S	4-JUN-1993	WATER
H93-06.49-027	ETE-1	4-JUN-1993	WATER
H93-06.49-028	GM-7D	3-JUN-1993	WATER
H93-06.49-029	GM-12S	3-JUN-1993	WATER
H93-06.49-030	GM-16RD	3-JUN-1993	WATER
H93-06.49-031	GM-16D	3-JUN-1993	WATER
H93-06.49-032	GM-11RD	3-JUN-1993	WATER
H93-06.49-033	ETE-5	3-JUN-1993	WATER
H93-06.49-034	BLANK SPIKE	3-JUN-1993	WATER
H93-06.49-035	BLANK SPIKE DUP	3-JUN-1993	WATER

Analysis ID	Parameter Description
BTEX_8020	BTEX by Method 8020
EXT_8270	Extraction by EPA 8270
GC8010	Chlorinated Volatiles
SV_TCL	Semivolatiles (Target Compound List)

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ENVIRONMENTAL AFFAIRS

CASE NARRATIVE

CONTRACTOR: CHESTER LABNET

DOC. CONT NO:

CLIENT.: SOUTHERN PIEDMONT

PROJ NO.: 531-06-001

LAB NO.:H92-06.49

SITE: SWP-GULF

I. RECEIPT

A. DATE: June 05, 1993 .

B. NO. OF SAMPLES: One per parameter (3 parameters)

C. CLIENT SAMPLE ID's:
ETE-2, ETE-3, ETE-5, GM-2S, GM-3S, GM-6S, GM-7D, GM-7S; GM-9D, GM-9S, GM-10S, GM-12S, GM-13S, GM-14S, GM-16D; GM-16S, GM-17S, FIELD BLANK, GM-10D; MW-3C, GM-15RD; ETE-1, ETE-4, GM-1S, GM-8S, GM-11S, GM-11RM, GM-11RD; GM-13C, GM-15RM, GM-16RD, MW-10C,

D. SAMPLE TYPE: Water (Groundwater)

E. ANALYSIS REQUESTED: Semivolatiles-Method 8270; and Volatiles-Method 8020/8010 per contracted Scope of Work.

F. SHIPPING PROBLEMS: Samples arrived without proper Chain of Custody on 06/05/93. SWP informed of this matter and Faxed copies arrived 06/07/93. Signed COC's arrived on 06/08/93 from ViroGroup Technology.

G. DOCUMENTATION PROBLEMS: Field Data Requirements arrived by Fax on 06/08/93 from the ViroGroup Firm.

H. QC DISTRIBUTION (MS AND MSD)
Sample GM-15RD analyzed for MS/MSD shows high recoveries due to target compound hits and 1:10 dilution for Method 8020.
Blank spike/dup demonstrates laboratory QA/QC meeting the recoveries within the Limits range presented for data package.

LEVEL	MATRIX	All Parameters	Sample
Low	Water-Blank Spike	8270 Method	
Low	Water-MS/MSD	8010/8020 Method	GM-15RD GM-1S

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II. PREPARATION

A. ANALYTICAL LEVELS: Not Applicable.

B. EXTRACTION PROBLEMS: None.

III. ANALYSIS

A. ANALYSIS PROBLEMS: 4-Nitrophenol percent recoveries on the high side due to Blank Spike makeup.

B. SURROGATE PROBLEMS: A few surrogate recoveries were outside required and advisory QC limits for Semivolatiles (8270).

IV. COMMENTS

Robert R. Barrientos

Robert R. Barrientos - Project Manager

January 13, 1994

Date

RECEIVED
JAN 18 1994

22-FEB-1994

Revised

MAS
SBW

QC Report

Date received: 9-DEC-1993 Customer: Southern Wood Piedmont co. Job name: H93-12.73

Parameters	Detection Limit	Analyst Initial	EPA Method	Dates Analyzed	Dates Extracted
BTEX 8020					
Benzene	0.002 mg/L	MIM	8020	DEC-13/14/15-93	NA
Toluene	0.003 mg/L	MIM	8020	DEC-13/14/15-93	NA
Ethyl Benzene	0.003 mg/L	MIM	8020	DEC-13/14/15-93	NA
2-Butanone (MEK)	0.005 mg/L	MIM	8020	DEC-13/14/15-93	NA
Total Xylenes	0.003 mg/L	MIM	8020	DEC-13/14/15-93	NA
GC8010					
Methylene Chloride	0.002 mg/L	MIM	8010	DEC-13/14/15/16-93	NA
SV TCL					
Phenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
2-Chlorophenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
2-Methylphenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
3+4-Methylphenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
2,4-Dimethylphenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Naphthalene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
p-chloro-m-cresol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
2-Methylnaphthalene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
2,4,6-Trichlorophenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Acenaphthene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Fluorene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Pentachlorophenol	0.050 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Phenanthrene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Anthracene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Fluoranthene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Benzo(a)anthracene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Chrysene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Benzo(b)fluoranthene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Benzo(k)fluoranthene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Benzo(a)pyrene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Indeno(1,2,3-cd)pyrene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Dibenzo(a,h)anthracene	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Carbazole	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
Aniline	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93
2,3,4,6-Tetrachlorophenol	0.010 mg/L	JDD	8270	DEC-22/23/24/25-93	DEC-09/10-93

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FEB 24 1994
ENVIRONMENTAL Affairs

Keystone Lab - Houston
Water Surrogate Recovery Summary
Keystone Work Order # H93-12.73

Client Sample Name	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	S7 2CP	S8 DCB
LAB BLANK	84	75	99	55	69	14	62	69
EIE-1	81	66	53	57	69	90	62	62
EIE-2	80	67	63	67	84	101	71	67
EIE-3	94	80	52	59	76	78	71	79
EIE-4	23 *	21 *	25 *	20	25	14	22	22
EIE-5	88	73	55	73	100	90	79	79
GM-1S	82	67	38	50	41	102	60	73
GM-2S	102	76	52	69	105	107	77	81
GM-3S	90	76	60	46	60	44	53	78
GM-6S	80	69	64	78	71	97	71	68
MW-3C	76	66	76	9 *	5 *	16	8 *	65
GM-15RM	DL	DL	DL	DL	DL	DL	DL	DL
MW-13C	DL	DL	DL	DL	DL	DL	DL	DL
MW-18A	83	60	22 *	71	66	78	64	61
GM-16RD	DL	DL	DL	DL	DL	DL	DL	DL
GM-7D	93	93	65	85	77	104	83	79
GM-7S	100	79	60	74	78	84	62	77
GM-8S	71	59	61	36	31	26	35	57
GM-12S	94	83	61	55	44	43	44	75
GM-13S	107	52	10	64	80	52	62	49
GM-14S	DL	DL	DL	DL	DL	DL	DL	DL
GM-9D	89	64	43	8 *	1 *	1 *	4 *	67
GM-9S	119 *	66	17 *	57	73	34	64	72
MW-10C	85	65	66	65	64	88	61	63
GM-10D	116 *	72	47	71	101	68	77	75
GM-10S	97	67	59	79	99	101	77	70
GM-11RD	82	69	45	76	84	90	63	69
GM-11RM	90	62	59	57	73	76	61	64
GM-11S	76	66	56	80	76	81	61	66
GM-17S	76	72	86	52	60	77	54	69
FIELD BLANK # 1	92	66	51	66	87	78	64	65
FIELD BLANK # 2	81	68	80	75	77	86	68	64
BLANK MS	92	67	80	69	86	86	66	62
BLANK MSD	108	77	85	76	111 *	109	70	78

Surrogate Name	QC LIMITS	Surrogate Name	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	35-114	S2 (FBP) = 2-Fluorobiphenyl	43-116
S3 (TPH) = Terphenyl-d14	33-141	S4 (PHL) = Phenol-d5	10-110
S5 (2FP) = 2-Fluorophenol	21-110	S6 (TBP) = 2,4,6-Tribromophenol	10-123
S7 (2CP) = 2-Chlorophenol-d4	33-110**	S8 (DCB) = 1,2-Dichlorobenzene-d4	16-110**

15 out of 248 : outside of QC limits.

* = Values are outside of QC limits ** = Advisory QC Limits NA = Not Applicable

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QCW MAS

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Keystone Lab - Houston
Water Surrogate Recovery Summary
Keystone Work Order # H93-12.73

Client Sample Name	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	S7 2CP	S8 DCB
LAB BLANK	63	44	61	55	53	55	47	47
EIE-4 REX	88	89	95	96	93	128 *	84	77
MW-3C REX	76	74	71	28	20 *	31	25 *	74
GM-9D REX	67	70	58	39	27	25	36	69
GM-9S REX	71	68	39	73	77	88	66	64
GM-10D REX	88	77	80	90	85	95	77	78

Surrogate Name	QC LIMITS	Surrogate Name	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	35-114	S2 (FBP) = 2-Fluorobiphenyl	43-116
S3 (TPH) = Terphenyl-d14	33-141	S4 (PHL) = Phenol-d5	10-110
S5 (2FP) = 2-Fluorophenol	21-110	S6 (TBP) = 2,4,6-Tribromophenol	10-123
S7 (2CP) = 2-Chlorophenol-d4	33-110**	S8 (DCB) = 1,2-Dichlorobenzene-d4	16-110**

3 out of 48 : outside of QC limits.

* = Values are outside of QC limits

** = Advisory QC Limits

NA = Not Applicable
REX = Re-extraction

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CHESTER LABNET - HOUSTON

SURROGATE RECOVERY SUMMARY

Client Name:
Chester LabNet Work Order # H93-12.73

CLIENT SAMPLE NUMBER	TRIFLUORO-TOLUENE % RECOVERY	BROMOCHLORO-METHANE % RECOVERY
1. LAB BLANK 1	100	110
2. LAB BLANK 2	98	110
3. LAB BLANK 3	93	100
4. EDB-1	100	95
5. EDB-2	100	99
6. EDB-3	100	110
7. EDB-4	100	110
8. EDB-5	100	110
9. G4-1S	100	110
10. G4-2S	100	99
11. G4-3S	99	92
12. G4-6S	100	120
13. MW-3C	100	110
14. G4-15RM	100	83
15. MW-13C	95	78
16. MW-18A	100	92
17. G4-16RD	110	92
18. G4-7D	100	82
19. G4-7S	98	71
20. G4-8S	100	85
21. G4-12S	99	120
22. G4-13S	110	84
23. G4-14S	98	85
24. G4-9D	94	86
25. G4-9S	96	81
26. MW-10C	110	76
27. G4-10D	100	91
28. G4-10S	98	97
29. G4-11RD	110	90
30. G4-11RM	99	86
31. G4-11S	100	110
32. G4-17S	110	100
33. TRIP BLANK	96	NA
34. FIELD BLANK 8-DEC-1993	100	90
35. FIELD BLANK 7-DEC-1993	99	77
36. BLANK SPIKE	93	130
37. BLANK SPIKE DUP	100	120

Column to be used to flag recovery values
* Values outside of Advisory QC limits.
NA - NOT APPLICABLE

TRIFLUOROTOLUENE ADVISORY QC LIMITS (73 - 125%)
BROMOCHLOROMETHANE ADVISORY QC LIMITS (67 - 128%)

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Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples					
ystone ID		73-001	73-002	73-003	73-004	73-005	73-006
Sampling Point		QA QC	X	X	X	X	X
te Sampled		7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993
stomer ID		LAB BLANK	EXE-1	EXE-2	EXE-3	EXE-4	EXE-5
Parameters	Units						
EX 8020							
Benzene	mg/L	ND	ND	ND	ND	ND	ND
Toluene	mg/L	ND	ND	ND	ND	ND	ND
thyl Benzene	mg/L	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
010							
thylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		1	1	1	1	1	1
IELD INFORMATION							
Date Collected			12.7.93	12.7.93	12.7.93	12.7.93	12.7.93
Water Level (casing top) ft.			8.81	18.93	11.79	6.34	17.05
Well Depth, ft.			31.73	36.74	22.12	31.12	19.56
pH			6.6	7.8	7.7	8.1	7.6
			6.9	7.4	7.2	7.8	7.6
				7.1	7.4	7.8	7.5
Specific Conductance			450	200	250	560	620
			430	200	260	560	580
				200	250	550	560

ND = NONE DETECTED

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FEB 16 '94 02:32PM SOUTHERN WOOD P.8

Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples					
Keystone ID		73-007	73-008	73-009	73-010	73-011	73-012
Sampling Point		X	X	X	X	X	X
Date Sampled		7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	8-DEC-1993
Customer ID		GM-1S	GM-2S	GM-3S	GM-6S	MW-3C	GM-15RM
Parameters	Units						
BTEX 8020							
Benzene	mg/L	.018	ND	ND	ND	ND	.025
Toluene	mg/L	ND	ND	ND	ND	ND	.0035
Ethyl Benzene	mg/L	ND	ND	ND	ND	ND	.013
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	.026
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	ND	ND	ND	1.4
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	.12
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	ND	ND	.11
Fluorene	mg/L	ND	ND	ND	ND	ND	.02
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	.02
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		1	1	1	1	1	40
FIELD INFORMATION							
Date Collected		12.7.93	12.7.93	12.7.93	12.7.93	12.7.93	12.8.93
Water Level (casing top) ft.		10.19	19.34	12.07	9.18	11.73	14.74
Well Depth, ft.		18.51	24.27	15.32	16.51	49.11	55.48
pH		7.6	6.9	7.3	9.7	7.4	7.5
		7.6	7.1	7.5	9.2	7.4	7.3
		7.4		7.6	8.5	7.2	7.3
Specific Conductance		1170	600	750	470	300	1100
		1140	590	830	430	330	1050
		1140		850	450	350	1070

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ND = NONE DETECTED

Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples					
Keystone ID		73-013	73-014	73-015	73-016	73-017	73-018
Sampling Point		X	X	X	X	X	X
Date Sampled		8-DEC-1993	8-DEC-1993	8-DEC-1993	8-DEC-1993	8-DEC-1993	8-DEC-1993
Customer ID		MW-13C	MW-18A	GM-16RD	GM-7D	GM-7S	GM-8S
Parameters	Units						
BTEX 8020							
Benzene	mg/L	.056	ND	.0036	ND	ND	ND
Toluene	mg/L	.077	ND	ND	ND	ND	ND
Ethyl Benzene	mg/L	.045	ND	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	.087	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	.31	ND	ND	ND	ND	ND
Naphthalene	mg/L	4.1 *	ND	.047	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	.31	ND	.028	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	.14	ND	.018	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	.35	ND	.10	ND	ND	ND
Phenanthrene	mg/L	ND	ND	.011	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbozole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		40	1	10	1	1	1
FIELD INFORMATION							
Date Collected		12.7.93	12.8.93	12.8.93	12.8.93	12.8.93	12.8.93
Water Level (casing top) ft.		12.77	31.09	10.00	6.30	6.78	15.52
Well Depth, ft.		99.11	121.11	98.64	28.83	16.80	20.73
pH		8.4	9.1	9.8	7.9	7.5	8.0
		7.9	7.8	9.7	7.7	7.6	7.3
		7.8			7.6	7.4	7.4
Specific Conductance		700	390	300	750	1380	350
		720	410	310	770	1480	380
		700			760	1460	320

ND = NONE DETECTED

* COMPOUND TAKEN FROM A 1:100 DILUTION

Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples					
Keystone ID		73-019	73-020	73-021	73-022	73-023	73-024
Sampling Point		X	X	X	X	X	X
Date Sampled		8-DEC-1993	8-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993
Customer ID		GM-12S	GM-13S	GM-14S	GM-9D	GM-9S	MW-10C
Parameters	Units						
BTEX 8020							
Benzene	mg/L	ND	ND	ND	.011	ND	.0024
Toluene	mg/L	ND	ND	ND	ND	ND	ND
Ethyl Benzene	mg/L	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	NR	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	NR	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	NR	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	NR	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	NR	ND	ND	ND
Naphthalene	mg/L	ND	ND	.57 *	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	NR	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	.066	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	NR	ND	ND	ND
Acenaphthene	mg/L	ND	ND	.078	ND	ND	ND
Fluorene	mg/L	ND	ND	.027	ND	ND	ND
Pentachlorophenol	mg/L	ND	.060	NR	ND	ND	ND
Phenanthrene	mg/L	ND	ND	.013	ND	ND	ND
Anthracene	mg/L	ND	ND	NR	ND	ND	ND
Fluoranthene	mg/L	ND	ND	NR	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	NR	ND	ND	ND
Chrysene	mg/L	ND	ND	NR	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	NR	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	NR	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	NR	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	NR	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	NR	ND	ND	ND
Carbazole	mg/L	ND	ND	NR	ND	ND	ND
Aniline	mg/L	ND	ND	NR	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	NR	ND	ND	ND
Dilution Factor:		1	1	1	1	1	1
FIELD INFORMATION							
Date Collected		12.8.93	12.8.93	12.08.93	12.07.93	12.07.93	12.07.93
Water Level (casing top) ft.		11.55	12.27	7.01	15.31	15.87	37.49
Well Depth, ft.		16.13	18.08	21.22	38.84	22.47	130.24
pH		6.4	7.6	8.2	7.1	7.5	8.0
		6.3	7.1	7.9	7.2	7.4	8.2
		6.3	6.7	7.8	7.1	7.8	
Specific Conductance		650	140	450	540	210	1130
		650	140	480	520	210	1100
		710	130	470	510	210	

* = COMPOUND AMOUNT TAKEN FROM A 1:20 DILUTION. ND = NONE DETECTED NR = NOT REQUIRED

Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples					
ystone ID		73-025	73-026	73-027	73-028	73-029	73-030
mpling Point		X	X	X	X	X	X
Date Sampled		7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993
ustomer ID		GM-10D	GM-10S	GM-11RD	GM-11RM	GM-11S	GM-17S
arameters	Units						
BTEX 8020							
Benzene	mg/L	ND	ND	ND	ND	ND	ND
Toluene	mg/L	ND	ND	ND	ND	ND	ND
Ethyl Benzene	mg/L	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
GC8010							
ethylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		1	1	1	1	1	1
FIELD INFORMATION							
Date Collected		12.7.93	12.7.93	12.7.93	12.7.93	12.7.93	12.07.93
Water Level (casing top) ft.		29.46	27.41	33.50	25.46	25.09	20.73
Well Depth, ft.		58.33	42.92	99.39	65.46	38.74	25.59
pH		8.0	7.9	7.3	8.4	8.1	8.1
		8.0	7.4	8.0	8.0	7.6	7.8
			7.4	8.2			7.6
Specific Conductance		1210	650	370	300	730	110
		650	1960	310	800	820	130
			72000	300			130

ND = NONE DETECTED

JAN 18 1994

Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples				
ystone ID		73-031	73-032	73-033	73-034	73-035
mpling Point		X	X	X	X	X
Date Sampled		2-DEC-1993	8-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993
ustomer ID		TRIP BLANK	FIELD BLANK	FIELD BLANK	BLANK MS	BLANK MSD
rameters	Units					
BTEX 8020						
Benzene	mg/L	ND	ND	ND	41 *	42 *
Toluene	mg/L	ND	ND	ND	40 *	47 *
Ethyl Benzene	mg/L	ND	ND	ND	40 *	47 *
2-Butanone (MEK)	mg/L	ND	ND	ND	110 *	140 *
Total Xylenes	mg/L	ND	ND	ND	ND *	ND *
GC8010						
Methylene Chloride	mg/L	ND	ND	ND	46 *	39 *
SV TCL						
Phenol	mg/L	NR	ND	ND	61 *	88 *
2-Chlorophenol	mg/L	NR	ND	ND	70 *	87 *
2-Methylphenol	mg/L	NR	ND	ND	30 *	31 *
3+4-Methylphenol	mg/L	NR	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	NR	ND	ND	ND	ND
Naphthalene	mg/L	NR	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	NR	ND	ND	72 *	81 *
2-Methylnaphthalene	mg/L	NR	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	NR	ND	ND	ND	ND
Acenaphthene	mg/L	NR	ND	ND	38 *	45 *
Fluorene	mg/L	NR	ND	ND	ND	ND
Pentachlorophenol	mg/L	NR	ND	ND	66 *	70 *
Phenanthrene	mg/L	NR	ND	ND	ND	ND
Anthracene	mg/L	NR	ND	ND	ND	ND
Fluoranthene	mg/L	NR	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	NR	ND	ND	ND	ND
Chrysene	mg/L	NR	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	NR	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	NR	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	NR	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	NR	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	NR	ND	ND	ND	ND
Carbazole	mg/L	NR	ND	ND	ND	ND
Aniline	mg/L	NR	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	NR	ND	ND	ND	ND
Dilution Factor		—	1	1	1	1

FIELD INFORMATION
Date Collected
Water Level (casing top) ft.
Well Depth, ft.
pH

Specific Conductance

NR = NOT REQUIRED * = PERCENT RECOVERY
ND = NONE DETECTED

JAN 18 1994
Environmental

23-FEB-1994 RE-EXTRACTIONS

Summary of Analytical Results

Date received: 9-DEC-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-12.73

		Samples					
Keystone ID		73-05	73-11	73-22	73-23	73-25	73-01
Sampling Point		X	X	X	X	X	X
Date Sampled		7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	7-DEC-1993	6-JAN-1994
Customer ID		EIE-4 (REX)	MW-3C (REX)	GM-9D (REX)	GM-9S (REX)	GM-10D (REX)	LAB BLK
Parameters	Units						
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Dilution Factor		1	1	1	1	1	1
FIELD INFORMATION							
Date Collected		12.7.93	12.7.93	12.7.93	12.7.93	12.7.93	
Water Level (casing top) ft.		6.34	11.73	15.31	15.87	29.46	
Well Depth, ft.		31.12	49.11	38.84	22.47	58.33	
pH		8.1	7.4	7.1	7.5	8.0	
		7.8	7.4	7.2	7.4	8.0	
		7.8	7.2	7.1	7.8		
Specific Conductance		560	300	540	210	1210	
		560	330	520	210	650	
		550	350	510	210		

ND = NONE DETECTED

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LABORATORY QA/QC DATA

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KEYSTONE LAB - HOUSTON

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY SUMMARY

Site :
Level :

Keystone Work Order : H93-12.73
Client Sample Name : BLANK SPIKE

Fraction	Compound	Conc. Spike added (ug/L)	Sample Result	Conc. MS	% Rec.	Conc. MSD	% Rec.	RPD	QC RPD	Limits Rec-Rec
B/N	1,2,4-Trichlorobenzene.....	50	0	28	56	39	78	33*	28	39-98
	Acenapthene.....	50	0	38	76	45	90	17	31	46-118
	2,4-Dinitrotoluene.....	50	0	46	92	49	98*	6	38	24-96
	Pyrene.....	50	0	50	100	59	118	17	31	26-127
	N-Nitroso-Di-n-Propylamine.	50	0	30	60	31	62	3	38	41-116
	1,4-Dichlorobenzene.....	50	0	28	56	36	72	25	28	36-97
ACID	Pentachlorophenol.....	75	0	66	88	70	93	6	50	9-103
	Phenol.....	75	0	61	81	88	117*	36	42	12-89
	2-Chlorophenol.....	75	0	70	93	87	116	22	40	27-123
	4-Chloro-3-Methylphenol....	75	0	72	96	81	108*	12	42	23-97
	4-Nitrophenol.....	75	0	330	440*	410	547*	22	50	10-80

Relative Percent Difference

B/N's : 1 out of 6 were outside QC limits
ACIDs : 0 out of 5 were outside QC limits

Percent Spike Recovery

B/N's : 1 out of 12 were outside QC limits
ACIDs : 4 out of 10 were outside QC limits

* - Asterisked values are outside QC limits

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KEYSTONE LAB - HOUSTON

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY SUMMARY

Site :
Level :

Keystone Work Order : H93-12.73
Client Sample Name : BLK SPK/BLK SPK DUP

Fraction	Compound	Conc. Spike added (µg/L)	Sample Result	Conc. MS	% Rec.	Conc. MSD	% Rec.	RPD	QC RPD	Limits Rec-Rec
8020	Benzene.....	40	0	41	103	42	105	2	20	80-123
	Toluene.....	40	0	40	100	47	118	17	21	69-127
	Ethylbenzene.....	40	0	40	100	47	118	17	19	72-124
	Total Xylenes.....	120	0	110	92	140	117	24	26	70-130
8010	Methylene Chloride.....	40	0	46	115	39	98	16	25	46-143

Relative Percent Difference

BTEX's : 0 out of 4 were outside QC limits
8010's : 0 out of 1 were outside QC limits

Percent Spike Recovery

BTEX's : 0 out of 8 were outside QC limits
8010's : 0 out of 2 were outside QC limits

* - Asterisked values are outside QC limits

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Chester LabNet ☒ Houston ☐ Monroeville ☐ Portland

CHAIN-OF-CUSTODY RECORD

Project Manager: Greg Kuntz
Project Name: SWP Gulf, NC
Purchase Order No.: ~~12-53101~~ 12-53101.00
Sampler(s): Greg Kuntz, James Leaphart

Company: Viro Group, Inc
Address: 4445 Pisgah Church Rd, Lexington, SC 29072
Phone #: 803-957-6270 Fax: 803-957-3845
Mail Report To:

Requested Turn Around Time: Standard

COMMENTS: Gulf Site Specific - see Sandra Watson 803-599-1082

Field Blank 12-7-93 3:00
Field Blank 12-8-93 10:30

1. HNO3 2. H2SO4 3. H3PO4 4. HCl 5. NaOH 6. Na2S2O3 7. None 8. Other(s)

SAMPLE IDENTITY:	Date Sampled	Time Sampled	Matrix: Soil	Water	Air	Other	Preservative	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Btex	Metals	TPH	Other Analyses				No. of Containers	REMARKS:
ETE-1 SWP log# 11528	12-7-93	1:05		X			4	2	2											4	
ETE-2 11529		2:10																			
ETE-3 11530		3:30																			
ETE-4 11531		12:05																			
ETE-5 11532		12:30																			
GM-1S 11533		1:20																			
GM-2S 11534		2:50																			
GM-3S 11535		4:05																			
GM-10S 11536		4:25																			
MW-3C 11537		1:15																			
GM15RM 11544	12-8-93	9:35																			
MW-13C 11545		11:15																			
MW-18A 11546		8:50																			
GM-16RD 11547		10:30																			

Chester LabNet-Houston
Lab ID #: 1193 1273
Iced: yes
pH: 2/4
Temperature: 0°
Date: 12/9/93
Initials:

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Gregory B. Kuntz	12-8-93	2:30	[illegible]	12-8	4:25
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
			Glenda Forbes	12/9/93	0930
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
☐ In Person
☒ Common Carrier: Fed Ex (specify)
☐ Lab Courier
☐ Other

Airbill #: # 7689730112 & 7689730145

00011

Chester LabNet

☒ Houston ☐ Monroeville ☐ Portland

CHAIN-OF-CUSTODY RECORD

Project Manager: Greg Kuntz
Project Name: SWP-Gulf
Purchase Order No.: 12-53101.00
Sampler(s): Greg Kuntz, James Leaphart

Company: ViroGroup, Inc
Address: 1445 Pisgah Church Rd, Lexington, SC 29072
Phone #: 803-957-6270 Fax: 803-957-3845
Mail Report To: Greg Kuntz

Requested Turn Around Time: Standard

COMMENTS: Gulf Site Specific
Call Sandra Watson @
803-599-1082.

1. HNO3 2. H2SO4 3. H3PO4 4. HCl 5. NaOH 6. Na2SO3 7. None 8. Other(s)

SAMPLE IDENTITY:	Date Sampled	Time Sampled	Matrix: Soil	Water	Air	Other	Preservative	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Btex	Metals	TPH	Other Analyses				No. of Containers	REMARKS:
GM-7D SWP Lab# 11538	12-8-93	2:15		X			4	2	2											4	
GM-7S 11539		1:25																			
GM-8S 11540		1:00																			
GM-12S 11541		2:30																			
GM-13S 11542		1:40																			
GM-14S 11543		3:15																			

Chester LabNet-Houston
Lab ID #: H93-1273
Iced: yes
pH: N/A
Temperature: 0°
Date: 12/9/93
Initial: [illegible]

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Gregory B. Kuntz	12/8/93	10:39	Tomara L Harden	12/8/93	6:19
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
			Glinda Forney	12/9/93	0930
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
- ☐ In Person
- ☐ Common Carrier: Fed Ex (specify)
- ☐ Lab Courier
- ☐ Other

Airbill #: #7689730112 #7689730145

000012

Chester LabNet ☒ Houston ☐ Monroeville ☐ Portland

CHAIN-OF-CUSTODY RECORD

Project Manager: Greg Kuntz
Project Name: SWP-Gulf, NC
Purchase Order No.: 12-53101.00
Sampler(s): Greg Kuntz, Jana Leaphart

Company: ViroGroup, Inc.
Address: 1445 Pisgah Church Rd
Lexington, SC 29072
Phone #: 803-957-6270 Fax: 803-957-3845
Mail Report To:

Requested Turn Around Time: Standard

COMMENTS: Gulf Site Specific
Call Sandra Watson at SWP 803-599-1082

1. HNO3 2. H2SO4 3. H3PO4 4. HCl 5. NaOH 6. Na2S2O3 7. None 8. Other(s)

SAMPLE IDENTITY:	Date Sampled	Time Sampled	Soil	Water	Air	Other	Preservative	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Btex	Metals	TPH	Other Analyses	No. of Containers	REMARKS:
GM-9D SWP log# 11519	12/7/93	11:20		X			4	2	2									
GM-9S 11520	↓	11:05		↓			↓	↓	↓									
MW-10C 11521	↓	9:45		↓			↓	↓	↓									
GM-10D 11522	↓	10:00		↓			↓	↓	↓									
GM-10S 11523	↓	10:10		↓			↓	↓	↓									
GM-11RD 11524	↓	9:15		↓			↓	↓	↓									
GM-11RM 11525	↓	9:00		↓			↓	↓	↓									
GM-11S 11526	↓	9:25		↓			↓	↓	↓									
GM-17S 11527	↓	10:35		↓			↓	↓	↓									
Trip Blank								↓										
Field Blank	12/8/93	1030		X				2	2									Not on C-O-C SMJ 12-9-93
Field Blank	12/7/93	3:00		X				2	2									

Chester LabNet-Houston
Lab ID #: H93-1273
Iced: yes
pH: N/A
Temperature: 0°
Date: 12/9/93
Initials: [illegible]

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Gregory B. Kuntz	12/8/93	2:30	[illegible]	12-8	1425
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
			Glinda Forlan	12/9/93	0930
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
☐ In Person
☒ Common Carrier: Fed Ex (specify)
☐ Lab Courier
☐ Other

Airbill #: #7689730112 5
#7689730145

00013

Chester LabNet ☒ Houston ☐ Monroeville ☐ Portland

CHAIN-OF-CUSTODY RECORD

Project Manager: Greg Kurtz
Project Name: [illegible]
Purchase Order No.: 15 5361.00
Sampler(s): Stephanie Jones / [illegible]

Company: [illegible] Inc
Address: [illegible]
[illegible], SC [illegible]
Phone #: 803 [illegible] Fax: [illegible]
Mail Report To: Greg Kurtz

Requested Turn Around Time: Standard

COMMENTS: Call Site Specific Call [illegible] 803-[illegible]

SAMPLE IDENTITY:	Date Sampled	Time Sampled	Soil	Water	Air	Other	Preservative (1. HNO3, 2. H2SO4, 3. H3PO4, 4. HCl, 5. NaOH, 6. Na2SO3, 7. None, 8. Other(s))	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Btex	Metals	TPH	Other Analyses	No. of Containers	REMARKS:
GM-7D Swipe# 11535	[illegible]	1:15		X			4	2	2								4	
GM-7S 11539	1	1:35		1			1	1	1								1	
GM-8S 11540	1	1:00		1			1	1	1								1	
GM-12S 11541	1	2:30		1			1	1	1								1	
GM-13S 11542	1	1:40		1			1	1	1								1	
GM-14S 11543	✓	3:15		✓			✓	✓	✓								✓	

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
[illegible]	12/2/93	1:19	[illegible]	12/2/93	1:19
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
- ☐ In Person
- ☐ Common Carrier: FedEx (specify)
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- ☐ Other

Airbill #

Chester LabNet ☐ Houston ☐ Monroeville ☐ Portland

CHAIN-OF-CUSTODY RECORD

Page ___ of ___

Project Manager: [illegible]
Project Name: [illegible]
Purchase Order No.: 12-[illegible]
Sampler(s): Gary Kurtz

Company: Vivo [illegible], Inc.
Address: 1445 [illegible] Road
Kingston, SC 29[illegible]
Phone #: 703-[illegible] Fax: 803 [illegible]
Mail Report To: Gary Kurtz

Requested Turn Around Time: Rush

COMMENTS: Rush turn around on #11548. If detection, call Bill Arnold at [illegible] 803 579-1075 and run #11549 at standard turn around for TCLP list.

1. HNO3 5. NaOH
2. H2SO4 6. Na2SO3
3. H3PO4 7. None
4. HCl 8. Other(s)

SAMPLE IDENTITY:	Date Sampled	Time Sampled	Matrix: Soil	Water	Air	Other	Preservative	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Btex	Metals	TPH	TCLP	Other Analyses				No. of Containers	REMARKS:
Sample #11548 [illegible]	[illegible]	3:15		X				2	2		[illegible]										4	Cont. [illegible]
Sample #11549	[illegible]	3:15		X												4					4	TCLP List:
																						Benzene
																						Cadmium
																						Mercury
																						Pyridine
																						Hexachlorobenzene
																						Lead
																						Arsenic
																						[illegible] phenol
																						Pyridine
																						[illegible] trichlorophenol
																						[illegible] trichlorophenol

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Gary B. Kurtz	[illegible]	6:20	Pamela K. Hardee	[illegible]	6:20
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
- ☐ In Person
- ☐ Common Carrier: F[illegible] (specify)
- ☐ Lab Courier
- ☐ Other

Airbill #

II. PREPARATION

A. ANALYTICAL LEVELS: Not Applicable.

B. EXTRACTION PROBLEMS: None.

III. ANALYSIS

A. ANALYSIS PROBLEMS: Samples ETE-2 and GM-9D exhibited matrix interference on Acid-surrogates for QC limits.

B. SURROGATE PROBLEMS: A few surrogate recoveries were outside required and advisory QC limits for Semivolatiles (8270). Bromochloromethane the only surrogate exhibiting values outside QC limits for Volatiles (8020/8010).

IV. COMMENTS

Robert R Barrientos

Robert R. Barrientos - Project Manager

June 27, 1993

Date

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Keystone Lab - Houston
Water Surrogate Recovery Summary
Keystone Work Order # H93-06.49

Client Sample Name	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	S7 2CP	S8 DCB
GM-2S	66	56	57	55	66	72	59	51
GM-13C	55	41 *	51	40	50	56	48	39
GM-13C DL	DL	DL	DL	DL	DL	DL	DL	DL
GM-13S	50	44	11 *	37	49	48	43	39
MW-3C	56	49	62	1 *	0 *	3 *	1 *	43
EDE-2	56	49	57	++	++	++	++	++
GM-15RM	48	43	27 *	27	29	27	31 *	41
GM-15RM DL	DL	DL	DL	DL	DL	DL	DL	DL
GM-15RD	DL	DL	DL	DL	DL	DL	DL	DL
GM-6S	56	48	60	40	55	79	48	42
FIELD BLANK	64	73	69	58	71	73	59	50
GM-9S	57	48	19 *	52	64	50	54	44
GM-17S	71	69	56	53	69	82	55	46
GM-10D	58	59	61	50	61	74	51	44
EDE-3	28 *	54	53	14	19 *	4 *	23 *	36
GM-9D	68	58	43	++	++	++	++	++
GM-3S	60	67	43	14	4 *	0 *	8 *	49
GM-10S	87	75	58	58	20 *	23	37	85
GM-11RM	63	65	37	51	63	84	53	45
GM-11S	54	46	39	27	16 *	23	27 *	39
GM-16S	89	64	55	63	63	39	57	60
GM-14S	0 *	6 *	37	0 *	0 *	59	1 *	0 *
EDE-4	64	50	48	55	68	60	57	50
MW-10C	62	45	53	54	65	59	54	45
GM-7S	59	45	55	52	66	60	55	43
GM-8S	60	48	43	26	29	15	35	49
GM-1S	66	50	40	45	47	40	48	53
EDE-1	69	56	43	30	31	39	35	51
GM-7D	62	48	38	58	72	64	59	46
GM-12S	60	47	37	46	59	57	51	43
GM-16RD	60	49	61	65	83	69	70	46
GM-16RD DL	DL	DL	DL	DL	DL	DL	DL	DL
GM-16D	DL	DL	DL	DL	DL	DL	DL	DL
GM-11RD	59	48	33	60	58	64	56	48
EDE-5	68	55	45	20	7 *	3 *	16 *	59
BLANK SPIKE	87	77	109	72	82	80	70	80
BLANK SPIKE DUP	70	56	66	53	61	60	52	57

Surrogate Name	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	35-114
S3 (TPH) = Terphenyl-d14	33-141
S5 (2FP) = 2-Fluorophenol	21-110
S7 (2CP) = 2-Chlorophenol-d4	33-110**

Surrogate Name	QC LIMITS
S2 (FBP) = 2-Fluorobiphenyl	43-116
S4 (PHL) = Phenol-d5	10-110
S6 (TBP) = 2,4,6-Tribromophenol	10-123
S8 (DCB) = 1,2-Dichlorobenzene-d4	16-110**

28 out of 246 : outside of QC limits.

* = Values are outside of QC limits
DL = DILUTED OUT
** = Advisory QC Limits
++ = Acid Surrogates outside limits / Matrix Interference
NA = Not Applicable

RECEIVED
JUL 0 2 1993
ENVIRONMENTAL AFFAIRS

CHESTER LABNET - HOUSTON

SURROGATE RECOVERY SUMMARY

Client Name: Southern Wood Piedmont Co.
Chester LabNet Work Order # B93-06.49

CLIENT SAMPLE NUMBER	TRIFLUORO-TOLUENE % RECOVERY	BROMOCHLORO-METHANE % RECOVERY
1. LAB BLANK 1	110	99
2. LAB BLANK 2	100	88
3. LAB BLANK 3	110	95
4. LAB BLANK 4	NA	87
5. G4-2S	110	98
6. G4-13C	98	120
7. G4-13S	85	110
8. MW-3C	110	96
9. EIB-2	100	96
10.G4-15RM	99	92
11.G4-15RD	94	120
12.G4-6S	85	110
13.FIELD BLANK	93	99
14.G4-9S	82	110
15.G4-12S	78	110
16.G4-10D	87	110
17.EIB-3	100	92
18.G4-9D	83	92
19.G4-3S	95	96
20.G4-10S	90	140 *
21.G4-11RM	88	120
22.G4-11S	94	120
23.G4-16S	78	110
24.G4-14S	84	90
25.EIB-4	100	91
26.MW-10C	120	110
27.G4-7S	91	120
28.G4-8S	110	100
29.G4-1S	76	140 *
30.EIB-1	100	100
31.G4-7D	91	90
32.G4-12S	100	90
33.G4-16RD	90	100
34.G4-16D	93	110
35.G4-11RD	100	110
36.EIB-5	92	110
37.G4-15RD MS	81	99
38.G4-15RD MSD	85	110
39.G4-1S MS	69	140 *
40.G4-1S MSD	68	150 *
41.BLANK SPIKE	91	110
42.BLANK SPIKE DUP	94	110

Colum to be used to flag recovery values
* Values outside of Advisory QC limits.
D Surrogates diluted out

TRIFLUOROTOLUENE ADVISORY QC LIMITS (65 - 120%)
BROMOCHLOROMETHANE ADVISORY QC LIMITS (65 - 125%)

RECEIVED
JUL 0 2 1993
ENVIRONMENTAL

Summary of Analytical Results

Date received: 5-JUN-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-06.49

Chester LabNet ID		49-001	49-002	49-003	49-004	49-005	49-006
Sampling Point		QA QC	X	X	X	X	X
Date Sampled		3-JUN-1993	3-JUN-1993	3-JUN-1993	4-JUN-1993	4-JUN-1993	3-JUN-1993
Customer ID		LAB BLANK	GM-2S (MW-2S)	GM-13C	GM-13S	MW-3C	EIE-2
Parameters	Units						
BTEX 8020							
Benzene	mg/L	ND	ND	0.081	0.004	ND	ND
Toluene	mg/L	ND	ND	0.13	ND	ND	ND
Ethyl Benzene	mg/L	ND	ND	0.064	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	0.11	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	0.045	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	0.068	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	0.10 *	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	0.31 *	ND	ND	ND
Naphthalene	mg/L	ND	ND	3.0 *	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	0.13	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	0.026	ND	ND	ND
Acenaphthene	mg/L	ND	ND	0.097	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	0.65	0.39	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	0.1	0.015	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	0.46 *	0.29	ND	ND
Dilution Factor		1	1	2	2	1	1
FIELD INFORMATION							
Date Collected			06.3.93	06.4.93	06.3.93	06.3.93	06.3.93
Water Level (casing top) ft.			15.25	12.19	11.56	7.85	15.52
Well Depth, ft.			24.10	97.94	17.78	48.72	36.60
pH			7.2	6.5	5.5	7.2	7.3
			7.3	7.0	5.5	7.2	7.3
			7.3	7.0	5.5	7.2	7.3
Specific Conductance			830	340	240	580	360
			820	400	250	580	360
			840	410	260	570	350

ND = NONE DETECTED

* = COMPOUND AMOUNT TAKEN FROM A 1:40 DILUTION

Summary of Analytical Results

Date received: 5-JUN-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-06.49

		Samples					
Chester LabNet ID		49-007	49-008	49-009	49-010	49-011	49-012
Sampling Point		X	X	X	X	X	X
Date Sampled		4-JUN-1993	4-JUN-1993	3-JUN-1993	4-JUN-1993	3-JUN-1993	3-JUN-1993
Customer ID		GM-15RM	GM-15RD	GM-6S	FIELD BLANK	GM-9S	GM-17S
Parameters	Units			(MW-6S)			(MW-17S)
BTEX 8020							
Benzene	mg/L	0.028	0.53	ND	ND	ND	ND
Toluene	mg/L	ND	0.52	ND	ND	ND	ND
Ethyl Benzene	mg/L	0.012	0.073	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	<0.05	ND	ND	ND	ND
Total Xylenes	mg/L	0.025	0.42	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	0.20	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	0.20	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	0.60	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	0.017	0.32	ND	ND	ND	ND
Naphthalene	mg/L	1.1 *	0.63	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	0.088	0.085	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	0.031	ND	ND	ND	ND
Acenaphthene	mg/L	0.14	0.12	ND	ND	ND	ND
Fluorene	mg/L	0.063	0.09	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	0.087	0.19	ND	ND	ND	ND
Anthracene	mg/L	ND	0.023	ND	ND	ND	ND
Fluoranthene	mg/L	0.028	0.086	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	0.011	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	0.049	0.055	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	0 11	ND	ND	ND	ND
Dilution Factor		2	10	1	1	1	1
FIELD INFORMATION							
Date Collected		06.4.93	06.4.93	06.3.93		06.3.93	06.3.93
Water Level (casing top) ft.		11.61	12.56	5.00		11.54	15.28
Well Depth, ft.		55.16	97.87	16.45		22.35	25.55
pH		7.0	7.0	7.5		7.0	7.3
		6.5	7.0			7.1	7.1
		6.5				7.1	7.1
Specific Conductance		720	270	890		700	190
		740	210			650	210
		740				590	200

ND = NONE DETECTED

* = COMPOUND AMOUNT TAKEN FROM A 1:40 DILUTION

Summary of Analytical Results

Date received: 5-JUN-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-06.49

		Samples					
Chester LabNet ID		49-013	49-014	49-015	49-016	49-017	49-018
Sampling Point		X	X	X	X	X	X
Date Sampled		3-JUN-1993	3-JUN-1993	3-JUN-1993	3-JUN-1993	3-JUN-1993	3-JUN-1993
Customer ID		GM-10D	EDE-3	GM-9D	GM-3S (GM-3S)	GM-10S	GM-11RM
Parameters	Units						
BTEX 8020							
Benzene	mg/L	ND	ND	ND	ND	ND	ND
Toluene	mg/L	ND	ND	ND	ND	ND	ND
Ethyl Benzene	mg/L	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	ND	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	ND	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	ND	ND	ND	ND	ND
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	ND
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
		ND					
Dilution Factor		1	1	1	1	1	1
FIELD INFORMATION							
Date Collected		06.3.93	06.3.93	06.3.93	06.3.93	06.3.93	06.3.93
Water Level (casing top) ft.		27.90	7.55	10.95	7.80	25.55	21.86
Well Depth, ft.		57.80	21.95	38.65	15.25	43.15	64.30
pH		7.8	7.1	7.1	7.0	7.3	7.4
		7.4	7.0	7.2	7.0	7.2	5.5
		7.4	6.9	7.3	6.0	7.1	5.5
Specific Conductance		1400	430	930	940	>2000	580
		1420	470	990	970	>2000	660
		1410	460	990	1030	>2000	680

ND = NONE DETECTED

Summary of Analytical Results

Date received: 5-JUN-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-06.49

		Samples					
Chester LabNet ID		49-019	49-020	49-021	49-022	49-023	49-024
Sampling Point		X	X	X	X	X	X
Date Sampled		3-JUN-1993	3-JUN-1993	3-JUN-1993	4-JUN-1993	4-JUN-1993	3-JUN-1993
Customer ID		GM-11S	GM-16S	GM-14S	EIE-4	MW-10C	GM-7S
Parameters	Units					(GM-10C)	(MW-7S)
BTEX 8020							
Benzene	mg/L	ND	0.12	ND	ND	0.007	ND
Toluene	mg/L	ND	0.068	ND	ND	ND	ND
Ethyl Benzene	mg/L	ND	0.034	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	ND	ND	ND	ND	ND
Total Xylenes	mg/L	ND	0.092	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	0.46	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	0.22	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	0.84	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	0.06	ND	ND	ND	ND
Naphthalene	mg/L	ND	4.9 *	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	0.38	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/L	ND	0.27	ND	ND	ND	ND
Fluorene	mg/L	ND	0.21	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	14.0 *	ND	ND	ND	ND
Phenanthrene	mg/L	ND	0.35	ND	ND	ND	ND
Anthracene	mg/L	ND	0.035	ND	ND	ND	ND
Fluoranthene	mg/L	ND	0.081	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	0.011	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	0.11	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	1.0 *	ND	ND	ND	ND
Dilution Factor		1	10	1	1	1	1
FIELD INFORMATION							
Date Collected		06.3.93	06.3.93	06.3.93	06.4.93	06.4.93	06.3.93
Water Level (casing top) ft.		22.94	8.42	5.01	3.25	99.41	4.95
Well Depth, ft.		38.31	20.10	21.00	31.50	129.6	16.75
pH		5.8	5.4	6.6	7.9	8.1	7.5
		5.7	5.5	6.7	8.0	7.9	7.5
			5.5	6.7	7.9	7.9	7.5
Specific Conductance		960	360	1150	950	1100	>2000
		800	360	940	930	1100	>2000
			360	930	950	1100	>2000

ND = NONE DETECTED

* = COMPOUND AMOUNT TAKEN FROM A 1:1000 DILUTION

Summary of Analytical Results

Date received: 5-JUN-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-06.49

		Samples					
Chester LabNet ID		49-025	49-026	49-027	49-028	49-029	49-030
Sampling Point		X	X	X	X	X	X
Date Sampled		3-JUN-1993	4-JUN-1993	4-JUN-1993	3-JUN-1993	3-JUN-1993	3-JUN-1993
Customer ID		GM-8S	GM-1S	EIE-1	GM-7D	GM-12S	GM-16RD
Parameters	Units	(MW-8S)	(MW-1S)		(MW-7D)		
BTEX 8020							
Benzene	mg/L	ND	1.2	ND	ND	ND	ND
Toluene	mg/L	ND	0.3	ND	ND	ND	ND
Ethyl Benzene	mg/L	ND	<0.01	ND	ND	ND	ND
2-Butanone (MEK)	mg/L	ND	<0.05	ND	ND	ND	ND
Total Xylenes	mg/L	ND	0.2	ND	ND	ND	ND
GC8010							
Methylene Chloride	mg/L	ND	ND	ND	ND	ND	ND
SV TCL							
Phenol	mg/L	ND	ND	ND	ND	ND	0.035
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	ND	ND	ND	ND	ND	ND
Naphthalene	mg/L	ND	0.012	ND	ND	ND	0.038
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	ND	ND	ND	ND	ND	0.011
2,4,6-Trichlorophenol	mg/L	ND	ND	ND	ND	ND	0.042
Acenaphthene	mg/L	ND	ND	ND	ND	ND	0.024
Fluorene	mg/L	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/L	ND	ND	ND	ND	ND	0.014
Anthracene	mg/L	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Chrysene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND	ND
Carbazole	mg/L	ND	ND	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	ND	ND	ND	ND	ND	0.42 *
Dilution Factor		1	1	1	1	1	2
FIELD INFORMATION							
Date Collected		06.3.93	06.4.93	06.4.93	06.3.93	06.3.93	06.3.93
Water Level (casing top) ft.		13.10	6.35	5.45	4.75	6.66	9.63
Well Depth, ft.		20.60	18.40	31.40	28.65	16.06	97.50
pH		7.1	7.9	7.7	7.5	6.0	9.3
		7.2	7.9	7.7	7.5	6.1	9.3
		7.2	8.0	7.9	7.5	6.3	9.1
Specific Conductance		680	1615	830	1310	700	360
		670	1800	850	1210	630	360
		730	1880	840	1410	610	360

ND = NONE DETECTED

* = COMPOUND AMOUNT TAKEN FROM A 1:10 DILUTION

Summary of Analytical Results

Date received: 5-JUN-1993 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-06.49

		Samples				
Chester LabNet ID		49-031	49-032	49-033	49-034	49-035
Sampling Point		X	X	X	QA QC	QA QC
Date Sampled		3-JUN-1993	3-JUN-1993	3-JUN-1993	3-JUN-1993	3-JUN-1993
Customer ID		GM-16D	GM-11RD	EIE-5	BLANK SPIKE	BLANK SPIKE DUP
Parameters	Units					
BTEX 8020						
Benzene	mg/L	0.025	0.022	ND	115 *	110 *
Toluene	mg/L	0.038	0.032	ND	100 *	100 *
Ethyl Benzene	mg/L	0.019	0.016	ND	95.0 *	100 *
Total Xylenes	mg/L	0.059	0.052	ND	92.0 *	100 *
GC8010						
Methylene Chloride	mg/L	ND	ND	ND	136 *	126 *
SV TCL						
Phenol	mg/L	0.022	ND	ND	ND	ND
2-Chlorophenol	mg/L	ND	ND	ND	ND	ND
2-Methylphenol	mg/L	ND	ND	ND	ND	ND
3+4-Methylphenol	mg/L	0.043	ND	ND	ND	ND
2,4-Dimethylphenol	mg/L	0.038	ND	ND	ND	ND
Naphthalene	mg/L	4.7 **	ND	ND	ND	ND
p-chloro-m-cresol	mg/L	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/L	0.26	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/L	0.031	ND	ND	ND	ND
Acenaphthene	mg/L	0.29	ND	ND	ND	ND
Fluorene	mg/L	0.16	ND	ND	ND	ND
Pentachlorophenol	mg/L	4.3 **	ND	ND	ND	ND
Phenanthrene	mg/L	0.32	ND	ND	ND	ND
Anthracene	mg/L	0.032	ND	ND	ND	ND
Fluoranthene	mg/L	0.12	ND	ND	ND	ND
Benzo(a)anthracene	mg/L	0.023	ND	ND	ND	ND
Chrysene	mg/L	0.018	ND	ND	ND	ND
Benzo(b)fluoranthene	mg/L	0.012	ND	ND	ND	ND
Benzo(k)fluoranthene	mg/L	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/L	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	mg/L	ND	ND	ND	ND	ND
Carbazole	mg/L	0.13	ND	ND	ND	ND
Aniline	mg/L	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	mg/L	0.24	ND	ND	ND	ND
Dilution Factor		10	1	1	1	1
FIELD INFORMATION						
Date Collected		06.3.93	06.3.93	06.3.93		
Water Level (casing top) ft.		9.76	33.10	12.50		
Well Depth, ft.		38.23	48.89	19.30		
			98.35			
pH		5.7	7.8	7.1		
		5.8	6.0	7.3		
		5.8	6.0	7.2		
Specific Conductance		610	340	930		
		630	260	930		
		630	270	910		

ND = NONE DETECTED

** = COMPOUND AMOUNT TAKEN FROM A 1:200 DILUTION

* - PERCENT RECOVERY

QC Report

Date received: 5-JUN-1992 Customer: SOUTHERN WOOD PIEDMONT COMPANY Job name: H93-06.49

Parameters	Detection Limit	Analyst Initial	EPA Method	Dates Analyzed
BTEX 8020				
Benzene	0.002 mg/L	MM	8020	6-3/4-93
Toluene	0.003 mg/L	MM	8020	6-3/4-93
Ethyl Benzene	0.003 mg/L	MM	8020	6-3/4-93
2-Butanone (MEK)	0.005 mg/L	MM	8020	6-3/4-93
Total Xylenes	0.003 mg/L	MM	8020	6-3/4-93
GC8010				
Methylene Chloride	0.002 mg/L	MM	8010	06-6-93
SV TCL				
Phenol	0.010 mg/l	SC	8270	06-16/21/22/23-93
2-Chlorophenol	0.010 mg/l	SC	8270	06-16/21/22/23-93
2-Methylphenol	0.010 mg/l	SC	8270	06-16/21/22/23-93
3+4-Methylphenol	0.010 mg/l	SC	8270	06-16/21/22/23-93
2,4-Dimethylphenol	0.010 mg/l	SC	8270	06-16/21/22/23-93
Naphthalene	0.010 mg/l	SC	8270	06-16/21/22/23-93
p-chloro-m-cresol	0.010 mg/l	SC	8270	06-16/21/22/23-93
2-Methylnaphthalene	0.010 mg/l	SC	8270	06-16/21/22/23-93
2,4,6-Trichlorophenol	0.010 mg/l	SC	8270	06-16/21/22/23-93
Acenaphthene	0.010 mg/l	SC	8270	06-16/21/22/23-93
Fluorene	0.010 mg/l	SC	8270	06-16/21/22/23-93
Pentachlorophenol	0.050 mg/L	SC	8270	06-16/21/22/23-93
Phenanthrene	0.010 mg/l	SC	8270	06-16/21/22/23-93
Anthracene	0.010 mg/l	SC	8270	06-16/21/22/23-93
Fluoranthene	0.010 mg/l	SC	8270	06-16/21/22/23-93
Benzo(a)anthracene	0.010 mg/l	SC	8270	06-16/21/22/23-93
Chrysene	0.010 mg/l	SC	8270	06-16/21/22/23-93
Benzo(b)fluoranthene	0.010 mg/l	SC	8270	06-16/21/22/23-93
Benzo(k)fluoranthene	0.010 mg/l	SC	8270	06-16/21/22/23-93
Benzo(a)pyrene	0.010 mg/l	SC	8270	06-16/21/22/23-93
Indeno(1,2,3-cd)pyrene	0.010 mg/l	SC	8270	06-16/21/22/23-93
Dibenzo(a,h)anthracene	0.010 mg/l	SC	8270	06-16/21/22/23-93
Carbazole	0.010 mg/l	SC	8270	06-16/21/22/23-93
Aniline	0.010 mg/l	SC	8270	06-16/21/22/23-93
2,3,4,6-Tetrachlorophenol	0.010 mg/l	SC	8270	06-16/21/22/23-93

KEYSTONE LAB - HOUSTON

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY SUMMARY

Site : SAP Gulf
Level :

Keystone Work Order : H93-06.49
Client Sample Name : BLK SPK/BLK SPK DUP

Fraction	Compound	Conc. Spike added (µg/L)	Sample Result	Conc. MS	% Rec.	Conc. MSD	% Rec.	RPD	QC RPD	Limits Rec-Rec
B/N	1,2,4-Trichlorobenzene.....	50	0	38	76	28	56	30*	28	39-98
	Acenapthene.....	50	0	42	84	34	68	21	31	46-118
	2,4-Dinitrotoluene.....	50	0	41	82	33	66	22	38	24-96
	Pyrene.....	50	0	44	88	39	78	12	31	26-127
	N-Nitroso-Di-n-Propylamine.	50	0	40	80	30	60	29	38	41-116
	1,4-Dichlorobenzene.....	50	0	42	84	26	52	47*	28	36-97
ACID	Pentachlorophenol.....	75	0	76	101	62	83	20	50	9-103
	Phenol.....	75	0	75	100*	57	76	27	42	12-89
	2-Chlorophenol.....	75	0	56	75	43	57	26	40	27-123
	4-Chloro-3-Methylphenol....	75	0	59	79	51	68	15	42	23-97
	4-Nitrophenol.....	75	0	39	52	30	40	26	50	10-80
8020	Benzene.....	20	0	22	115	22	110	4	20	80-123
	Toluene.....	20	0	20	100	20	100	0	21	69-127
	Ethylbenzene.....	20	0	20	95	20	100	5	19	72-124
	Total Xylenes.....	60	0	60	92	60	100	8	26	70-130
8010	Methylene Chloride.....	50	0	68	136	63	126	8	25	46-143

Relative Percent Difference

B/N's : 2 out of 6 were outside QC limits
ACIDs : 0 out of 5 were outside QC limits
BTEX's : 0 out of 4 were outside QC limits
8010's : 0 out of 1 were outside QC limits

Percent Spike Recovery

B/N's : 0 out of 12 were outside QC limits
ACIDs : 1 out of 10 were outside QC limits
BTEX's : 0 out of 8 were outside QC limits
8010's : 0 out of 2 were outside QC limits

* - Asterisked values are outside QC limits

KEYSTONE LAB - HOUSTON

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY SUMMARY

Site : SAP Gulf
Level :

Keystone Work Order : H93-06.49
Client Sample Name : GM-15RD

Fraction	Compound	Conc. Spike added (µg/L)	Sample Result	Conc. MS	% Rec.	Conc. MSD	% Rec.	RPD	QC RPD	Limits Rec-Rec
8020	Benzene.....	200	530	890	180*	870	170*	6	20	80-123
	Toluene.....	200	520	800	140*	810	145*	3	21	69-127
	Ethylbenzene.....	200	73	260	94	260	94	0	19	72-124
	Total Xylenes.....	600	420	1100	113	1100	113	0	26	70-130
8010	Methylene Chloride.....	500	0	590	118	670	134	12	25	46-143

Relative Percent Difference

BTEX's : 0 out of 4 were outside QC limits
8010's : 0 out of 1 were outside QC limits

Percent Spike Recovery

BTEX's : 4 out of 8 were outside QC limits
8010's : 0 out of 2 were outside QC limits

* - Asterisked values are outside QC limits

KEYSTONE LAB - HOUSTON

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY SUMMARY

Site : SWP Gulf
Level :

Keystone Work Order : H93-06.49
Client Sample Name : GM-1S

Fraction	Compound	Conc. Spike added (µg/L)	Sample Result	Conc. MS	% Rec.	Conc. MSD	% Rec.	RPD	QC RPD	Limits Rec-Rec
8020	Benzene.....	200	1200	2000	400*	1800	300*	28*	20	80-123
	Toluene.....	200	330	690	180*	640	155*	15	21	69-127
	Ethylbenzene.....	200	0	220	110	200	100	10	19	72-124
	Total Xylenes.....	600	200	870	112	800	100	11	26	70-130
8010	Methylene Chloride.....	500	0	790	158**	940	188**	17	25	46-143

Relative Percent Difference

BTEX's : 1 out of 4 were outside QC limits
8010's : 0 out of 1 were outside QC limits

Percent Spike Recovery

BTEX's : 4 out of 8 were outside QC limits
8010's : 2 out of 2 were outside QC limits

* - Asterisked values are outside QC limits
** - Matrix interference on internal standard recoveries.

Environmental Technology Engineering, Inc.
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Lexington, S.C. 29072
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0870

Chain-of Custody Record

PROJ. NO.

PROJECT NAME/LOCATION: SWP Gulf

SAMPLERS: (Signature) Massey / Hudson

STA. NO.	DATE 93	TIME	COMP.	GRAB.	STATION LOCATION LOC#	NO. OF CONTAINERS	BV	VOC								REMARKS
MW-8S	6-3	1500		X	11195	3										① -3
MW-7D	6-3	1630		X	11196	3										Results to
MW-7S	6-3	1600		X	11197	3										Greg Kuntz
MW-6S	6-3	1330		X	11198	3										@ ETE
MW-3S	6-3	1120		X	11199	3										
ETE-3	6-3	1100		X	11200	3										
GM-9S	6-3	1415		X	11201	3										
GM-9D	6-3	1350		X	11202	3										
ETE-5	6-3	1500		X	11203	3										
GM-10D	6-3	0830		X	11204	3										
GM-10S	6-3	0845		X	11205	3										
GM-10C	6-3	1200		X	11206	3										
MW-2S	6-3	0915		X	11207	3										
ETE-2	6-3	0980		X	11208	3										
MW-1S	6-3	1000		X	11209	3										

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6-4-93 1210				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Original to Laboratory, copies to sampler and files.

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0871

Chain-of Custody Record

PROJ. NO.:

PROJECT NAME/LOCATION: JWP Gulf

SAMPLERS: (Signature) Massey / Hudson

STA. NO.	DATE 93	TIME	COMP.	GRAB.	STATION LOCATION Loc#	NO. OF CONTAINERS	5H VOC	REMARKS
MW-3C	6-3	1030		X	11210	3		
GM-11D	6-3	1445		X	11211	3		Results to
GM-11RD	6-3	1400		X	11212	3		Greg Kurtz
GM-11S	6-3	1310		X	11213	3		@ ETE
GM-12S	6-3	0945		X	11214	3		
GM-14S	6-3	0900		X	11215	3		
GM-16D	6-3	1200		X	11216	3		
GM-16RD	6-3	1010		X	11217	3		
GM-16S	6-3	1105		X	11218	3		

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6-4-93 1210				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

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0872

Chain-of Custody Record

PROJ. NO.:

PROJECT NAME/LOCATION: JWP Gulf

SAMPLERS: (Signature) Massey / Hudson

(3)-3

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	GW	VOC	REMARKS
STE-4	6-4	0900		X	11219	3			
MW-15	6-4	~~0800~~		X	11220	3			Results to
STE-1	6-4	0800		X	11221	3			Greg Kuntz
GM-13	6-4	0830		X	11222	3			@ ETE
GM-13	6-4	0910		X	11223	3			
GM-15	6-4	1010		X	~~11224~~ 11224	3			
GM-15	6-4	1100		X	~~11226~~ 11225	3			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6-4-93 / 1210				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Original to Laboratory, copies to sampler and files.

ViroGroup
Air • Water • Soil
TECHNOLOGY

ETE Division
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1445 Pisgah Church Rd.
Lexington, SC 29072
(803) 957-6270

AQUEOUS SAMPLE COLLECTION SUMMARY SHEET

SITE NAME/CITY/COUNTY: SWP - GULF

PROJECT NUMBER: 12-53101.00

SAMPLED BY: Massey & Hudson

WEATHER: Partly Cloudy 80° to 85°

SAMPLE TYPE: Groundwater

SAMPLING METHOD: Dedicated Bailer

SPLITS/SPIKES/DUPLICATES:

SAMPLING CONTAINERS: (NUMBER/SIZE/TYPE) 1/1L/AG; 2/40ml/G

REASON FOR SAMPLING: Semi-Annual Sampling June 1993

PARAMETERS REQUESTED: SV and VOC

LAB PERFORMING ANALYSIS: Keystone Lab

RESPIRATORY PROTECTION: None

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(Gal) VOLUME PURGED	(°C) TEMP.	(uMhos) COND.	pH	REMARKS
ETE-1	6-4-93	08:00	31.40	5.45	Ded. Bailer	S.T. Brown	4.23	20.1	830	7.7	
							4.23	19.7	850	7.7	
							4.23	19.7	840	7.9	
ETE-2	6-3-93	09:30	36.60	15.52	"	Clear	3.40	18.8	360	7.3	No Tag
							3.40	19.0	360	7.3	
							3.40	19.4	350	7.3	
ETE-3	6-3-93	11:00	21.95	7.55	"	S.T. Gray	2.35	19.7	430	7.1	Tag Incorrect
							2.35	19.8	470	7.0	
							2.35	20.1	460	6.9	

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(Gal) VOLUME PURGED	(°C) TEMP.	(uMhos) COND.	pH	REMARKS
ETE-4	6-4-93	09:00	31.50	3.25	Ded. Bailer	S.T./Lt. Gray	4.60	19.8	950	7.9	
							4.60	19.7	930	8.0	
							4.60	19.7	950	7.9	
ETE-5	6-3-93	15:00	19.30	12.50	"	Lt. Brown	1.11	19.7	930	7.1	
							1.11	19.5	930	7.3	
							1.11	19.1	910	7.2	
GM-1S	6-4-93	07:30	18.40	6.35	"	Clear	1.96	20.2	1615	7.9	
							1.96	20.0	1800	7.9	
							1.96	19.9	1880	8.0	
GM-2S	6-3-93	09:15	24.10	15.25	"	S.T. Tan	1.44	18.1	830	7.2	
							1.44	18.5	820	7.3	
							0.72	18.0	840	7.3	Dry @ 2.5 Volumes
GM-3S	6-3-93	11:20	15.25	7.80	"	Clear	1.20	20.3	940	7.0	
							1.20	19.7	970	7.0	
							1.20	20.4	1030	6.9	
GM-6S	6-3-93	13:30	16.45	5.00	"	Lt. Gray	1.86	20.1	890	7.5	
							1.86	20.3	880	7.4	
							1.86	20.9	890	7.4	
GM-7D	6-3-93	16:30	28.65	4.75	"	Clear	3.90	20.5	1310	7.5	
							3.90	19.0	1210	7.5	
							3.90	18.5	1410	7.5	

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(Gal) VOLUME PURGED	(°C) TEMP.	(uMhos) COND.	pH	REMARKS
GM-7S	6-3-93	16:00	16.75	4.95	Ded. Bailer	T. Pinkish/Brown	1.92	18.2	>2000	7.5	
							1.92	18.5	>2000	7.5	
							1.92	18.4	>2000	7.5	
GM-8S	6-3-93	15:30	20.60	13.10	"	T. Brown	1.20	20.0	680	7.1	
							1.20	19.8	670	7.2	
							1.20	20.1	730	7.2	
GM-9D	6-3-93	13:50	38.65	10.95	"	Clear	4.50	19.9	930	7.1	
							4.50	20.1	990	7.2	
							4.50	20.1	990	7.3	
GM-9S	6-3-93	14:15	22.35	11.54	"	S.T. Lt. Gray	1.76	19.1	700	7.0	
							1.76	19.4	650	7.1	
							1.76	20.0	590	7.1	
GM-10D	6-3-93	08:30	57.80	27.90	"	Clear	4.90	17.4	1400	7.8	
							4.90	17.3	1420	7.4	
							2.45	17.7	1410	7.4	Dry @ 2.5 Volumes
GM-10S	6-3-93	08:45	43.15	25.55	"	T. Brown	2.87	17.7	>2000	7.3	
							2.87	17.7	>2000	7.2	
							1.44	17.6	>2000	7.1	Dry @ 2.5 Volumes
GM-11RD	6-3-93	14:45	98.35	33.10	Sub Pump	Clear	13.35	25	340	7.8	Rocks in well at 48.89'.
							13.35	18	260	6.0	Cleared rocks to 98.35'.
							13.35	19	270	6.0	TD should be 115'.

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(Gal) VOLUME PURGED	(°C) TEMP.	(uMhos) COND.	pH	REMARKS
GM-11RM	6-3-93	14:00	64.30	21.86	Ded. Bailer	Cloudy	6.91	19	580	7.4	
							6.91	21	660	5.5	
							6.91	21	680	5.5	
GM-11S	6-3-93	13:10	38.31	22.94	"	T. Redish/Orange	2.50	22	960	5.8	Dry 1 Volume
								20	800	5.7	
GM-12S	6-3-93	09:45	16.06	6.66	"	S.T. Pinkish/Orange	1.53	16	700	6.0	
							1.53	15	630	6.1	
							1.53	15	610	6.3	
GM-13D	6-3-93		32.51	11.85							0.40' FP
											No Sample Collected
GM-13S	6-4-93	09:10	17.78	11.56	"	T. Orange	1.01	16	240	5.5	
							1.01	17	250	5.5	
							1.01	17	260	5.5	
GM-14S	6-3-93	09:00	21.00	5.01	"	T. Reddish Orange	2.60	17	1150	6.6	
							2.60	16	940	6.7	
							2.60	16	930	6.7	

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(Gal) VOLUME PURGED	(°C) TEMP.	(uMhos) COND.	pH	REMARKS
GM-15RD	6-4-93	10:00	97.87	12.56	Sub Pump	Clear	13.90	20	270	7.0	Pumped small amount F.P.
							13.90	22	310	7.0	Odor, Dry @ 2 Volumes
GM-15RM	6-4-93	11:00	55.16	11.61	Ded Bailer	T. Reddish Brown	7.09	19	730	7.0	
							7.09	21	740	6.5	
							7.09	21	740	6.5	
GM-15S			21.48	9.02							0.05' FP
											No sample collected
GM-16D	6-3-93	12:00	38.23	9.76	"	Clear	4.64	19	610	5.7	Odor, Shean
							4.64	19	630	5.8	Bailer Stained
							4.64	19	630	5.8	
GM-16RD	6-3-93	10:40	97.50	9.63	Sub. Pump	Cloudy	14.32	21	360	9.3	Very faint odor
							14.32	18	360	9.3	
							14.32	18	360	9.1	
GM-16S	6-3-93	11:05	20.10	8.42	Ded. Bailer	S.T. Tan	1.90	21	1160	5.4	Shean on Sample
							1.90	19	1200	5.5	Bailer Stained
							1.90	19	1200	5.5	Odor
GM-17S	6-3-93	10:00	25.55	15.28	"	S.T. Tan	1.67	18.6	190	7.3	
							1.67	19.4	210	7.1	
							1.67	20.6	200	7.1	

SAMPLE NUMBER	DATE	TIME	(TOC) WELL DEPTH	(TOC) WATER LEVEL	PURGE METHOD	SAMPLE APPEARANCE	(Gal) VOLUME PURGED	(°C) TEMP.	(uMhos) COND.	pH	REMARKS
MW-3C	6-3-93	10:30	48.72	7.85	Ded Bailer	S.T. Gray	6.60	20.1	580	7.2	
							6.60	20.0	580	7.2	
							3.30	20.2	570	7.2	Odor, Dry @ 2.5 Volumes
MW-10C	6-4-93	12:00	129.6	99.41	Sub Pump	Lt. Gray	4.92	18.9	1100	8.1	Dry 1 Volume
								19.0	1100	7.9	
MW-13C	6-4-93	08:30	97.94	12.19	"	Clear	13.97	18	340	6.5	Odor
							13.97	17	400	7.0	
							13.97	17	410	7.0	
MW-18A			119.80	47.53							No Sample Taken

amec

Southern Wood Piedmont Gulf

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SUPERFUND SECTION

HUMAN HEALTH RISK ASSESSMENT OF THE DRAINAGE DITCH AND CEDAR CREEK NEAR THE FORMER SOUTHERN WOOD PIEDMONT-GULF FACILITY

STATE FILE

Submitted to:

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

Prepared by:

AMEC Earth and Environmental, Inc.
15 Franklin Street
Portland, Maine 04101

9 April 2007

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LIST OF ACRONYMS

ADD	Average Daily Dose
Ba_{beef}	Beef (or meat) transfer coefficient
BGS	Below ground surface
BTF_{mam}	Biotransfer Factor for mammals
COPC	Chemical of Potential Concern
CSM	Conceptual Site Model
CSF	Cancer Slope Factor
CTE	Central Tendency Exposure
EPC	Exposure Point Concentration
ESI	Environmental Site Inspection
HHRA	Human Health Risk Assessment
HI	Hazard Index
HpCDD	Heptachlorodibenzo-p-dioxin Congeners
HQ	Hazard Quotient
LADD	Lifetime Average Daily Dose
MS/MSD	Method Spike/Method Spike Duplicate
NCDENR	North Carolina Department of Environment and Natural Resources
OCDD	Octachlorodibenzo-p-dioxin
ORNL	Oak Ridge National Laboratory
PAHs	Polycyclic Aromatic Hydrocarbons
PCDD/Fs	Polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans
PRGs	Preliminary Remediation Goals
QC	Quality Control
RBC	Risk-Based Concentration
RfD	Reference Dose
RGOs	Remedial Goal Options
RME	Reasonable Maximum Exposure
SLERA	Screening-Level Ecological Risk Assessment
SVOCs	Semi-Volatile Organic Chemicals
SWP	Southern Wood Piedmont
TCLP	Toxic Characteristic Leaching Procedure
TEF	Toxic Equivalency Factor
TEQ	Toxic Equivalents Quotient
TOC	Total Organic Carbon
UCL	Upper Confidence Limit
USEPA	US Environmental Protection Agency
USF&WS	US Fish and Wildlife Service
USGS	US Geological Survey
VOCs	Volatile Organic Chemicals
WPM	Work Plan Memorandum

EXECUTIVE SUMMARY

AMEC Earth & Environmental (AMEC) has conducted a Human Health Risk Assessment (HHRA) of Cedar Creek and the drainage ditch adjacent to the former Southern Wood Piedmont (SWP) property in Gulf, North Carolina. The HHRA is conducted in accordance with the Work Plan Memorandum (AMEC, 2006) that was developed using relevant North Carolina and USEPA guidance. The purpose of the HHRA is to present information that can be used to determine whether there is the potential for unacceptable human health risks from chemical stressors present in Cedar Creek and the drainage ditch based on conditions present at the time of investigation. In addition, the HHRA will support appropriate risk management decision(s), including the practical need and extent of any remedial actions.

The SWP-Gulf facility was a former wood-preserving plant that treated wood using creosote and pentachlorophenol. Operations at this facility ceased in 1980. An on-site drainage ditch discharges to Cedar Creek which merges with the Deep River about 1.75 miles east of the property. Cedar Creek is not part of the SWP property, except for a small portion on the southern side of the Creek where the Creek centerline serves as the property boundary with the adjoining parcel[1]. Historical sampling of the creek has shown evidence of polycyclic aromatic hydrocarbons (PAHs), pentachlorophenol, and polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans (PCDD/Fs) in the creek bed sediments. Trace levels of PAHs and pentachlorophenol were intermittently detected in the historical surface water samples. Based on the current understanding of local transport mechanisms, these chemicals likely entered the Creek either dissolved in the aqueous phase or adsorbed to the particulate phase during historical releases, rather than as non-aqueous oil phase.

E.1 Conceptual Site Model

The Conceptual Site Model is a formal process for outlining preliminary hypotheses about potential for exposures to Site-related chemicals of potential concern (COPCs). Only complete pathways, which include a source of release, a retention medium, a point of contact, and an exposure route, have the potential to lead to exposure and a potential risk.

No current on-site residential land use exists, nor is there any residential land use within the immediate vicinity of the drainage ditch and creek, although there are residential properties to the south and west of the property. There are no permanent structures or residential properties along the banks of the drainage ditch or Cedar Creek. Cedar Creek traverses three properties east of the former SWP facility. The property adjoining the SWP facility is privately owned. The

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

second property, which extends east from approximately 1,800 to 5,000 feet from the northeast corner of the former SWP facility, is currently owned by an inactive brick and structural clay tile manufacturing company. The brick and tile company facility is closed and the original structures have been removed from the site. The remaining property, which extends from about 5,000 feet east of the site to the Deep River, is commercial forest property. It is unlikely that any residential development would occur in the immediate vicinity of these waterbodies in the foreseeable future and the area is not likely suitable for any frequent recreational activity. Consequently, the HHRA focuses only on transient exposures, as may occur when hunters or adolescent trespassers pass through the area. For the purposes of the HHRA, it is assumed that the trespasser is an adolescent (10-18 years old) and the hunter is an adult.

Complete exposure pathways for the adult hunter and adolescent trespasser include incidental ingestion of, and dermal contact with, creek bed sediment in the drainage ditch and Cedar Creek and dermal contact with Cedar Creek surface water. Since uptake by plants and animals that are subsequently ingested by humans is possible when COPCs are present in sediment, consumption of wild game is also considered a complete exposure pathway for the adult hunter.

E.2 Data Analysis

As the result of historical releases, chemicals of potential concern have been detected in sediment from the drainage ditch as well as from Cedar Creek sediment and surface water. Sediments were collected from the drainage ditch in 1983, 1990, 1995, 2002, and 2006 (TOC and grain size only). Sediments were collected from the Cedar Creek in 1983, 1990, 1995, 1998, 2002, and 2006 (TOC and grain size only). All sediment samples represented surface samples collected from depths no greater than one foot. These samples were analyzed for one or more of the following parameters: volatile organic chemicals (VOCs), semivolatile organic chemicals (SVOCs), inorganics, PCDD/Fs, TOC and grain size.

Unfiltered surface water samples were collected from Cedar Creek in 1990 and 1995. Many of these were co-located with sediment samples. Samples collected in 1990 were analyzed for VOCs and SVOCs. Samples collected in 1995 were analyzed for VOCs, SVOCs, and inorganics. No standing water was present in the drainage ditch during any of the field investigations; therefore, no surface water data are available for this area.

For surface water, the maximum observed concentrations were compared to the NC Class C Surface Water criteria (NCAC, 2003). For sediments, the maximum observed concentrations were compared to the USEPA Region IX Preliminary Remedial Goals (PRGs; USEPA, 2004c. For metals in surface water or sediments, the maximum results were compared to site-specific background. If the sample value was greater than the Class C criteria, residential PRGs or site-specific background, the chemical was retained for further analysis.

As recommended by USEPA (2000), the 95 percent upper confidence limit on the arithmetic mean (95th% UCL) was selected as the EPC. The 95th% UCL for each dataset was calculated using ProUCL Software (USEPA, 2004a).

The body burdens of the COPCs in wild game were estimated using a bioaccumulation model similar to the terrestrial food web module developed for the Multimedia, Multipathway and Multireceptor risk assessment developed by USEPA (1999) in support of the Hazardous Waste Identification Rule.

E.3 Toxicity Assessment

The COPCs carried through the risk assessment have the potential to cause non-cancer health effects and/or cancer health effects. As a result, it was necessary to select appropriate toxicity criteria to evaluate potential risks and hazards. Cancer slope factors and reference doses were selected from EPA's IRIS database when they were available. When they were not available, provisional or interim values developed by EPA were used.

E.4 Exposure Assessment

AMEC evaluated reasonable maximum exposures (RME) for an adolescent trespasser and an adult hunter. Standard USEPA (1989, 2000, 2004b) exposure assumptions were used for a number of parameters, while site-specific assumptions were used in some cases. Among the key site-specific exposure assumptions are exposure frequency and duration, skin surface area and dermal adherence, and fraction from site. The exposure frequency for adolescent trespassers considered the fact that trespassing activities would more likely occur on weekends during the warmer months. Thus, the RME exposure frequency for the adolescent trespasser was 44 days/year for eight years. The exposure frequency for the adult hunter was based on US Fish and Wildlife Service survey data (USF&WS, 2003). Based on these data, the 75th percentile hunting days were selected to represent the RME exposure frequency of 28 days. Since data specific to residence time of recreational hunters in North Carolina were unavailable, the RME exposure duration for hunters were assumed to be the same as the USEPA residential duration of 30 years.

Since it was assumed that trespassing activities occurred during warm months, it was further assumed that the adolescent trespasser would wear shorts, a short-sleeve shirt and perhaps sandals. Under this assumption, a total exposed surface area of 4,510 cm^2 representing direct contact of hands, forearms, lower legs and feet with sediment or surface water was used. Hunters are typically covered with blaze orange gear for safety and other protective weatherproofing gear. Therefore, only minimal areas of the skin have the potential for contact with creek sediment or surface water. A total exposed surface area of 2,077 cm^2 representing direct contact with hands and forearms was used. A dermal adherence factor of 0.3 mg/cm^2 was assumed for the adolescent trespasser and hunter.

Although there is evidence of hunters traversing the area, it is highly unlikely that a hunter would exclusively hunt along the narrow corridors formed by the drainage ditch and Cedar Creek. One approach to estimate the potential fraction of their exposure attributable to contact with sediments from the drainage ditch or Cedar Creek would be to weight these areas (0.16 and 7.4 acres, respectively; AMEC, 2007) by the total available hunting acreage. If the latter value were known, it would likely be a large value which in turn would yield a small, albeit representative, fraction. However, since the total available hunting acreage is unknown, a value of 0.25 was selected to represent the fraction of the total exposure from the site as a conservative estimate for this parameter. In addition, this value was used to assess the potential exposure to adolescent trespassers, since these individuals may also use the general area near the ditch and creek, but not exclusively spend all of their time on or near these waterbodies.

E.5 Risk Characterization

USEPA (2000) reports that chemicals with non-cancer hazard quotients (HQs) less than 0.1 are not considered as significant contributors to risk, and therefore are not included as chemicals of concerns (COCs) for remediation decisions. The HQs for each chemical are summed to yield the Hazard Index (HI) for that pathway. A Total (or aggregate) HI is then calculated for each exposure medium by summing the pathway-specific HIs. USEPA (2000) recommends that a total HI of 1 be used as a remediation "trigger" and in addition, recommends calculating a remediation level for each COC at a HQ of 1.

Furthermore, USEPA (2000) reports, "*generally, a 10^{-4} cumulative site risk level represents a remediation "trigger". Chemicals are not considered as significant contributors to risk and therefore are not included as COCs if their individual carcinogenic risk contribution is less than 1×10^{-6}, or one in a million excess cancer risk.*"

<u>*Potential Cedar Creek Non-Cancer Risks*</u>

The RME HI estimate associated with sediment exposures for the adolescent trespasser is 0.03, and the HI associated with surface water exposures is 0.03. The total RME HI across all media for the adolescent trespasser is 0.06, which is well below the USEPA HI benchmark level of 1. In addition, HQs for each chemical are less than 0.1. Thus, potential adolescent trespasser exposure to Cedar Creek sediment and surface water does not present an unacceptable non-cancer risk at the Site.

The RME HI estimate associated with sediment exposures for the hunter is 0.008, the HI associated with ingestion of wild game is 0.005, and the HI associated with surface water exposures is 0.007. The total RME HI across all media for the hunter is 0.02, which is well below the USEPA HI benchmark of 1. In addition, HQs for each chemical are less than 0.1.

Thus, hunter exposure to Cedar Creek sediment, surface water and wild game does not present an unacceptable non-cancer risk at the Site.

Potential Drainage Ditch Non-Cancer Risks

The total RME HI estimate associated with sediment exposures for the adolescent trespasser is 0.09, which is well below the USEPA HI benchmark level of 1. In addition, HQs for each chemical are less than 0.1. Thus, potential adolescent trespasser exposure to drainage ditch sediment does not present an unacceptable non-cancer risk at the Site.

The RME HI estimate associated with sediment exposures for the hunter is 0.02, and the HI associated with ingestion of wild game is 0.006. The total RME HI across all media for the hunter is 0.03, which is well below the USEPA HI benchmark of 1. In addition, HQs for each chemical are less than 0.1. Thus, the hunter exposure to drainage ditch sediment and wild game does not present an unacceptable non-cancer risk at the Site.

Potential Cedar Creek Cancer Risks

The cumulative estimated RME potential excess lifetime cancer risk associated with sediment exposures for the adolescent trespasser is 2×10^{-6}, the cumulative cancer risk associated with surface water exposures is 1×10^{-5}, and the total cumulative cancer risk across all media for the adolescent trespasser is 2×10^{-5}. The cancer risk for dioxin TEQ is at 1×10^{-6}, while all individual cancer risks for the remaining COPCs are less than 1×10^{-6} for sediment exposures. The cancer risk for pentachlorophenol is 1×10^{-5}; remaining individual cancer risks are less than 1×10^{-6} for surface water.

The pentachlorophenol risk is highly conservative since pentachlorophenol was reported in only one surface water sample (8747) collected in 1990 (May) at a concentration of 0.15 mg/L on site at the confluence of the drainage ditch and Cedar Creek. In August 1990, this surface water sample was re-collected (8867) and was non-detect for all chemicals. In November 1996, a surface water sample was collected for a third time from this location and pentachlorophenol was detected at 0.016J mg/L. Pentachlorophenol is susceptible to abiotic degradation (e.g., photodegradation) and bacteria-mediated degradation in both water and soil (WHO, 1987). It is likely that over the last ten years any pentachlorophenol present has been reduced to non-detectable concentrations. No other wood-preserving chemicals have been detected in surface water from Cedar Creek. Pentachlorophenol has only been detected at this one location on site at the confluence of the drainage ditch and Cedar Creek.

The cumulative estimated RME potential excess lifetime cancer risk associated with sediment exposures for the hunter is 3×10^{-6}, the cumulative cancer risk associated with ingestion of wild game is 1×10^{-6}, and the cumulative cancer risk associated with surface water exposures is 1 x

10^{-5}. The total cumulative cancer risk across all media for the hunter is 1×10^{-5}. The cancer risk for dioxin TEQ is at 1×10^{-6}, while all individual cancer risks for the remaining COPCs are less than 1×10^{-6} for sediment exposures. The cancer risk for arsenic is 1×10^{-6}; remaining individual cancer risks are less than 1×10^{-6} for ingestion of wild game. The cancer risk for pentachlorophenol is 1×10^{-5}; remaining individual cancer risks are less than 1×10^{-6} for surface water. As noted for the adolescent trespasser the cancer risk from pentachlorophenol is highly conservative since it was based on a non-representative sample.

Under the RME Case, the individual cancer risk for pentachlorophenol in surface water exceeds the 1×10^{-6} level. However, the total cumulative RME cancer risks for the adolescent trespasser and hunter potentially exposed to Cedar Creek sediment, surface water and wild game are well below USEPA (2000) "trigger" of 1×10^{-4}.

Potential Drainage Ditch Cancer Risks

The cumulative estimated RME potential excess lifetime cancer risk associated with sediment exposures for the adolescent trespasser is 6×10^{-6}. The cancer risk for dioxin TEQ is at 1×10^{-6}, and the individual cancer risk for benzo(a)pyrene is at 2×10^{-6}. Individual cancer risks for the remaining COPCs are less than 1×10^{-6} for sediment exposures.

The cumulative estimated RME potential excess lifetime cancer risk associated with sediment exposures for the hunter is 5×10^{-6}, and the cumulative cancer risk associated with ingestion of wild game is 1×10^{-6}. The total cumulative cancer risk across all media for the hunter is 6×10^{-6}. The cancer risk for dioxin TEQ is at 1×10^{-6}, and the individual cancer risk for benzo(a)pyrene is at 2×10^{-6} for sediment exposures. Individual cancer risks for the remaining COPCs are less than 1×10^{-6} for sediment exposures. The cancer risk for arsenic is at 1×10^{-6}; remaining individual cancer risks are less than 1×10^{-6} for ingestion of wild game.

Under the RME Case, the individual cancer risk for benzo(a)pyrene in sediments slightly exceeds the 1×10^{-6} level. However, the total cumulative RME cancer risks for the adolescent trespasser and hunter potentially exposed to drainage ditch sediment and wild game are well below USEPA (2000) "trigger" of 1×10^{-4}.

E.6 Uncertainty Analysis

A number of sources of uncertainty are associated with this analysis. The most important of these are summarized below.

E.6.1 Uncertainty in the Conceptual Site Model

The primary uncertainty in the CSM is the uncertainty associated with correctly identifying complete exposure pathways. In light of this, it is important to note that USEPA (2000) reports, "*sediments in an intermittent stream should be considered as surface soil for the portion of the year the stream is without water. In most cases it is unnecessary to evaluate human exposures to sediments covered by surface water.*" In this analysis, Cedar Creek sediment is evaluated under the assumptions that the sediments are available and without consideration of being covered by surface water. These assumptions likely result in an overestimation of risk, although not unreasonable based on the shallow water depths in the creek.

E.6.2 Uncertainty in the Sampling Methods

The analytical datasets from multiple sources and from different sampling events were combined for this assessment. Only unfiltered surface water samples were available from these datasets. This approach likely overestimates the potential organic and inorganic chemical concentrations, and also does not represent only the dissolved phase concentrations, which is the fraction that elicits the toxic response. Suspended solids are usually present in unfiltered surface water samples, especially those exhibiting turbidity. Therefore, use of the unfiltered surface water results for chemical screening is a conservative approach.

The field duplicate results were treated as independent samples since it was not known whether a thorough homogenization technique was used to prepare these quality control samples.

E.6.3 Uncertainty in the Representativeness of the Sampling

As is typical for Sites such as this, sampling is limited and tends to be biased to locate the highest chemical concentrations. Thus the sampling data are not necessarily representative of conditions at the Site. The use of the 95th% UCL of the average concentration as the EPCs overestimates the potential risks at the Site.

E.6.4 Uncertainty in the Toxicity Assessment

Human dose-response values are often extrapolated, or estimated, using the results of animal studies and making numerous conservative extrapolation assumptions to ensure that potential toxicity in humans is not underestimated. As a result, overestimation of the potential for adverse effects to humans is more likely than underestimation.

E.6.5 Uncertainty in the Exposure Assessment

The potential intake rates, exposure frequencies and durations assumed in the risk assessment were very conservative. Such assumptions almost certainly overestimate actual exposures, if

any, that may occur at the Site. If more realistic and reasonable potential exposure assumptions had been employed in the risk assessment, the estimated risks would have been lower, perhaps substantially lower. For example, it was assumed that exposures to surface water occurred at the same frequency and contact rate as those used to estimate sediment exposures. If surface water exposures occur at all, it is unlikely that contact with surface water occurs each time direct contact occurs with sediment.

Food-chain models were used to assess the potential indirect contact pathway (i.e., consumption of wild game by hunters, when the wild game had fed on vegetation that may have accumulated COPCs from the sediment). This is a highly conservative approach since it assumes that there is a complete exposure pathway for the wild game, and that this game will be consumed by hunters.

USEPA (2000) reports, *"Quantitative risk values should be developed for "central tendency" exposure assumptions. The central tendency values may be derived as point estimates by use of the standard RAGS exposure equations [and] presented and discussed in an uncertainty sub-section of the risk characterization section."* In accordance with this guidance, CTE risks were estimated. While RME estimate conservative exposures, i.e., well above the average case, CTE typically estimate an average exposure case. This generally means that average EPCs, and central tendency values for contact are used. In this analysis, the RME upper-bound EPCs rather than average EPCs were used; only central tendency values for exposure frequency and duration were used.

CTE - Potential Cedar Creek Non-Cancer Risks

The CTE HI estimate associated with sediment exposures for the adolescent trespasser is 0.01, and the HI associated with surface water exposures is 0.02. The total CTE HI across all media for the adolescent trespasser is 0.03, which is well below the USEPA HI benchmark level of 1. In addition, HQs for each chemical are less than 0.1.

The CTE HI estimate associated with sediment exposures for the hunter is 0.003, the HI associated with ingestion of wild game is 0.005, and the HI associated with surface water exposures is 0.003. The total CTE HI across all media for the hunter is 0.01, which is well below the USEPA HI benchmark of 1. In addition, HQs for each chemical are less than 0.1.

CTE - Potential Drainage Ditch Non-Cancer Risks

The total CTE HI estimate associated with sediment exposures for the adolescent trespasser is 0.04, which is well below the USEPA HI benchmark level of 1. In addition, HQs for each chemical are less than 0.1. The CTE HI estimate associated with sediment exposures for the hunter is 0.009, and the HI associated with ingestion of wild game is 0.006. The total CTE HI across all media for the hunter is 0.01, which is well below the USEPA HI benchmark of 1. In addition, HQs for each chemical are less than 0.1.

CTE - Potential Cedar Creek Cancer Risks

The cumulative estimated CTE potential excess lifetime cancer risk associated with sediment exposures for the adolescent trespasser is 1×10^{-6}, the cumulative cancer risk associated with surface water exposures is 6×10^{-6}, and the total cumulative cancer risk across all media for the adolescent trespasser is 7×10^{-6}. The individual COPC cancer risks are less than 1×10^{-6} for sediment CTE exposures. The CTE cancer risk for pentachlorophenol in surface water is 6×10^{-6}; remaining individual CTE cancer risks are less than 1×10^{-6} for surface water.

The cumulative estimated CTE potential excess lifetime cancer risk associated with sediment exposures for the hunter is 3×10^{-7}, the cumulative cancer risk associated with ingestion of wild game is 3×10^{-7}, and the cumulative cancer risk associated with surface water exposures is 1×10^{-6}. The total cumulative cancer risk across all media for the hunter is 2×10^{-6}. All individual COPC CTE cancer risks are less than 1×10^{-6} for both sediment exposures and ingestion of wild game. . The CTE cancer risk for pentachlorophenol in surface water is at 1×10^{-6}; remaining individual cancer risks are less than 1×10^{-6} from surface water for the hunter.

CTE - Potential Drainage Ditch Cancer Risks

The cumulative estimated CTE potential excess lifetime cancer risk associated with sediment exposures for the adolescent trespasser is 3×10^{-6}. The individual cancer risk for benzo(a)pyrene is at 1×10^{-6}. Individual cancer risks for the remaining COPCs are less than 1×10^{-6} for sediment exposures.

The cumulative estimated CTE potential excess lifetime cancer risk associated with sediment exposures for the hunter is 6×10^{-7}, and the cumulative cancer risk associated with ingestion of wild game is 3×10^{-7}. The total cumulative cancer risk across all media for the hunter is 1×10^{-6}. Individual cancer risks for the COPCs are less than 1×10^{-6} for sediment exposures and for ingestion of wild game.

E.7 Conclusions

The hazard indices for RME receptors are below the USEPA health-based target non-cancer risk level of 1.0 and no individual COPC HQ value exceeds 0.1. Therefore, non-cancer risks associated with exposure to COPCs have been calculated to be below levels of concern for both Cedar Creek and the drainage ditch.

The individual RME cancer risks for pentachlorophenol in surface water on-site at the confluence of the drainage ditch and Cedar Creek and benzo(a)pyrene in sediment on site in the drainage ditch exceed 1×10^{-6}. However, the cumulative cancer risk estimates for the RME receptors across media are below the USEPA (2000) trigger of 1×10^{-4}. The same EPCs are used for the RME and CTE estimates; only exposure frequency and duration vary. The CTE analysis demonstrates that with more realistic exposure, but at the same upper-bound estimates for the average chemical concentrations, the individual chemical cancer risks diminished in all cases, except for pentachlorophenol. While the pentachlorophenol risk still slightly exceeds the 1×10^{-6} benchmark, that risk is highly conservative since it was based on a biased estimate of the average concentration.

USEPA (2000) Guidance defines chemicals of concern (COCs) as *"the Chemicals of Potential Concern (COPCs) that significantly contribute to a pathway in a use scenario for a receptor (e.g. hypothetical future child resident, current trespasser, current adult construction worker, etc.) that either (a) exceeds a 10-4 cumulative site cancer risk; or (b) exceeds a non-carcinogenic hazard index (HI) of 1."* Furthermore, USEPA (2000) states, "*Chemicals are not considered as significant contributors to risk and therefore are not included as COCs if their individual carcinogenic risk contribution is less than 10-6 and their non-carcinogenic HQ is less than 0.1.*" In this HHRA, cumulative risks and hazards across all media for both the adolescent trespasser and hunter did not exceed the 10^{-4} cumulative site cancer risk or HI of 1. Furthermore, all individual HQs for all scenarios are less than 0.1. The individual cancer risk estimate (1×10^{-5}) associated with potential exposure to pentachlorophenol in Cedar Creek surface water did exceed the 10^{-6} benchmark. The individual cancer risk estimate (2×10^{-6}) associated with potential exposure to benzo(a)pyrene in drainage ditch sediment slightly exceeded the 10^{-6} benchmark. While the individual risks for these two COPCs are greater than USEPA (2000) benchmark, the cumulative risks don't exceed the remediation "trigger". It is therefore not necessary to propose Remediation Goals based on the HHRA results.

1.0 INTRODUCTION

AMEC Earth & Environmental (AMEC) has conducted a Human Health Risk Assessment (HHRA) of Cedar Creek and the drainage ditch adjacent to the former Southern Wood Piedmont (SWP) facility in Gulf, North Carolina. The HHRA is conducted in accordance with the Work Plan Memorandum (AMEC, 2006) that was developed using relevant North Carolina and USEPA guidance. The purpose of the HHRA is to present information that can be used to determine whether there is the potential for unacceptable human health risks from chemical stressors present in Cedar Creek and the drainage ditch based on conditions present at the times of the investigations. In addition, the HHRA will support appropriate risk management decision(s), including the practical need and extent of any remedial actions.

This HHRA summarizes the results from the human health risk assessment for the drainage ditch and Cedar Creek near the former SWP facility. The remainder of Section 1 provides additional background information concerning the site. Development of the Conceptual Site Model is presented in Section 2. In Section 3 site data are summarized, chemicals of potential concern (COPCs) are selected and exposure point concentrations (EPCs) are derived. Section 4 provides the toxicity assessment, Sections 5 and 6 provide the Exposure Assessment and Risk Characterization, respectively. The Uncertainty Analysis, including a summary of central tendency exposure risk estimates, are provided in Section 7, followed by conclusions in Section 8 and the discussion concerning the development of remediation goals in Section 9. Appendix A provides the supporting calculations for wild game uptake estimates. Appendix B compiles the Risk Assessment Guidance for Superfund (RAGS) Part D Tables (USEPA, 2001) showing the risk assessment calculations for Cedar Creek (Appendix B-1) and for the drainage ditch (Appendix B-2).

1.1 Site Location and Setting

The SWP-Gulf facility (Gulf, North Carolina) was a former wood-preserving plant that treated wood using creosote and pentachlorophenol. Figure 1 shows the general site location map of this facility. Historical aerial photographs of the facility from 1962, 1979 and 2004 are shown in Appendix A, Attachment A3 of the Screening Level Ecological Risk Assessment (SLERA; AMEC, 2007). Operations at this facility ceased in 1980. An on-site drainage ditch discharges to Cedar Creek which merges with the Deep River about 1.75 miles east of the property. Cedar Creek is not part of the SWP property, except for a small portion along the northern property boundary where the Creek centerline serves as the property boundary with the adjoining

parcel[2]. Historical sampling of the creek has shown evidence of polycyclic aromatic hydrocarbons (PAHs), pentachlorophenol, and polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans (PCDD/Fs) in the creek bed sediments. Trace levels of PAHs and pentachlorophenol were reported in the historical surface water samples. Based on the current understanding of local transport mechanisms, these chemicals likely entered the Creek either dissolved in the aqueous phase or adsorbed to the particulate phase during historical releases, rather than as non-aqueous oil phase. The concentrations of several of the PAHs and PCDD/Fs are above conservative screening levels for human receptors in some of the sediment samples. The 1999 Revised Expanded Site Inspection (ESI) prepared by NCDENR (1999a) concluded that no water supply wells, intakes, or wetlands had been impacted due to site-related activities.

1.2 HHRA Components

The seven components of the HHRA, contained in Sections 2 through 9 of this report, include the following:

1. Development of the Conceptual Site Model - review available information to ensure that it is adequate to complete the HHRA; identify chemical sources, potentially impacted media, receptors that could come into contact with those media, and complete exposure pathways for each of those receptors;
2. Data Analysis - develop summary statistics for appropriate data, screen to identify chemicals of potential concern (COPCs), and select appropriate exposure point concentrations (EPCs) for each COPC;
3. Toxicity Assessment - identify chemical dose-response relationships and daily intake levels at which no adverse non-cancer effects or unacceptable cancer risks can reasonably be anticipated to result and select appropriate toxicity indices for each COPC;
4. Exposure Assessment - select appropriate equations and parameters to estimate average daily chemical intakes for all complete exposure pathways;
5. Risk Characterization - compare average daily chemical intake levels with appropriate toxicity indices to generate quantitative expressions of hazard (for non-cancer effects) and the upper limits of the potential cancer risk (for the carcinogenic endpoint) for each COPC;

[2] Additional detail concerning the property boundaries and adjoining properties is provided in the Remedial Action Plan prepared by Schnabel Engineering South, LLC.

6. Uncertainty Analysis - qualitatively identify uncertainty inherent in each component of the HHRA in order to provide proper perspective for risk management decision-makers; and
7. Remedial Goal Options – propose remedial goal options for chemicals of concern (COCs).

2.0 DEVELOPMENT OF CONCEPTUAL SITE MODEL

The Conceptual Site Model (CSM) is a formal process for outlining preliminary hypotheses about potential for exposure to Site-related COPCs. It uses previously collected information to identify complete exposure pathways. Only complete pathways have the potential to lead to exposure and a potential risk. Complete pathways are defined by four components; if any one of the components is missing, the pathway is considered incomplete, and no risk can be associated with that pathway. These components are:

1. A source and mechanism of chemical release (e.g., spills);
2. A retention or transport medium (e.g., sediment);
3. A point of potential contact with the impacted medium, referred to as the exposure point (e.g., exposed surface sediment); and
4. An exposure route (e.g., dermal contact with impacted sediment).

The CSM is presented in Figure 2. The rationale behind the selection of impacted media, receptors potentially exposed to these media, and the routes by which the receptors could be exposed follows.

2.1 Media

Figures 3A and 3B show the locations for the samples collected as part of the different field investigations from the drainage ditch and Cedar Creek, respectively.

As the result of historical releases, chemicals of concern have been detected in sediment from the drainage ditch as well as from Cedar Creek sediment and surface water. Sediments were collected from the drainage ditch in 1983, 1990, 1995, 2002, and 2006 (TOC and grain size only). Sediments were collected from Cedar Creek in 1983, 1990, 1995, 1998, 2002, and 2006 (TOC and grain size only). All sediment samples represented surface samples collected from depths no greater than one foot. These samples were analyzed for one or more of the following parameters: volatile organic chemicals (VOCs), semivolatile organic chemicals (SVOCs), inorganics, PCDD/Fs, TOC and grain size. Sediment samples from both the drainage ditch and Cedar Creek were also collected in 2004 for toxic characteristic leaching procedure (TCLP) analysis.

Unfiltered surface water samples were collected from Cedar Creek in 1990 and 1995. Many of these were co-located with sediment samples. Samples collected in 1990 were analyzed for VOCs and SVOCs. Samples collected in 1995 were analyzed for VOCs, SVOCs, and inorganics. No standing water was present in the drainage ditch during any of the field investigations; therefore, no surface water data are available for this area.

2.2 Receptor Selection

The objective of the HHRA is to evaluate the potential risk to current and reasonably foreseeable future human receptors who may contact the impacted sediment and surface water at the SWP-Gulf facility. The area near the site is sparsely populated, and no residential properties abut Cedar Creek. According to NCDENR (1999a), the closest residence is approximately 600 feet south of the former wood treatment process area. Land-use in the foreseeable future is unlikely to change from the current conditions. Groundwater is not used as a potable water supply within 0.25 mile of the SWP-Gulf site. NCDENR estimated that there were some users of groundwater within 4 miles of the site, and the Gulf-Goldston Water District has drinking water intakes on the Deep River upstream of its confluence with Cedar Creek. Groundwater does not appear to be used for irrigation purposes in the area.

No current on-site residential land use exists, nor is there any residential land use within the immediate vicinity of the drainage ditch or Cedar Creek, although there are residential properties to the south and west of the property. There are no permanent structures or residential properties along the banks of the drainage ditch or Cedar Creek. Cedar Creek traverses three properties east of the former SWP facility. The property adjoining the SWP facility is privately owned. The second property, which extends east from approximately 1,800 to 5,000 feet from the northeast corner of the former SWP facility, is currently owned by an inactive brick and structural clay tile manufacturing company. The brick and tile company site is closed and the original structures have been removed from the site. The remaining property, which extends from about 5,000 feet to the Deep River, is commercial forest property. It is unlikely that any residential development would occur in the immediate vicinity of these waterbodies in the foreseeable future and the area is not likely suitable for any frequent recreational activity. Consequently, the HHRA focuses only on transient exposures, as may occur when hunters or adolescent trespassers pass through the area. For the purposes of the HHRA, it is assumed that the trespasser is an adolescent (10-18 years old) and the hunter is an adult.

2.3 Complete Exposure Pathways

Two types of exposure pathways are generally considered in HHRAs: direct and indirect. A direct exposure pathway is complete when a receptor comes into direct contact with the

impacted media (i.e., dermal contact or ingestion). An indirect exposure occurs when the COPC is transferred from the originally impacted medium (e.g., sediment) to another medium (e.g., wild game), which is subsequently contacted by a human receptor.

The direct exposure pathways that are considered complete pathways for the adult hunter and adolescent trespasser include incidental ingestion of, and dermal contact with, creek bed sediment in the drainage ditch and Cedar Creek. In addition, there is potential for the hunter and adolescent trespasser to have contact with surface water from Cedar Creek. Although sediment might be ingested as a result of hand to mouth contact, incidental ingestion of surface water is very unlikely. Therefore, only potential dermal contact by the hunter or adolescent trespasser is considered a complete direct exposure pathway for surface water. Since uptake by plants and animals that are subsequently ingested by humans is possible when COPCs are present in sediment, the indirect exposure pathway that is considered complete for the adult hunter includes consumption of wild game. Table 2-1 summarizes the complete direct and indirect exposure pathways for Cedar Creek and the drainage ditch.

3.0 DATA ANALYSIS

Data analysis typically includes three steps: statistical analysis of site data, selection of COPCs, and calculation of exposure point concentrations (EPCs).

3.1 Statistical Analysis

Sediment and surface water samples were analyzed by USEPA-approved laboratory methods.

3.1.1 Sediment Samples

Statistical summaries for chemicals in creek bed sediment for the drainage ditch and Cedar Creek are presented in Tables 3-1 and 3-2, respectively. These summaries report surface samples collected from depths no greater than one foot below ground surface (ft bgs) and include the number of times that a chemical was detected, the range of detection limits, the minimum and maximum detected concentrations, and arithmetic mean. Samples were segregated into the Cedar Creek background locations and the samples from the remainder of the creek.

3.1.2 Upstream (Background) Sediment Samples

Only a single VOC (toluene) was detected in one of the sediment samples collected from the background area. Up to 13 SVOCs, all of which were PAHs, were reported in the background samples. These chemicals were infrequently detected in these samples, present in only one or two of the collected samples. Seventeen inorganics were reported in the background samples.

These concentrations were generally consistent with background concentrations reported in NC (USGS, 2003). PCDD/F congeners were detected in most of the background samples. Three congeners (1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF and OCDD) were the most frequently detected PCDD/F congeners. The toxic equivalence quotient (TEQ) concentrations were similar to those reported as background (USEPA, 1998).

3.1.3 Drainage Ditch Sediment Samples

Five VOCs (benzene, ethylbenzene, styrene, toluene, and xylenes) were infrequently detected in the sediment samples collected from the drainage ditch. Up to 25 SVOCs, which included both PAHs and phenolic chemicals, were detected in the drainage ditch sediment samples. Of these 25 SVOCs, the mean detection frequency of PAHs was 40% (range: 8 to 86%) and the mean detection frequency of phenolics was 14% (range: 5 to 25%). Up to 17 inorganics were detected in the sediment samples collected from the drainage ditch. Of these 17 inorganics, the mean detection frequency was 87% (range: 20 to 100%). The mean detection frequency was 68% (range: 17 to 100%) for the PCDD/F congeners in the drainage ditch sediment samples.

Two sediment samples were collected from the downstream portion of the drainage ditch in 2006 for TOC and grain size analyses. Both samples contained high proportions of sand and silt (81.9 and 84.6%). The TOC content ranged from 0.51 to 0.9% (mean: 0.71%). These results are discussed further in the SLERA (AMEC, 2007).

3.1.4 Cedar Creek (Downstream) Sediment Samples

Three VOCs (ethylbenzene, toluene and xylenes) were infrequently detected in the sediment samples collected from Cedar Creek. Up to 24 SVOCs, which included both PAHs and phenolic chemicals, were detected in the Cedar Creek sediment samples. Of these 24 SVOCs, the mean detection frequency of PAHs was 36% (range: 6 to 71%) and the mean detection frequency of phenolics was 9% (range: 3 to 13%). In all cases, the mean concentrations of SVOCs were lower in Cedar Creek than in the drainage ditch. Up to 18 inorganics were detected in the sediment samples collected from Cedar Creek. Of these 18 inorganics, the mean detection frequency was 78% (range: 22 to 100%). The mean concentrations of the inorganics were similar to those from the drainage ditch samples. The mean detection frequency was 68% (range: 24 to 100%) for the PCDD/F congeners in the Cedar Creek sediment samples. The mean concentrations of the PCDD/F congeners and dioxin-TEQ were lower than those observed in the drainage ditch samples.

Thirteen sediment samples were collected from the downstream portion of Cedar Creek in 2006 for TOC and grain size analyses. With two exceptions, these samples contained high proportions of sand and silt. The TOC content ranged for 0.05 to 4.42% (mean: 1.0%). These results are discussed further in the SLERA (AMEC, 2007).

3.1.5 Surface Water Samples

A summary for chemicals of concern in surface water is presented in Table 3-3. Samples were segregated into either the Cedar Creek upstream (background) locations or the samples from the remainder of the creek. Review of the source reports and supporting information showed that surface water sample 8869 (collected in August 1990) contained intentionally disturbed sediment. As a result, this was not a representative surface water sample and was excluded from this summary.

3.1.6 Upstream (Background) Surface Water Samples

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

3.1.7 Downstream Creek Surface Water Samples

There were no detectable VOCs in any of the downstream surface water samples. Up to 5 SVOCs were infrequently detected in the surface water samples. Ten metals (aluminum, barium, calcium, iron, magnesium, manganese, mercury, potassium, sodium and zinc) were detected in the downstream surface water samples. No PCDD/F congeners were detected in the surface water samples.

3.2 Selection of Chemicals of Potential Concern (COPCs)

As part of the data analysis, the analytical results are screened to develop a list of human health chemicals of potential concern (COPCs) for further assessment in the HHRA. The screening included the following elements:

For surface water, the maximum observed concentrations were compared to the NC Class C Surface Water criteria (NCAC, 2003). Class C is the use classification for Cedar Creek as of September 2005[3]. If the Class C value was exceeded, the chemical was retained for further analysis.

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[3] Cedar Creek is located in the Cape Fear Basin, sub basin 03-06-11. The use classification information is from the following NCDENR document:
http://h2o.enr.state.nc.us/bims/reports/basinsandwaterbodies/03-06-11.pdf

For sediments, the maximum observed concentrations were compared to the USEPA Region IX Preliminary Remedial Goals (PRGs; USEPA, 2004c), consistent with USEPA Region IV Guidance (USEPA, 2000). The maximum concentration for 2-methylnaphthalene was compared to the USEPA Region III Risk-Based Concentration (RBC; USEPA, 2006a) since no PRG was available for this chemical. Despite the lack of residential exposures in the vicinity of the drainage ditch or Cedar Creek, comparisons were made to the residential PRGs and RBC. Furthermore, comparisons for non-carcinogens were made using 1/10 of the PRG or RBC, consistent with USEPA Region IV Guidance.

For metals in surface water or sediments, the maximum results were compared to site-specific background. If the sample value was greater than the site-specific background, the chemical was retained for further analysis. Essential nutrients (calcium, magnesium and potassium) were not retained as COPCs.

The screening results are summarized below for each medium.

3.2.1 Sediment

Tables 3-1 and 3-2 summarize the screening steps for the sediment samples collected from the drainage ditch and Cedar Creek, respectively. None of the maximum observed VOC concentrations were greater than the residential PRGs, and therefore were not retained as COPCs. Twenty SVOCs, mainly PAHs, were retained as COPCs. The maximum concentrations of a number of the PAHs exceeded their corresponding residential PRGs and were therefore retained. Although the maximum concentrations for the remaining PAHs were less than their PRGs, they were retained as COPCs since Region IV Guidance requires "*any member of a chemical class that has any other member selected as COPCs to be retained.*" The maximum concentrations for five metals exceeded their respective PRGs. In addition, site-specific background concentrations were also exceeded for these five metals, thus they were retained as COPCs. Dioxin-TEQ concentration was greater than the residential PRG for 2,3,7,8-TCDD, and therefore was retained as a COPC for the HHRA.

As a result of the sediment screening process, the following represent the COPCs that were carried forward for further assessment for both the drainage ditch and Cedar Creek: 2-methylnaphthalene, acenaphthene, acenaphthylene, aluminum, anthracene, arsenic, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(b&k)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, carbazole, dibenzo(a,h)anthracene, dibenzofuran, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, iron, manganese, naphthalene, pentachlorophenol, vanadium, and dioxin TEQ.

3.2.2 Surface Water

Table 3-3 summarizes the screening steps for the surface water samples collected from Cedar Creek. As stated, surface water samples 8869 was excluded from the data summary and also the screening since it contained intentionally disturbed sediment. The surface water results from the downstream locations in Cedar Creek were used for this screen and were compared against the North Carolina Class C Surface Water Quality Criteria for human consumption or Class WS-IV criteria in the absence of Class C Criteria (NCAC, 2003). Results were also compared to site-specific background concentrations when available.

As a result of the surface water screening process, the following represent the COPCs that were carried forward for further assessment: 2-methylphenol, aluminum, iron, isophorone, mercury and compounds (as mercuric chloride), naphthalene, pentachlorophenol, and pyrene.

3.3 Calculation of the Exposure Point Concentration (EPC)

An exposure point concentration (EPC) is a chemical-specific and media-specific upper-bound estimate of the concentration that a given receptor may potentially contact. The EPC should be the average concentration, but due to the uncertainty associated with calculating the true average, USEPA (2000) recommends that the 95 percent upper confidence limit of the arithmetic mean (95th % UCL) be used as the EPC. In this HHRA, the 95th% UCLs for sediment EPCs were calculated using USEPA's ProUCL software (version 3; USEPA, 2004a). In cases where the 95th%UCL exceeded the maximum concentration, the maximum was selected as the EPC. The calculated 95th% UCLs, their statistical basis, and the EPCs selected for use in the HHRA are presented in Tables 3-4 and 3-5 for sediment and surface water, respectively.

3.3.1 Calculation of Dioxin-TEQ

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

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

where:

TEQ = 2,3,7,8-TCDD toxic equivalents;

$PCDD_i$ = the concentration of the individual polychlorinated dibenzo-p-dioxin congener;

$PCDF_i$ = the concentration of the individual polychlorinated dibenzofuran congener; and

TEF_i = the TEFs for the individual non-2,3,7,8-TCDD congeners

The sum of these products - the TEQ - is assumed to yield a comparable toxicological effect as 2,3,7,8-TCDD. The TEQ is treated like an individual chemical for the dose calculations.

3.3.2 Body Burdens in Wild Game

The body burdens of the COPCs in wild game were estimated using a bioaccumulation model similar to the terrestrial food web module developed for the Multimedia, Multipathway and Multireceptor risk assessment developed by USEPA (1999) in support of the Hazardous Waste Identification Rule. The food-chain model includes the following key elements:

- COPC transfer from sediment to game animal dietary items (e.g., plants);
- A biotransfer factor that reflects the uptake potential of the COPC from the dietary item to the game animal; and
- A factor that weights the use of the creek area and the home range of the game animal (called the "habitat fraction" in USEPA, 1999a).

The methodology is discussed in more detail in Appendix A and the estimated tissue levels for each COPC are presented in Table 3-6.

4.0 TOXICITY ASSESSMENT

Toxicity assessment involves the evaluation of available toxicity information to determine acceptable non-cancer and cancer thresholds. Toxicity benchmarks can be used to estimate adverse effects in individuals exposed to COPCs.

Exposure to a chemical does not necessarily result in adverse effects. The relationship between dose and response defines the quantitative indices of toxicity required to evaluate the potential health risks associated with a given level of exposure. If the nature of the dose-response relationship is such that no effects can be demonstrated below a certain level of exposure, a threshold can be defined and an acceptable exposure level derived. Humans are routinely exposed to naturally occurring non-nutritive chemicals and man-made chemicals at low levels (e.g., typical diet, air, and drinking water) with no apparent adverse effects. However, the potential for adverse effects may occur if the exposure level exceeds the threshold. This threshold applies primarily to chemicals that may produce non-cancer effects, although some evidence suggests that exposure thresholds may exist for certain carcinogenic chemicals as well. USEPA's current approach to assessing cancer risk assumes that any level of exposure to most carcinogens results in some level of potential cancer risk.

Adverse effects can be caused by acute or subchronic exposures, which are single or short-term exposures to a substance or by chronic exposure to lower levels of a substance on a continuous or repeated basis over an extended period of time. "Acceptable" subchronic or chronic levels of exposure are considered to be without any anticipated adverse effects. An acceptable exposure level, called a Reference Dose (RfD), is calculated to provide an "adequate margin of safety." RfDs are toxicity values used to estimate potential risk for non-cancer effects. For chemicals with potential non-cancer effects, the RfD provides reasonable certainty that if the specified exposure dose is below the RfD, then no non-cancer health effects are expected to occur even if daily exposure were to occur for a lifetime. RfDs are expressed in terms of milligrams of chemical per kilogram of body weight per day (mg/kg-day).

The underlying assumption of regulatory risk assessment for chemicals with known or assumed potential cancer effects is that no threshold dose exists. In other words, it is assumed that a finite level of risk is associated with any dose above zero. For cancer effects, USEPA uses a two-step evaluation in which the chemical is assigned a weight-of-evidence classification, and then a cancer slope factor (CSF) is calculated. The weight-of-evidence classification summarizes the evidence about the likelihood of the chemical being a human carcinogen. Group A chemicals are classified as human carcinogens, Group B chemicals are probable human carcinogens, Group C chemicals are possible human carcinogens, Group D chemicals are not classifiable as to human carcinogenicity, and Group E chemicals are considered non-carcinogenic. CSFs are calculated for known or probable human carcinogens. The USEPA has developed computerized models that extrapolate observed responses at high doses used in animal studies to predicted responses in humans at the low doses encountered in environmental situations. The models developed by the USEPA assume no threshold and usually use animal as well as human data to develop an estimate of the cancer potency of a chemical. The computerized models used by USEPA assume that cancer dose-response is linear at low doses. The appropriate toxicity value to address carcinogens is a CSF.

A number of sources of toxicity information exist, and these sources vary with regard to the availability and strength of supporting evidence. USEPA (2003) established a protocol for determining toxicity factors that defines a hierarchy of sources to be consulted and the methodology for selection of toxicity values. In accordance with this protocol, oral toxicity values were obtained according to the following hierarchy of sources:

1. Toxicity values were obtained from the *Integrated Risk Information System* (IRIS; USEPA, 2007) database when possible. This database contains RfDs and CSFs verified by USEPA's RfD and Carcinogen Risk Assessment Verification Endeavor

workgroups, and thus is the agency's preferred source for toxicity values. IRIS supersedes all other information sources.

2. For COPCs with no toxicity values available from IRIS, USEPA's Provisional Peer Reviewed Toxicity Values (PPRTV) were used when available[4]. These values have been developed by the USEPA Office of Research and Development/National Center for Environmental Assessment/Superfund Health Risk Technical Support Center (STSC). The STSC develops PPRTVs on a chemical-specific basis when requested to do so under USEPA's Superfund program (USEPA, 2003). These provisional values are included on the USEPA Region IX PRG table (USEPA, 2004c).

3. For COPCs with no toxicity values available from IRIS or STSC, values provided in the Health Effects Assessment Summary Tables (HEAST; USEPA, 1997) were used. HEAST contains interim, as well as verified, RfDs and CSFs. Supporting toxicity information for verified values is provided in an extensive reference section of HEAST.

Currently, the USEPA has not published toxicity values to be utilized in dermal exposure scenarios in typical sources such as IRIS and HEAST. Instead, dermal exposures are generally evaluated using oral RfDs and CSFs with adjustments made for certain chemicals to reflect the difference in absorption via the differing exposure routes (USEPA, 2004b). This approach was used in this HHRA. All RfDs and CSFs used in evaluating potential risks and hazards are presented in Table 4-1.

5.0 EXPOSURE ASSESSMENT

The objective of the exposure assessment is to estimate the type, magnitude, frequency, and duration of exposures for complete exposure pathways via intake equations. In accordance with USEPA (2000) guidelines, all reasonable significant pathways are assessed. A combination of standard USEPA (2000) exposure assumptions (where appropriate and representative of potential exposures at the Site) and site-specific information were used to estimate chemical intake. USEPA (2000) defines two types of exposure estimates for baseline risk assessments: Reasonable Maximum Exposure (RME) and Central Tendency Exposure (CTE). The RME is defined as the highest reasonable potential exposure that could be expected to occur for a given exposure pathway at a site and is intended to account for both uncertainty in the chemical concentration and variability in the exposure parameters. It is an upper-bound estimate. The CTE is defined as the average exposure and is typically based on

[4] These can be found at the following URL, which can be accessed by EPA users only: http://hhpprtv.ornl.gov/pprtv_papers.shtml

the average concentrations that would be contacted by an exposed receptor and typical average exposure parameters. Presenting risk estimates based on both the RME and CTE provides one indication of the variability of potential risks within the population. In accordance with USEPA (2000), only RME exposures and associated risks are presented in the main sections of this report. When a CTE analysis is conducted, USEPA suggests that it be separately addressed in the uncertainty section.

5.1 Intake Equations

Chemical intake is expressed as the amount of the chemical at the exchange boundaries of an organism (e.g., skin, lungs, and digestive tract) that is available for systemic absorption. Chemical intake is also referred to as the average daily dose (ADD) or lifetime average daily dose (LADD) in the case of carcinogens and is usually expressed in mg/kg-day. The equations for estimating a receptor's potential ADD and/or LADD are presented below, and the exposure parameters used are discussed in the following paragraphs.

Incidental Sediment Ingestion

$$ADD(LADD) = \frac{EPCs \times CF \times FR \times IRs \times AFo \times EF \times ED}{BW \times AT}$$

where:

ADD(LADD)	=	Average Daily Dose(Lifetime Average Daily Dose) Due to Incidental Sediment Ingestion (mg/kg-day),
EPC_S	=	Exposure Point Concentration in Sediment (mg/kg),
CF	=	Unit Conversion Factor ($1x10^{-6}$ kg/mg),
FR	=	Fraction from Site (unitless),
IR_S	=	Sediment Ingestion Rate (mg/day),
AFo	=	Oral Absorption (unitless),
EF	=	Exposure Frequency (days/year),
ED	=	Exposure Duration (years),
BW	=	Body Weight (kg), and
AT	=	Averaging Time (days).

Dermal Contact with Sediment

$$ADD(LADD) = \frac{EPCs \times CF \times ABS \times SA \times DAF \times EF \times ED}{BW \times AT}$$

where:

ADD(LADD)	=	Average Daily Dose(Lifetime Average Daily Dose) Due to Dermal Contact with Sediment (mg/kg-day),
EPC_S	=	Exposure Point Concentration in Sediment (mg/kg),
CF	=	Unit Conversion Factor ($1x10^{-6}$ kg/mg),
DAF	=	Soil to Skin Adherence Factor (mg/cm^2),
SA	=	Skin Surface Area Exposed (cm^2/day),
EF	=	Exposure Frequency (days/year),
ED	=	Exposure Duration (years),
ABS	=	Dermal Absorption Factor (unitless),
BW	=	Body Weight (kg), and
AT	=	Averaging Time (days).

Dermal Contact with Surface Water

$$ADD(LADD) = DA_{event} * SA * EV * EF * ED * 1/BW * 1/AT$$

and

$$DA_{event\text{-}organic} = 2FA * Kp * Cw\sqrt{\frac{6\tau_{event} * t_{event}}{\pi}}$$

$$DA_{event\text{-}inorganic} = Kp * Cw * t$$

where:

ADD(LADD)	=	Average Daily Dose(Lifetime Average Daily Dose) Due to Dermal Contact with Surface Water (mg/kg-day),
DAevent	=	Absorbed Dose per Event (mg/cm2-event),
FA	=	Fraction Absorbed (unitless),
Kp	=	Dermal Permeability Coefficient (cm/hr),
Cw	=	Chemical Concentration in Water (mg/cm3),
τ event	=	Lag Time per Event (hr/event),
t	=	Event Duration (hr/event),
π	=	Constant (unitless),
SA	=	Exposed Skin Surface Area (cm2),
EV	=	Number of Events per Day (event/day),
EF	=	Exposure Frequency (days/year),
ED	=	Exposure Duration (years),

BW	=	Body Weight (kg), and
AT	=	Averaging Time (days).

Ingestion of Wild Game

$$ADD(LADD) = \frac{CG \times CF \times IRg \times AFo \times EF \times ED}{BW \times AT}$$

where:

ADD (LADD)	=	Average Daily Dose(Lifetime Average Daily Dose) Due to Ingestion of Wild Game (mg/kg-day),
CG	=	Modeled Body Burden in Tissue of Wild Game (mg/kg),
CF	=	Unit Conversion Factor ($1x10^{-3}$ g/mg),
IR_g	=	Ingestion Rate of Wild Game (g/day),
AFo	=	Oral Absorption (unitless),
EF	=	Exposure Frequency (days/year),
ED	=	Exposure Duration (years),
BW	=	Body Weight (kg), and
AT	=	Averaging Time (days).

5.2 Exposure Parameters

For the hunter and adolescent trespasser, exposure parameters and assumptions are consistent with USEPA guidance and regulations for exposure assessment (USEPA, 1989; USEPA, 1992; USEPA, 2000; USEPA, 2004b). Tables 5-1, 5-2 and 5-3 summarize the exposure parameters for sediment exposures, surface water exposures and ingestion of wild game, respectively. Additional details for key assumptions are discussed below.

5.2.1 Chemical-Specific Parameters

Table 5-4 summarizes the chemical-specific parameters, including oral and dermal absorption factors and the dermal permeability constants. The sources for these factors were the Dermal Guidance (USEPA, 2004b), the on-line database maintained by ORNL (2006), or the EPA software[5] EPI Suite™. Values provided by ORNL or EPI Suite™ were used only in cases where USEPA (2004b) did not provide a chemical-specific value. These are identified on Table 5-4.

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[5] EPI Suite™ can be accessed from the following URL:
http://www.epa.gov/opptintr/exposure/pubs/episuite.htm

5.2.2 Exposure Frequency and Duration

For adolescent trespassers (10-18 years old), it was assumed that trespassing activities occurred on weekends during the warmer months, defined as the period with average temperatures above 60°F. Based on the mean temperatures from nearby Sanford, NC[6], this period corresponds to the months of May through September. Thus, the RME exposure frequency for the adolescent trespasser was 44 days/year for eight years. This frequency was used to estimate exposures associated with both sediment and surface water. The CTE exposure frequency for the adolescent trespasser was assumed to be 22 days/year or half of the RME frequency.

The exposure frequency for the adult hunter was based on US Fish and Wildlife Service survey data (USF&WS, 2003). The SWP-Gulf Site is located in Chatham County, which is within the Central Deer Hunting Area. Based on the latest *North Carolina Inland Fishing, Hunting and Trapping Regulations Digest* (NCWRC, 2005), the deer bow and arrow season for this area extends from 10 September through 4 November 2005 (eight weeks), the muzzeloading season extends from 5 November 2005 through 11 November 2005 (1 week) and the rifle season extends from 12 November 2005 through 2 January 2006 (seven weeks). The boar season for this area is divided into two seasons: 1) 17 October through 19 November (four weeks) and 2) 12 December 2005 through 2 January 2006 (three weeks). Due to limited vacation time, interest, weather, bag limits (e.g., six deer; NCWRC, 2005) and other constraining factors, it is unlikely that an individual hunter would be able to hunt throughout the entire periods of each hunting season. USF&WS (2003) summarized the 2001 survey results of hunting, fishing and other wildlife-related recreational activities (e.g., bird watching) in North Carolina[7]. The information was restricted to key summary statistics (e.g., total numbers of hunters, total number of days involved in deer hunting). AMEC contacted USF&WS and requested a copy of the database used to generate the 2003 report. Based on these data, the median and 75th percentile hunting days were selected to represent the CTE (13 days) and RME (28 days) cases, respectively. The data are highly skewed and fit an approximate gamma distribution based on application of the ProUCL software. The RME value is also similar to the UCL recommended by this program (31 days). The data used for deriving these values and the summary statistics were provided as Table A-4 in the WPM (AMEC, 2006).

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[6] Data from the State Office of North Carolina CRONOS database for Lee County Airport (Sanford), NC [http://www.nc-climate.ncsu.edu/cronos/index.php?station=KTTA&temporal=monthly].

[7] This report was based on a data subset from the *2001 National Survey of Fishing, Hunting, and Wildlife Associated Recreation.* [http://federalaid.fws.gov/surveys/surveys.html]

USEPA (1989) reports 30 years as the national upper-bound time living at the same residence and 9 years as the median time living at the same residence. Since data specific to residence time of recreational hunters in North Carolina were unavailable, the CTE and RME exposure durations for hunters were assumed to be the same as the USEPA residential durations.

5.2.3 Exposed Skin Surface Areas and Dermal Adherence

Since it was assumed that trespassing activities occurred during warm months, it was further assumed that the adolescent trespasser would wear shorts, a short-sleeve shirt and perhaps sandals. Under this assumption, direct contact of hands, forearms, lower legs and feet with sediment or surface water is likely. Based on the Dermal Guidance (USEPA, 2004b), the 50th percentile surface areas for these specific body parts were averaged for males and females between the ages of 10 and 18 years, resulting in a total exposed surface area of 4,510 cm^2. This value was used for both the RME and CTE surface areas for the adolescent trespasser.

Hunters are typically covered with blaze orange gear for safety and other protective weatherproofing gear. Therefore, only minimal areas of the skin have the potential for contact with creek sediment or surface water. The 50th percentile surface areas for hands and forearms were averaged for adult males and females (USEPA, 2004b), resulting in a total exposed surface area of 2,077 cm^2. This value was used for both the RME and CTE surface areas for the hunter.

A dermal adherence factor of 0.3 mg/cm^2 was assumed for the adolescent trespasser and hunter for CTE and RME cases. The Dermal Guidance reports a number of weighted adherence factors for various activities (USEPA, 2004b). While none are specific for hunting or trespassing, factors are provided for construction worker, landscaper, gardener, and irrigation installer. Although soil contact would likely be greater during those activities than for either the hunter or adolescent trespasser, the weighted adherence factor for these activities of 0.3 mg/cm^2 was used for both RME and CTE cases.

5.2.4 Incidental Sediment Ingestion Rate

In accordance with USEPA guidance (USEPA, 1997, 2000), a RME incidental sediment ingestion rate of 100 mg/day and a CTE rate of 50 mg/day were used for both the hunter and adolescent trespasser.

5.2.5 Exposure Fraction from Site

Although there is evidence of hunters traversing this area, it is highly unlikely that a hunter would exclusively hunt along the narrow corridors formed by the drainage ditch and Cedar

Creek, (see Photograph 20 in Appendix D of the SLERA; AMEC, 2007). One approach to estimate the potential fraction of their exposure attributable to contact with sediments from the drainage ditch or Cedar Creek would be to weight those areas (0.16 and 7.4 acres, respectively; AMEC, 2007) by the total available hunting acreage. If the latter value were known, it would likely be a large value which in turn would yield a small, albeit representative, fraction. However, since the total available hunting acreage is unknown, a value of 0.25 was selected to represent the fraction of the total exposure from the site as a conservative estimate for this parameter. Section 7.4 of the Uncertainty Assessment evaluates the effect of setting this value to one on the calculated cancer and non-cancer risks.

The fraction from site value of 0.25 was also used to assess the potential exposure to adolescent trespassers since these individuals may also use the general area near the ditch and creek, but not exclusively spend all of their time on or near these waterbodies.

5.2.6 Wild Game Consumption Rate

The *Exposure Factors Handbook* (USEPA, 1997b) provides information on the mean daily intake of game in different regions of the US (see Table 11-21 in USEPA, 1997b). Based on these data, the consumption rates for both the CTE and RME were assumed to be 9.4 g/day.

6.0 RISK CHARACTERIZATION

Risk characterization is the step in the risk assessment process that combines the results of the exposure assessment and the toxicity assessment for each COPC to estimate the potential for cancer and non-cancer human health effects from exposure to that chemical. The estimated potential cumulative non-cancer and cancer RME risks to human health are presented in Tables 6-1, 6-2, 6-3, 6-4, and 6-5 for Cedar Creek, and in Tables 6-6, 6-7, and 6-8 for the drainage ditch. CTE risks for Cedar Creek and the drainage ditch are summarized as part of the Uncertainty Assessment (Section 7.5), consistent with USEPA Region IV guidance (USEPA, 2000).

Figures 4 and 5 present the cumulative risks for potential exposures to media from Cedar Creek for the trespasser and hunter, respectively. Figures 6 and 7 present the cumulative risks for potential exposures to media from the drainage ditch for the trespasser and hunter, respectively. Both the cancer and non-cancer risks are shown on these figures on a logarithmic scale, and also include the "trigger" levels for remediation. The following sections discuss the results of the risk characterization in detail.

6.1 Potential Non-cancer Risks

In order to estimate potential non-cancer risk, the estimated ADDs calculated for each exposure route considered and each COPC are compared to RfDs. The following formula is used to estimate the potential non-cancer risk for each COPC:

$$HQ = \frac{ADD}{RfD}$$

where:

HQ	=	Hazard Quotient (unitless),
ADD	=	Average Daily Dose of COPC (mg/kg-day), and
RfD	=	Reference Dose (mg/kg-day).

As described in the Section 4.0, the chronic RfD for a given COPC is an estimate of a lifetime daily exposure level for the human population, including sensitive subpopulations, which is likely to be without an appreciable risk of deleterious effects. The potential for non-cancer health effects is evaluated by comparing a potential exposure level over a specified time period with an RfD that has been derived by EPA for a similar exposure period under similar circumstances. This ratio of potential exposure to toxicity is the hazard quotient (HQ). When the HQ for a given chemical and pathway does not exceed 1, the RfD has not been exceeded, and no adverse non-cancer health effects are expected to occur as a result of potential exposure to that chemical via that pathway.

USEPA (2000) reports that chemicals with non-cancer HQs less than 0.1.are not considered as significant contributors to risk, and therefore are not included as chemicals of concerns (COCs) for remediation decisions. The HQs for each chemical are summed to yield the Hazard Index (HI) for that pathway. A Total (or aggregate) HI is then calculated for each exposure medium by summing the pathway-specific HIs. USEPA (2000) recommends that a total HI of 1 be used as a remediation "trigger" and in addition, recommends calculating a remediation level for each COC at a HQ of 1.

Estimates of potential non-cancer effects for each receptor for Cedar Creek and the drainage ditch are summarized below.

6.1.1 Potential Cedar Creek Non-Cancer Risks

The RME HI estimate associated with sediment exposures for the adolescent trespasser is 0.03 (Table 6-1), and the HI associated with surface water exposures is 0.03 (Table 6-2). The total

RME HI across all media for the adolescent trespasser is 0.06, which is well below the USEPA HI benchmark level of 1 (Table 6-2). In addition, HQs for each chemical are less than 0.1 (range: 3E-12 to 0.005). Thus, potential adolescent trespasser exposure to Cedar Creek sediment and surface water does not present an unacceptable non-cancer risk.

The RME HI estimate associated with sediment exposures for the hunter is 0.008 (Table 6-3), the HI associated with ingestion of wild game is 0.005 (Table 6-4), and the HI associated with surface water exposures is 0.007 (Table 6-5). The total RME HI across all media for the hunter is 0.02, which is well below the USEPA HI benchmark of 1 (Table 6-5). In addition, HQs for each chemical are less than 0.1 (range: 3E-12 to 0.006). Thus, hunter exposure to Cedar Creek sediment, surface water and wild game does not present an unacceptable non-cancer risk.

6.1.2 Potential Drainage Ditch Non-Cancer Risks

The total RME HI estimate associated with sediment exposures for the adolescent trespasser is 0.09, which is well below the USEPA HI benchmark level of 1 (Table 6-6). In addition, HQs for each chemical are less than 0.1 (range: 4E-7 to 0.02). Thus, potential adolescent trespasser exposure to drainage ditch sediment does not present an unacceptable non-cancer risk.

The RME HI estimate associated with sediment exposures for the hunter is 0.02 (Table 6-7), and the HI associated with ingestion of wild game is 0.006 (Table 6-8). The total RME HI across all media for the hunter is 0.03, which is well below the USEPA HI benchmark of 1 (Table 6-8). In addition, HQs for each chemical are less than 0.1 (range: 3E-14 to 0.004). Thus, the hunter exposure to drainage ditch sediment and wild game does not present an unacceptable non-cancer risk.

6.2 Potential Excess Lifetime Cancer Risk

The purpose of carcinogenic risk characterization is to estimate the potential likelihood, over and above the background cancer rate, that a receptor will develop cancer in his or her lifetime as a result of potential site-related exposures to COPCs in various environmental media. This likelihood is a function of the potential dose of a chemical and the CSF for that chemical. To estimate the potential cancer risk associated with exposure to a chemical, the CSF for the chemical is multiplied by the LADD calculated for that chemical through each exposure pathway. CSFs are discussed in Section 4.0. LADDs associated with each of the exposure pathways (Section 5.1) are multiplied by the chemical's CSF, as shown in the equation below:

$$CR = CSF \times LADD$$

where:

CR	=	Cancer Risk (unitless),
CSF	=	Cancer Slope Factor [1/(mg/kg-day)], and
LADD	=	Lifetime Average Daily Dose of COPC (mg/kg-day).

USEPA (2000) reports, "*generally, a 10^{-4} cumulative site risk level represents a remediation "trigger"*. Furthermore, USEPA (2000) reports, "*chemicals are not considered as significant contributors to risk and therefore are not included as COCs if their individual carcinogenic risk contribution is less than 1×10^{-6}, or one in a million excess cancer risk*".

The estimated RME cancer risks for Cedar Creek and the drainage ditch are summarized below.

6.2.1 Potential Cedar Creek Cancer Risks

The cumulative estimated RME potential excess lifetime cancer risk associated with sediment exposures for the adolescent trespasser is 2×10^{-6} (Table 6-1), the cumulative cancer risk associated with surface water exposures is 1×10^{-5} (Table 6-2), and the total cumulative cancer risk across all media for the adolescent trespasser is 2×10^{-5} (Table 6-2). The cancer risk for dioxin TEQ is at 1×10^{-6}, while all individual cancer risks for the remaining COPCs are less than 1×10^{-6} for sediment exposures (Table 6-1). The cancer risk for pentachlorophenol is 1×10^{-5}; remaining individual cancer risks are less than 1×10^{-6} for surface water (Table 6-2).

The pentachlorophenol risk is highly conservative since this chemical was reported in only one surface water sample (8747) collected in May 1990 at a concentration of 0.15 mg/L on site at the confluence of the drainage ditch and Cedar Creek. In August 1990, this surface water sample was re-collected (8867) and was non-detect for all chemicals. In November 1996, a surface water sample was collected for a third time from this location and pentachlorophenol was detected at 0.016J mg/L. Pentachlorophenol is susceptible to abiotic degradation (e.g., photodegradation) and bacteria-mediated degradation in both water and soil (WHO, 1987). It is likely that over the last ten years pentachlorophenol in surface water has been reduced to non-detectable concentrations. No other wood-preserving chemicals have been detected in surface water from Cedar Creek. Pentachlorophenol has only been detected at this one location on site at the confluence of the drainage ditch and Cedar Creek.

The cumulative estimated RME potential excess lifetime cancer risk associated with sediment exposures for the hunter is 3×10^{-6} (Table 6-3), the cumulative cancer risk associated with ingestion of wild game is 1×10^{-6} (Table 6-4), and the cumulative cancer risk associated with surface water exposures is 1×10^{-5} (Table 6-5). The total cumulative cancer risk across all media for the hunter is 1×10^{-5} (Table 6-5). The cancer risk for dioxin TEQ is at 1×10^{-6}, while

all individual cancer risks for the remaining COPCs are less than 1 x 10^{-6} for sediment exposures (Table 6-3). The cancer risk for arsenic is at 1 x 10^{-6}; remaining individual cancer risks are less than 1 x 10^{-6} for ingestion of wild game (Table 6-4). The cancer risk for pentachlorophenol is 1 x 10^{-5}; remaining individual cancer risks are less than 1 x 10^{-6} for surface water (Table 6-5). As noted for the adolescent trespasser the cancer risk from pentachlorophenol is highly conservative since it was based on a non-representative sample.

Under the RME Case, the individual cancer risk for pentachlorophenol in surface water exceeds the 1 x 10^{-6} level for both the hunter and adolescent trespasser. However, the total cumulative RME cancer risks for the adolescent trespasser and hunter potentially exposed to Cedar Creek sediment, surface water and wild game are well below USEPA (2000) "trigger" of 1 x 10^{-4}. Furthermore, as stated earlier, the pentachlorophenol risk is highly conservative since this chemical was detected infrequently in these samples.

6.2.2 Potential Drainage Ditch Cancer Risks

The cumulative estimated RME potential excess lifetime cancer risk associated with sediment exposures for the adolescent trespasser is 6 x 10^{-6} (Table 6-6). The cancer risk for dioxin TEQ is at 1 x 10^{-6}, and the individual cancer risk for benzo(a)pyrene is at 2 x 10^{-6}. Individual cancer risks for the remaining COPCs are less than 1 x 10^{-6} for sediment exposures (Table 6-6). The cumulative estimated RME potential excess lifetime cancer risk associated with sediment exposures for the hunter is 5 x 10^{-6} (Table 6-7), and the cumulative cancer risk associated with ingestion of wild game is 1 x 10^{-6} (Table 6-8). The total cumulative cancer risk across all media for the hunter is 6 x 10^{-6} (Table 6-8). The cancer risk for dioxin TEQ is at 1 x 10^{-6}, and the individual cancer risk for benzo(a)pyrene is at 2 x 10^{-6} for sediment exposures. Individual cancer risks for the remaining COPCs are less than 1 x 10^{-6} for sediment exposures (Table 6-7). The cancer risk for arsenic is at 1 x 10^{-6}; remaining individual cancer risks are less than 1 x 10^{-6} for ingestion of wild game (Table 6-8).

Under the RME case, the individual cancer risk for benzo(a)pyrene in sediments slightly exceeds the 1 x 10^{-6} level for both the adolescent trespasser and hunter. However, the total cumulative RME cancer risks for the adolescent trespasser and hunter potentially exposed to drainage ditch sediment and wild game are well below USEPA (2000) "trigger" of 1 x 10^{-4}.

6.3 Risk Summary

In summary, there are no unacceptable potential non-cancer risks to adolescent trespassers or hunters either for Cedar Creek or for the drainage ditch. Pentachlorophenol in Cedar Creek surface water and benzo(a)pyrene present in drainage ditch sediment exceed the 1 x 10^{-6} risk level as individual chemicals for the adolescent trespasser and hunter. However, potential

cumulative excess lifetime cancer risks for adolescent trespassers and hunters do not exceed the 1 x 10^{-4} trigger typically used by the EPA, including EPA Region IV, to trigger remediation (USEPA, 2000).

7.0 UNCERTAINTY ANALYSIS

Within any of the five steps of the risk assessment process, assumptions must be made due to a lack of absolute scientific knowledge. Some of the assumptions are supported by considerable scientific evidence, while others have less support. Every assumption introduces some degree of uncertainty into the risk assessment process. Conservative assumptions are made throughout the risk assessment to ensure that public health is protected. Therefore, when all of the assumptions are combined, it is much more likely that actual risks, if any, are overestimated rather than underestimated.

The assumptions that introduce the greatest amount of uncertainty in this risk assessment are discussed in this section. They are discussed in general terms because, for most of the assumptions, there is not enough information to assign a numerical value that can be factored into the calculation of uncertainty surrounding the risk estimates.

7.1 Uncertainty in the Conceptual Site Model

The primary uncertainty in the CSM is the uncertainty associated with correctly identifying complete exposure pathways. If an exposure pathway is identified as complete when, in fact, it is not complete, risk will be overestimated for that receptor. Likewise, if an exposure pathway is identified as incomplete when it is complete, risk will be underestimated for that receptor. In light of this, it is important to note that USEPA (2000) reports, "*sediments in an intermittent stream should be considered as surface soil for the portion of the year the stream is without water. In most cases it is unnecessary to evaluate human exposures to sediments covered by surface water.*" In this analysis, Cedar Creek sediment is evaluated under the assumptions that the sediments are available and without consideration of being covered by surface water. These assumptions likely result in an overestimation of risk, although not unreasonable based on the shallow water depths in the creek.

7.2 Uncertainty in the Data Analysis

During the data analysis step, chemicals are selected for inclusion in the quantitative risk assessment. Uncertainties in data analysis include adequacy of sampling design, analytical error, and selection of COPCs. Generally, there is less uncertainty in this phase of the risk assessment process than in other phases, because these types of uncertainties are likely better understood.

The adequacy of the sampling strategies to characterize site conditions is a potentially large source of uncertainty in the data analysis phase. Because there are limited resources available, limited sampling is generally performed. In addition, sampling (especially in multiple sampling events) is typically not random but is designed to locate the highest chemical concentrations. Combining data biased in this manner with EPC calculation procedures that do not account for the bias, as is the case in this HHRA, will result in EPCs that are biased high and will substantially overestimate the actual concentration to which receptors may be exposed.

Use of the 95th% UCL of the average concentration as the EPC adds an additional conservative assumption. As examples, Figure 8 and 9 show the sorted concentration plots for the pentachlorophenol results in surface water from Cedar Creek and the benzo(a)pyrene results in drainage ditch sediments, respectively. Pentachlorophenol was detected at a low frequency in these samples. The single high result, which as discussed previously was not confirmed in subsequent sampling events, biased the calculated 95th% UCL used as the EPC for the RME (and CTE) risk calculations. Similarly, for benzo(a)pyrene (Figure 9), a small number of samples resulted in a positive bias in the EPC used for this chemical. The average benzo(a)pyrene concentration of these samples, setting non-detects to half their reported concentrations, was 1.09 mg/Kg, 5.6 times lower than the value used as the EPC, which was based on the 99% Chebyshev UCL (Table 3-4b).

Laboratory analysis is accurate relative to the qualitative nature of "professional judgment" in exposure assessments; furthermore, analytical variability is often quantified by method detection limits, field blanks, and laboratory blanks. Appropriate quality assurance/quality control (QA/QC) measures such as the collection of duplicate samples were taken.

7.3 Uncertainty of Toxicity Values

Dose-response values are usually based on limited toxicological data. For this reason, a margin of safety is built into estimates of both cancer and non-cancer risk, and actual risks are lower than those estimated. The two major areas of uncertainty introduced in the dose-response assessment are: (1) animal to human extrapolation; and (2) high to low dose extrapolation. These are discussed below.

Human dose-response values are often extrapolated, or estimated, using the results of animal studies. Extrapolation from animals to humans introduces a great deal of uncertainty in the risk assessment because in most instances, it is not known how differently a human may react to the chemical compared to the animal species used to test the chemical. The procedures used to extrapolate from animals to humans involve conservative assumptions and incorporate several uncertainty factors that overestimate the adverse effects associated with a specific

dose. As a result, overestimation of the potential for adverse effects to humans is more likely than underestimation.

Predicting potential health effects from the exposure to media on-site requires the use of models to extrapolate the observed health effects from the high doses used in laboratory studies to the anticipated human health effects from low doses experienced in the environment. The models contain conservative assumptions to account for the large degree of uncertainty associated with this extrapolation (especially for potential carcinogens) and therefore, tend to be more likely to overestimate than underestimate the risks.

USEPA (2000) requires the use of the TEF approach for calculating potential risks from PAHs. As such, this approach disregards chemical-specific features, such as differences in dermal absorption, for calculating the TEQ-PAH and may over or under estimate risks.

7.4 Uncertainties in Assessing Potential Exposure

The potential intake rates and exposure frequencies and durations assumed in the risk assessment were very conservative. For example, it was assumed that exposures to surface water occurred at the same frequency and contact rate as those used to estimate sediment exposures. If surface water exposures occur at all, it is unlikely that contact with surface water occurs each time direct contact occurs with sediment. Therefore, surface water exposures are likely overestimated.

Food-chain models were used to assess the potential indirect contact pathway (i.e., consumption of wild game by hunters, when the wild game had fed on vegetation that may have accumulated COPCs from the sediment). This is a highly conservative approach since it assumes that there is a complete exposure pathway for the wild game, and that this game will be used by hunters.

One of the assumptions used for this risk assessment was the exposure fraction spent at the site. This was assumed to be 0.25 for both the hunter and the adolescent trespasser. Although reasonable, there is some uncertainty in the derivation of this value, since it was not based on site-specific survey information. In order to determine the potential impact this assumption has on the calculated risk, the cumulative risks were re-calculated setting this value to one. These results are summarized in the Table 7-1 for the hunter and adolescent trespasser. Review of this table shows that although the calculated non-cancer and potential cancer risks would increase, the resulting values are all still well below the "trigger values."

7.5 Central Tendency Exposures

USEPA (2000) reports, *"Quantitative risk values should be developed for "central tendency" exposure assumptions. The central tendency values may be derived as point estimates by use of the standard RAGS exposure equations [and] presented and discussed in an uncertainty sub-section of the risk characterization section."* In accordance with this guidance, CTE risks were estimated and are summarized in Tables 7-2, 7-3, 7-4, 7-5 and 7-6 for Cedar Creek, and in Tables 7-7, 7-8 and 7-9 for the drainage ditch.

While RME estimate conservative exposures, i.e., well above the average case, CTE typically estimate an average exposure case. This generally means that average EPCs, and central tendency values for contact are used. In this analysis, the RME upper-bound EPCs rather than average EPCs were used; only central tendency values for exposure frequency and duration were used.

7.5.1 CTE - Potential Cedar Creek Non-Cancer Risks

The CTE HI estimate associated with sediment exposures for the adolescent trespasser is 0.01 (Table 7-2), and the HI associated with surface water exposures is 0.02 (Table 7-3). The total CTE HI across all media for the adolescent trespasser is 0.03, which is well below the USEPA HI benchmark level of 1 (Table 7-3). In addition, HQs for each chemical are less than 0.1.

The CTE HI estimate associated with sediment exposures for the hunter is 0.003 (Table 7-4), the HI associated with ingestion of wild game is 0.005 (Table 7-5), and the HI associated with surface water exposures is 0.003 (Table 7-6). The total CTE HI across all media for the hunter is 0.01, which is well below the USEPA HI benchmark of 1 (Table 7-6). In addition, HQs for each chemical are less than 0.1.

7.5.2 CTE - Potential Drainage Ditch Non-Cancer Risks

The total CTE HI estimate associated with sediment exposures for the adolescent trespasser is 0.04, which is well below the USEPA HI benchmark level of 1 (Table 7-7). In addition, HQs for each chemical are less than 0.1. The CTE HI estimate associated with sediment exposures for the hunter is 0.009 (Table 7-8), and the HI associated with ingestion of wild game is 0.006 (Table 7-9). The total CTE HI across all media for the hunter is 0.01, which is well below the USEPA HI benchmark of 1 (Table 7-9). In addition, HQs for each chemical are less than 0.1.

7.5.3 CTE - Potential Cedar Creek Cancer Risks

The cumulative estimated CTE potential excess lifetime cancer risk associated with sediment exposures for the adolescent trespasser is 1 x 10^{-6} (Table 7-2), the cumulative cancer risk associated with surface water exposures is 6 x 10^{-6} (Table 7-3), and the total cumulative cancer risk across all media for the adolescent trespasser is 7 x 10^{-6} (Table 7-3). All individual cancer risks for the COPCs are less than 1 x 10^{-6} for sediment CTE exposures (Table 7-2). The CTE cancer risk for pentachlorophenol is 6 x 10^{-6}; remaining individual CTE cancer risks are less than 1 x10^{-6} for surface water (Table 7-3).

The cumulative estimated CTE potential excess lifetime cancer risk associated with sediment exposures for the hunter is 3 x 10^{-7} (Table 7-4), the cumulative cancer risk associated with ingestion of wild game is 3 x 10^{-7} (Table 7-5), and the cumulative cancer risk associated with surface water exposures is 1 x 10^{-6} (Table 7-6). The total cumulative cancer risk across all media for the hunter is 2 x 10^{-6} (Table 7-6). All individual COPC CTE cancer risks are less than 1 x 10^{-6} for sediment exposures (Table 7-4). All individual COPC CTE cancer risks are less than 1 x 10^{-6} for ingestion of wild game (Table 7-5). The CTE cancer risk for pentachlorophenol in surface water is at 1 x 10^{-6}; remaining individual cancer risks are less than 1 x 10^{-6} for surface water for the hunter (Table 7-6).

7.5.4 CTE - Potential Drainage Ditch Cancer Risks

The cumulative estimated CTE potential excess lifetime cancer risk associated with sediment exposures for the adolescent trespasser is 3 x 10^{-6} (Table 7-7). The individual cancer risk for benzo(a)pyrene is at 1 x 10^{-6}. Individual cancer risks for the remaining COPCs are less than 1 x 10^{-6} for sediment exposures (Table 7-7).

The cumulative estimated CTE potential excess lifetime cancer risk associated with sediment exposures for the hunter is 6 x 10^{-7} (Table 7-8), and the cumulative cancer risk associated with ingestion of wild game is 3 x 10^{-7} (Table 7-9). The total cumulative cancer risk across all media for the hunter is 1 x 10^{-6} (Table 7-9). Individual cancer risks for the COPCs are less than 1 x 10^{-6} for sediment exposures (Table 7-8) and for ingestion of wild game (Table 7-9).

8.0 CONCLUSIONS

RME estimates of potential non-cancer effects for each receptor for Cedar Creek are summarized in Tables 6-1 through 6-5 and summarized in Tables 6-6 through 6-8 for the drainage ditch. The hazard indices for RME receptors are below the USEPA health-based target non-cancer risk level of 1.0 and no individual COPC HQ value 0.1. Therefore, non-

cancer risks associated with exposure to COPCs have been calculated to be below levels of concern for both Cedar Creek and the drainage ditch.

Estimates of potential RME cancer effects for each receptor for Cedar Creek are summarized in Tables 6-1 through 6-5, and summarized in Tables 6-6 through 6-8 for the drainage ditch. The individual RME cancer risks for pentachlorophenol in surface water on site at the confluence of the drainage ditch and Cedar Creek and benzo(a)pyrene in sediment on site in the drainage ditch exceed 1×10^{-6} for both the adolescent trespasser and hunter. However, the cumulative cancer risk estimates for the RME receptors across media are below the USEPA (2000) trigger for remediation of 1×10^{-4}.

Estimates of potential CTE cancer and non-cancer effects for each receptor for Cedar Creek are summarized in Tables 7-2 through 7-6 and summarized in Tables 7-7 through 7-9 for the drainage ditch. As in the case of the RME estimates, CTE hazard indices are well below 1 and no individual HQ exceeds 0.1. The individual CTE cancer risk for pentachlorophenol in surface water on site at the confluence of the drainage ditch and Cedar Creek exceeds 1×10^{-6} for the adolescent trespasser only. No other individual CTE cancer risk exceeds the 1×10^{-6} level for either receptor in any of the other media for either Cedar Creek or the drainage ditch.

The same EPCs are used for the RME and CTE estimates; only exposure frequency and duration vary. The CTE analysis demonstrates that with more realistic exposure, but at the same upper-bound estimates for the average chemical concentrations, the individual chemical cancer risks diminished in all cases, except for pentachlorophenol. While the pentachlorophenol risk still slightly exceeds the 1×10^{-6} benchmark, that risk is highly conservative since it was based on a biased estimate of the average concentration.

9.0 REMEDIAL GOAL OPTIONS

USEPA (2000) Guidance defines chemicals of concern (COCs) as *"the Chemical of Potential Concern (COPCs) that significantly contribute to a pathway in a use scenario for a receptor (e.g. hypothetical future child resident, current trespasser, current adult construction worker, etc.) that either (a) exceeds a 10^{-4} cumulative site cancer risk; or (b) exceeds a non-carcinogenic hazard index (HI) of 1."* Furthermore, USEPA (2000) states, *"Chemicals are not considered as significant contributors to risk and therefore are not included as COCs if their individual carcinogenic risk contribution is less than 10^{-6} and their non-carcinogenic HQ is less than 0.1."*

In this HHRA, cumulative risks and hazards across all media for both the adolescent trespasser and hunter did not exceed the 10^{-4} "trigger" cumulative site cancer risk or non-cancer HI of 1. Furthermore, all individual HQs for all scenarios are less than 0.1.

Some of the calculated cancer risks for individual chemicals exceeded the 10^{-6} benchmark, but this was due to biases introduced by the calculated EPCs. For example, the individual cancer risk estimate (1×10^{-5}) associated with potential exposure to pentachlorophenol in Cedar Creek surface water exceeded the 10^{-6} benchmark. This risk estimate is highly conservative since pentachlorophenol was reported in only one surface water sample (Sample 8747; Appendix C, Table C-1) collected in May 1990 at a concentration of 0.15 mg/L on site at the confluence of the drainage ditch and Cedar Creek. In August 1990, this surface water sample was re-collected (Sample 8867; Appendix C, Table C-1) and was non-detect for all chemicals. In November 1996, a surface water sample was collected for a third time from this location and pentachlorophenol was detected at a lower concentration (0.016J mg/L) than the May 1990 sample. Pentachlorophenol is susceptible to abiotic degradation (e.g., photodegradation) and bacteria-mediated degradation in both water and soil (WHO, 1987). It is likely that over the last ten years, pentachlorophenol in surface water has likely been reduced to non-detectable concentrations. No other wood-preserving chemicals have been detected in surface water from Cedar Creek. Pentachlorophenol has only been detected at this one location on site which is located at the confluence of the drainage ditch and Cedar Creek.

The individual cancer risk estimate (2×10^{-6}) associated with potential exposure to benzo(a)pyrene in drainage ditch sediment slightly exceeded the 10^{-6} benchmark. The EPC used for benzo(a)pyrene was also highly conservative, as demonstrated on Figure 9. If the average concentration had been used as the EPC, the calculated risk would be more than 5 times lower than reported.

While the individual risks for these two COPCs are greater than USEPA (2000) benchmark, the cumulative risks don't exceed the remediation "trigger". Therefore, it was not necessary to propose RGOs based on the HHRA results.

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Table 2-1. Complete Exposure Pathways for Drainage Ditch and Cedar Creek

Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Sediment	Drainage Ditch - Downstream Cedar Creek - Downstream	Adolescent Trespasser	10 - 18 years old	Dermal	Quant	Potential for direct contact with sediment.
				Ingestion	Quant	
	Drainage Ditch - Downstream Cedar Creek - Downstream	Hunter	Adult	Dermal	Quant	Potential for direct contact with sediment.
				Ingestion	Quant	
Surface Water	Cedar Creek - Downstream	Adolescent Trespasser	10 - 18 years old	Dermal	Quant	Potential for direct contact with surface water.
		Hunter	Adult	Dermal	Quant	Potential for direct contact with surface water.
Wild Game	Drainage Ditch - Downstream Cedar Creek - Downstream	Hunter	Adult	Ingestion	Quant	Potential for consumption of wild game that has foraged on plants growing in contaminated sediment.

Table 3-1. Data Analysis Summary - Drainage Ditch Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Detection Frequency	Range of Detection Limits		Concentration Used for Screening (Maximum)	Background Value	Screening Toxicity Value (N/C) (mg/kg)		COPC Flag (Y/N)	Region IV Requirement	Rationale for Selection or Deletion
Drain Ditch - Sediment, Downstream	105-67-9	2,4-Dimethylphenol	3.9	3.9	MG/KG	1/20	0.01	5.1	3.90E+00	-	1.2E+02	N	No		BSL
	91-57-6	2-Methylnaphthalene	0.051	260	MG/KG	4/20	0.01	2	2.60E+02	-	3.1E+01	N	Yes		ASL
	95-48-7	2-Methylphenol	1.2	1.2	MG/KG	1/20	0.01	5.1	1.20E+00	-	3.1E+02	N	No		BSL
	83-32-9	Acenaphthene	0.069	200	MG/KG	4/20	0.01	2	2.00E+02	-	3.7E+02	N	No	Yes	BSL
	208-96-8	Acenaphthylene	0.5	4.3	MG/KG	3/14	0.33	0.44	4.30E+00	-	3.7E+02	N	No	Yes	BSL
	7429-90-5	Aluminum	7400	13000	MG/KG	5/5	-	-	1.30E+04	NA	7.6E+03	N	Yes		ASL
	120-12-7	Anthracene	0.086	860	MG/KG	9/20	0.01	0.41	8.60E+02	-	2.2E+03	N	No	Yes	BSL
	7440-38-2	Arsenic	3.1	6.9	MG/KG	5/5	-	-	6.90E+00	NA	3.9E-01	C	Yes		ASL
	7440-39-3	Barium	62	150	MG/KG	5/5	-	-	1.50E+02	NA	5.4E+02	N	No		BSL
	71-43-2	Benzene	0.039	0.039	MG/KG	1/10	0.005	0.015	3.90E-02	-	6.4E-01	C	No		BSL
	56-55-3	Benzo(a)anthracene	0.014	32	MG/KG	10/20	0.01	0.44	3.20E+01	-	6.2E-01	C	Yes		ASL
	50-32-8	Benzo(a)pyrene	0.067	8.1	MG/KG	10/20	0.01	0.41	8.10E+00	-	6.2E-02	C	Yes		ASL
	205-99-2	Benzo(b)fluoranthene	0.03	7.9	MG/KG	8/13	0.01	0.33	7.90E+00	NA	6.2E-01	C	Yes		ASL
	none	Benzo(b&k)fluoranthene	0.056	22	MG/KG	13/16	0.33	0.82	2.20E+01	0.079	6.2E-01	C	Yes		ASL
	191-24-2	Benzo(g,h,i)perylene	0.032	0.36	MG/KG	8/14	0.33	13	3.60E-01	-	2.3E+02	N	No	Yes	BSL
	207-08-9	Benzo(k)fluoranthene	0.027	0.65	MG/KG	7/12	0.01	0.33	6.50E-01	NA	6.2E+00	C	No	Yes	BSL
	7440-41-7	Beryllium	0.32	0.9	MG/KG	5/5	-	-	9.00E-01	NA	1.5E+01	N	No		BSL
	7440-70-2	Calcium	980	1500	MG/KG	4/4	-	-	1.50E+03	NA	NA		No		EN
	86-74-8	Carbazole	0.044	300	MG/KG	4/19	0.01	0.42	3.00E+02	-	2.4E+01	C	Yes		ASL
	none	Chromium,total	14	26	MG/KG	5/5	-	-	2.60E+01	NA	2.1E+02	C	No		BSL
	218-01-9	Chrysene	0.027	29	MG/KG	12/20	0.01	0.41	2.90E+01	0.067	6.2E+01	C	No	Yes	BSL
	7440-48-4	Cobalt	12	15	MG/KG	2/5	9	20	1.50E+01	NA	9.0E+02	C	No		BSL
	7440-50-8	Copper	13	28	MG/KG	4/5	20	20	2.80E+01	NA	3.1E+02	N	No		BSL
	53-70-3	Dibenzo(a,h)anthracene	0.076	0.15	MG/KG	2/20	0.01	13	1.50E-01	-	6.2E-02	C	Yes		ASL
	132-64-9	Dibenzofuran	0.026	220	MG/KG	4/14	0.33	2	2.20E+02	-	1.5E+01	N	Yes		ASL
	100-41-4	Ethylbenzene	0.1	0.1	MG/KG	1/6	0.005	0.005	1.00E-01	NA	4.0E+01	N	No		BSL
	206-44-0	Fluoranthene	0.14	200	MG/KG	11/20	0.01	0.41	2.00E+02	0.072	2.3E+02	N	No	Yes	BSL
	86-73-7	Fluorene	0.48	370	MG/KG	5/20	0.01	0.42	3.70E+02	-	2.7E+02	N	Yes		ASL
	193-39-5	Indeno(1,2,3-cd)pyrene	0.093	0.39	MG/KG	5/20	0.01	13	3.90E-01	-	6.2E-01	C	No	Yes	BSL
	7439-89-6	Iron	15000	29000	MG/KG	5/5	-	-	2.90E+04	NA	2.3E+03	N	Yes		ASL
	7439-95-4	Magnesium	1800	3200	MG/KG	4/4	-	-	3.20E+03	NA	NA		No		EN
	7439-96-5	Manganese	220	350	MG/KG	5/5	-	-	3.50E+02	100	1.8E+02	N	Yes		ASL
	91-20-3	Naphthalene	0.35	480	MG/KG	4/20	0.01	2	4.80E+02	-	5.6E+00	N	Yes		ASL
	7440-02-0	Nickel	14	23	MG/KG	5/5	-	-	2.30E+01	17	1.6E+02	N	No		BSL
	87-86-5	Pentachlorophenol	0.25	11	MG/KG	5/20	0.05	32	1.10E+01	-	3.0E+00	C	Yes		ASL
	85-01-8	Phenanthrene	0.021	700	MG/KG	9/20	0.01	0.41	7.00E+02	-	2.3E+02	N	Yes		ASL
	108-95-2	Phenol	0.065	0.12	MG/KG	3/19	0.01	13	1.20E-01	-	1.8E+03	N	No		BSL
	7440-09-7	Potassium	170	530	MG/KG	4/4	-	-	5.30E+02	570	NA		No		EN
	129-00-0	Pyrene	0.068	120	MG/KG	11/14	0.33	0.33	1.20E+02	0.061	2.3E+02	N	No		BSL
	7440-22-4	Silver	2.9	2.9	MG/KG	1/5	0.79	0.93	2.90E+00	-	3.9E+01	N	No		BSL
	100-42-5	Styrene	0.082	0.082	MG/KG	1/4	0.013	0.015	8.20E-02	-	1.7E+02	N	No		BSL
	7440-31-5	Tin	13	13	MG/KG	1/1	-	-	1.30E+01	NA	4.7E+03	N	No		BSL
	108-88-3	Toluene	0.043	0.14	MG/KG	3/10	0.005	0.015	1.40E-01	-	5.2E+01	N	No		BSL
	7440-62-2	Vanadium	24	41	MG/KG	5/5	-	-	4.10E+01	30	7.8E+00	N	Yes		ASL
	1330-20-7	Xylenes (total)	0.016	0.42	MG/KG	3/10	0.005	0.014	4.20E-01	-	2.7E+01	N	No		BSL
	7440-66-6	Zinc	25	25	MG/KG	1/5	30	50	2.50E+01	-	2.3E+03	N	No		BSL
	1746-01-6	2,3,7,8-TeCDD	0.82	3.35	NG/KG	2/11	0.2	7	3.35E+00	0.6	3.9E-06	C	Yes		ASL
	40321-76-4	1,2,3,7,8-PeCDD	0.7	32.7	NG/KG	5/8	5	5	3.27E+01	2.3		C	Yes		ASL
	39227-28-6	1,2,3,4,7,8-HxCDD	1.1	117	NG/KG	11/11	-	-	1.17E+02	3.7		C	Yes		ASL
	57653-85-7	1,2,3,6,7,8-HxCDD	3	634	NG/KG	11/11	-	-	6.34E+02	7.9		C	Yes		ASL
	19408-74-3	1,2,3,7,8,9-HxCDD	4.4	207	NG/KG	11/11	-	-	2.07E+02	9.1		C	Yes		ASL
	35822-46-9	1,2,3,4,6,7,8-HpCDD	104	33000	NG/KG	11/11	-	-	3.30E+04	320		C	Yes		ASL
	3268-87-9	OCDD	2780	138000	NG/KG	11/11	-	-	1.38E+05	12000		C	Yes		ASL
	51207-31-9	2,3,7,8-TeCDF	0.37	1	NG/KG	5/11	1	7	1.00E+00	-		C	Yes		ASL
	57117-41-6	1,2,3,7,8-PeCDF	0.41	4.4	NG/KG	8/14	5	18	4.40E+00	-		C	Yes		ASL
	57117-31-4	2,3,4,7,8-PeCDF	0.36	35.9	NG/KG	7/11	5	18	3.59E+01	1.4		C	Yes		ASL
	70648-26-9	1,2,3,4,7,8-HxCDF	0.87	123	NG/KG	9/11	200	210	1.23E+02	-		C	Yes		ASL
	57117-44-9	1,2,3,6,7,8-HxCDF	0.63	47.2	NG/KG	8/11	5	18	4.72E+01	2.5		C	Yes		ASL
	72918-21-9	1,2,3,7,8,9-HxCDF	0.51	19.2	NG/KG	5/11	0.3	18	1.92E+01	-		C	Yes		ASL
	60851-34-5	2,3,4,6,7,8-HxCDF	0.85	100	NG/KG	10/11	18	18	1.00E+02	6.9		C	Yes		ASL
	67562-39-4	1,2,3,4,6,7,8-HpCDF	13.4	3600	NG/KG	11/11	-	-	3.60E+03	31		C	Yes		ASL
	55673-89-7	1,2,3,4,7,8,9-HpCDF	1.6	276	NG/KG	11/11	-	-	2.76E+02	1.9		C	Yes		ASL
	39001-02-0	OCDF	42.4	13400	NG/KG	11/11	-	-	1.34E+04	120		C	Yes		ASL
		TeCDFs (total)	1.8	78.8	NG/KG	11/11	-	-	7.88E+01	23		C	Yes		ASL
		HpCDD (total)	417	79700	NG/KG	11/11	-	-	7.97E+04	1100		C	Yes		ASL
		HpCDF (total)	25.7	19200	NG/KG	11/11	-	-	1.92E+04	130		C	Yes		ASL
		HxCDD (total)	38.2	4590	NG/KG	11/11	-	-	4.59E+03	87		C	Yes		ASL
		HxCDF (total)	10.5	3350	NG/KG	11/11	-	-	3.35E+03	100		C	Yes		ASL
		TeCDDs (total)	1.1	92	NG/KG	10/11	1	1	9.20E+01	7.4		C	Yes		ASL
		PeCDDs (total)	3.4	391	NG/KG	8/9	5	5	3.91E+02	NA		C	Yes		ASL
		PeCDFs (total)	3.6	428	NG/KG	9/9	-	-	4.28E+02	NA		C	Yes		ASL
		Dioxin TEQ (mammalian)	50.9	585.7	NG/KG	-	-	-	5.86E+02	13.495		C	Yes		ASL

(1) Toxicity Screening Values are EPA Region IX residential PRGs, except for 2-methylnapthalene which is Region III residential RBC. All screening values based on noncarcinogenic effects are reported as 1/10 of original value.

Surrogate chemicals:

acenaphthene used for acenaphthylene.

benzo(b)fluoranthene used for benzo(k)fluoranthene and benzo(b&k)fluoranthene.

fluoranthene used for benzo(g,h,i)perylene and phenanthrene.

Rationale Codes: Selection Reason: Above Screening Level (ASL)
Deletion Reason: Essential Nutrient (EN) or Below Screening Level (BSL)

NA = Not Available
N = Noncarcinogen
C = Carcinogen

Table 3-2. Data Analysis Summary - Cedar Creek Sediment

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Detection Frequency	Range of Detection Limits		Concentration Used for Screening (Maximum)	Background Value	Screening Toxicity Value (1) (N/C)	COPC Flag (Y/N)	Region IV Requirement	Rationale for Selection or Deletion
Cedar Creek - Sediment, Downstream														
	91-57-6	2-Methylnaphthalene	0.064	250	MG/KG	6/49	0.33	2	2.50E+02	-	3.1E+01 nc N	Yes		ASL
	none	3&4-Methylphenol	0.052	0.08	MG/KG	2/39	0.33	2	8.00E-02	-	3.1E+01 nc N	No		BSL
	83-32-9	Acenaphthene	0.05	180	MG/KG	13/49	0.33	2	1.80E+02	-	3.7E+02 nc N	No	Yes	BSL
	208-96-8	Acenaphthylene	0.074	0.083	MG/KG	2/43	0.33	150	8.30E-02	1.2	3.7E+02 nc N	No	Yes	BSL
	7429-90-5	Aluminum	3900	13000	MG/KG	9/9	-	-	1.30E+04	9700	7.6E+03 nc N	Yes		ASL
	62-53-3	Aniline	0.034	0.091	MG/KG	2/18	0.33	2	9.10E-02	-	8.5E+01 ca* C	No		BSL
	120-12-7	Anthracene	0.052	18	MG/KG	21/49	0.33	0.7	1.80E+01	0.0038	2.2E+03 nc N	No	Yes	BSL
	7440-38-2	Arsenic	2.9	9.9	MG/KG	6/9	1	2	9.90E+00	3.3	3.9E-01 ca* C	Yes		ASL
	7440-39-3	Barium	34	160	MG/KG	9/9	-	-	1.60E+02	70	5.4E+02 nc N	No		BSL
	56-55-3	Benzo(a)anthracene	0.049	6.6	MG/KG	21/49	0.33	2	6.60E+00	0.0057	6.2E-01 ca C	Yes		ASL
	50-32-8	Benzo(a)pyrene	0.064	1.8	MG/KG	20/49	0.33	2	1.80E+00	0.0091	6.2E-02 ca C	Yes		ASL
	205-99-2	Benzo(b)fluoranthene	0.25	4.6	MG/KG	9/26	0.33	130	4.60E+00	0.013	6.2E-01 ca C	Yes		ASL
	none	Benzo(b&k)fluoranthene	0.033	5.3	MG/KG	16/29	0.35	0.82	5.30E+00	-	6.2E-01 ca C	Yes		ASL
	191-24-2	Benzo(g,h,i)perylene	0.089	0.5	MG/KG	7/43	0.028	2	5.00E-01	0.003	2.3E+02 nc N	No	Yes	BSL
	207-08-9	Benzo(k)fluoranthene	0.28	2.2	MG/KG	5/24	0.33	140	2.20E+00	-	6.2E+00 ca C	No	Yes	BSL
	7440-41-7	Beryllium	0.69	1.1	MG/KG	5/9	0.25	1	1.10E+00	0.65	1.5E+01 nc N	No		BSL
	7440-70-2	Calcium	360	2100	MG/KG	7/7	-	-	2.10E+03	550	NA	No		EN
	86-74-8	Carbazole	0.05	12	MG/KG	9/35	0.33	0.7	1.20E+01	-	2.4E+01 ca C	No	Yes	BSL
	none	Chromium	8.5	32	MG/KG	9/9	-	-	3.20E+01	15	2.1E+02 ca C	No		BSL
	218-01-9	Chrysene	0.064	6.8	MG/KG	23/49	0.33	0.7	6.80E+00	0.019	6.2E+01 ca C	No	Yes	BSL
	7440-48-4	Cobalt	10	27	MG/KG	4/9	4	20	2.70E+01	5.4	9.0E+02 ca* C	No		BSL
	7440-50-8	Copper	17	29	MG/KG	5/9	20	20	2.90E+01	3.9	3.1E+02 nc N	No		BSL
	53-70-3	Dibenzo(a,h)anthracene	0.057	0.9	MG/KG	8/45	0.33	2	9.00E-01	-	6.2E-02 ca C	Yes		ASL
	189-64-0	Dibenzo(a,h)pyrene	0.15	0.15	MG/KG	1/4	0.41	0.7	1.50E-01	NA	2.3E+02 nc N	No		BSL
	132-64-9	Dibenzofuran	0.066	150	MG/KG	8/43	0.041	2	1.50E+02	-	1.5E+01 nc N	Yes		ASL
	100-41-4	Ethylbenzene	0.1	0.1	MG/KG	1/6	0.005	0.01	1.00E-01	-	4.0E+01 nc N	No		BSL
	206-44-0	Fluoranthene	0.06	59	MG/KG	24/49	0.33	0.7	5.90E+01	0.014	2.3E+02 nc N	No	Yes	BSL
	86-73-7	Fluorene	0.054	110	MG/KG	19/49	0.33	0.7	1.10E+02	0.34	2.7E+02 nc N	No	Yes	BSL
	193-39-5	Indeno(1,2,3-cd)pyrene	0.058	0.99	MG/KG	10/49	0.33	2	9.90E-01	0.0044	6.2E-01 ca C	Yes		ASL
	7439-89-6	Iron	4000	37000	MG/KG	9/9	-	-	3.70E+04	13000	2.3E+03 nc N	Yes		ASL
	7439-95-4	Magnesium	390	4000	MG/KG	7/7	-	-	4.00E+03	1500	NA	No		EN
	7439-96-5	Manganese	92	900	MG/KG	9/9	-	-	9.00E+02	260	1.8E+02 nc N	Yes		ASL
	91-20-3	Naphthalene	0.079	53	MG/KG	5/21	0.35	2	5.30E+01	-	5.6E+00 nc N	Yes		ASL
	7440-02-0	Nickel	26	43	MG/KG	4/9	3	15	4.30E+01	2.3	1.6E+02 nc N	No		BSL
	87-86-5	Pentachlorophenol	0.3	110	MG/KG	5/49	0.89	3.6	1.10E+02	-	3.0E+00 ca C	Yes		ASL
	85-01-8	Phenanthrene	0.053	200	MG/KG	22/49	0.33	0.7	2.00E+02	0.0025	2.3E+02 nc N	No	Yes	BSL
	7440-09-7	Potassium	70	380	MG/KG	7/7	-	-	3.80E+02	200	NA	No		EN
	129-00-0	Pyrene	0.16	15	MG/KG	17/43	0.33	160	1.50E+01	0.013	2.3E+02 nc N	No		BSL
	7440-22-4	Silver	2.5	3.2	MG/KG	2/9	0.87	1	3.20E+00	1.4	3.9E+01 nc N	No		BSL
	7440-31-5	Tin	19	21	MG/KG	2/2	-	-	2.10E+01	3.3	4.7E+03 nc N	No		BSL
	108-88-3	Toluene	0.0086	0.066	MG/KG	3/13	0.005	0.02	6.60E-02	0.084	5.2E+01 nc N	No		BSL
	7440-62-2	Vanadium	14	51	MG/KG	9/9	-	-	5.10E+01	30	7.8E+00 nc N	Yes		ASL
	1330-20-7	Xylenes (total)	0.002	0.34	MG/KG	3/13	0.005	0.02	3.40E-01	-	2.7E+01 nc N	No		BSL
	108-38-3	m-Xylene	0.18	0.18	MG/KG	1/3	0.05	0.05	1.80E-01	NA	2.7E+01 nc N	No		BSL
	95-47-6	o-Xylene	0.15	0.15	MG/KG	1/3	0.05	0.05	1.50E-01	NA	2.7E+01 nc N	No		BSL
	7440-66-6	Zinc	22	24	MG/KG	2/9	30	40	2.40E+01	13	2.3E+03 nc N	No		BSL
	1746-01-6	2,3,7,8-TeCDD	0.13	0.95	NG/KG	5/34	0.03	20.9	9.50E-01	0.13	3.9E-06 ca C	Yes		ASL
	40321-76-4	1,2,3,7,8-PeCDD	0.93	10	NG/KG	9/17	4.2	16	1.00E+01	-	C	Yes		ASL
	39227-28-6	1,2,3,4,7,8-HxCDD	0.38	78.9	NG/KG	24/34	4.3	16	7.89E+01	-	C	Yes		ASL
	57653-85-7	1,2,3,6,7,8-HxCDD	1.4	820	NG/KG	33/34	5	5	8.20E+02	-	C	Yes		ASL
	19408-74-3	1,2,3,7,8,9-HxCDD	0.76	238	NG/KG	32/34	5	5	2.38E+02	0.21	C	Yes		ASL
	35822-46-9	1,2,3,4,6,7,8-HpCDD	53	36000	NG/KG	34/34	-	-	3.60E+04	5.9	C	Yes		ASL
	3268-87-9	OCDD	1400	360000	NG/KG	34/34	-	-	3.60E+05	810	C	Yes		ASL
	51207-31-9	2,3,7,8-TeCDF	0.15	1.2	NG/KG	15/34	0.3	16.1	1.20E+00	0.29	C	Yes		ASL
	57117-41-6	1,2,3,7,8-PeCDF	0.16	2.1	NG/KG	12/44	0.05	20.4	2.10E+00	-	C	Yes		ASL
	57117-31-4	2,3,4,7,8-PeCDF	0.38	17.5	NG/KG	13/34	0.05	15.7	1.75E+01	-	C	Yes		ASL
	70648-26-9	1,2,3,4,7,8-HxCDF	0.42	147	NG/KG	20/34	4.3	1200	1.47E+02	0.12	C	Yes		ASL
	57117-44-9	1,2,3,6,7,8-HxCDF	0.17	51.4	NG/KG	20/34	0.3	17	5.14E+01	-	C	Yes		ASL
	72918-21-9	1,2,3,7,8,9-HxCDF	0.51	27.6	NG/KG	2/34	0	17	2.76E+01	-	C	Yes		ASL
	60851-34-5	2,3,4,6,7,8-HxCDF	0.32	136	NG/KG	18/34	4.2	38	1.36E+02	-	C	Yes		ASL
	67562-39-4	1,2,3,4,6,7,8-HpCDF	9.29	6800	NG/KG	34/34	-	-	6.80E+03	13	C	Yes		ASL
	55673-89-7	1,2,3,4,7,8,9-HpCDF	0.85	573	NG/KG	29/34	4.3	16	5.73E+02	-	C	Yes		ASL
	39001-02-0	OCDF	25.4	37000	NG/KG	33/34	32	32	3.70E+04	-	C	Yes		ASL
		TeCDFs (total)	0.12	55	NG/KG	28/34	1	16.1	5.50E+01	0.7	C	Yes		ASL
		HpCDD (total)	130	120000	NG/KG	34/34	-	-	1.20E+05	14	C	Yes		ASL
		HpCDF (total)	13	27590	NG/KG	34/34	-	-	2.76E+04	16	C	Yes		ASL
		HxCDD (total)	10.5	5400	NG/KG	34/34	-	-	5.40E+03	22	C	Yes		ASL
		HxCDF (total)	8.4	5000	NG/KG	33/34	5	5	5.00E+03	27	C	Yes		ASL
		TeCDDs (total)	0.13	25	NG/KG	16/34	0.1	20.9	2.50E+01	0.14	C	Yes		ASL
		PeCDDs (total)	0.32	92	NG/KG	11/17	0.2	20.4	9.20E+01	-	C	Yes		ASL
		PeCDFs (total)	0.53	243	NG/KG	16/17	5	5	2.43E+02	0.48	C	Yes		ASL
		Dioxin TEQ (mammalian)	1.64952	654.43	NG/KG	0	0	0	6.54E+02	7.567375	C	Yes		ASL

(1) Toxicity Screening Values are EPA Region IX residential PRGs, except for 2-methylnapthalene which is Region III residential RBC. All screening values based on noncarcinogenic effects are reported as 1/10 of original value.
Surrogate chemicals:
acenaphthene used for acenaphthylene.
benzo(b)fluoranthene used for benzo(k)fluoranthene and benzo(b&k)fluoranthene.
fluoranthene used for benzo(g,h,i)perylene and phenanthrene.

Rationale Codes: Selection Reason: Above Screening Level (ASL)
Deletion Reason: Essential Nutrient (EN) or
Below Screening Level (BSL)

NA = Not Available
N = Noncarcinogen
C = Carcinogen

Table 3-3. Data Analysis Summary - Cedar Creek Surface Water

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Detection Frequency	Range of Detection Limits		Concentration Used for Screening (Maximum)	Background Value	Screening Toxicity Value (1) (N/C)		COPC Flag (Y/N)	Region IV Requirement	Rationale for Selection or Deletion
Cedar Creek - Surface Water, Downstream															
	95-48-7	2-Methylphenol	0.001	0.001	MG/L	1/14	0.01	0.01	1.0E-03	NA	1.0E-03	N	Yes		ASL
	7429-90-5	Aluminum	0.45	1.3	MG/L	7/7	-	-	1.3E+00	0.59	NA	N	Yes		AB
	7440-39-3	Barium	0.024	0.038	MG/L	7/7	-	-	3.8E-02	0.02	1.0E+00	N	No		BSL
	7440-70-2	Calcium	2	6.2	MG/L	7/7	-	-	6.2E+00	6.4	NA	NA	No		EN
	7439-89-6	Iron	0.81	2	MG/L	7/7	-	-	2.0E+00	0.95	1.0E+00	N	Yes		ASL
	78-59-1	Isophorone	0.001	0.001	MG/L	1/7	0.01	0.01	1.0E-03	NA	NA	C	Yes		BSL
	7439-95-4	Magnesium	1	3.7	MG/L	7/7	-	-	3.7E+00	3.4	NA	NA	No		EN
	7439-96-5	Manganese	0.037	0.11	MG/L	7/7	-	-	1.1E-01	0.043	2.0E-01	N	No		BSL
	7487-94-7	Mercury and compounds	0.0002	0.0002	MG/L	1/7	0.0001	0.0002	2.0E-04	NA	1.2E-05	N	Yes		ASL
	91-20-3	Naphthalene	0.001	0.001	MG/L	1/14	0.01	0.05	1.0E-03	NA	2.8E-06	N	Yes		ASL
	87-86-5	Pentachlorophenol	0.011	0.15	MG/L	3/14	0.01	0.05	1.5E-01	NA	1.0E-03	C	Yes		ASL
	7440-09-7	Potassium	0.86	1.9	MG/L	7/7	-	-	1.9E+00	2	NA	NA	No		EN
	129-00-0	Pyrene	0.003	0.003	MG/L	1/7	0.01	0.01	3.0E-03	NA	2.8E-06	N	Yes		ASL
	7440-23-5	Sodium	3.1	5.9	MG/L	7/7	-	-	5.9E+00	5.2	NA	NA	No		EN
	7440-66-6	Zinc	0.013	0.013	MG/L	1/7	0.007	0.02	1.3E-02	0.028	5.0E-02	N	No		BSL

(1) Toxicity Screening Values are NC Class C Surface Water criteria (NCAC, 2003).

Rationale Codes

Selection Reason: Above Screening Level (ASL) or Above Background (AB)

Deletion Reason: Essential Nutrient (EN) or Below Screening Level (BSL) or Below Background (BB)

NA = Not Available
N = Noncarcinogen
C = Carcinogen

Table 3-4a. Exposure Point Concentrations for Sediment - Cedar Creek

Chemical of Potential Concern	Arithmetic Mean	95% UCL	Units	Distribution	Maximum Concentration	Exposure Point Concentration		
						Value	Units	Statistic
2-Methylnaphthalene	6.7E+00	5.8E+01	mg/Kg	Data are Non-parametric (0.05)	2.5E+02	5.8E+01	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Acenaphthene	5.7E+00	4.3E+01	mg/Kg	Data are Non-parametric (0.05)	1.8E+02	4.3E+01	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Acenaphthylene	5.8E+00	3.3E+01	mg/Kg	Data are Non-parametric (0.05)	8.3E-02	8.3E-02	mg/Kg	95% Chebyshev (Mean, Sd) UCL
Aluminum	1.0E+04	1.2E+04	mg/Kg	Data are normal (0.05)	1.3E+04	1.2E+04	mg/Kg	Student's-t UCL
Anthracene	1.6E+00	6.7E+00	mg/Kg	Data are Non-parametric (0.05)	1.8E+01	6.7E+00	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Arsenic	4.2E+00	6.3E+00	mg/Kg	Assuming gamma distribution (0.05)	9.9E+00	6.3E+00	mg/Kg	Maximum Concentration
Benzo(a)anthracene	8.5E-01	3.0E+00	mg/Kg	Data are Non-parametric (0.05)	6.6E+00	3.0E+00	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Benzo(a)pyrene	4.1E-01	6.9E-01	mg/Kg	Data are Non-parametric (0.05)	1.8E+00	6.9E-01	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Benzo(b)fluoranthene	8.8E+00	4.7E+01	mg/Kg	Data are lognormal (0.05)	4.6E+00	4.6E+00	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Benzo(b&k)fluoranthene	1.0E+00	2.0E+00	mg/Kg	Data are lognormal (0.05)	5.3E+00	2.0E+00	mg/Kg	99% Chebyshev (MVUE) UCL
Benzo(g,h,i)perylene	2.2E-01	3.3E-01	mg/Kg	Data are lognormal (0.05)	5.0E-01	3.3E-01	mg/Kg	Maximum Concentration
Benzo(k)fluoranthene	9.2E+00	5.1E+01	mg/Kg	Data follow gamma distribution (0.05)	2.2E+00	2.2E+00	mg/Kg	Approximate Gamma UCL
Carbazole	9.3E-01	8.0E+00	mg/Kg	Data are Non-parametric (0.05)	1.2E+01	8.0E+00	mg/Kg	95% Chebyshev (Mean, Sd) UCL
Chrysene	1.1E+00	3.4E+00	mg/Kg	Data are lognormal (0.05)	6.8E+00	3.4E+00	mg/Kg	97.5% Chebyshev (MVUE) UCL
Dibenzo(a,h)anthracene	2.2E-01	2.3E-01	mg/Kg	Data are Non-parametric (0.05)	9.0E-01	2.3E-01	mg/Kg	Maximum Concentration
Dibenzofuran	4.5E+00	7.5E+01	mg/Kg	Data are Non-parametric (0.05)	1.5E+02	7.5E+01	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Fluoranthene	4.2E+00	2.0E+01	mg/Kg	Data are Non-parametric (0.05)	5.9E+01	2.0E+01	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Fluorene	4.2E+00	2.1E+02	mg/Kg	Data are Non-parametric (0.05)	1.1E+02	1.1E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Indeno(1,2,3-cd)pyrene	2.6E-01	2.7E-01	mg/Kg	Data are Non-parametric (0.05)	9.9E-01	2.7E-01	mg/Kg	Maximum Concentration
Iron	1.9E+04	2.4E+04	mg/Kg	Data are normal (0.05)	3.7E+04	2.4E+04	mg/Kg	Student's-t UCL
Manganese	4.5E+02	6.1E+02	mg/Kg	Data are normal (0.05)	9.0E+02	6.1E+02	mg/Kg	Student's-t UCL
Naphthalene	3.4E+00	3.2E+01	mg/Kg	Data are Non-parametric (0.05)	5.3E+01	3.2E+01	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Pentachlorophenol	3.0E+00	1.4E+01	mg/Kg	Data are Non-parametric (0.05)	1.1E+02	1.4E+01	mg/Kg	Maximum Concentration
Phenanthrene	7.8E+00	5.2E+01	mg/Kg	Data are Non-parametric (0.05)	2.0E+02	5.2E+01	mg/Kg	Hall's Bootstrap UCL
Vanadium	3.2E+01	4.0E+01	mg/Kg	Data are normal (0.05)	5.1E+01	4.0E+01	mg/Kg	Student's-t UCL
Dioxin TEQ (mammalian)	1.2E-04	4.8E-04	mg/Kg	Data follow gamma distribution (0.05)	6.5E-04	4.8E-04	mg/Kg	Approximate Gamma UCL

Notes:
fbgs = feet below ground surface

Table 3-4b. Exposure Point Concentrations for Sediment - Drainage Ditch

Chemical of Potential Concern	Arithmetic Mean	95% UCL	Units	Distribution	Maximum Concentration	Exposure Point Concentration		
						Value	Units	Statistic
2-Methylnaphthalene	1.6E+01	1.5E+02	mg/Kg	Data are Non-parametric (0.05)	2.6E+02	1.5E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Acenaphthene	1.4E+01	1.2E+02	mg/Kg	Data are Non-parametric (0.05)	2.0E+02	1.2E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Acenaphthylene	5.3E-01	1.8E+00	mg/Kg	Data are Non-parametric (0.05)	4.3E+00	1.8E+00	mg/Kg	95% Chebyshev (Mean, Sd) UCL
Aluminum	9.9E+03	1.2E+04	mg/Kg	Data are normal (0.05)	1.3E+04	1.2E+04	mg/Kg	Student's-t UCL
Anthracene	4.5E+01	4.7E+02	mg/Kg	Data are Non-parametric (0.05)	8.6E+02	4.7E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Arsenic	4.7E+00	7.2E+00	mg/Kg	Assuming gamma distribution (0.05)	6.9E+00	6.9E+00	mg/Kg	Maximum Concentration
Benzo(a)anthracene	2.6E+00	1.9E+01	mg/Kg	Data are Non-parametric (0.05)	3.2E+01	1.9E+01	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Benzo(a)pyrene	1.1E+00	6.1E+00	mg/Kg	Data are Non-parametric (0.05)	8.1E+00	6.1E+00	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Benzo(b)fluoranthene	8.2E-01	5.2E+00	mg/Kg	Data are lognormal (0.05)	7.9E+00	5.2E+00	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Benzo(b&k)fluoranthene	3.1E+00	1.5E+01	mg/Kg	Data are lognormal (0.05)	2.2E+01	1.5E+01	mg/Kg	99% Chebyshev (MVUE) UCL
Benzo(g,h,i)perylene	8.2E-01	3.3E+00	mg/Kg	Data are lognormal (0.05)	3.6E-01	3.6E-01	mg/Kg	Maximum Concentration
Benzo(k)fluoranthene	1.5E-01	3.3E-01	mg/Kg	Data follow gamma distribution (0.05)	6.5E-01	3.3E-01	mg/Kg	Approximate Gamma UCL
Carbazole	1.6E+01	8.1E+01	mg/Kg	Data are Non-parametric (0.05)	3.0E+02	8.1E+01	mg/Kg	95% Chebyshev (Mean, Sd) UCL
Chrysene	3.0E+00	1.8E+01	mg/Kg	Data are lognormal (0.05)	2.9E+01	1.8E+01	mg/Kg	97.5% Chebyshev (MVUE) UCL
Dibenzo(a,h)anthracene	6.2E-01	2.0E+00	mg/Kg	Data are Non-parametric (0.05)	1.5E-01	1.5E-01	mg/Kg	Maximum Concentration
Dibenzofuran	1.8E+01	1.7E+02	mg/Kg	Data are Non-parametric (0.05)	2.2E+02	1.7E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Fluoranthene	1.7E+01	1.2E+02	mg/Kg	Data are Non-parametric (0.05)	2.0E+02	1.2E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Fluorene	2.3E+01	2.1E+02	mg/Kg	Data are Non-parametric (0.05)	3.7E+02	2.1E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Indeno(1,2,3-cd)pyrene	6.3E-01	4.0E+00	mg/Kg	Data are Non-parametric (0.05)	3.9E-01	3.9E-01	mg/Kg	Maximum Concentration
Iron	2.1E+04	2.7E+04	mg/Kg	Data are normal (0.05)	2.9E+04	2.7E+04	mg/Kg	Student's-t UCL
Manganese	2.8E+02	3.2E+02	mg/Kg	Data are normal (0.05)	3.5E+02	3.2E+02	mg/Kg	Student's-t UCL
Naphthalene	2.9E+01	2.7E+02	mg/Kg	Data are Non-parametric (0.05)	4.8E+02	2.7E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
Pentachlorophenol	3.2E+00	1.5E+01	mg/Kg	Data are Non-parametric (0.05)	1.1E+01	1.1E+01	mg/Kg	Maximum Concentration
Phenanthrene	4.7E+01	3.3E+02	mg/Kg	Data are Non-parametric (0.05)	7.0E+02	3.3E+02	mg/Kg	Hall's Bootstrap UCL
Vanadium	3.1E+01	3.8E+01	mg/Kg	Data are normal (0.05)	4.1E+01	3.8E+01	mg/Kg	Student's-t UCL
Dioxin TEQ (mammalian)	1.9E-04	3.8E-04	mg/Kg	Data follow gamma distribution (0.05)	5.9E-04	3.8E-04	mg/Kg	Approximate Gamma UCL

Notes:
fbgs = feet below ground surface

Table 3-5. Exposure Point Concentrations for Surface Water - Cedar Creek

Chemical of Potential Concern	Arithmetic Mean	95% UCL	Units	Distribution	Maximum Concentration	Exposure Point Concentration				
						Value	Units	Value	Units	Statistic
2-Methylphenol	4.7E-03	5.2E-03	mg/L	Data are Non-parametric (0.05)	1.0E-03	1.0E-03	mg/L	1.0E-06	mg/cm3	Maximum Concentration
Aluminum	8.3E-01	1.1E+00	mg/L	Data are normal (0.05)	1.3E+00	1.1E+00	mg/L	1.1E-03	mg/cm3	Student's-t UCL
Iron	1.4E+00	1.7E+00	mg/L	Data are normal (0.05)	2.0E+00	1.7E+00	mg/L	1.7E-03	mg/cm3	Student's-t UCL
Isophorone	4.4E-03	6.9E-03	mg/L	Data are Non-parametric (0.05)	1.0E-03	1.0E-03	mg/L	1.0E-06	mg/cm3	Maximum Concentration
Mercury and compounds	1.1E-04	1.4E-04	mg/L	Data are Non-parametric (0.05)	2.0E-04	1.4E-04	mg/L	1.4E-07	mg/cm3	Mod-t UCL (Adjusted for skewness)
Naphthalene	9.0E-03	1.9E-02	mg/L	Data are Non-parametric (0.05)	1.0E-03	1.0E-03	mg/L	1.0E-06	mg/cm3	Maximum Concentration
Pentachlorophenol	2.5E-02	6.8E-02	mg/L	Data are Non-parametric (0.05)	1.5E-01	6.8E-02	mg/L	6.8E-05	mg/cm3	95% Chebyshev (Mean, Sd) UCL
Pyrene	4.7E-03	5.2E-03	mg/L	Data are Non-parametric (0.05)	3.0E-03	3.0E-03	mg/L	3.0E-06	mg/cm3	Maximum Concentration

Table 3-6. Estimated Body Burden in Wild Game

COPC	Estimated Body Burden in Wild Game (mg/kg)
2-Methylnaphthalene	3.12E-07
Acenaphthene	1.04E-07
Acenaphthylene	3.90E-09
Aluminum	1.03E-08
Anthracene	9.86E-07
Arsenic	1.31E-02
Benzo(a)anthracene	1.83E-08
Benzo(a)pyrene	2.68E-09
Benzo(b)fluoranthene	2.96E-09
Benzo(b&k)fluoranthene	NA
Benzo(g,h,i)perylene	1.19E-10
Benzo(k)fluoranthene	1.62E-10
Carbazole	1.66E-07
Chrysene	1.66E-08
Dibenzo(a,h)anthracene	5.63E-11
Dibenzofuran	3.79E-07
Fluoranthene	1.13E-07
Fluorene	4.51E-07
Indeno(1,2,3-cd)pyrene	1.11E-10
Iron	4.94E-06
Manganese	8.73E-10
Naphthalene	4.54E-07
Pentachlorophenol	9.22E-09
Phenanthrene	6.79E-07
Vanadium	9.38E-11
Dioxin TEQ (mammalian)	2.94E-11

Note:
Benzo(b&k)fluoranthene represents the co-elution of benzo(b)fluoranthene and benzo(k)fluoranthene as reported in the datasets. It was evaluated as benzo(b)fluoranthene for this HHRA.

Table 4-1. Cancer and Non-Cancer Toxicity Values

Chemical (a)	Oral RfD (mg/kg-day) (b)		Oral Slope Factor (mg/kg-d)$^{-1}$ (b)		Oral Absorption (unitless) (c)	Adjusted Dermal RfD (mg/kg-day)	Adjusted Dermal Cancer Slope Factor (mg/kg-d)$^{-1}$
2-Methylnaphthalene	4.0E-03		NA		1.0	4.0E-03	NA
2-Methylphenol	5.0E-02		NA		1.0	5.0E-02	NA
Acenaphthene	6.0E-02		NA		1.0	6.0E-02	NA
Acenaphthylene	6.0E-02		NA		1.0	6.0E-02	NA
Aluminum	1.0E+00	d	NA		1.0	1.0E+00	NA
Anthracene	3.0E-01		NA		1.0	3.0E-01	NA
Arsenic	3.0E-04		1.5E+00		1.0	3.0E-04	1.5E+00
Benzo(a)anthracene	NA		7.3E-01	e	1.0	NA	7.3E-01
Benzo(a)pyrene	NA		7.3E+00		1.0	NA	7.3E+00
Benzo(b)fluoranthene	NA		7.3E-01	e	1.0	NA	7.3E-01
Benzo(b&k)fluoranthene	NA		7.3E-01	e	1.0	NA	7.3E-01
Benzo(g,h,i)perylene	4.0E-02		NA		1.0	4.0E-02	NA
Benzo(k)fluoranthene	NA		7.3E-02	e	1.0	NA	7.3E-02
Carbazole	NA		2.0E-02	f	1.0	NA	2.0E-02
Chrysene	NA		7.3E-03	e	1.0	NA	7.3E-03
Dibenzo(a,h)anthracene	NA		7.3E+00	e	1.0	NA	7.3E+00
Dibenzofuran	2.0E-03	e	NA		1.0	2.0E-03	NA
Fluoranthene	4.0E-02		NA		1.0	4.0E-02	NA
Fluorene	4.0E-02		NA		1.0	4.0E-02	NA
Indeno(1,2,3-cd)pyrene	NA		7.3E-01	e	1.0	NA	7.3E-01
Iron	3.0E-01	e	NA		1.0	3.0E-01	NA
Isophorone	2.0E-01		9.5E-04		1.0	2.0E-01	9.5E-04
Manganese	1.4E-01		NA		0.04	5.6E-03	NA
Mercury and compounds	3.0E-04		NA		0.07	2.1E-05	NA
Naphthalene	2.0E-02		NA		1.0	2.0E-02	NA
Pentachlorophenol	3.0E-02		1.2E-01		1.0	3.0E-02	1.2E-01
Phenanthrene	4.0E-02		NA		1.0	4.0E-02	NA
Pyrene	3.0E-02		NA		1.0	3.0E-02	NA
Vanadium	1.0E-03	e	NA		0.026	2.6E-05	NA
Dioxin TEQ (mammalian)	NA		1.5E+05	f	1.0	NA	1.5E+05

Notes:
a. Surrogate chemicals:
acenaphthene used for acenaphthylene.
benzo(b)fluoranthene used for benzo(k)fluoranthene and benzo(b&k)fluoranthene.
fluoranthene used for benzo(g,h,i)perylene and phenanthrene.
b. Values from IRIS unless otherwise noted.
c. Values are from Dermal Guidance, USEPA (2004);c*. Region III classifies carbazole as a PAH.
d. Provisional values taken from EPA Region IX PRGs.
e. NCEA values.
f. HEAST values.
NA - Not Applicable.

Table 5-1. Exposure Parameters for Sediment Exposures - Cedar Creek and Drainage Ditch

Exposure Route	Receptor Population	Receptor Age	Parameter Code	Parameter Definition	Input Values		Units	Rationale/ Reference
					CTE Case	RME Case		
Incidental Ingestion	Trespasser	10 to 18 years	CS	Chemical Concentration in Sediment	Chem Specific	Chem Specific	mg/kg	See Table 3-4
			IR	Incidental Ingestion Rate of Sediment	50	100	mg/day	USEPA (1997).
			OAF	Oral Absorption Factor	Chem Specific	Chem Specific	unitless	See Table 5-4
			EF	Exposure Frequency	22	44	days/yr	Assuming 1 or both weekend days during the warmer months (May through September).
			ED	Exposure Duration	8	8	yrs	Number of yrs between 10 and 18 yrs of age.
			FS	Fraction from Site	0.25	0.25	unitless	Professional Judgment.
			CF	Conversion Factor	1.00E-06	1.00E-06	kg/mg	Calculated.
			BW	Body Weight	50	50	kg	USEPA (1997).
			AT-NC	Averaging Time (noncancer)	2920	2920	days	365 days x ED
			AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime
Incidental Ingestion	Hunter	Adult	CS	Chemical Concentration in Sediment	Chem Specific	Chem Specific	mg/kg	See Table 3-4
			IR	Incidental Ingestion Rate of Sediment	50	100	mg/day	USEPA (1997)
			OAF	Oral Absorption Factor	Chem Specific	Chem Specific	unitless	See Table 5-4
			EF	Exposure Frequency	13	28	days/yr	Calculated from 2001 USF&WS survey.
			FS	Fraction from Site	0.25	0.25	unitless	Professional Judgment.
			ED	Exposure Duration	9	30	yr	CTE and RME USEPA (1989) residence periods; assumes that individuals would hunt through their residence time.
			CF	Conversion Factor	1.00E-06	1.00E-06	kg/mg	Calculated.
			BWc	Body Weight (cancer)	70	70	kg	USEPA (1989); BW was used to derive CSF values.
			BWnc	Body Weight (noncancer)	71.8	71.8	kg	USEPA (1997).
			AT-NC	Averaging Time (noncancer)	3285	10950	days	365 days x ED
			AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime
Dermal	Trespasser	10 to18 years	CS	Chemical Concentration in Sediment	Chem Specific	Chem Specific	mg/kg	See Table 3-4
			SA	Skin Surface Area	4510	4510	cm^2/day	USEPA (2004); 50%tile surface areas of forearms, feet, hands and lower legs, avg male and female, 10-18 years old.
			DAF	Dermal Adherence Factor	0.3	0.3	mg/cm^2	Average of 95%tile weighted adherence factors for various activities (USEPA, 2004).
			ABS	Dermal Absorption Factor	Chem Specific	Chem.-specific	unitless	See Table 5-4
			EF	Exposure Frequency	22	44	days/yr	Assuming 1 or both weekend days during the warmer months (May through September).
			ED	Exposure Duration	8	8	yr	Number of yrs between 10 and 18 yrs of age.
			CF	Conversion Factor	1.00E-06	1.00E-06	kg/mg	Calculated.
			BW	Body Weight	50	50	kg	USEPA (1997).
			AT-NC	Averaging Time (noncancer)	2920	2920	days	365 days x ED
			AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime.
Dermal	Hunter	Adult	CS	Chemical Concentration in Sediment	Chem Specific	Chem Specific	mg/kg	See Table 3-4
			SA	Skin Surface Area	2077	2077	cm^2/day	USEPA (2004); 50%tile surface areas of forearms and hands, avg male and female adult.
			DAF	Dermal Adherence Factor	0.3	0.3	mg/cm^2	Average of 95%tile weighted adherence factors for various activities (USEPA, 2004).
			ABS	Dermal Absorption Factor	Chem Specific	Chem Specific	unitless	See Table 5-4
			EF	Exposure Frequency	13	28	days/yr	Calculated from 2001 USF&WS survey.
			ED	Exposure Duration	9	30	yr	CTE and RME USEPA residence periods; assumes that individuals would hunt through their residence time.
			CF	Conversion Factor	1.00E-06	1.00E-06	kg/mg	Calculated
			BWc	Body Weight (cancer)	70	70	kg	USEPA (1989); BW was used to derive CSF values.
			BWnc	Body Weight (noncancer)	71.8	71.8	kg	USEPA (1997)
			AT-NC	Averaging Time (noncancer)	3285	10950	days	365 days x ED
			AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989): CSF based on 70 yr lifetime

Notes:
fbgs = feet below ground surface

USEPA. 1989. *Risk Assessment Guidance for Superfund; Volume I: Human Health Evaluation Manual (Part A) - Interim Final.* U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C. EPA/540/1-89/002. December.
USEPA. 1997. *Exposure Factors Handbook, Volumes I, II and III.* Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment, Washington, D.C. EPA/600/P-95/002Fa,b,c. August.
USEPA. 2004. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment).

Table 5-2. Exposure Parameters for Surface Water Exposures - Cedar Creek

Exposure Route	Receptor Population	Receptor Age	Parameter Code	Parameter Definition	Input Values		Units	Rationale/ Reference
					CTE Case	RME Case		
Dermal	Trespasser	10 to 18 years	CW	Chemical Concentration in Water	Chem Specific	Chem Specific	mg/cm^3	See Table 3-5
			LT	Lag Time	Chem Specific	Chem Specific	hr/event	See Table 5-4
			t	Event Duration	0.5	0.5	hr/event	Professional Judgement.
			Pi	Constant	3.14	3.14	unitless	See Appendix B Dermal Guidance (USEPA, 2004).
			SA	Skin Surface Area	4510	4510	cm^2	USEPA (2004); 50%tile surface areas of forearms, feet, hands and lower legs, avg male and female, 10-18 years old.
			Kp	Permeability Coefficient	Chem Specific	Chem Specific	cm/hr	See Table 5-4
			FA	Fraction Absorbed	Chem Specific	Chem Specific	unitless	See Table 5-4
			EF	Exposure Frequency	22	44	days/yr	Assuming 1 or both weekend days in summer months.
			EV	Event Frequency	1	1	events/day	Professional Judgement.
			ED	Exposure Duration	8	8	yr	Number of yrs between 10 and 18 yrs of age.
			DA	Absorbed dose per event	Chem Specific	Chem Specific	mg/cm^2/event	Calculated - Dermal Guidance (USEPA, 2004).
			BW	Body Weight	50	50	kg	USEPA (1997).
			AT-NC	Averaging Time (noncancer)	2920	2920	days	365 days x ED
			AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime.
Dermal	Hunter	Adult	CW	Chemical Concentration in Water	Chem Specific	Chem Specific	mg/cm^3	See Table 3-5
			SA	Skin Surface Area	2077	2077	cm^2	USEPA (2004); 50$^{\%tile}$ surface areas of forearms and hands, avg male and female adult.
			Kp	Permeability Coefficient	Chem Specific	Chem Specific	cm/hr	See Table 5-4
			LT	Lag Time	Chem Specific	Chem Specific	hr/event	See Table 5-4
			t	Event Duration	0.5	0.5	hr/event	Professional Judgement.
			Pi	Constant	3.14	3.14	unitless	See Appendix B Dermal Guidance (USEPA, 2004).
			FA	Fraction Absorbed	Chem Specific	Chem Specific	unitless	See Table 5-4
			EF	Exposure Frequency	13	28	days/yr	Calculated from 2001 USF&WS survey.
			EV	Event Frequency	1	1	events/day	Professional Judgement.
			ED	Exposure Duration	9	30	yr	CTE and RME USEPA residence periods and assumes that individuals would hunt through their residence time.
			DA	Absorbed dose per event	Chem Specific	Chem Specific	mg/cm^2 - event	Calculated - Dermal Guidance (USEPA, 2004).
			BW	Body Weight (cancer)	70	70	kg	This BW was used to derive CSF values.
			BW	Body Weight (noncancer)	71.8	71.8	kg	USEPA (1997).
			AT-NC	Averaging Time (noncancer)	3285	10950	days	365 days x ED
			AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime.

Notes:

USEPA. 1989. *Risk Assessment Guidance for Superfund; Volume I: Human Health Evaluation Manual (Part A) - Interim Final.* U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C. EPA/540/1-89/002. December.

USEPA. 1997. *Exposure Factors Handbook, Volumes I, II and III.* Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment, Washington, D.C. EPA/600/P-95/002Fa,b,c. August.

USEPA. 2004. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment). U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation.

Table 5-3. Exposure Parameters for Ingestion of Wild Game - Cedar Creek and Drainage Ditch

Exposure Route	Receptor Population	Receptor Age	Parameter Code	Parameter Definition	Input Values		Units	Rationale/ Reference
					CTE Case	RME Case		
Ingestion	Hunter	Adult	CG	Estimated Body Burden in Game	Modeled; Chemical Specific	Modeled; Chemical Specific	mg/kg	Based on UCL sediment concentrations; see Table 3-6.
			IR	Ingestion Rate	9.4	9.4	g/day	Mean daily intake from Table 11-21 of USEPA (1997).
			OAF	Oral Absorption Factor	Chem Specific	Chem Specific	unitless	See Table 5-4.
			EF	Exposure Frequency	365	365	days/yr	Ingestion rate is an annualized rate.
			ED	Exposure Duration	9	30	years	CTE and RME USEPA residence periods;assumes that individuals would hunt through their residence
			CF	Conversion Factor	1E-03	1E-03	kg/g	Calculated.
			BW	Body Weight (cancer)	70	70	kg	This BW was used to derive CSF values.
			BW	Body Weight (noncancer)	71.8	71.8	kg	USEPA (1997).
			AT-NC	Averaging Time (noncancer)	3285	10950	days	365 days x ED
			AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime.

Notes:
USEPA. 1989. *Risk Assessment Guidance for Superfund; Volume I: Human Health Evaluation Manual (Part A) - Interim Final.* U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C. EPA/540/1-89/002. December.
USEPA. 1997. *Exposure Factors Handbook, Volumes I, II and III.* Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment, Washington, D.C. EPA/600/P-95/002Fa,b,c. August.

Table 5-4. Chemical-Specific Exposure Parameters - Cedar Creek and Drainage Ditch

Chemical (a)	Oral Absorption (unitless) (b)	Dermal Absorption Factor (unitless) (b)		Permeability Coefficient (cm/hr)		Lag Time (hr/event)		Fraction Absorbed (unitless)	
2-Methylnaphthalene	1.0	0.13		NA		NA		NA	
2-Methylphenol	1.0	NA		0.0077		0.43		1.0	
Acenaphthene	1.0	0.13		NA		NA		NA	
Acenaphthylene	1.0	0.13		NA		NA		NA	
Aluminum	1.0	0.001	c	0.001	c	NA		NA	
Anthracene	1.0	0.13		NA		NA		NA	
Arsenic	1.0	0.03		NA		NA		NA	
Benzo(a)anthracene	1.0	0.13		NA		NA		NA	
Benzo(a)pyrene	1.0	0.13		NA		NA		NA	
Benzo(b)fluoranthene	1.0	0.13		NA		NA		NA	
Benzo(b&k)fluoranthene	1.0	0.13		NA		NA		NA	
Benzo(g,h,i)perylene	1.0	0.13		NA		NA		NA	
Benzo(k)fluoranthene	1.0	0.13		NA		NA		NA	
Carbazole	1.0	0.13	b*	NA		NA		NA	
Chrysene	1.0	0.13		NA		NA		NA	
Dibenzo(a,h)anthracene	1.0	0.13		NA		NA		NA	
Dibenzofuran	1.0	0.13	c	NA		NA		NA	
Fluoranthene	1.0	0.13		NA		NA		NA	
Fluorene	1.0	0.13		NA		NA		NA	
Indeno(1,2,3-cd)pyrene	1.0	0.13		NA		NA		NA	
Iron	1.0	0.001	c	0.001	c	NA		NA	
Isophorone	1.0	NA		0.0034		0.63		1.0	
Manganese	0.04	0.001	c	NA		NA		NA	
Mercury and compounds	0.07	NA		0.001		NA		NA	
Naphthalene	1.0	0.13		0.047		0.56		1.0	
Pentachlorophenol	1.0	0.25		0.390		3.33		0.9	
Phenanthrene	1.0	0.13		NA		NA		NA	
Pyrene	1.0	NA		0.324	b**	1.50	b**	1.0	b**
Vanadium	0.026	0.001	c	NA		NA		NA	
Dioxin TEQ (mammalian)	1.0	0.03		NA		NA		NA	

Notes:
a. Surrogate chemicals:
acenaphthene used for acenaphthylene.
benzo(b)fluoranthene used for benzo(k)fluoranthene and benzo(b&k)fluoranthene.
fluoranthene used for benzo(g,h,i)perylene and phenanthrene.
b. Values are from Dermal Guidance, USEPA (2004) unless otherwise noted;b*. Region III classifies carbazole as a PAH;
b** USEPA EPISUITE
c. ORNL (2006) - Oak Ridge National Laboratory Toxicity and Chemical – Specific Factors Data Base.
NA - Not Applicable

Table 6-1. Summary of Adolescent Trespasser RME Risks and Hazards - Cedar Creek Sediment

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Cedar Creek Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	8.7E-04	NA	6.2E-03	0.007
		Acenaphthene	NA	NA	NA	NA	NC	liver	4.4E-05	NA	3.1E-04	0.0004
		Acenaphthylene	NA	NA	NA	NA	NC	liver	8.3E-08	NA	5.9E-07	0.000001
		Aluminum	NA	NA	NA	NA	NC	NA	7.0E-04	NA	3.8E-05	0.0007
		Anthracene	NA	NA	NA	NA	NC	no observed effects	1.3E-06	NA	9.5E-06	0.00001
		Arsenic	6.5E-08	NA	1.1E-07	NA	2.E-07	skin/vascular	1.3E-03	NA	2.0E-03	0.003
		Benzo(a)anthracene	1.5E-08	NA	1.1E-07	NA	1.E-07	NA	NA	NA	NA	NA
		Benzo(a)pyrene	3.5E-08	NA	2.4E-07	NA	3.E-07	NA	NA	NA	NA	NA
		Benzo(b)fluoranthene	2.3E-08	NA	1.6E-07	NA	2.E-07	NA	NA	NA	NA	NA
		Benzo(b&k)fluoranthene	1.0E-08	NA	7.2E-08	NA	8.E-08	NA	NA	NA	NA	NA
		Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	5.0E-07	NA	3.5E-06	0.000004
		Benzo(k)fluoranthene	1.1E-09	NA	7.8E-09	NA	9.E-09	NA	NA	NA	NA	NA
		Carbazole	1.1E-09	NA	7.8E-09	NA	9.E-09	NA	NA	NA	NA	NA
		Chrysene	1.7E-10	NA	1.2E-09	NA	1.E-09	NA	NA	NA	NA	NA
		Dibenzo(a,h)anthracene	1.2E-08	NA	8.2E-08	NA	9.E-08	NA	NA	NA	NA	NA
		Dibenzofuran	NA	NA	NA	NA	NC	NA	2.3E-03	NA	1.2E-03	0.003
		Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	3.0E-05	NA	2.1E-04	0.0002
		Fluorene	NA	NA	NA	NA	NC	blood	1.7E-04	NA	1.2E-03	0.001
		Indeno(1,2,3-cd)pyrene	1.3E-09	NA	9.4E-09	NA	1.E-08	NA	NA	NA	NA	NA
		Iron	NA	NA	NA	NA	NC	NA	4.9E-03	NA	2.7E-04	0.005
		Manganese	NA	NA	NA	NA	NC	central nervous system	1.0E-05	NA	3.5E-04	0.0004
		Naphthalene	NA	NA	NA	NA	NC	body weight	9.5E-05	NA	6.7E-04	0.001
		Pentachlorophenol	1.1E-08	NA	1.5E-07	NA	2.E-07	liver/kidneys	2.7E-05	NA	3.7E-04	0.0004
		Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	7.8E-05	NA	5.5E-04	0.001
		Vanadium	NA	NA	NA	NA	NC	NA	6.2E-05	NA	5.0E-03	0.005
		Dioxin TEQ (mammalian)	4.9E-07	NA	8.0E-07	NA	1.E-06	NA	NA	NA	NA	NA
		Chemical Total	6.7E-07	--	1.8E-06	--	2.E-06		1.1E-02	--	1.8E-02	0.03
	Exposure Point Total						2.E-06					0.03
Exposure Medium Total							2.E-06					0.03
Sediment Total							2.E-06					0.03

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 6-2. Summary of Adolescent Trespasser RME Risks and Hazards - Cedar Creek Surface Water

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Cedar Creek Downstream	2-Methylphenol	NA	NA	NA	NA	NC	body weight; neurotoxicity	NA	NA	2.1E-06	0.000002
		Aluminum	NA	NA	NA	NA	NC	NA	NA	NA	5.8E-06	0.00001
		Iron	NA	NA	NA	NA	NC	NA	NA	NA	3.1E-05	0.00003
		Isophorone	NA	NA	6.2E-12	NA	6.E-12	no observed effects	NA	NA	2.9E-07	0.0000003
		Mercury and compounds	NA	NA	NA	NA	NC	autoimmune effects	NA	NA	3.7E-05	0.00004
		Naphthalene	NA	NA	NA	NA	NC	body weight	NA	NA	3.7E-05	0.00004
		Pentachlorophenol	NA	NA	1.3E-05	NA	1.E-05	liver/kidneys	NA	NA	3.1E-02	0.03
		Pyrene	NA	NA	NA	NA	NC	neurological dysfunction	NA	NA	8.4E-04	0.0008
		Chemical Total	0.0E+00	--	1.3E-05	--	1.E-05		0.0E+00	--	3.2E-02	0.03
	Exposure Point Total						1.E-05					0.03
Exposure Medium Total							1.E-05					0.03
Surface Water Total							1.E-05					0.03
Receptor Total							2.E-05					0.06

Total Risk Across All Media =	2.E-05
Total Hazard Across All Media =	0.06
Total Liver/Kidneys HI Across All Media =	0.04
Total Body Weight HI Across All Media =	0.0008
Total Neurological HI Across All Media =	0.001
Total Skin/Vascular HI Across All Media =	0.005
Total Autoimmune HI Across All Media =	0.00004

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 6-3. Summary of Hunter RME Risks and Hazards - Cedar Creek Sediment

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Cedar Creek Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	3.9E-04	NA	1.3E-03	0.002
		Acenaphthene	NA	NA	NA	NA	NC	liver	1.9E-05	NA	6.3E-05	0.0001
		Acenaphthylene	NA	NA	NA	NA	NC	liver	3.7E-08	NA	1.2E-07	0.0000002
		Aluminum	NA	NA	NA	NA	NC	NA	3.1E-04	NA	7.8E-06	0.0003
		Anthracene	NA	NA	NA	NA	NC	no observed effects	6.0E-07	NA	1.9E-06	0.000003
		Arsenic	1.1E-07	NA	8.3E-08	NA	2.E-07	skin/vascular	5.6E-04	NA	4.2E-04	0.001
		Benzo(a)anthracene	2.6E-08	NA	8.4E-08	NA	1.E-07	NA	NA	NA	NA	NA
		Benzo(a)pyrene	5.9E-08	NA	1.9E-07	NA	2.E-07	NA	NA	NA	NA	NA
		Benzo(b)fluoranthene	3.9E-08	NA	1.3E-07	NA	2.E-07	NA	NA	NA	NA	NA
		Benzo(b&k)fluoranthene	1.7E-08	NA	5.6E-08	NA	7.E-08	NA	NA	NA	NA	NA
		Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	2.2E-07	NA	7.2E-07	0.000001
		Benzo(k)fluoranthene	1.9E-09	NA	6.1E-09	NA	8.E-09	NA	NA	NA	NA	NA
		Carbazole	1.9E-09	NA	6.1E-09	NA	8.E-09	NA	NA	NA	NA	NA
		Chrysene	2.9E-10	NA	9.5E-10	NA	1.E-09	NA	NA	NA	NA	NA
		Dibenzo(a,h)anthracene	2.0E-08	NA	6.4E-08	NA	8.E-08	NA	NA	NA	NA	NA
		Dibenzofuran	NA	NA	NA	NA	NC	NA	1.0E-03	NA	2.5E-04	0.001
		Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	1.3E-05	NA	4.3E-05	0.0001
		Fluorene	NA	NA	NA	NA	NC	blood	7.3E-05	NA	2.4E-04	0.0003
		Indeno(1,2,3-cd)pyrene	2.3E-09	NA	7.4E-09	NA	1.E-08	NA	NA	NA	NA	NA
		Iron	NA	NA	NA	NA	NC	NA	2.2E-03	NA	5.4E-05	0.002
		Manganese	NA	NA	NA	NA	NC	central nervous system	4.6E-06	NA	7.2E-05	0.0001
		Naphthalene	NA	NA	NA	NA	NC	body weight	4.2E-05	NA	1.4E-04	0.0002
		Pentachlorophenol	1.9E-08	NA	1.2E-07	NA	1.E-07	liver/kidneys	1.2E-05	NA	7.5E-05	0.0001
		Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	3.5E-05	NA	1.1E-04	0.0001
		Vanadium	NA	NA	NA	NA	NC	NA	2.8E-05	NA	1.0E-03	0.001
		Dioxin TEQ (mammalian)	8.4E-07	NA	6.3E-07	NA	1.E-06	NA	NA	NA	NA	NA
		Chemical Total	1.1E-06	--	1.4E-06	--	3.E-06		4.7E-03	--	3.7E-03	0.008
	Exposure Point Total						3.E-06					0.008
Exposure Medium Total							3.E-06					0.008
Sediment Total							3.E-06					0.008

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 6-4. Summary of Hunter RME Risks and Hazards - Cedar Creek Wild Game

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Wild Game	Cedar Creek Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	1.9E-07	NA	NA	0.0000002
		Acenaphthene	NA	NA	NA	NA	NC	liver	3.9E-09	NA	NA	0.000000004
		Acenaphthylene	NA	NA	NA	NA	NC	liver	1.8E-11	NA	NA	2.E-11
		Aluminum	NA	NA	NA	NA	NC	NA	6.0E-11	NA	NA	0.0000000001
		Anthracene	NA	NA	NA	NA	NC	no observed effects	2.8E-10	NA	NA	0.0000000003
		Arsenic	1.0E-06	NA	NA	NA	1.E-06	skin/vascular	5.2E-03	NA	NA	0.005
		Benzo(a)anthracene	5.7E-12	NA	NA	NA	6.E-12	NA	NA	NA	NA	NA
		Benzo(a)pyrene	5.9E-12	NA	NA	NA	6.E-12	NA	NA	NA	NA	NA
		Benzo(b)fluoranthene	5.1E-12	NA	NA	NA	5.E-12	NA	NA	NA	NA	NA
		Benzo(b&k)fluoranthene	NA	NA	NA	NA	NC	NA	NA	NA	NA	NA
		Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	1.7E-11	NA	NA	0.00000000002
		Benzo(k)fluoranthene	2.1E-13	NA	NA	NA	2.E-13	NA	NA	NA	NA	NA
		Carbazole	8.8E-13	NA	NA	NA	9.E-13	NA	NA	NA	NA	NA
		Chrysene	6.1E-14	NA	NA	NA	6.E-14	NA	NA	NA	NA	NA
		Dibenzo(a,h)anthracene	1.7E-12	NA	NA	NA	2.E-12	NA	NA	NA	NA	NA
		Dibenzofuran	NA	NA	NA	NA	NC	NA	4.9E-07	NA	NA	0.0000005
		Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	2.9E-09	NA	NA	0.000000003
		Fluorene	NA	NA	NA	NA	NC	blood	3.6E-08	NA	NA	0.00000004
		Indeno(1,2,3-cd)pyrene	1.5E-13	NA	NA	NA	1.E-13	NA	NA	NA	NA	NA
		Iron	NA	NA	NA	NA	NC	NA	9.1E-08	NA	NA	0.00000009
		Manganese	NA	NA	NA	NA	NC	central nervous system	2.8E-12	NA	NA	3.E-12
		Naphthalene	NA	NA	NA	NA	NC	body weight	1.6E-08	NA	NA	0.00000002
		Pentachlorophenol	3.6E-12	NA	NA	NA	4.E-12	liver/kidneys	2.3E-09	NA	NA	0.000000002
		Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	1.6E-08	NA	NA	0.00000002
		Vanadium	NA	NA	NA	NA	NC	NA	1.5E-11	NA	NA	0.00000000002
		Dioxin TEQ (mammalian)	2.2E-08	NA	NA	NA	2.E-08	NA	NA	NA	NA	NA
		Chemical Total	1.1E-06	--	0.0E+00	--	1.E-06		5.2E-03	--	0.0E+00	0.005
	Exposure Point Total						1.E-06					0.005
Exposure Medium Total							1.E-06					0.005
Wild Game Total							1.E-06					0.005

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 6-5. Summary of Hunter RME Risks and Hazards - Cedar Creek Surface Water

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Cedar Creek Downstream	2-Methylphenol	NA	NA	NA	NA	NC	body weight; neurotoxicity	NA	NA	4.4E-07	0.0000004
		Aluminum	NA	NA	NA	NA	NC	NA	NA	NA	1.2E-06	0.000001
		Iron	NA	NA	NA	NA	NC	NA	NA	NA	6.4E-06	0.000006
		Isophorone	NA	NA	4.9E-12	NA	5.E-12	no observed effects	NA	NA	5.9E-08	0.0000001
		Mercury and compounds	NA	NA	NA	NA	NC	autoimmune effects	NA	NA	7.5E-06	0.000007
		Naphthalene	NA	NA	NA	NA	NC	body weight	NA	NA	7.6E-06	0.000008
		Pentachlorophenol	NA	NA	9.9E-06	NA	1.E-05	liver/kidneys	NA	NA	6.3E-03	0.006
		Pyrene	NA	NA	NA	NA	NC	neurological dysfunction	NA	NA	1.7E-04	0.0002
		Chemical Total	0.0E+00	--	9.9E-06	--	1.E-05		0.0E+00	--	6.5E-03	0.006
	Exposure Point Total						1.E-05					0.006
Exposure Medium Total							1.E-05					0.006
Surface Water Total							1.E-05					0.006
Receptor Total							1.E-05					0.02

Total Risk Across All Media = 1.E-05

Total Hazard Across All Media = 0.02
Total Liver/Kidneys HI Across All Media = 0.008
Total Body Weight HI Across All Media = 0.0002
Total Neurological HI Across All Media = 0.0002
Total Skin/Vascular HI Across All Media = 0.007
Total Autoimmune HI Across All Media = 0.00001

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 6-6. Summary of Adolescent Trespasser RME Risks and Hazards - Drainage Ditch Sediment

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Drainage Ditch Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	2.2E-03	NA	1.5E-02	0.02
		Acenaphthene	NA	NA	NA	NA	NC	liver	1.2E-04	NA	8.1E-04	0.0009
		Acenaphthylene	NA	NA	NA	NA	NC	liver	1.8E-06	NA	1.3E-05	0.00001
		Aluminum	NA	NA	NA	NA	NC	NA	7.4E-04	NA	4.0E-05	0.0008
		Anthracene	NA	NA	NA	NA	NC	no observed effects	9.5E-05	NA	6.7E-04	0.0008
		Arsenic	7.1E-08	NA	1.2E-07	NA	2.E-07	skin/vascular	1.4E-03	NA	2.3E-03	0.004
		Benzo(a)anthracene	9.5E-08	NA	6.7E-07	NA	8.E-07	NA	NA	NA	NA	NA
		Benzo(a)pyrene	3.0E-07	NA	2.1E-06	NA	2.E-06	NA	NA	NA	NA	NA
		Benzo(b)fluoranthene	2.6E-08	NA	1.8E-07	NA	2.E-07	NA	NA	NA	NA	NA
		Benzo(b&k)fluoranthene	7.5E-08	NA	5.3E-07	NA	6.E-07	NA	NA	NA	NA	NA
		Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	5.4E-07	NA	3.8E-06	0.000004
		Benzo(k)fluoranthene	1.7E-10	NA	1.2E-09	NA	1.E-09	NA	NA	NA	NA	NA
		Carbazole	1.1E-08	NA	7.8E-08	NA	9.E-08	NA	NA	NA	NA	NA
		Chrysene	9.1E-10	NA	6.4E-09	NA	7.E-09	NA	NA	NA	NA	NA
		Dibenzo(a,h)anthracene	7.5E-09	NA	5.3E-08	NA	6.E-08	NA	NA	NA	NA	NA
		Dibenzofuran	NA	NA	NA	NA	NC	NA	5.2E-03	NA	3.7E-02	0.04
		Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	1.8E-04	NA	1.3E-03	0.001
		Fluorene	NA	NA	NA	NA	NC	blood	3.1E-04	NA	2.2E-03	0.003
		Indeno(1,2,3-cd)pyrene	2.0E-09	NA	1.4E-08	NA	2.E-08	NA	NA	NA	NA	NA
		Iron	NA	NA	NA	NA	NC	NA	5.4E-03	NA	2.9E-04	0.006
		Manganese	NA	NA	NA	NA	NC	central nervous system	5.6E-06	NA	1.9E-04	0.0002
		Naphthalene	NA	NA	NA	NA	NC	body weight	8.1E-04	NA	5.7E-03	0.006
		Pentachlorophenol	9.1E-09	NA	1.2E-07	NA	1.E-07	liver/kidneys	2.2E-05	NA	3.0E-04	0.0003
		Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	4.9E-04	NA	3.5E-03	0.004
		Vanadium	NA	NA	NA	NA	NC	NA	6.0E-05	NA	4.8E-03	0.005
		Dioxin TEQ (mammalian)	3.9E-07	NA	6.3E-07	NA	1.E-06	NA	NA	NA	NA	NA
		Chemical Total	9.9E-07	--	4.5E-06	--	6.E-06		1.7E-02	--	7.4E-02	0.09
	Exposure Point Total						6.E-06					0.09
Exposure Medium Total							6.E-06					0.09
Sediment Total							6.E-06					0.09
Receptor Total							6.E-06					0.09

Total Risk Across All Media = 6.E-06

Total Hazard Across All Media = 0.09
Total Liver/Kidneys HI Across All Media = 0.02
Total Body Weight HI Across All Media = 0.006
Total Neurological HI Across All Media = 0.0002
Total Skin/Vascular HI Across All Media = 0.006

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 6-7. Summary of Hunter RME Risks and Hazards - Drainage Ditch Sediment

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Drainage Ditch Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	9.7E-04	NA	3.2E-03	0.004
		Acenaphthene	NA	NA	NA	NA	NC	liver	5.1E-05	NA	1.7E-04	0.0002
		Acenaphthylene	NA	NA	NA	NA	NC	liver	8.0E-07	NA	2.6E-06	0.000003
		Aluminum	NA	NA	NA	NA	NC	NA	3.3E-04	NA	8.1E-06	0.0003
		Anthracene	NA	NA	NA	NA	NC	no observed effects	4.2E-05	NA	1.4E-04	0.0002
		Arsenic	1.2E-07	NA	9.1E-08	NA	2.E-07	skin/vascular	6.1E-04	NA	4.6E-04	0.001
		Benzo(a)anthracene	1.6E-07	NA	5.2E-07	NA	7.E-07	NA	NA	NA	NA	NA
		Benzo(a)pyrene	5.2E-07	NA	1.7E-06	NA	2.E-06	NA	NA	NA	NA	NA
		Benzo(b)fluoranthene	4.4E-08	NA	1.4E-07	NA	2.E-07	NA	NA	NA	NA	NA
		Benzo(b&k)fluoranthene	1.3E-07	NA	4.1E-07	NA	5.E-07	NA	NA	NA	NA	NA
		Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	2.4E-07	NA	7.8E-07	0.000001
		Benzo(k)fluoranthene	2.9E-10	NA	9.3E-10	NA	1.E-09	NA	NA	NA	NA	NA
		Carbazole	1.9E-08	NA	6.1E-08	NA	8.E-08	NA	NA	NA	NA	NA
		Chrysene	1.6E-09	NA	5.0E-09	NA	7.E-09	NA	NA	NA	NA	NA
		Dibenzo(a,h)anthracene	1.3E-08	NA	4.2E-08	NA	5.E-08	NA	NA	NA	NA	NA
		Dibenzofuran	NA	NA	NA	NA	NC	NA	2.3E-03	NA	7.5E-03	0.01
		Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	8.0E-05	NA	2.6E-04	0.0003
		Fluorene	NA	NA	NA	NA	NC	blood	1.4E-04	NA	4.5E-04	0.0006
		Indeno(1,2,3-cd)pyrene	3.3E-09	NA	1.1E-08	NA	1.E-08	NA	NA	NA	NA	NA
		Iron	NA	NA	NA	NA	NC	NA	2.4E-03	NA	5.9E-05	0.002
		Manganese	NA	NA	NA	NA	NC	central nervous system	2.5E-06	NA	3.8E-05	0.00004
		Naphthalene	NA	NA	NA	NA	NC	body weight	3.6E-04	NA	1.2E-03	0.002
		Pentachlorophenol	1.5E-08	NA	9.7E-08	NA	1.E-07	liver/kidneys	9.8E-06	NA	6.1E-05	0.0001
		Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	2.2E-04	NA	7.0E-04	0.0009
		Vanadium	NA	NA	NA	NA	NC	NA	2.7E-05	NA	9.8E-04	0.001
		Dioxin TEQ (mammalian)	6.7E-07	NA	5.0E-07	NA	1.E-06	NA	NA	NA	NA	NA
		Chemical Total	1.7E-06	--	3.6E-06	--	5.E-06		7.5E-03	--	1.5E-02	0.02
	Exposure Point Total						5.E-06					0.02
Exposure Medium Total							5.E-06					0.02
Sediment Total							5.E-06					0.02

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 6-8. Summary of Hunter RME Risks and Hazards - Drainage Ditch Wild Game

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Wild Game	Drainage Ditch Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	1.0E-08	NA	NA	0.00000001
		Acenaphthene	NA	NA	NA	NA	NC	liver	2.3E-10	NA	NA	0.0000000002
		Acenaphthylene	NA	NA	NA	NA	NC	liver	8.5E-12	NA	NA	0.00000000001
		Aluminum	NA	NA	NA	NA	NC	NA	1.4E-12	NA	NA	1.E-12
		Anthracene	NA	NA	NA	NA	NC	no observed effects	4.3E-10	NA	NA	0.0000000004
		Arsenic	1.1E-06	NA	NA	NA	1.E-06	skin/vascular	5.7E-03	NA	NA	0.006
		Benzo(a)anthracene	7.7E-13	NA	NA	NA	8.E-13	NA	NA	NA	NA	NA
		Benzo(a)pyrene	1.1E-12	NA	NA	NA	1.E-12	NA	NA	NA	NA	NA
		Benzo(b)fluoranthene	1.2E-13	NA	NA	NA	1.E-13	NA	NA	NA	NA	NA
		Benzo(b&k)fluoranthene	NA	NA	NA	NA	NC	NA	NA	NA	NA	NA
		Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	3.9E-13	NA	NA	4.E-13
		Benzo(k)fluoranthene	6.8E-16	NA	NA	NA	7.E-16	NA	NA	NA	NA	NA
		Carbazole	1.9E-13	NA	NA	NA	2.E-13	NA	NA	NA	NA	NA
		Chrysene	7.0E-15	NA	NA	NA	7.E-15	NA	NA	NA	NA	NA
		Dibenzo(a,h)anthracene	2.4E-14	NA	NA	NA	2.E-14	NA	NA	NA	NA	NA
		Dibenzofuran	NA	NA	NA	NA	NC	NA	2.5E-08	NA	NA	0.00000002
		Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	3.7E-10	NA	NA	0.0000000004
		Fluorene	NA	NA	NA	NA	NC	blood	1.5E-09	NA	NA	0.000000001
		Indeno(1,2,3-cd)pyrene	4.7E-15	NA	NA	NA	5.E-15	NA	NA	NA	NA	NA
		Iron	NA	NA	NA	NA	NC	NA	2.2E-09	NA	NA	0.000000002
		Manganese	NA	NA	NA	NA	NC	central nervous system	3.3E-14	NA	NA	3.E-14
		Naphthalene	NA	NA	NA	NA	NC	body weight	3.0E-09	NA	NA	0.000000003
		Pentachlorophenol	6.4E-14	NA	NA	NA	6.E-14	liver/kidneys	4.0E-11	NA	NA	0.00000000004
		Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	2.2E-09	NA	NA	0.000000002
		Vanadium	NA	NA	NA	NA	NC	NA	3.2E-13	NA	NA	3.E-13
		Dioxin TEQ (mammalian)	2.5E-10	NA	NA	NA	3.E-10	NA	NA	NA	NA	NA
		Chemical Total	1.1E-06	--	0.0E+00	--	1.E-06		5.7E-03	--	0.0E+00	0.006
	Exposure Point Total						1.E-06					0.006
Exposure Medium Total							1.E-06					0.006
Wild Game Total							1.E-06					0.006
Receptor Total							6.E-06					0.03

Total Risk Across All Media = 6.E-06

Total Hazard Across All Media =	0.03
Total Liver/Kidneys HI Across All Media =	0.00000001
Total Body Weight HI Across All Media =	0.000000003
Total Neurological HI Across All Media =	3.E-14
Total Skin/Vascular HI Across All Media =	0.006

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 7-1. Uncertainty Assessment - Comparison of An Alternate Site Use Assumption

Receptor	Exposure Medium	Exposure Pathway	Site Use of 0.25		Site Use of 1.0	
			Cancer Risk	Non-Cancer Hazard Quotient	Cancer Risk	Non-Cancer Hazard Quotient
Adolescent Trespasser	Sediment/Soil	Sediment Contact	2.E-06	0.029	1.E-05	0.115
	Surface Water	Surface Water Contact	1.E-05	0.032	5.E-05	0.127
Hunter	Sediment/Soil	Sediment Contact	3.E-06	0.008	1.E-05	0.034
	Surface Water	Surface Water Contact	1.E-05	0.006	4.E-05	0.026
	Wild Game	Game Consumption	1.E-06	0.005	4.E-06	0.021

Notes:
Sediment contact includes ingestion and dermal contact.
Surface water contact is based on dermal contact only.

Table 7-2. Summary of Adolescent Trespasser CTE Risks and Hazards - Cedar Creek Sediment

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Cedar Creek Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	2.2E-04	NA	3.1E-03	0.003
		Acenaphthene	NA	NA	NA	NA	NC	liver	1.1E-05	NA	1.5E-04	0.0002
		Acenaphthylene	NA	NA	NA	NA	NC	liver	2.1E-08	NA	2.9E-07	0.0000003
		Aluminum	NA	NA	NA	NA	NC	NA	1.8E-04	NA	1.9E-05	0.0002
		Anthracene	NA	NA	NA	NA	NC	no observed effects	3.4E-07	NA	4.7E-06	0.00001
		Arsenic	1.6E-08	NA	5.3E-08	NA	7.E-08	skin/vascular	3.2E-04	NA	1.0E-03	0.001
		Benzo(a)anthracene	3.8E-09	NA	5.3E-08	NA	6.E-08	NA	NA	NA	NA	NA
		Benzo(a)pyrene	8.6E-09	NA	1.2E-07	NA	1.E-07	NA	NA	NA	NA	NA
		Benzo(b)fluoranthene	5.8E-09	NA	8.1E-08	NA	9.E-08	NA	NA	NA	NA	NA
		Benzo(b&k)fluoranthene	2.5E-09	NA	3.6E-08	NA	4.E-08	NA	NA	NA	NA	NA
		Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	1.3E-07	NA	1.8E-06	0.000002
		Benzo(k)fluoranthene	2.8E-10	NA	3.9E-09	NA	4.E-09	NA	NA	NA	NA	NA
		Carbazole	2.8E-10	NA	3.9E-09	NA	4.E-09	NA	NA	NA	NA	NA
		Chrysene	4.3E-11	NA	6.1E-10	NA	6.E-10	NA	NA	NA	NA	NA
		Dibenzo(a,h)anthracene	2.9E-09	NA	4.1E-08	NA	4.E-08	NA	NA	NA	NA	NA
		Dibenzofuran	NA	NA	NA	NA	NC	NA	5.6E-04	NA	6.1E-04	0.001
		Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	7.6E-06	NA	1.1E-04	0.0001
		Fluorene	NA	NA	NA	NA	NC	blood	4.1E-05	NA	5.8E-04	0.001
		Indeno(1,2,3-cd)pyrene	3.3E-10	NA	4.7E-09	NA	5.E-09	NA	NA	NA	NA	NA
		Iron	NA	NA	NA	NA	NC	NA	1.2E-03	NA	1.3E-04	0.001
		Manganese	NA	NA	NA	NA	NC	central nervous system	2.6E-06	NA	1.8E-04	0.0002
		Naphthalene	NA	NA	NA	NA	NC	body weight	2.4E-05	NA	3.4E-04	0.0004
		Pentachlorophenol	2.8E-09	NA	7.6E-08	NA	8.E-08	liver/kidneys	6.8E-06	NA	1.8E-04	0.0002
		Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	2.0E-05	NA	2.8E-04	0.0003
		Vanadium	NA	NA	NA	NA	NC	NA	1.6E-05	NA	2.5E-03	0.003
		Dioxin TEQ (mammalian)	1.2E-07	NA	4.0E-07	NA	5.E-07	NA	NA	NA	NA	NA
		Chemical Total	1.7E-07	--	8.8E-07	--	1.E-06		2.6E-03	--	9.2E-03	0.01
	Exposure Point Total						1.E-06					0.01
Exposure Medium Total							1.E-06					0.01
Sediment Total							1.E-06					0.01

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 7-3. Summary of Adolescent Trespasser CTE Risks and Hazards - Cedar Creek Surface Water

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Cedar Creek Downstream	2-Methylphenol	NA	NA	NA	NA	NC	body weight; neurotoxicity	NA	NA	1.1E-06	0.000001
		Aluminum	NA	NA	NA	NA	NC	NA	NA	NA	2.9E-06	0.000003
		Iron	NA	NA	NA	NA	NC	NA	NA	NA	1.6E-05	0.00002
		Isophorone	NA	NA	3.1E-12	NA	3.E-12	no observed effects	NA	NA	1.4E-07	0.0000001
		Mercury and compounds	NA	NA	NA	NA	NC	autoimmune effects	NA	NA	1.8E-05	0.00002
		Naphthalene	NA	NA	NA	NA	NC	body weight	NA	NA	1.9E-05	0.00002
		Pentachlorophenol	NA	NA	6.3E-06	NA	6.E-06	liver/kidneys	NA	NA	1.5E-02	0.02
		Pyrene	NA	NA	NA	NA	NC	neurological dysfunction	NA	NA	4.2E-04	0.0004
		Chemical Total	0.0E+00	--	6.3E-06	--	6.E-06		0.0E+00	--	1.6E-02	0.02
	Exposure Point Total						6.E-06					0.02
Exposure Medium Total							6.E-06					0.02
Surface Water Total							6.E-06					0.02
Receptor Total							7.E-06					0.03

Total Risk Across All Media = 7.E-06

Total Hazard Across All Media =	0.03
Total Liver/Kidneys HI Across All Media =	0.02
Total Body Weight HI Across All Media =	0.0004
Total Neurological HI Across All Media =	0.0006
Total Skin/Vascular HI Across All Media =	0.002
Total Autoimmune HI Across All Media =	0.00002

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 7-4. Summary of Hunter CTE Risks and Hazards - Cedar Creek Sediment

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Cedar Creek Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	9.0E-05	NA	5.8E-04	0.0007
		Acenaphthene	NA	NA	NA	NA	NC	liver	4.5E-06	NA	2.9E-05	0.00003
		Acenaphthylene	NA	NA	NA	NA	NC	liver	8.6E-09	NA	5.6E-08	0.0000001
		Aluminum	NA	NA	NA	NA	NC	NA	7.2E-05	NA	3.6E-06	0.00008
		Anthracene	NA	NA	NA	NA	NC	no observed effects	1.4E-07	NA	9.0E-07	0.000001
		Arsenic	7.7E-09	NA	1.2E-08	NA	2.E-08	skin/vascular	1.3E-04	NA	1.9E-04	0.0003
		Benzo(a)anthracene	1.8E-09	NA	1.2E-08	NA	1.E-08	NA	NA	NA	NA	NA
		Benzo(a)pyrene	4.1E-09	NA	2.7E-08	NA	3.E-08	NA	NA	NA	NA	NA
		Benzo(b)fluoranthene	2.7E-09	NA	1.8E-08	NA	2.E-08	NA	NA	NA	NA	NA
		Benzo(b&k)fluoranthene	1.2E-09	NA	7.8E-09	NA	9.E-09	NA	NA	NA	NA	NA
		Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	5.2E-08	NA	3.4E-07	0.0000004
		Benzo(k)fluoranthene	1.3E-10	NA	8.5E-10	NA	1.E-09	NA	NA	NA	NA	NA
		Carbazole	1.3E-10	NA	8.5E-10	NA	1.E-09	NA	NA	NA	NA	NA
		Chrysene	2.0E-11	NA	1.3E-10	NA	2.E-10	NA	NA	NA	NA	NA
		Dibenzo(a,h)anthracene	1.4E-09	NA	8.9E-09	NA	1.E-08	NA	NA	NA	NA	NA
		Dibenzofuran	NA	NA	NA	NA	NC	NA	2.3E-04	NA	1.2E-04	0.0003
		Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	3.1E-06	NA	2.0E-05	0.00002
		Fluorene	NA	NA	NA	NA	NC	blood	1.7E-05	NA	1.1E-04	0.0001
		Indeno(1,2,3-cd)pyrene	1.6E-10	NA	1.0E-09	NA	1.E-09	NA	NA	NA	NA	NA
		Iron	NA	NA	NA	NA	NC	NA	5.0E-04	NA	2.5E-05	0.0005
		Manganese	NA	NA	NA	NA	NC	central nervous system	1.1E-06	NA	3.4E-05	0.00003
		Naphthalene	NA	NA	NA	NA	NC	body weight	9.8E-06	NA	6.3E-05	0.00007
		Pentachlorophenol	1.3E-09	NA	1.7E-08	NA	2.E-08	liver/kidneys	2.8E-06	NA	3.5E-05	0.00004
		Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	8.1E-06	NA	5.2E-05	0.00006
		Vanadium	NA	NA	NA	NA	NC	NA	6.4E-06	NA	4.7E-04	0.0005
		Dioxin TEQ (mammalian)	5.9E-08	NA	8.8E-08	NA	1.E-07	NA	NA	NA	NA	NA
		Chemical Total	7.9E-08	--	1.9E-07	--	3.E-07		1.1E-03	--	1.7E-03	0.003
	Exposure Point Total						3.E-07					0.003
Exposure Medium Total							3.E-07					0.003
Sediment Total							3.E-07					0.003

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 7-5. Summary of Hunter CTE Risks and Hazards - Cedar Creek Wild Game

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Wild Game	Cedar Creek Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	1.9E-07	NA	NA	0.0000002
		Acenaphthene	NA	NA	NA	NA	NC	liver	3.9E-09	NA	NA	0.000000004
		Acenaphthylene	NA	NA	NA	NA	NC	liver	1.8E-11	NA	NA	0.00000000002
		Aluminum	NA	NA	NA	NA	NC	NA	6.0E-11	NA	NA	0.0000000001
		Anthracene	NA	NA	NA	NA	NC	no observed effects	2.8E-10	NA	NA	0.0000000003
		Arsenic	3.1E-07	NA	NA	NA	3.E-07	skin/vascular	5.2E-03	NA	NA	0.005
		Benzo(a)anthracene	1.7E-12	NA	NA	NA	2.E-12	NA	NA	NA	NA	NA
		Benzo(a)pyrene	1.8E-12	NA	NA	NA	2.E-12	NA	NA	NA	NA	NA
		Benzo(b)fluoranthene	1.5E-12	NA	NA	NA	2.E-12	NA	NA	NA	NA	NA
		Benzo(b&k)fluoranthene	NA	NA	NA	NA	NC	NA	NA	NA	NA	NA
		Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	1.7E-11	NA	NA	0.00000000002
		Benzo(k)fluoranthene	6.2E-14	NA	NA	NA	6.E-14	NA	NA	NA	NA	NA
		Carbazole	2.7E-13	NA	NA	NA	3.E-13	NA	NA	NA	NA	NA
		Chrysene	1.8E-14	NA	NA	NA	2.E-14	NA	NA	NA	NA	NA
		Dibenzo(a,h)anthracene	5.0E-13	NA	NA	NA	5.E-13	NA	NA	NA	NA	NA
		Dibenzofuran	NA	NA	NA	NA	NC	NA	4.9E-07	NA	NA	0.0000005
		Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	2.9E-09	NA	NA	0.000000003
		Fluorene	NA	NA	NA	NA	NC	blood	3.6E-08	NA	NA	0.00000004
		Indeno(1,2,3-cd)pyrene	4.4E-14	NA	NA	NA	4.E-14	NA	NA	NA	NA	NA
		Iron	NA	NA	NA	NA	NC	NA	9.1E-08	NA	NA	0.00000009
		Manganese	NA	NA	NA	NA	NC	central nervous system	2.8E-12	NA	NA	3.E-12
		Naphthalene	NA	NA	NA	NA	NC	body weight	1.6E-08	NA	NA	0.00000002
		Pentachlorophenol	1.1E-12	NA	NA	NA	1.E-12	liver/kidneys	2.3E-09	NA	NA	0.000000002
		Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	1.6E-08	NA	NA	0.00000002
		Vanadium	NA	NA	NA	NA	NC	NA	1.5E-11	NA	NA	0.00000000002
		Dioxin TEQ (mammalian)	6.5E-09	NA	NA	NA	6.E-09	NA	NA	NA	NA	NA
		Chemical Total	3.2E-07	--	0.0E+00	--	3.E-07		5.2E-03	--	0.0E+00	0.005
	Exposure Point Total						3.E-07					0.005
Exposure Medium Total							3.E-07					0.005
Wild Game Total							3.E-07					0.005

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 7-6. Summary of Hunter CTE Risks and Hazards - Cedar Creek Surface Water

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Cedar Creek Downstream	2-Methylphenol	NA	NA	NA	NA	NC	body weight; neurotoxicity	NA	NA	2.0E-07	0.0000002
		Aluminum	NA	NA	NA	NA	NC	NA	NA	NA	5.5E-07	0.000001
		Iron	NA	NA	NA	NA	NC	NA	NA	NA	3.0E-06	0.000003
		Isophorone	NA	NA	6.8E-13	NA	7.E-13	no observed effects	NA	NA	2.7E-08	0.00000003
		Mercury and compounds	NA	NA	NA	NA	NC	autoimmune effects	NA	NA	3.5E-06	0.000003
		Naphthalene	NA	NA	NA	NA	NC	body weight	NA	NA	3.5E-06	0.000004
		Pentachlorophenol	NA	NA	1.4E-06	NA	1.E-06	liver/kidneys	NA	NA	2.9E-03	0.003
		Pyrene	NA	NA	NA	NA	NC	neurological dysfunction	NA	NA	8.0E-05	0.00008
		Chemical Total	0.0E+00	--	1.4E-06	--	1.E-06		0.0E+00	--	3.0E-03	0.003
	Exposure Point Total						1.E-06					0.003
Exposure Medium Total							1.E-06					0.003
Surface Water Total							1.E-06					0.003
Receptor Total							2.E-06					0.01

Total Risk Across All Media = 2.E-06

Total Hazard Across All Media =	0.01
Total Liver/Kidneys HI Across All Media =	0.004
Total Body Weight HI Across All Media =	0.00008
Total Neurological HI Across All Media =	0.0001
Total Skin/Vascular HI Across All Media =	0.006
Total Autoimmune HI Across All Media =	0.000003

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 7-7. Summary of Adolescent Trespasser CTE Risks and Hazards - Drainage Ditch Sediment

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Drainage Ditch Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	5.5E-04	NA	7.7E-03	0.008
		Acenaphthene	NA	NA	NA	NA	NC	liver	2.9E-05	NA	4.1E-04	0.0004
		Acenaphthylene	NA	NA	NA	NA	NC	liver	4.5E-07	NA	6.4E-06	0.00001
		Aluminum	NA	NA	NA	NA	NC	NA	1.8E-04	NA	2.0E-05	0.0002
		Anthracene	NA	NA	NA	NA	NC	no observed effects	2.4E-05	NA	3.3E-04	0.0004
		Arsenic	1.8E-08	NA	5.8E-08	NA	8.E-08	skin/vascular	3.5E-04	NA	1.1E-03	0.001
		Benzo(a)anthracene	2.4E-08	NA	3.3E-07	NA	4.E-07	NA	NA	NA	NA	NA
		Benzo(a)pyrene	7.6E-08	NA	1.1E-06	NA	1.E-06	NA	NA	NA	NA	NA
		Benzo(b)fluoranthene	6.5E-09	NA	9.2E-08	NA	1.E-07	NA	NA	NA	NA	NA
		Benzo(b&k)fluoranthene	1.9E-08	NA	2.6E-07	NA	3.E-07	NA	NA	NA	NA	NA
		Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	1.4E-07	NA	1.9E-06	0.000002
		Benzo(k)fluoranthene	4.2E-11	NA	5.9E-10	NA	6.E-10	NA	NA	NA	NA	NA
		Carbazole	2.8E-09	NA	3.9E-08	NA	4.E-08	NA	NA	NA	NA	NA
		Chrysene	2.3E-10	NA	3.2E-09	NA	3.E-09	NA	NA	NA	NA	NA
		Dibenzo(a,h)anthracene	1.9E-09	NA	2.7E-08	NA	3.E-08	NA	NA	NA	NA	NA
		Dibenzofuran	NA	NA	NA	NA	NC	NA	1.3E-03	NA	1.8E-02	0.02
		Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	4.5E-05	NA	6.3E-04	0.0007
		Fluorene	NA	NA	NA	NA	NC	blood	7.8E-05	NA	1.1E-03	0.001
		Indeno(1,2,3-cd)pyrene	4.9E-10	NA	6.9E-09	NA	7.E-09	NA	NA	NA	NA	NA
		Iron	NA	NA	NA	NA	NC	NA	1.3E-03	NA	1.5E-04	0.001
		Manganese	NA	NA	NA	NA	NC	central nervous system	1.4E-06	NA	9.4E-05	0.0001
		Naphthalene	NA	NA	NA	NA	NC	body weight	2.0E-04	NA	2.8E-03	0.003
		Pentachlorophenol	2.3E-09	NA	6.2E-08	NA	6.E-08	liver/kidneys	5.5E-06	NA	1.5E-04	0.0002
		Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	1.2E-04	NA	1.7E-03	0.002
		Vanadium	NA	NA	NA	NA	NC	NA	1.5E-05	NA	2.4E-03	0.002
		Dioxin TEQ (mammalian)	9.8E-08	NA	3.2E-07	NA	4.E-07	NA	NA	NA	NA	NA
		Chemical Total	2.5E-07	--	2.3E-06	--	3.E-06		4.3E-03	--	3.7E-02	0.04
	Exposure Point Total						3.E-06					0.04
Exposure Medium Total							3.E-06					0.04
Sediment Total							3.E-06					0.04
Receptor Total							3.E-06					0.04

Total Risk Across All Media = 3.E-06

Total Hazard Across All Media = 0.04
Total Liver/Kidneys HI Across All Media = 0.01
Total Body Weight HI Across All Media = 0.003
Total Neurological HI Across All Media = 0.0001
Total Skin/Vascular HI Across All Media = 0.003

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 7-8. Summary of Hunter CTE Risks and Hazards - Drainage Ditch Sediment

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Drainage Ditch Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	2.3E-04	NA	1.5E-03	0.002
		Acenaphthene	NA	NA	NA	NA	NC	liver	1.2E-05	NA	7.7E-05	0.0001
		Acenaphthylene	NA	NA	NA	NA	NC	liver	1.9E-07	NA	1.2E-06	0.000001
		Aluminum	NA	NA	NA	NA	NC	NA	7.6E-05	NA	3.8E-06	0.0001
		Anthracene	NA	NA	NA	NA	NC	no observed effects	9.8E-06	NA	6.3E-05	0.0001
		Arsenic	8.5E-09	NA	1.3E-08	NA	2.E-08	skin/vascular	1.4E-04	NA	2.1E-04	0.0004
		Benzo(a)anthracene	1.1E-08	NA	7.3E-08	NA	8.E-08	NA	NA	NA	NA	NA
		Benzo(a)pyrene	3.6E-08	NA	2.3E-07	NA	3.E-07	NA	NA	NA	NA	NA
		Benzo(b)fluoranthene	3.1E-09	NA	2.0E-08	NA	2.E-08	NA	NA	NA	NA	NA
		Benzo(b&k)fluoranthene	8.9E-09	NA	5.8E-08	NA	7.E-08	NA	NA	NA	NA	NA
		Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	5.6E-08	NA	3.6E-07	0.0000004
		Benzo(k)fluoranthene	2.0E-11	NA	1.3E-10	NA	1.E-10	NA	NA	NA	NA	NA
		Carbazole	1.3E-09	NA	8.5E-09	NA	1.E-08	NA	NA	NA	NA	NA
		Chrysene	1.1E-10	NA	7.0E-10	NA	8.E-10	NA	NA	NA	NA	NA
		Dibenzo(a,h)anthracene	9.0E-10	NA	5.8E-09	NA	7.E-09	NA	NA	NA	NA	NA
		Dibenzofuran	NA	NA	NA	NA	NC	NA	5.4E-04	NA	3.5E-03	0.004
		Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	1.8E-05	NA	1.2E-04	0.0001
		Fluorene	NA	NA	NA	NA	NC	blood	3.2E-05	NA	2.1E-04	0.0002
		Indeno(1,2,3-cd)pyrene	2.3E-10	NA	1.5E-09	NA	2.E-09	NA	NA	NA	NA	NA
		Iron	NA	NA	NA	NA	NC	NA	5.5E-04	NA	2.8E-05	0.0006
		Manganese	NA	NA	NA	NA	NC	central nervous system	5.7E-07	NA	1.8E-05	0.00002
		Naphthalene	NA	NA	NA	NA	NC	body weight	8.3E-05	NA	5.4E-04	0.0006
		Pentachlorophenol	1.1E-09	NA	1.3E-08	NA	1.E-08	liver/kidneys	2.3E-06	NA	2.8E-05	0.00003
		Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	5.0E-05	NA	3.3E-04	0.0004
		Vanadium	NA	NA	NA	NA	NC	NA	6.2E-06	NA	4.5E-04	0.0005
		Dioxin TEQ (mammalian)	4.6E-08	NA	6.9E-08	NA	1.E-07	NA	NA	NA	NA	NA
		Chemical Total	1.2E-07	–	5.0E-07	–	6.E-07		1.7E-03	–	7.0E-03	0.009
	Exposure Point Total						6.E-07					0.009
Exposure Medium Total							6.E-07					0.009
Sediment Total							6.E-07					0.009

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Table 7-9. Summary of Hunter CTE Risks and Hazards - Drainage Ditch Wild Game

Exposure Medium	Exposure Point	Chemical of Potential Concern	Cancer Risk					Non-Cancer Hazard Quotient				
			Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Wild Game	Drainage Ditch Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	1.0E-08	NA	NA	0.00000001
		Acenaphthene	NA	NA	NA	NA	NC	liver	2.3E-10	NA	NA	0.0000000002
		Acenaphthylene	NA	NA	NA	NA	NC	liver	8.5E-12	NA	NA	0.00000000001
		Aluminum	NA	NA	NA	NA	NC	NA	1.4E-12	NA	NA	1.E-12
		Anthracene	NA	NA	NA	NA	NC	no observed effects	4.3E-10	NA	NA	0.0000000004
		Arsenic	3.4E-07	NA	NA	NA	3.E-07	skin/vascular	5.7E-03	NA	NA	0.006
		Benzo(a)anthracene	2.3E-13	NA	NA	NA	2.E-13	NA	NA	NA	NA	NA
		Benzo(a)pyrene	3.4E-13	NA	NA	NA	3.E-13	NA	NA	NA	NA	NA
		Benzo(b)fluoranthene	3.7E-14	NA	NA	NA	4.E-14	NA	NA	NA	NA	NA
		Benzo(b&k)fluoranthene	NA	NA	NA	NA	NC	NA	NA	NA	NA	NA
		Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	3.9E-13	NA	NA	4.E-13
		Benzo(k)fluoranthene	2.0E-16	NA	NA	NA	2.E-16	NA	NA	NA	NA	NA
		Carbazole	5.7E-14	NA	NA	NA	6.E-14	NA	NA	NA	NA	NA
		Chrysene	2.1E-15	NA	NA	NA	2.E-15	NA	NA	NA	NA	NA
		Dibenzo(a,h)anthracene	7.1E-15	NA	NA	NA	7.E-15	NA	NA	NA	NA	NA
		Dibenzofuran	NA	NA	NA	NA	NC	NA	2.5E-08	NA	NA	0.00000002
		Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	3.7E-10	NA	NA	0.0000000004
		Fluorene	NA	NA	NA	NA	NC	blood	1.5E-09	NA	NA	0.000000001
		Indeno(1,2,3-cd)pyrene	1.4E-15	NA	NA	NA	1.E-15	NA	NA	NA	NA	NA
		Iron	NA	NA	NA	NA	NC	NA	2.2E-09	NA	NA	0.000000002
		Manganese	NA	NA	NA	NA	NC	central nervous system	3.3E-14	NA	NA	3.E-14
		Naphthalene	NA	NA	NA	NA	NC	body weight	3.0E-09	NA	NA	0.000000003
		Pentachlorophenol	1.9E-14	NA	NA	NA	2.E-14	liver/kidneys	4.0E-11	NA	NA	0.00000000004
		Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	2.2E-09	NA	NA	0.000000002
		Vanadium	NA	NA	NA	NA	NC	NA	3.2E-13	NA	NA	3.E-13
		Dioxin TEQ (mammalian)	7.6E-11	NA	NA	NA	8.E-11	NA	NA	NA	NA	NA
		Chemical Total	3.4E-07	--	0.0E+00	--	3.E-07		5.7E-03	--	0.0E+00	0.006
	Exposure Point Total						3.E-07					0.006
Exposure Medium Total							3.E-07					0.006
Wild Game Total							3.E-07					0.006
Receptor Total							1.E-06					0.01

Total Risk Across All Media = 1.E-06

Total Hazard Across All Media = 0.01

Total Liver/Kidneys HI Across All Media = 0.00000001

Total Body Weight HI Across All Media = 0.000000003

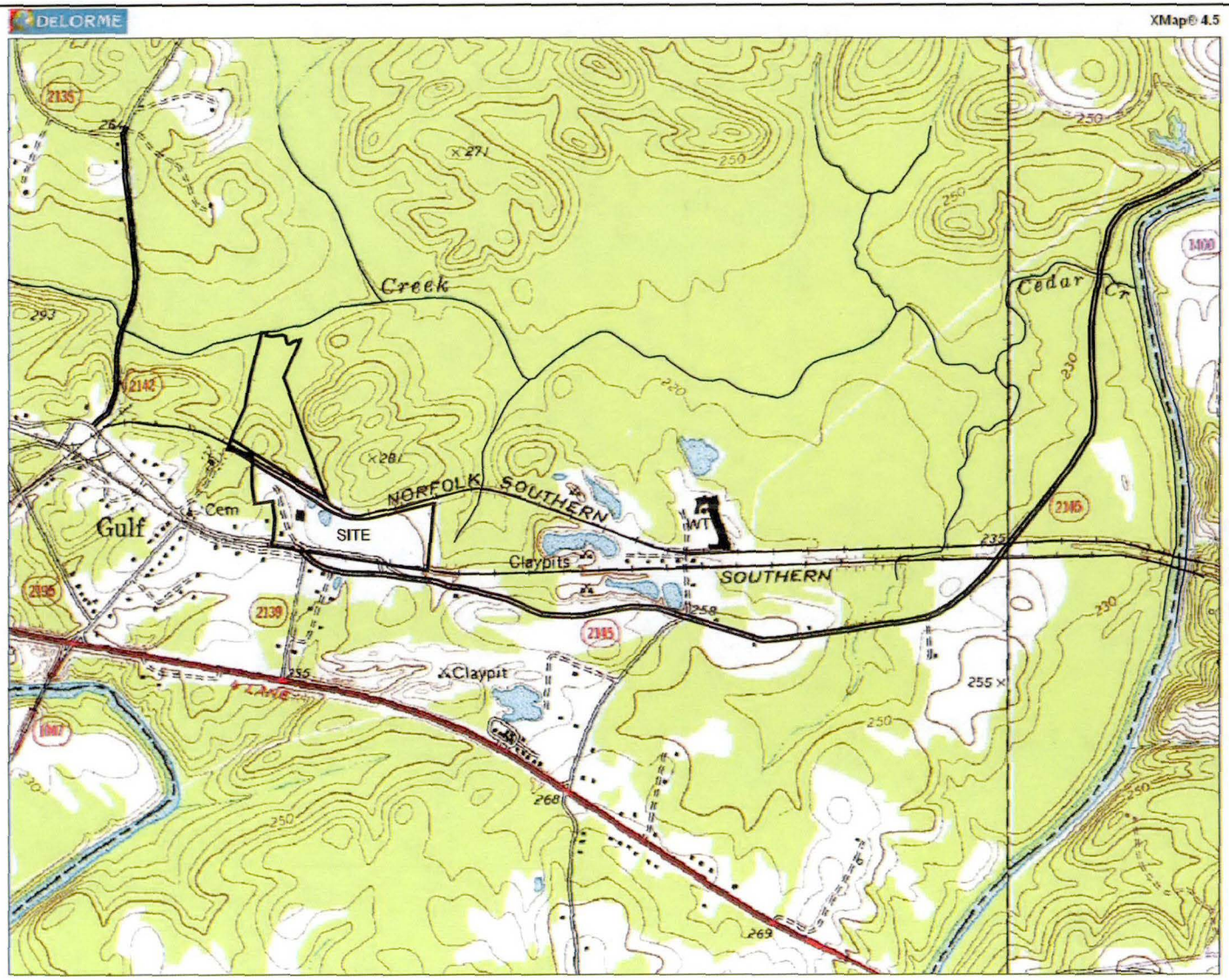
Total Neurological HI Across All Media = 3.E-14

Total Skin/Vascular HI Across All Media = 0.006

Notes:

NC = Not Carcinogenic

NA = Not Available/Not Applicable



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SITE LOCATION AND TOPOGRAPHIC MAP

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY

PROJECT NO. 979010.A0
FIGURE 1

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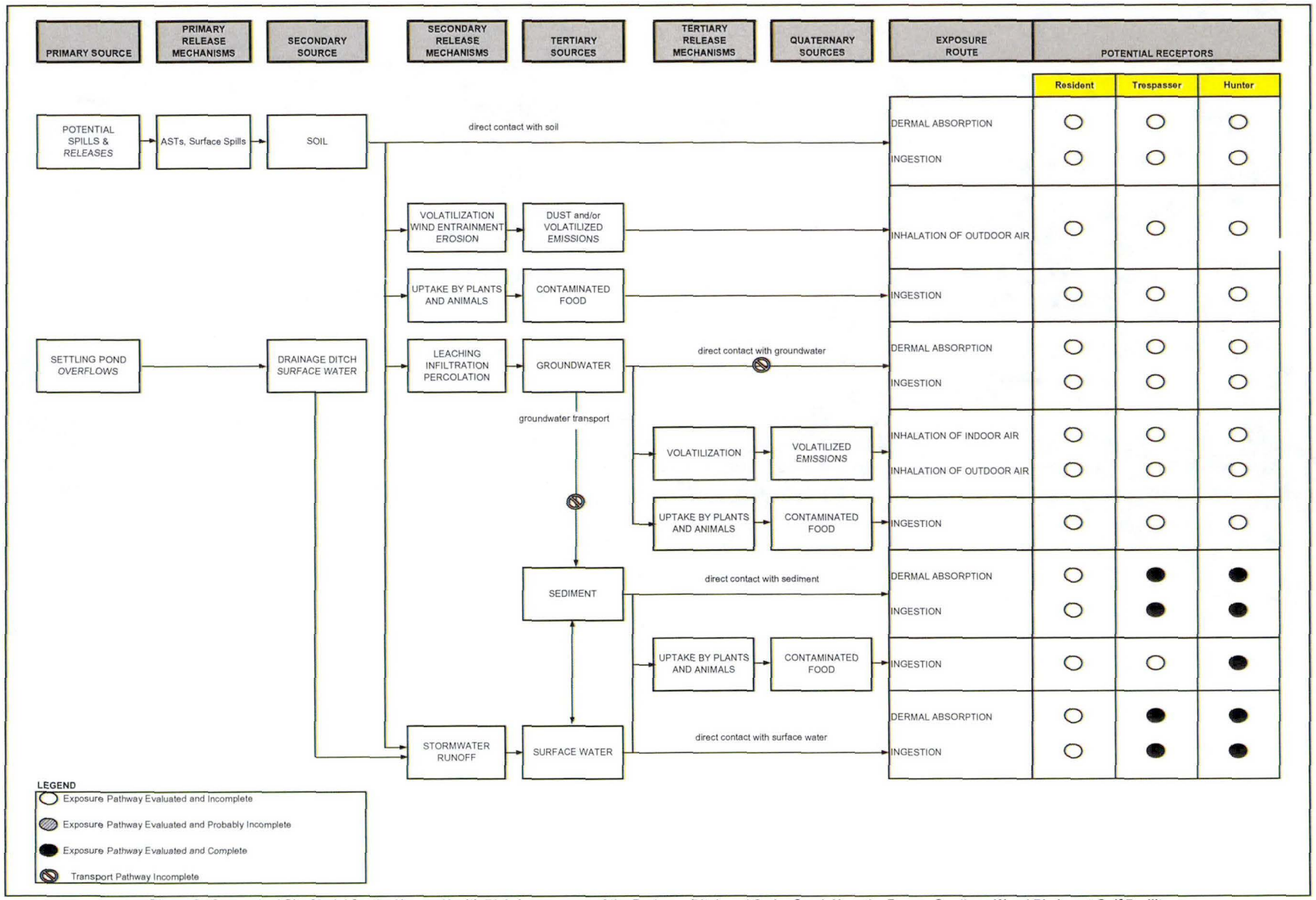
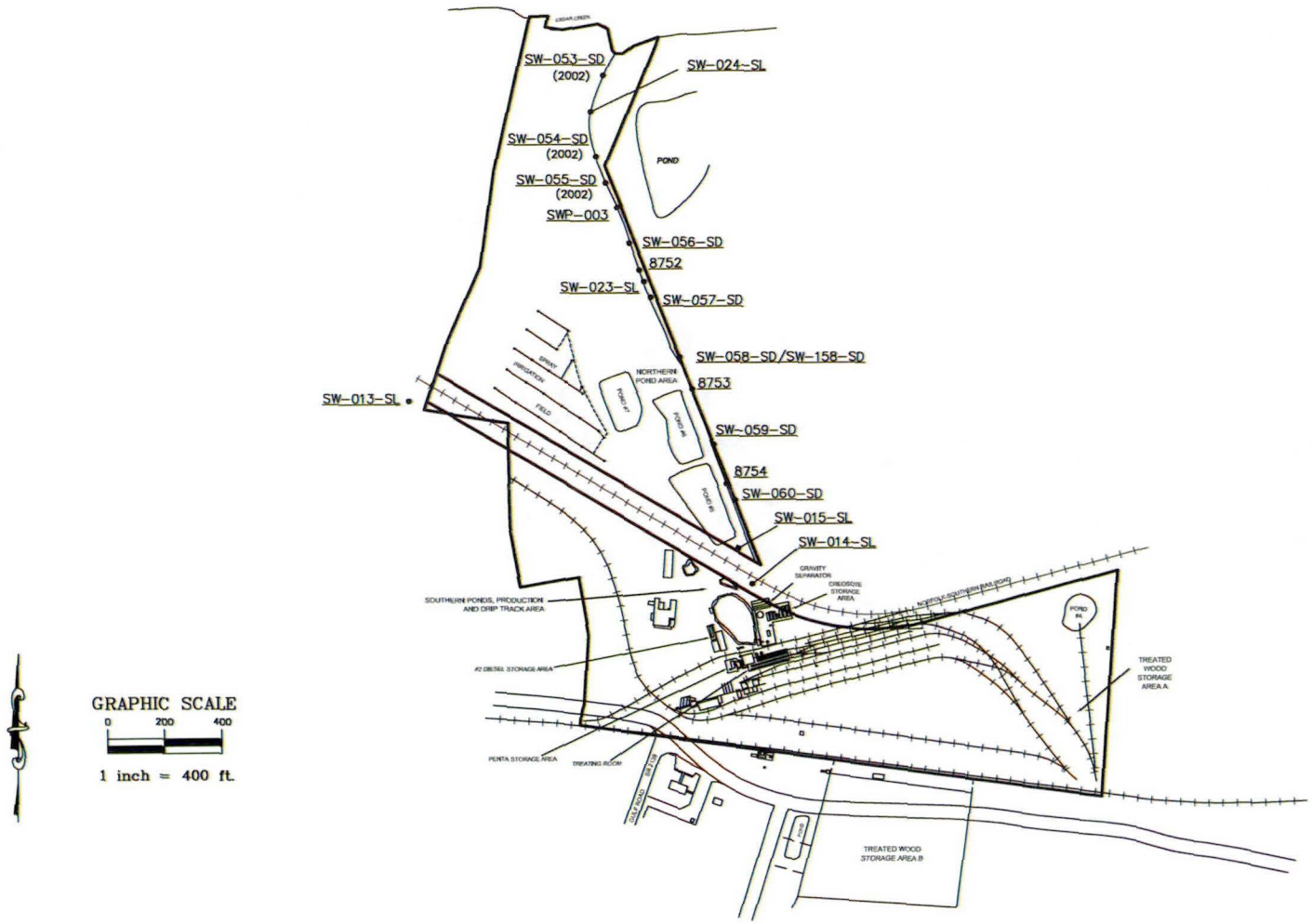


Figure 2. Conceptual Site Model for the Human Health Risk Assessment of the Drainage Ditch and Cedar Creek Near the Former Southern Wood Piedmont-Gulf Facility



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DRAINAGE DITCH
SEDIMENT SAMPLES

SOUTHERN WOOD PIEDMONT
GULF, N.C. FACILITY

FIGURE 3A

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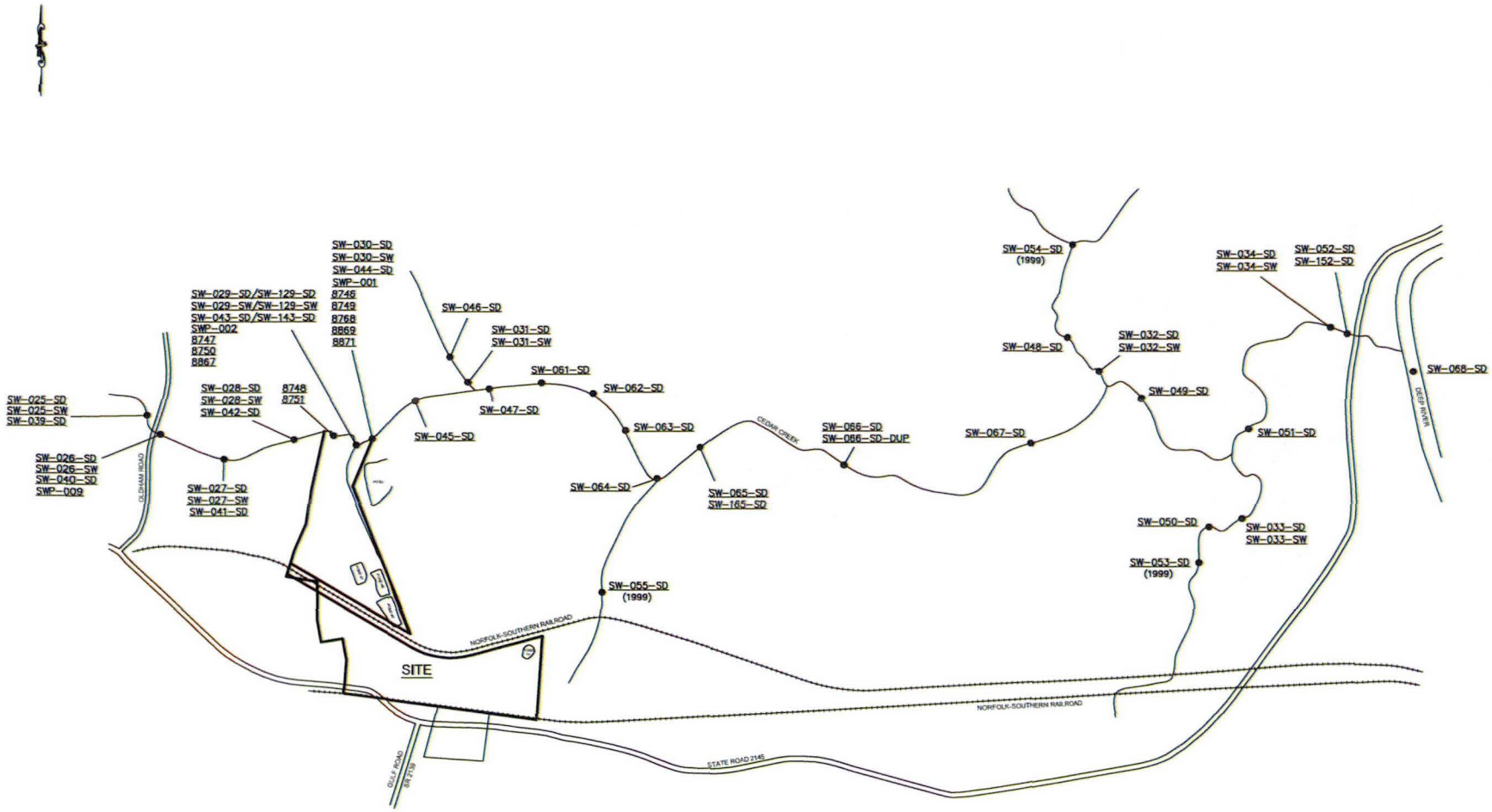

Schnabel Schnabel Engineering	CEDAR CREEK SEDIMENT AND SURFACE WATER SAMPLES	SOUTHERN WOOD PIEDMONT GULF, N.C. FACILITY FIGURE 3B

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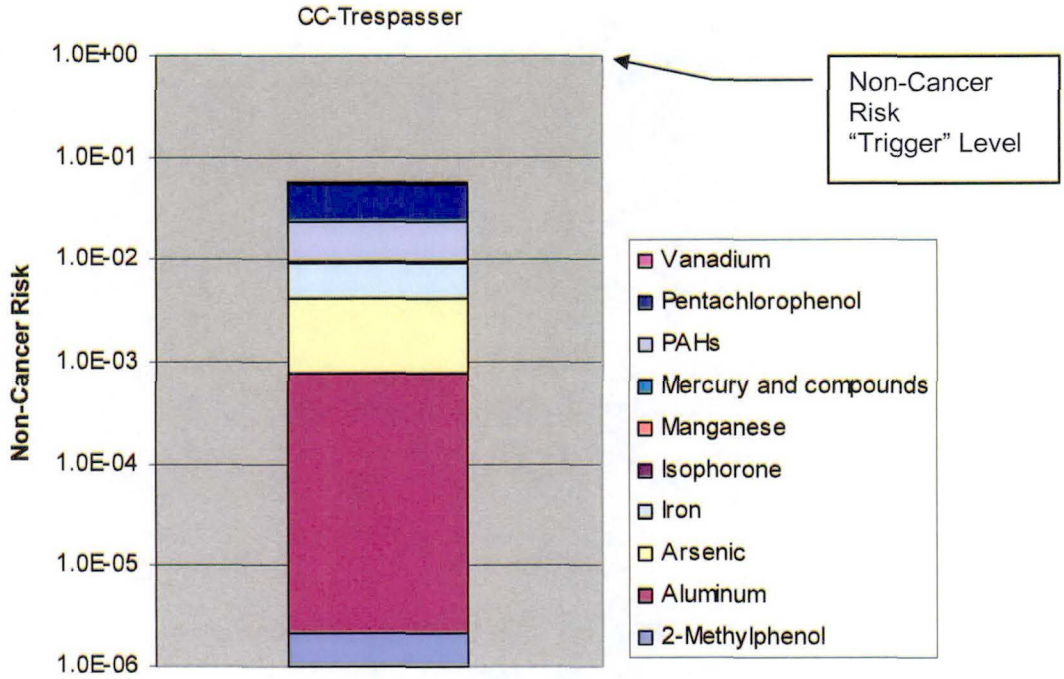
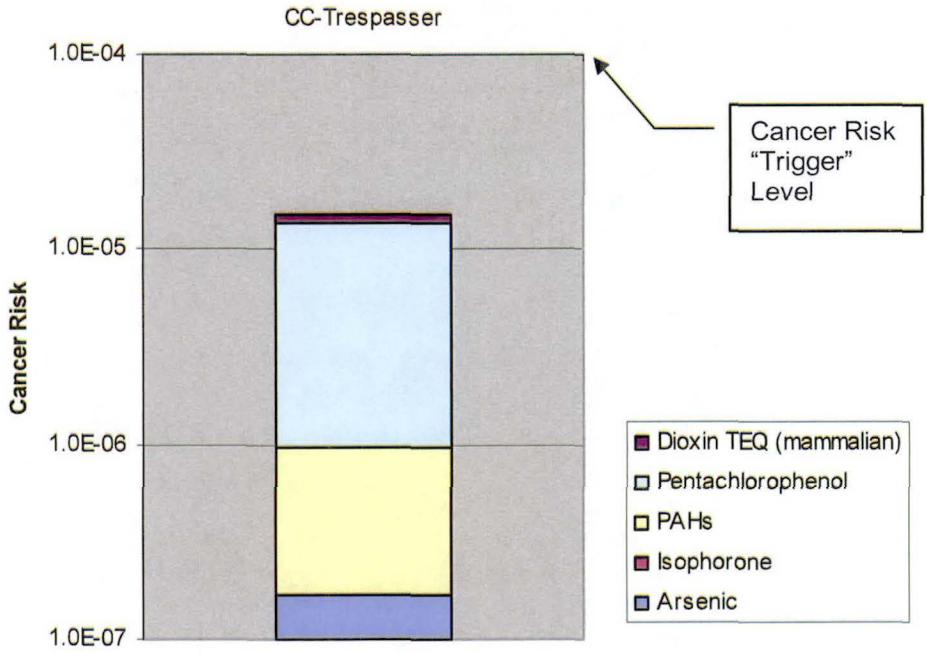
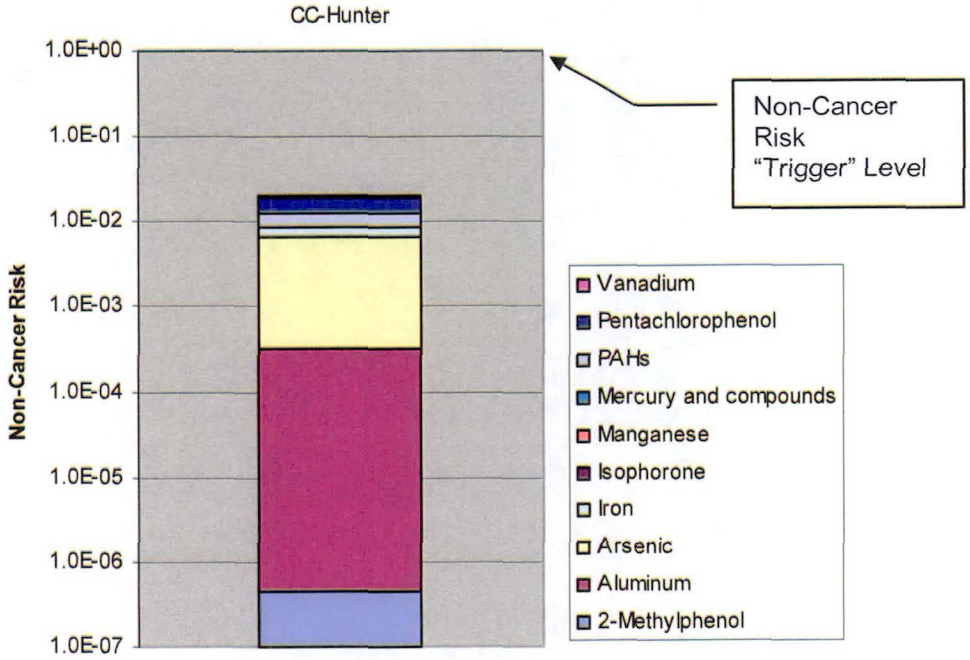


(a) Potential Non-Cancer Risks

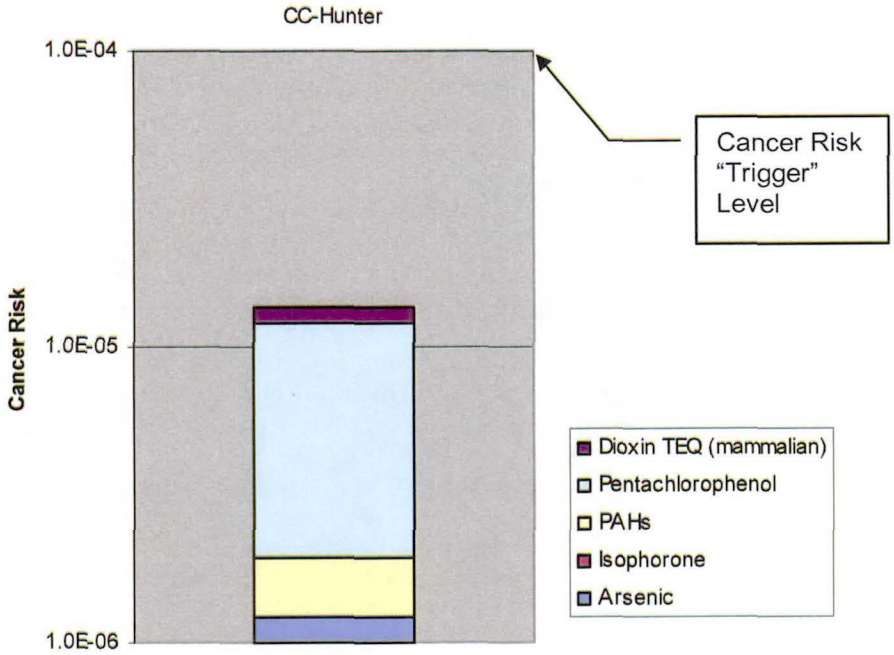


(b) Potential Cancer Risks

Figure 4. Trespassers - Summary of Cumulative Cancer and Non-Cancer Risks Associated with Cedar Creek

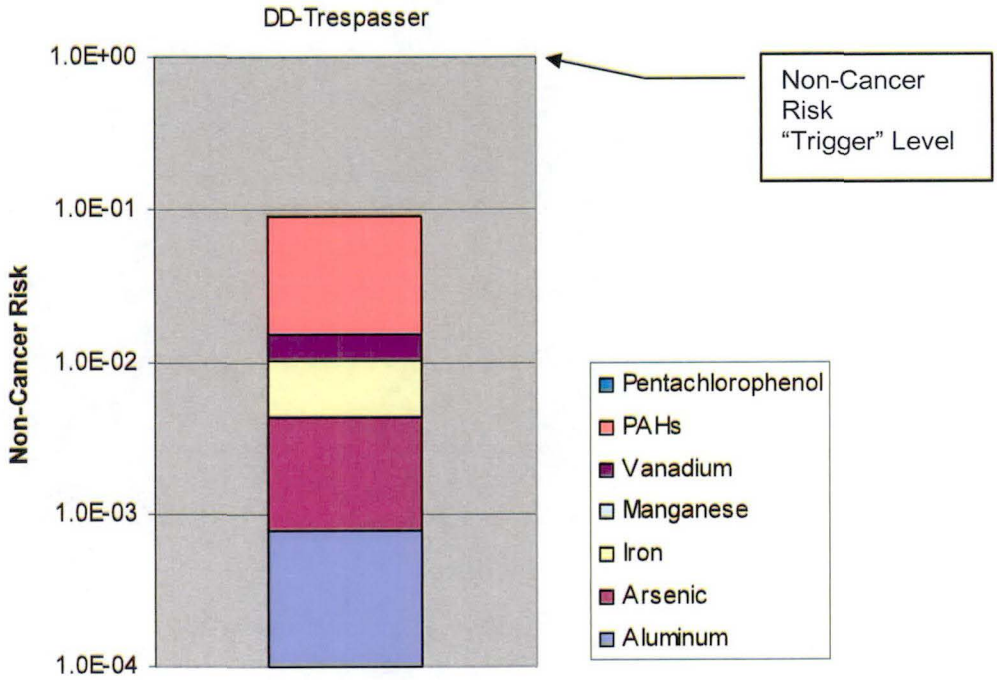


(a) Potential Non-Cancer Risks

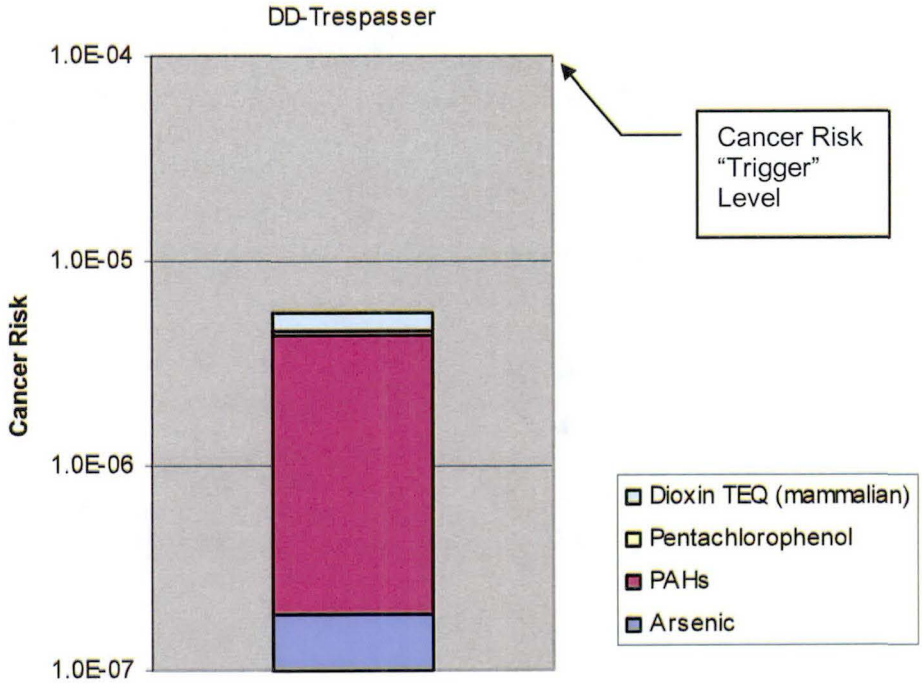


(b) Potential Cancer Risks

Figure 5. Trespassers - Summary of Cumulative Cancer and Non-Cancer Risks Associated with Cedar Creek

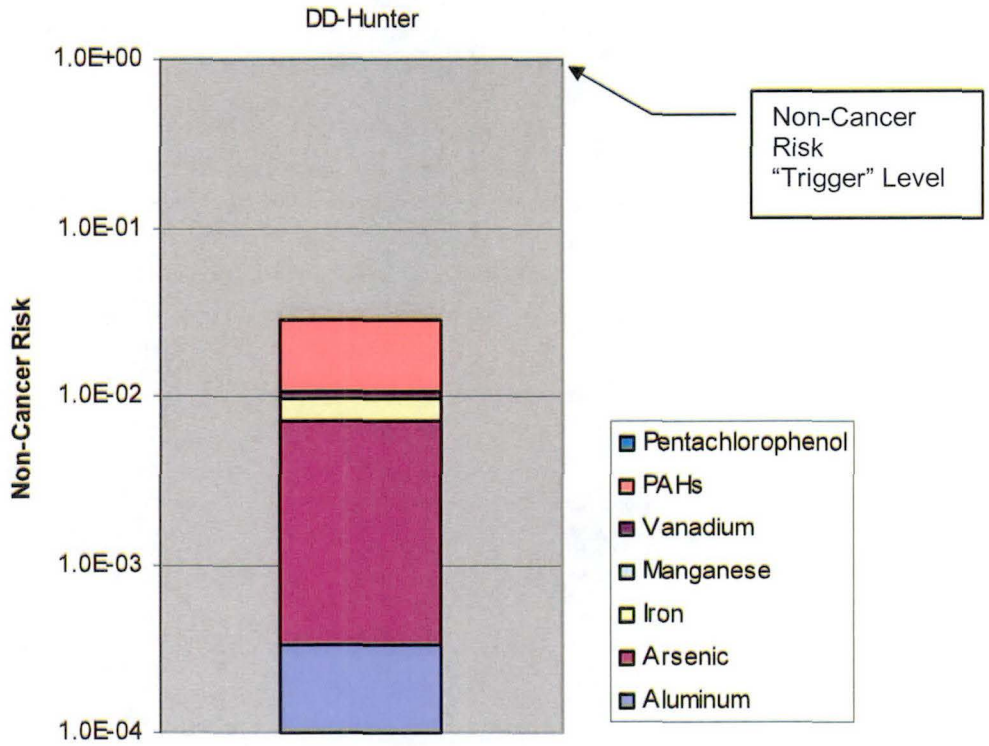


(a) Potential Non-Cancer Risks

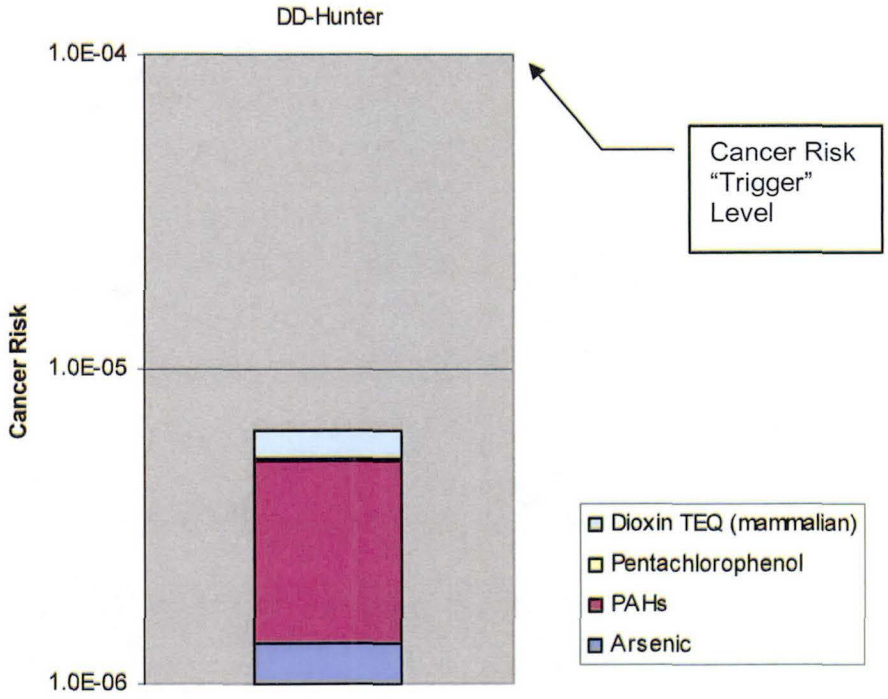


(b) Potential Cancer Risks

Figure 6. Trespassers - Summary of Cumulative Cancer and Non-Cancer Risks Associated with the Drainage Ditch



(a) Potential Non-Cancer Risks



(b) Potential Cancer Risks

Figure 7. Hunters - Summary of Cumulative Cancer and Non-Cancer Risks Associated with the Drainage Ditch

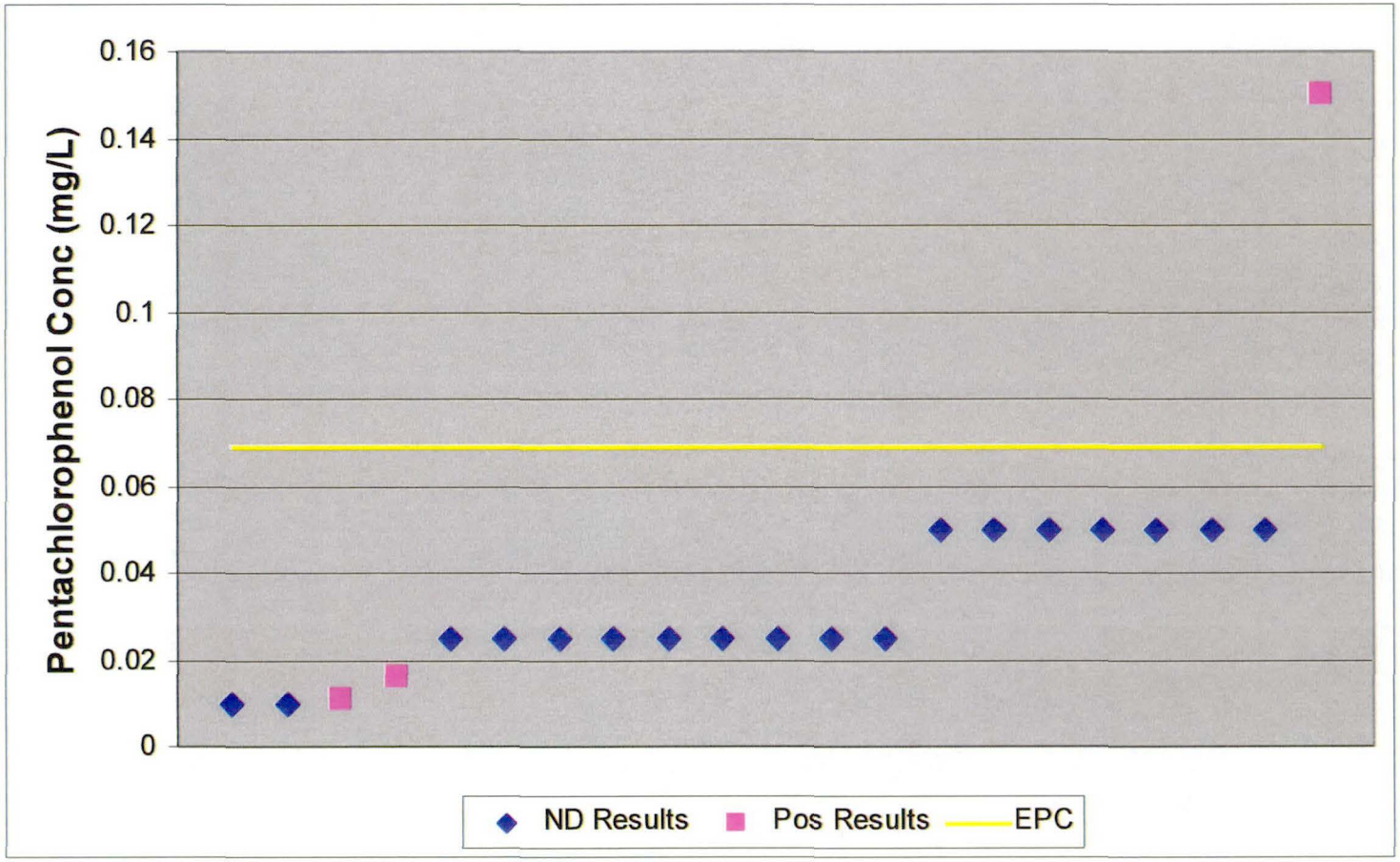


Figure 8. Comparison of Pentachlorophenol Surface Water Results and EPC Used for Risk Calculations

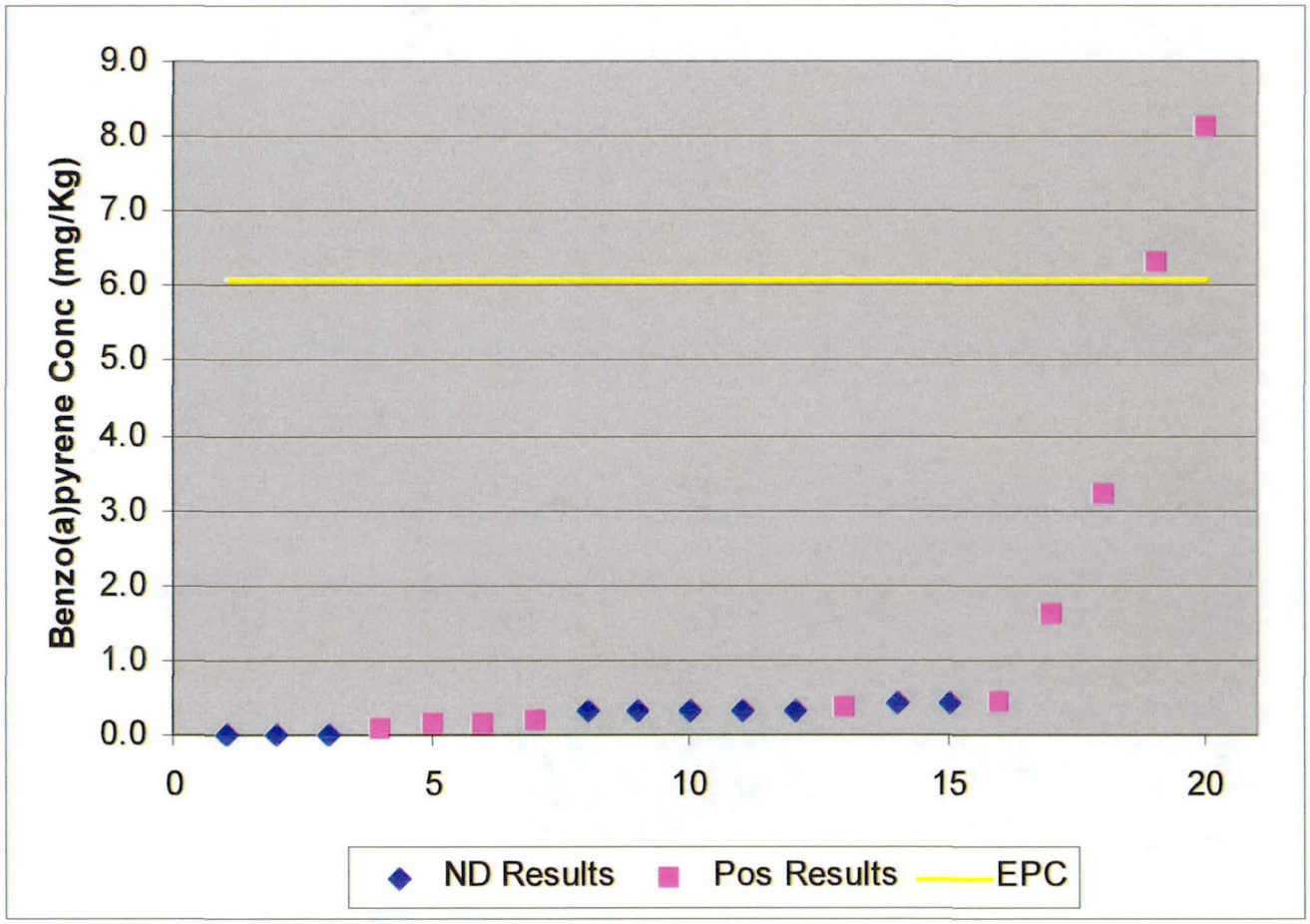


Figure 9. Comparison of Benzo(a)pyrene Results in Sediments Collected from the Drainage Ditch and the EPC Used for Risk Calculations

Appendix A
Supporting Calculations for Deer Meat Uptake Estimates

Appendix A
Supporting Calculations for Deer Meat Uptake Estimates

A.1 Introduction

This appendix presents the approach used to estimate the deer meat concentrations based upon exposures to sediments from either the Drainage Ditch or Cedar Creek near the former SWP facility in Gulf, North Carolina.

A literature showed very little empirical data related to uptake of the COPCs by deer or other similar large mammalian species, such as elk. Most of the investigation efforts in this area have focused on the uptake of chemicals by small mammals, since they can be used as sentinel species and serve as prey for higher trophic level carnivores.

The small mammal uptake can be calculated two ways: (1) as a BTF_{mam}, which is simply the ratio of the tissue concentration and exposure media concentration, or (2) as a beef (or meat) transfer coefficient (Ba_{beef}). The latter has units of day/Kg, and represents the ratio of the concentration in the beef (or meat; mg/Kg) and the daily intake of the chemical (mg/day). It was developed chiefly to assess the tissue levels in cattle (e.g., Baes et al., 1984; Travis and Arms, 1988), and has the advantage that it can be used within a dose calculation framework.

The following equation, modified from the typical equation used for dose calculations in ecological risks assessments, was used to estimate the deer meat concentrations of COPCs (C_{deer}):

$$C_{deer}\ (mg/Kg) = [(C_{SW} \times IR_{SW}) + (C_{plant} \times IR_{food}) + (C_{sed} \times IR_{sedi})] \times AUF \times SUF \times Ba_{beef} \div BW$$

where:

C_{sw} = Concentration of COPC in surface water (mg/L)
C_{sed} = Concentration of COPC in sediment (mg/Kg dry weight)
C_{plant} = Concentration of COPC in plant (mg/Kg dry weight)
IR_{food} = Ingestion rate of food (dry weight) (Kg/day)
C_{soil} = Concentration of COPEC in soil (mg/Kg)
IR_{sw} = Ingestion rate of surface water (L/day)
IR_{sed} = Incidental ingestion rate of sediment (Kg/day)
AUF = Area use factor (unitless)
SUF = Seasonal use factor (unitless), and
Ba_{beef} = Deer meat transfer coefficient (day/Kg)
BW = Body weight (Kg).

Table A-1 summarizes the inputs to these calculations, with exception of the concentration in the exposure media. The surface water and sediment concentrations used as inputs for these calculations were the EPCs summarized in Tables 3-4a and 3-4b for the sediments Cedar Creek and the Drainage Ditch (respectively) and Table 3-5 for the surface water from Cedar Creek. There were no surface water samples available in the datasets from the Drainage Ditch. As in an ERA, the AUF represents the ratio of the evaluated area (e.g., Drainage Ditch) divided by the home range of the organism. The areal extents of the Drainage Ditch and Cedar Creek were determined during the ecological field survey and supplemental sampling effort performed in July 2006, which is discussed further in the *Screening-Level Ecological Risk Assessment of the Drainage Ditch and Cedar Creek near the Southern Wood Piedmont Facility in Gulf, North Carolina* (AMEC, 2007). Deer were evaluated as 100% herbivores, with some incidental ingestion of sediment occurring while feeding on plants (based on Beyer et al., 1984). Their home range (200 acres; WPM, 2006a) was the minimum value reported by the North Carolina Wildlife Resources Commission (NCWRC, 2006).

A.2 Plant Uptake Factors

The plant concentrations (C_{plant}) were calculated as the product of the sediment EPC concentration and the plant uptake factors (BTF_{plant}) shown in Table A-2. USEPA (1999) has compiled BTF_{plant} values for a number of organics and inorganic chemicals. For organics, the uptake factors were typically calculated using the following regression developed by Travis and Arms (1988) that relates plant uptake to the chemical's octanol-water partition coefficient (K_{ow}):

$$\text{Log } BTF_{plant} = 1.588 - 0.578 \times \log K_{ow}$$

For the inorganics, the uptake factors developed by Baes et al (1984) are typically used. These have been compiled by ORNL (2006). Alternate sources of BTF_{plant} values are shown in Table B-2, as appropriate.

A.3 Deer Meat Transfer Coefficients

Ba_{beef} values are available for some of the COPCs in USEPA (1999), Baes et al (1984), and Sample et al (1998), and also can be calculated using the following regression from Travis and Arms (1988):

$$\text{Log } Ba_{beef} = -7.735 + (1.033 \times \text{Log } K_{ow})$$

In support of the development of the 2005 version of the *Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities*, RTI (2005) developed the following regression that estimates the uptake into beef fat based on the Log K_{ow} of the individual chemicals:

$$\text{Log } Ba_{beef\text{-}fat} = [-0.099 \times (\log K_{ow})^2] + [1.07 \times \log K_{ow}] - 3.56 \quad r^2 = 0.83$$

This is then converted to the Ba_{beef} value by multiplying by the fat content of beef (assumed to be 19% for cattle; RTI, 2005):

$$Ba_{beef} = 10^{\log(Ba_{beef-fat})} \times 0.19$$

This can be adjusted based upon the fat content of 2% reported for deer (Madeiros et al., 2002). This regression was based on a robust dataset of 305 samples. Therefore, the RTI (2005) regression was the preferred method for estimating Ba_{beef} values for the organic COPCs.

Sample et al (1998b) derived the regressions for a number of inorganics for different small mammal feeding guilds. ORNL (2006) also compiled Ba_{beef} values for a number of inorganics, based principally on information compiled by Baes et al (1984). Alternate sources of Ba_{beef} values are also shown in Table A-3, as appropriate.

A.4 Deer Tissue Concentrations

The estimated deer tissue concentrations for the COPCs based on exposure to the Drainage Ditch and Cedar Creek are presented in Tables A-4 and A-5, respectively. Since the Dioxin-TEQ values include multiple congeners with their own BTF_{plant} and Ba_{beef} values, the predicted deer meet concentrations were first calculated on a congener- and sample-specific basis, the Dioxin-TEQ then calculated for each sample using the appropriate TEF values, and the resulting individual estimates used as input into ProUCL to calculate the EPC.

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Table A-1. Summary of Key Exposure Assumptions to Estimate Deer Meet Uptake

Parameter	Drainage Ditch	Cedar Creek	Comment
Food Ingestion Rate (Kg/d, dw)	1.74	1.74	WPM Table 17 (AMEC, 2006)
Sed Ingestion Rate (Kg/d, dw)	0.0348	0.0348	WPM Table 17 (AMEC, 2006)
Tissue Lipid Content (%)	2	2	Medeiros et al (2002)
SW Ingestion Rate (L/d)	3.7	3.7	WPM Table 17 (AMEC, 2006)
Areas (acres)	0.16	7.4	Field data (AMEC, 2007)
Area Use Factor	8.0E-04	3.7E-02	Calc, based on 200 acre home range (from NCWRC, 2006)
Seasonal Use Factor	1	1	WPM Table 17 (AMEC, 2006)

Table A-2. Plant Uptake Factors Used to Estimate Deer Meat Concentrations

COPCs	BTF_{plant} (dw/dw)	Source	Comment
2-Methylnaphthalene	2.27E-01	Calc	Used Travis and Arms (1988) regression and log Kow of 3.86 from ORNL (2006).
Acenaphthene	7.60E-02	Samsoe-Petersen et al, 2002	Value was mean for five crop types across three concenration levels in soils.
Acenaphthylene	2.04E-01	Calc	Used Travis and Arms (1988) regression and log Kow of 3.94 from ORNL (2006).
Anthracene	1.04E-01	Calc	Used Travis and Arms (1988) regression and log Kow of 4.45 from ORNL (2006).
Benzo(a)anthracene	2.02E-02	USEPA, 1999	Derived from Travis and Arms (1988) regression
Benzo(a)pyrene	2.00E-03	Samsoe-Petersen et al, 2002	Value was mean for five crop types across three concentration levels in soils.
Benzo(b)fluoranthene	3.80E-03	Samsoe-Petersen et al, 2002	Value was mean for five crop types across three concentration levels in soils. Same value used for benzo(k)fluoranthene since coeluted in this paper
Benzo(g,h,i)perylene	5.70E-03	Calc	Used Travis and Arms (1988) regression and log Kow of 6.63 from ORNL (2006).
Benzo(k)fluoranthene	3.80E-03	Samsoe-Petersen et al, 2002	Value was mean for five crop types across three concentration levels in soils. Same value used for benzo(b)fluoranthene since coeluted in this paper
Carbazole	2.74E-01	Calc	Used Travis and Arms (1988) regression and log Kow of 3.72 from ORNL (2006).
Chrysene	1.87E-02	USEPA, 1999	Derived from Travis and Arms (1988) regression
Dibenzo(a,h)anthracene	6.40E-03	USEPA, 1999	Derived from Travis and Arms (1988) regression
Dibenzofuran	1.61E-01	Calc	Used Travis and Arms (1988) regression and log Kow of 4.12 from ORNL (2006).
Fluoranthene	1.80E-02	Samsoe-Petersen et al, 2002	Value was mean for five crop types across three concenration levels in soils.
Fluorene	1.49E-01	Calc	Used Travis and Arms (1988) regression and log Kow of 4.18 from ORNL (2006).

Table A-2. Plant Uptake Factors Used to Estimate Deer Meat Concentrations

COPCs	BTF_{plant} (dw/dw)	Source	Comment
Indeno(1,2,3-cd)pyrene	3.90E-03	Samsoe-Petersen et al, 2002	Value was mean for five crop types across three concenration levels in soils.
Naphthalene	4.79E-01	Calc	Used Travis and Arms (1988) regression and log Kow of 3.3 from ORNL (2006).
Phenanthrene	1.02E-01	Calc	Used Travis and Arms (1988) regression and log Kow of 4.46 from ORNL (2006).
Pyrene	5.85E-02	Calc	Used Travis and Arms (1988) regression and log Kow of 4.48 from ORNL (2006).
Phenol	5.10E+00	ORNL, 2006	Derived from McKone (1994) regression
Pentachlorophenol	1.40E-02	ORNL, 2006	Derived from McKone (1994) regression
Aluminum	4.30E-03	ORNL, 2006	
Arsenic	1.40E-02	Samsoe-Petersen et al, 2002	Value was mean for five crop types across three concenration levels in soils.
Copper	2.30E-01	Samsoe-Petersen et al, 2002	Value was mean for five crop types across three concenration levels in soils.
Iron	1.00E-02	ORNL, 2006	
Manganese	6.80E-01	ORNL, 2006	
Nickel	6.90E-02	Samsoe-Petersen et al, 2002	Value was mean for five crop types across three concenration levels in soils.
Vanadium	5.50E-03	ORNL, 2006	
2,3,7,8-TCDD	5.60E-03	USEPA, 1999	
1,2,3,7,8-PeCDD	5.20E-03	USEPA, 1999	
1,2,3,4,7,8-HxCDD	1.70E-03	USEPA, 1999	
1,2,3,6,7,8-HxCDD	6.70E-04	USEPA, 1999	
1,2,3,7,8,9-HxCDD	7.80E-04	USEPA, 1999	
1,2,3,4,6,7,8-HpCDD	2.90E-04	USEPA, 1999	
OCDD	6.70E-05	USEPA, 1999	
2,3,7,8-TCDF	4.50E-03	USEPA, 1999	
1,2,3,7,8-PeCDF	1.10E-03	USEPA, 1999	
2,3,4,7,8-PeCDF	9.00E-03	USEPA, 1999	
1,2,3,4,7,8-HxCDF	4.30E-04	USEPA, 1999	
1,2,3,6,7,8-HxCDF	1.10E-03	USEPA, 1999	
1,2,3,7,8,9-HxCDF	3.50E-03	USEPA, 1999	
2,3,4,6,7,8-HxCDF	3.80E-03	USEPA, 1999	
1,2,3,4,6,7,8-HpCDF	6.20E-05	USEPA, 1999	
1,2,3,4,7,8,9-HpCDF	2.20E-03	USEPA, 1999	
OCDF	9.00E-05	USEPA, 1999	

Table A-3. Transfer Factors Used to Estimate Deer Meat Concentrations

COPCs	Ba_{beef} (Kg/day)	Source	Comment
2-Methylnaphthalene	2.49E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Acenaphthene	2.60E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Acenaphthylene	2.63E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Anthracene	3.48E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Benzo(a)anthracene	4.17E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Benzo(a)pyrene	3.80E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Benzo(b)fluoranthene	4.15E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Benzo(g,h,i)perylene	3.04E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Benzo(k)fluoranthene	3.83E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Carbazole	2.25E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Chrysene	4.13E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Dibenzo(a,h)anthracene	3.19E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Dibenzofuran	2.94E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Fluoranthene	4.23E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Fluorene	3.05E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Indeno(1,2,3-cd)pyrene	2.92E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Naphthalene	1.56E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Phenanthrene	3.50E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Pyrene	4.03E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Phenol	1.24E-04	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Pentachlorophenol	4.21E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
Aluminum	1.58E-04	ORNL, 2006	

Table A-3. Transfer Factors Used to Estimate Deer Meat Concentrations

COPCs	Ba_{beef} (Kg/day)	Source	Comment
Arsenic	1.90E-03	Erry et al., 2005	Mean value across six sites with widely ranging arsenic concentrations and across two field-collected small mammals. Equivalent is 2.28E-3 on a ww/dw basis
Copper	9.47E-04	ORNL, 2006	Value represents the beef transfer coefficient
Iron	2.11E-03	ORNL, 2006	
Manganese	5.26E-05	ORNL, 2006	
Nickel	5.26E-04	ORNL, 2006	Value represents the beef transfer coefficient
Vanadium	2.63E-04	ORNL, 2006	
2,3,7,8-TCDD	2.75E-03	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
1,2,3,7,8-PeCDD	1.90E-02	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
1,2,3,4,7,8-HxCDD	1.15E-01	RTI, 2005	Assumed to be the same as 1,2,3,7,8-PeCDF
1,2,3,6,7,8-HxCDD	2.18E-02	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
1,2,3,7,8,9-HxCDD	3.17E-02	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
1,2,3,4,6,7,8-HpCDD	2.03E-02	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
OCDD	1.97E-02	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
2,3,7,8-TCDF	1.25E-01	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
1,2,3,7,8-PeCDF	1.15E-01	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
2,3,4,7,8-PeCDF	1.19E-01	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
1,2,3,4,7,8-HxCDF	1.16E-01	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
1,2,3,6,7,8-HxCDF	1.29E-01	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
1,2,3,7,8,9-HxCDF	1.41E-01	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
2,3,4,6,7,8-HxCDF	1.54E-01	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
1,2,3,4,6,7,8-HpCDF	1.20E-01	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
1,2,3,4,7,8,9-HpCDF	1.29E-01	RTI, 2005	Converted to 2% lipid using regression based on beef fat.
OCDF	7.38E-02	RTI, 2005	Converted to 2% lipid using regression based on beef fat.

Appendix B
Risk Assessment Guidance for Superfund (RAGS) Part D
Tables

Appendix B
Risk Assessment Guidance for Superfund (RAGS) Part D Tables

Preface

This appendix contains the RAGS Part D tables (USEPA, 2001) used for the calculation of potential human health risks from contact with the drainage ditch and Cedar Creek near the former SWP Facility in Gulf, North Carolina. The RAGS D Table templates from USEPA were designed for USEPA-lead Superfund projects. Some of their components were not relevant to this HHRA (e.g., identification of EPA project manager) and were deleted from this compilation, or adjusted for consistency with USEPA Region IV Guidance (USEPA, 2000) and the Work Plan Memorandum (AMEC, 2006a). In order to be consistent with the numbering format of these tables, the tables were prepared separately for the Cedar Creek (Appendix B-1) and drainage ditch (Appendix B-2). A list of tables is provided for each of these appendices.

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TABLE 1 - CEDAR CREEK
SELECTION OF EXPOSURE PATHWAYS
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
CURRENT AND FUTURE	Sediment	Sediment	Cedar Creek - Downstream	Adolescent Trespasser	10 - 18 years old	Dermal	Quant	Potential for direct contact with sediment.
						Ingestion	Quant	
			Cedar Creek - Downstream	Hunter	Adult	Dermal	Quant	Potential for direct contact with sediment.
						Ingestion	Quant	
	Surface Water	Surface Water	Cedar Creek - Downstream	Adolescent Trespasser	10 - 18 years old	Dermal	Quant	Potential for direct contact with surface water.
				Hunter	Adult	Dermal	Quant	Potential for direct contact with surface water.
	Wild Game	Wild Game	Cedar Creek - Downstream	Hunter	Adult	Ingestion	Quant	Potential for consumption of wild game that has foraged on plants growing in contaminated sediment.

TABLE 2.1 - CEDAR CREEK
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK SEDIMENTS - DOWNSTREAM

Scenario Timeframe: Current and Future
Medium: Sediment
Exposure Medium: Sediment (0-1 feet below ground surface)

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits		Concentration Used for Screening (Maximum)	Background Value	Screening Toxicity Value (N/C) (mg/kg)		COPC Flag (Y/N)	Region IV Requirement	Rationale for Selection or Deletion
Cedar Creek - Sediment, Downstream																
	91-57-6	2-Methylnaphthalene	0.064	250	MG/KG	SW-029-SD (NCDENR)	8/49	0.33	2	2.50E+02	-	3.1E+01	N	Yes		ASL
	none	3&4-Methylphenol	0.052	0.08	MG/KG	SW-033-SD (NCDENR)	2/39	0.33	2	8.00E-02	-	3.1E+01	N	No		BSL
	83-32-9	Acenaphthene	0.05	180	MG/KG	SW-029-SD (NCDENR)	13/49	0.33	2	1.80E+02	-	3.7E+02	N	No	Yes	BSL
	208-96-8	Acenaphthylene	0.074	0.083	MG/KG	SW-045-SD (NCDENR)	2/43	0.33	150	8.30E-02	1.2	3.7E+02	N	No	Yes	BSL
	7429-90-5	Aluminum	3900	13000	MG/KG	SW-034-SD (NCDENR)	9/9	-	-	1.30E+04	9700	7.6E+03	N	Yes		ASL
	62-53-3	Aniline	0.034	0.091	MG/KG	SW-165-SD	2/18	0.33	2	9.10E-02	-	8.5E+01	C	No		BSL
	120-12-7	Anthracene	0.052	18	MG/KG	SW-045-SD (NCDENR)	21/49	0.33	0.7	1.80E+01	0.0038	2.2E+03	N	No	Yes	BSL
	7440-38-2	Arsenic	2.9	9.9	MG/KG	SW-030-SD (NCDENR)	6/9	1	2	9.90E+00	3.3	3.9E-01	C	Yes		ASL
	7440-39-3	Barium	34	160	MG/KG	SW-129-SD (NCDENR)	9/9	-	-	1.60E+02	70	5.4E+02	N	No		BSL
	56-55-3	Benzo(a)anthracene	0.049	6.6	MG/KG	SW-029-SD	21/49	0.33	2	6.60E+00	0.0057	6.2E-01	C	Yes		ASL
	50-32-8	Benzo(a)pyrene	0.064	1.8	MG/KG	SW-030-SD (NCDENR)	20/49	0.33	2	1.80E+00	0.0091	6.2E-02	C	Yes		ASL
	205-99-2	Benzo(b)fluoranthene	0.25	4.8	MG/KG	SW-029-SD	9/26	0.33	130	4.80E+00	0.013	6.2E-01	C	Yes		ASL
	none	Benzo(b&k)fluoranthene	0.033	5.3	MG/KG	SW-030-SD (NCDENR)	16/29	0.35	0.82	5.30E+00	-	6.2E-01	C	Yes		ASL
	191-24-2	Benzo(g,h,i)perylene	0.089	0.5	MG/KG	SW-030-SD (NCDENR)	7/43	0.028	2	5.00E-01	0.003	2.3E+02	N	No	Yes	BSL
	207-08-9	Benzo(k)fluoranthene	0.28	2.2	MG/KG	SW-045-SD	5/24	0.33	140	2.20E+00	-	6.2E+00	C	No	Yes	BSL
	7440-41-7	Beryllium	0.69	1.1	MG/KG	SW-030-SD (NCDENR)	5/9	0.25	1	1.10E+00	0.65	1.5E+01	N	No		BSL
	7440-70-2	Calcium	360	2100	MG/KG	SW-129-SD (NCDENR)	7/7	-	-	2.10E+03	550	NA		No		EN
	86-74-8	Carbazole	0.05	12	MG/KG	SW-029-SD (NCDENR)	9/35	0.33	0.7	1.20E+01	-	2.4E+01	C	No	Yes	BSL
	none	Chromium	8.5	32	MG/KG	SW-030-SD (NCDENR)	9/9	-	-	3.20E+01	15	2.1E+02	C	No		BSL
	218-01-9	Chrysene	0.064	6.8	MG/KG	SW-029-SD	23/49	0.33	0.7	6.80E+00	0.019	6.2E+01	C	No	Yes	BSL
	7440-48-4	Cobalt	10	27	MG/KG	SW-129-SD (NCDENR)	4/9	4	20	2.70E+01	5.4	9.0E+02	C	No		BSL
	7440-50-8	Copper	17	29	MG/KG	SWP-002	3/9	20	20	2.90E+01	3.9	3.1E+02	N	No		BSL
	53-70-3	Dibenzo(a,h)anthracene	0.057	0.9	MG/KG	SWP-001	8/45	0.33	2	9.00E-01	-	6.2E-02	C	Yes		ASL
	189-64-0	Dibenzo(a,h)pyrene	0.15	0.15	MG/KG	SW-066-SD	1/4	0.41	0.7	1.50E-01	NA	2.3E+02	N	No		BSL
	132-64-9	Dibenzofuran	0.066	150	MG/KG	SW-029-SD (NCDENR)	8/43	0.041	2	1.50E+02	-	1.5E+01	N	Yes		ASL
	100-41-4	Ethylbenzene	0.1	0.1	MG/KG	8750	1/6	0.005	0.005	1.00E-01	-	4.0E+01	N	No		BSL
	206-44-0	Fluoranthene	0.08	59	MG/KG	SW-029-SD (NCDENR)	24/49	0.33	0.7	5.90E+01	0.014	2.3E+02	N	No	Yes	BSL
	86-73-7	Fluorene	0.054	110	MG/KG	SW-029-SD (NCDENR)	19/49	0.33	0.7	1.10E+02	0.34	2.7E+02	N	No	Yes	BSL
	193-39-5	Indeno(1,2,3-cd)pyrene	0.058	0.99	MG/KG	SW-030-SD (NCDENR)	10/49	0.33	2	9.90E-01	0.0044	6.2E-01	C	Yes		ASL
	7439-89-6	Iron	4000	37000	MG/KG	SW-030-SD (NCDENR)	9/9	-	-	3.70E+04	13000	2.3E+03	N	Yes		ASL
	7439-95-4	Magnesium	390	4000	MG/KG	SW-129-SD (NCDENR)	7/7	-	-	4.00E+03	1500	NA		No		EN
	7439-96-5	Manganese	92	900	MG/KG	SW-129-SD (NCDENR)	9/9	-	-	9.00E+02	260	1.8E+02	N	Yes		ASL
	91-20-3	Naphthalene	0.070	53	MG/KG	SW-029-SD (NCDENR)	5/21	0.35	2	5.30E+01	-	5.6E+00	N	Yes		ASL
	7440-02-0	Nickel	28	43	MG/KG	SWP-002	4/9	3	15	4.30E+01	2.3	1.6E+02	N	No		BSL
	87-86-5	Pentachlorophenol	0.3	110	MG/KG	SW-029-SD (NCDENR)	5/49	0.99	3.8	1.10E+02	-	3.0E+00	C	Yes		ASL
	85-01-8	Phenanthrene	0.053	200	MG/KG	SW-029-SD (NCDENR)	22/49	0.33	0.7	2.00E+02	0.0025	2.3E+02	N	No	Yes	BSL
	7440-09-7	Potassium	70	380	MG/KG	SW-034-SD (NCDENR)	7/7	-	-	3.80E+02	200	NA		No		EN
	129-00-0	Pyrene	0.18	15	MG/KG	SW-129-SD (NCDENR)	17/43	0.33	150	1.50E+01	0.013	2.3E+02	N	No		BSL
	7440-22-4	Silver	2.5	3.2	MG/KG	SWP-002	2/9	0.87	1	3.20E+00	1.4	3.9E+01	N	No		BSL
	7440-31-5	Tin	19	21	MG/KG	SWP-002	2/2	-	-	2.10E+01	3.3	4.7E+03	N	No		BSL
	108-88-3	Toluene	0.0086	0.066	MG/KG	SW-029-SD	3/13	0.005	0.016	6.60E-02	0.084	5.2E+01	N	No		BSL
	7440-62-2	Vanadium	14	51	MG/KG	SW-030-SD (NCDENR)	9/9	-	-	5.10E+01	30	7.8E+00	N	Yes		ASL
	1330-20-7	Xylenes (total)	0.002	0.34	MG/KG	8750	3/13	0.005	0.016	3.40E-01	-	2.7E+01	N	No		BSL
	108-38-3	m-Xylene	0.18	0.18	MG/KG	8750	1/3	0.05	0.05	1.80E-01	NA	2.7E+01	N	No		BSL
	95-47-6	o-Xylene	0.15	0.15	MG/KG	8750	1/3	0.05	0.05	1.50E-01	NA	2.7E+01	N	No		BSL
	7440-66-6	Zinc	22	24	MG/KG	SWP-002	2/9	30	40	2.40E+01	13	2.3E+03	N	No		BSL
	1746-01-6	2,3,7,8-TeCDD	0.13	0.95	NG/KG	SW-045-SD (NCDENR)	5/34	0.03	20.9	9.50E-01	0.13	3.9E-06	C	Yes		ASL
	40321-76-4	1,2,3,7,8-PeCDD	0.93	10	NG/KG	SW-045-SD (NCDENR)	9/17	4.2	16	1.00E+01	-		C	Yes		ASL
	39227-28-6	1,2,3,4,7,8-HxCDD	0.36	78.9	NG/KG	SW-045-SD	24/34	4.3	16	7.89E+01	-		C	Yes		ASL
	57653-85-7	1,2,3,6,7,8-HxCDD	1.4	820	NG/KG	SW-129-SD (NCDENR)	33/34	5	5	8.20E+02	-		C	Yes		ASL
	19408-74-3	1,2,3,7,8,9-HxCDD	0.76	238	NG/KG	SW-045-SD	32/34	5	5	2.38E+02	0.21		C	Yes		ASL
	35822-46-9	1,2,3,4,6,7,8-HpCDD	53	36000	NG/KG	SW-129-SD (NCDENR)	34/34	-	-	3.60E+04	5.9		C	Yes		ASL
	3268-87-9	OCDD	1400	360000	NG/KG	SW-032-SD (NCDENR)	34/34	-	-	3.60E+05	810		C	Yes		ASL
	51207-31-9	2,3,7,8-TeCDF	0.15	1.2	NG/KG	SW-152-SD	15/34	0.3	16.1	1.20E+00	0.29		C	Yes		ASL
	57117-41-6	1,2,3,7,8-PeCDF	0.16	2.1	NG/KG	SW-045-SD (NCDENR)	12/44	0.05	20.4	2.10E+00	-		C	Yes		ASL
	57117-31-4	2,3,4,7,8-PeCDF	0.38	17.5	NG/KG	SW-064-SD	13/34	0.05	15.7	1.75E+01	-		C	Yes		ASL
	70648-26-9	1,2,3,4,7,8-HxCDF	0.42	147	NG/KG	SW-045-SD	20/34	4.3	1200	1.47E+02	0.12		C	Yes		ASL
	57117-44-9	1,2,3,6,7,8-HxCDF	0.17	51.4	NG/KG	SW-045-SD	20/34	0.3	17	5.14E+01	-		C	Yes		ASL
	72918-21-9	1,2,3,7,8,9-HxCDF	0.51	27.6	NG/KG	SW-045-SD	2/34	0	17	2.76E+01	-		C	Yes		ASL
	60851-34-5	2,3,4,6,7,8-HxCDF	0.32	136	NG/KG	SW-045-SD	16/34	4.2	38	1.36E+02	-		C	Yes		ASL
	67562-39-4	1,2,3,4,6,7,8-HpCDF	9.29	6800	NG/KG	SW-129-SD (NCDENR)	34/34	-	-	6.80E+03	13		C	Yes		ASL
	55673-89-7	1,2,3,4,7,8,9-HpCDF	0.85	573	NG/KG	SW-045-SD	29/34	4.3	16	5.73E+02	-		C	Yes		ASL
	39001-02-0	OCDF	25.4	37000	NG/KG	SW-129-SD (NCDENR)	33/34	32	32	3.70E+04	-		C	Yes		ASL
		TeCDFs (total)	0.12	55	NG/KG	SW-045-SD (NCDENR)	28/34	1	16.1	5.50E+01	0.7		C	Yes		ASL
		HpCDD (total)	130	120000	NG/KG	SW-129-SD (NCDENR)	34/34	-	-	1.20E+05	14		C	Yes		ASL
		HpCDF (total)	13	27590	NG/KG	SW-045-SD	34/34	-	-	2.76E+04	16		C	Yes		ASL
		HxCDD (total)	10.5	5400	NG/KG	SW-129-SD (NCDENR)	34/34	-	-	5.40E+03	22		C	Yes		ASL
		HxCDF (total)	8.4	5000	NG/KG	SW-129-SD (NCDENR)	33/34	5	5	5.00E+03	27		C	Yes		ASL
		TeCDDs (total)	0.13	25	NG/KG	SW-045-SD (NCDENR)	16/34	0.1	20.9	2.50E+01	0.14		C	Yes		ASL
		PeCDDs (total)	0.32	92	NG/KG	SW-045-SD (NCDENR)	11/17	0.2	20.4	9.20E+01	-		C	Yes		ASL
		PeCDFs (total)	0.53	243	NG/KG	SW-045-SD	16/17	5	5	2.43E+02	0.48		C	Yes		ASL
		Dioxin TEQ (mammalian)	1.84952	854.43	NG/KG	NA	0	0	0	8.54E+02	7.567375		C	Yes		ASL

(1) Toxicity Screening Values are EPA Region IX residential PRGs, except for 2-methylnaphthalene which is Region III residential RBC. All screening values based on noncarcinogenic effects are reported as 1/10 of original value.
Surrogate chemicals:
acenaphthene used for acenaphthylene.
benzo(b)fluoranthene used for benzo(k)fluoranthene and benzo(b&k)fluoranthene.
fluoranthene used for benzo(g,h,i)perylene and phenanthrene.
4-methylphenol used for 3&4-methylphenol.
xylenes (total) used for m-xylene and o-xylene.
pyrene used for dibenzo(a,h)pyrene.
chromium = total chromium.

Rationale Codes: Selection Reason: Above Screening Level (ASL)
Deletion Reason: Essential Nutrient (EN) or Below Screening Level (BSL)

NA = Not Available
N = Noncarcinogen
C = Carcinogen

TABLE 2.2 - CEDAR CREEK
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK SURFACE WATER - DOWNSTREAM

Scenario Timeframe: Current and Future
Medium: Surface Water
Exposure Medium: Surface Water

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits		Concentration Used for Screening (Maximum)	Background Value	Screening Toxicity Value (1) (N/C)		COPC Flag (Y/N)	Region IV Requirement	Rationale for Selection or Deletion
Cedar Creek - Surface Water, Downstream																
	95-48-7	2-Methylphenol	0.001	0.001	MG/L	SW-034-SW	1/14	0.01	0.01	1.0E-03	NA	1.0E-03	N	Yes		ASL
	7429-90-5	Aluminum	0.45	1.3	MG/L	SW-033-SW	7/7	-	-	1.3E+00	0.59	NA	N	Yes		AB
	7440-39-3	Barium	0.024	0.038	MG/L	SW-032-SW	7/7	-	-	3.8E-02	0.02	1.0E+00	N	No		BSL
	7440-70-2	Calcium	2	6.2	MG/L	SW-026-SW	7/7	-	-	6.2E+00	6.4	NA	NA	No		EN
	7439-89-6	Iron	0.81	2	MG/L	SW-029-SW	7/7	-	-	2.0E+00	0.95	1.0E+00	N	Yes		ASL
	78-59-1	Isophorone	0.001	0.001	MG/L	SW-034-SW	1/7	0.01	0.01	1.0E-03	NA	NA	C	Yes		ASL
	7439-95-4	Magnesium	1	3.7	MG/L	SW-029-SW	7/7	-	-	3.7E+00	3.4	NA	NA	No		EN
	7439-96-5	Manganese	0.037	0.11	MG/L	SW-032-SW	7/7	-	-	1.1E-01	0.043	2.0E-01	N	No		BSL
	7487-94-7	Mercury and compounds	0.0002	0.0002	MG/L	SW-029-SW	1/7	0.0001	0.0002	2.0E-04	NA	1.2E-05	N	Yes		ASL
	91-20-3	Naphthalene	0.001	0.001	MG/L	SW-034-SW	1/14	0.01	0.05	1.0E-03	NA	2.8E-06	N	Yes		ASL
	87-86-5	Pentachlorophenol	0.011	0.15	MG/L	8747	3/14	0.01	0.05	1.5E-01	NA	1.0E-03	C	Yes		ASL
	7440-09-7	Potassium	0.86	1.9	MG/L	SW-027-SW	7/7	-	-	1.9E+00	2	NA	NA	No		EN
	129-00-0	Pyrene	0.003	0.003	MG/L	SW-034-SW	1/7	0.01	0.01	3.0E-03	NA	2.8E-06	N	Yes		ASL
	7440-23-5	Sodium	3.1	5.9	MG/L	SW-029-SW	7/7	-	-	5.9E+00	5.2	NA	NA	No		EN
	7440-66-6	Zinc	0.013	0.013	MG/L	SW-028-SW	1/7	0.007	0.02	1.3E-02	0.028	5.0E-02	N	No		BSL

(1) Toxicity Screening Values are NC Class C Surface Water criteria (NCAC, 2003).

Rationale Codes

Selection Reason: Above Screening Level (ASL) or Above Background (AB)

Deletion Reason: Essential Nutrient (EN) or Below Screening Level (BSL) or Below Background (BB)

NA = Not Available
N = Noncarcinogen
C = Carcinogen

TABLE 3.1.1 - CEDAR CREEK
EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Medium: Sediment
Exposure Medium: Sediment (0 - 1 fbgs)

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Distribution	Maximum Concentration (Qualifier)	Exposure Point Concentration		
							Value	Units	Statistic
Cedar Creek Surface Sediment 0 - 1 fbgs	2-Methylnaphthalene	mg/kg	6.7E+00	5.8E+01	Data are Non-parametric (0.05)	2.5E+02	5.8E+01	mg/kg	99% Chebyshev (Mean, Sd) UCL
	Acenaphthene	mg/kg	5.7E+00	4.3E+01	Data are Non-parametric (0.05)	1.8E+02	4.3E+01	mg/kg	99% Chebyshev (Mean, Sd) UCL
	Acenaphthylene	mg/kg	5.8E+00	3.3E+01	Data are Non-parametric (0.05)	8.3E-02	8.3E-02	mg/kg	Maximum Concentration
	Aluminum	mg/kg	1.0E+04	1.2E+04	Data are normal (0.05)	1.3E+04	1.2E+04	mg/kg	Student's-t UCL
	Anthracene	mg/kg	1.6E+00	6.7E+00	Data are Non-parametric (0.05)	1.8E+01	6.7E+00	mg/kg	99% Chebyshev (Mean, Sd) UCL
	Arsenic	mg/kg	4.2E+00	6.3E+00	Data are normal (0.05)	9.9E+00	6.3E+00	mg/kg	Student's-t UCL
	Benzo(a)anthracene	mg/kg	8.5E-01	3.0E+00	Data are Non-parametric (0.05)	6.6E+00	3.0E+00	mg/kg	99% Chebyshev (Mean, Sd) UCL
	Benzo(a)pyrene	mg/kg	4.1E-01	6.9E-01	Data are Non-parametric (0.05)	1.8E+00	6.9E-01	mg/kg	95% Chebyshev (Mean, Sd) UCL
	Benzo(b)fluoranthene	mg/kg	8.8E+00	4.7E+01	Data are Non-parametric (0.05)	4.6E+00	4.6E+00	mg/kg	Maximum Concentration
	Benzo(b&k)fluoranthene	mg/kg	1.0E+00	2.0E+00	Data are lognormal (0.05)	5.3E+00	2.0E+00	mg/kg	95% H-UCL
	Benzo(g,h,i)perylene	mg/kg	2.2E-01	3.3E-01	Data are Non-parametric (0.05)	5.0E-01	3.3E-01	mg/kg	95% Chebyshev (Mean, Sd) UCL
	Benzo(k)fluoranthene	mg/kg	9.2E+00	5.1E+01	Data are Non-parametric (0.05)	2.2E+00	2.2E+00	mg/kg	Maximum Concentration
	Carbazole	mg/kg	9.3E-01	8.0E+00	Data are Non-parametric (0.05)	1.2E+01	8.0E+00	mg/kg	99% Chebyshev (Mean, Sd) UCL
	Chrysene	mg/kg	1.1E+00	3.4E+00	Data are Non-parametric (0.05)	6.8E+00	3.4E+00	mg/kg	99% Chebyshev (Mean, Sd) UCL
	Dibenzo(a,h)anthracene	mg/kg	2.2E-01	2.3E-01	Data are Non-parametric (0.05)	9.0E-01	2.3E-01	mg/kg	Mod-t UCL (Adjusted for skewness)
	Dibenzofuran	mg/kg	4.5E+00	7.5E+01	Data are Non-parametric (0.05)	1.5E+02	7.5E+01	mg/kg	99% Chebyshev (Mean, Sd) UCL
	Fluoranthene	mg/kg	4.2E+00	2.0E+01	Data are Non-parametric (0.05)	5.9E+01	2.0E+01	mg/kg	99% Chebyshev (Mean, Sd) UCL
	Fluorene	mg/kg	4.2E+00	2.1E+02	Data are Non-parametric (0.05)	1.1E+02	1.1E+02	mg/kg	Maximum Concentration
	Indeno(1,2,3-cd)pyrene	mg/kg	2.6E-01	2.7E-01	Data are Non-parametric (0.05)	9.9E-01	2.7E-01	mg/kg	Mod-t UCL (Adjusted for skewness)
	Iron	mg/kg	1.9E+04	2.4E+04	Data are normal (0.05)	3.7E+04	2.4E+04	mg/kg	Student's-t UCL
	Manganese	mg/kg	4.5E+02	6.1E+02	Data are normal (0.05)	9.0E+02	6.1E+02	mg/kg	Student's-t UCL
	Naphthalene	mg/kg	3.4E+00	3.2E+01	Data are Non-parametric (0.05)	5.3E+01	3.2E+01	mg/kg	99% Chebyshev (Mean, Sd) UCL
	Pentachlorophenol	mg/kg	3.0E+00	1.4E+01	Data are Non-parametric (0.05)	1.1E+02	1.4E+01	mg/kg	95% Chebyshev (Mean, Sd) UCL
	Phenanthrene	mg/kg	7.8E+00	5.2E+01	Data are Non-parametric (0.05)	2.0E+02	5.2E+01	mg/kg	99% Chebyshev (Mean, Sd) UCL
	Vanadium	mg/kg	3.2E+01	4.0E+01	Data are normal (0.05)	5.1E+01	4.0E+01	mg/kg	Student's-t UCL
	Dioxin TEQ (mammalian)	mg/kg	1.2E-04	4.8E-04	Data are Non-parametric (0.05)	6.5E-04	4.8E-04	mg/kg	99% Chebyshev (Mean, Sd) UCL

Notes:
fbgs = feet below ground surface

TABLE 3.2 - CEDAR CREEK
EXPOSURE POINT CONCENTRATION SUMMARY - SURFACE WATER
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Medium: Surface Water
Exposure Medium: Surface Water

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Distribution	Maximum Concentration (Qualifier)	Exposure Point Concentration				
							Value	Units	Value	Units	Statistic
Cedar Creek Surface Water	2-Methylphenol	mg/L	4.7E-03	5.2E-03	Data are Non-parametric (0.05)	1.0E-03	1.0E-03	mg/L	1.0E-06	mg/cm3	Maximum Concentration
	Aluminum	mg/L	8.3E-01	1.1E+00	Data are normal (0.05)	1.3E+00	1.1E+00	mg/L	1.1E-03	mg/cm3	Student's-t UCL
	Iron	mg/L	1.4E+00	1.7E+00	Data are normal (0.05)	2.0E+00	1.7E+00	mg/L	1.7E-03	mg/cm3	Student's-t UCL
	Isophorone	mg/L	4.4E-03	6.9E-03	Data are Non-parametric (0.05)	1.0E-03	1.0E-03	mg/L	1.0E-06	mg/cm3	Maximum Concentration
	Mercury and compounds	mg/L	1.1E-04	1.4E-04	Data are Non-parametric (0.05)	2.0E-04	1.4E-04	mg/L	1.4E-07	mg/cm3	Mod-t UCL (Adjusted for skewness)
	Naphthalene	mg/L	9.0E-03	1.9E-02	Data are Non-parametric (0.05)	1.0E-03	1.0E-03	mg/L	1.0E-06	mg/cm3	Maximum Concentration
	Pentachlorophenol	mg/L	2.5E-02	6.8E-02	Data are Non-parametric (0.05)	1.5E-01	6.8E-02	mg/L	6.8E-05	mg/cm3	95% Chebyshev (Mean, Sd) UCL
	Pyrene	mg/L	4.7E-03	5.2E-03	Data are Non-parametric (0.05)	3.0E-03	3.0E-03	mg/L	3.0E-06	mg/cm3	Maximum Concentration

TABLE 4.1 - CEDAR CREEK
VALUES USED FOR DAILY INTAKE CALCULATIONS - SEDIMENT
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH - DOWNSTREAM

Scenario Timeframe: Current and Future
Medium: Sediment
Exposure Medium: Sediment (0 - 1 fbgs)

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Input Values		Units	Rationale/ Reference	Intake Equation/ Model Name	RME (1/day)	CTE (1/day)
						CTE Case	RME Case					
Incidental Ingestion	Trespasser	10 to 18 years	Cedar Creek Sediment	CS	Chemical Concentration in Sediment	Chem Specific	Chem Specific	mg/kg	See Table 3.1.1			
				IR	Ingestion Rate of Sediment	50	100	mg/day	USEPA (1997).	For Noncarcinogenic Endpoints:		
				OAF	Oral Absorption Factor	Chem Specific	Chem Specific	unitless	See Table 1.0	Chronic Daily Intake (mg/kg-day) =		
				EF	Exposure Frequency	22	44	days/yr	Assuming 1 or both weekend days during the warmer months (May through September).	CS x IR x FS x OAF x EF x ED x CF x 1/BW x 1/AT-NC	8.0E-08	1.5E-08
				ED	Exposure Duration	8	8	yrs	Number of yrs between 10 and 18 yrs of age.			
				FS	Fraction from Site	0.25	0.25	unitless	Professional Judgment.	For Carcinogenic Endpoints:		
				CF	Conversion Factor	1.00E-06	1.00E-06	kg/mg	Calculated.	Lifetime Daily Intake (mg/kg-day) =		
				BW	Body Weight	50	50	kg	USEPA (1997).	CS x IR x FS x OAF x EF x ED x CF x 1/BW x 1/AT-C	8.9E-09	1.7E-09
				AT-NC	Averaging Time (noncancer)	2920	2920	days	365 days x ED			
				AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime.			
Incidental Ingestion	Hunter	Adult	Cedar Creek Sediment	CS	Chemical Concentration in Sediment	Chem Specific	Chem Specific	mg/kg	See Tables 3.1.1			
				IR	Ingestion Rate of Sediment	50	100	mg/day	USEPA (1997).	For Noncarcinogenic Endpoints:		
				OAF	Oral Absorption Factor	Chem Specific	Chem Specific	unitless	See Table 1.0	Chronic Daily Intake (mg/kg-day) =		
				EF	Exposure Frequency	13	26	days/yr	Calculated from 2001 USF&WS survey.	CS x IR x FS x OAF x EF x ED x CF x 1/BWnc x 1/AT-NC	2.7E-08	6.2E-09
				FS	Fraction from Site	0.25	0.25	unitless	Professional Judgment.			
				ED	Exposure Duration	9	30	yr	CTE and RME USEPA (1989) residence periods; assumes that individuals would hunt through their residence time.			
				CF	Conversion Factor	1.00E-06	1.00E-06	kg/mg	Calculated.	For Carcinogenic Endpoints:		
				BWc	Body Weight (cancer)	70	70	kg	USEPA (1989); BW was used to derive CSF values.	Lifetime Daily Intake (mg/kg-day) =		
				BWnc	Body Weight (noncancer)	71.8	71.8	kg	USEPA (1997).	CS x IR x FS x OAF x EF x ED x CF x 1/BWc x 1/AT-C	1.2E-08	8.2E-10
				AT-NC	Averaging Time (noncancer)	3285	10950	days	365 days x ED			
				AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime			
Dermal	Trespasser	10 to18 years	Cedar Creek Sediment	CS	Chemical Concentration in Sediment	Chem Specific	Chem Specific	mg/kg	See Tables 3.1.1			
				SA	Skin Surface Area	4510	4510	cm^2/day	USEPA (2004); 50%tile surface areas of forearms, feet, hands and lower legs, avg male and female, 10-18 years old.			
				DAF	Dermal Adherence Factor	0.3	0.3	mg/cm^2	Average of 95%tile weighted adherence factors for various activities (USEPA, 2004).	For Noncarcinogenic Endpoints:		
				ABS	Dermal Absorption Factor	Chem Specific	Chem.-specific	unitless	See Table 1.0	Chronic Daily Intake (mg/kg-day)=		
				EF	Exposure Frequency	22	44	days/yr	Assuming 1 or both weekend days during the warmer months (May through September).	CS x SA x DAF x ABS x EF x ED x CF x 1/BW x 1/AT-NC	3.3E-08	1.6E-08
				ED	Exposure Duration	8	8	yr	Number of yrs between 10 and 18 yrs of age.			
				CF	Conversion Factor	1.00E-06	1.00E-06	kg/mg	Calculated.	For Carcinogenic Endpoints:		
				BW	Body Weight	50	50	kg	USEPA (1997).	Lifetime Daily Intake (mg/kg-day)=		
				AT-NC	Averaging Time (noncancer)	2920	2920	days	365 days x ED	CS x SA x DAF x ABS x EF x ED x CF x 1/BW x 1/AT-C	3.7E-07	1.9E-07
				AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime.			
Dermal	Hunter	Adult	Cedar Creek Sediment	CS	Chemical Concentration in Sediment	Chem Specific	Chem Specific	mg/kg	See Tables 3.1.1			
				SA	Skin Surface Area	2077	2077	cm^2/day	USEPA (2004); 50%tile surface areas of forearms and hands, avg male and female adult.			
				DAF	Dermal Adherence Factor	0.3	0.3	mg/cm^2	Average of 95%tile weighted adherence factors for various activities (USEPA, 2004).	For Noncarcinogenic Endpoints:		
				ABS	Dermal Absorption Factor	Chem Specific	Chem Specific	unitless	See Table 1.0	Chronic Daily Intake (mg/kg-day)=		
				EF	Exposure Frequency	13	26	days/yr	Calculated from 2001 USF&WS survey.	CS x SA x DAF x ABS x EF x ED x CF x 1/BWnc x 1/AT-N	6.7E-07	3.1E-07
				ED	Exposure Duration	9	30	yr	CTE and RME USEPA (1989) residence periods; assumes that individuals would hunt through their residence time.			
				CF	Conversion Factor	1.00E-06	1.00E-06	kg/mg	Calculated.	For Carcinogenic Endpoints:		
				BWc	Body Weight (cancer)	70	70	kg	USEPA (1989); BW was used to derive CSF values.	Lifetime Daily Intake (mg/kg-day)=		
				BWnc	Body Weight (noncancer)	71.8	71.8	kg	USEPA (1997).	CS x SA x DAF x ABS x EF x ED x CF x 1/BWc x 1/AT-C	2.9E-07	4.0E-08
				AT-NC	Averaging Time (noncancer)	3285	10950	days	365 days x ED			
				AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime			

Notes:
fbgs = feet below ground surface

USEPA. 1989. *Risk Assessment Guidance for Superfund; Volume I: Human Health Evaluation Manual (Part A) - Interim Final.* U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C. EPA/540/1-89/002. December.
USEPA. 1997. *Exposure Factors Handbook, Volumes I, II and III.* Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment, Washington, D.C. EPA/600/P-95/002Fa,b,c. August.
USEPA. 2004. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment).

TABLE 4.2 - CEDAR CREEK
VALUES USED FOR DAILY INTAKE CALCULATIONS - SURFACE WATER
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY

Scenario Timeframe: Current and Future
Medium: Surface Water
Exposure Medium: Surface Water

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Input Values		Units	Rationale/ Reference	Intake Equation/ Model Name	RME (mg/kg-day)	CTE (mg/kg-day)
						CTE Case	RME Case					
Dermal	Trespasser	10 to 18 years	Cedar Creek Surface Water	CW	Chemical Concentration in Water	Chem Specific	Chem Specific	mg/cm^3	See Table 3.2; concentration converted to mg/cm^3.	DA_{event} (mg/cm^2-event) = organic compounds: 2 x FA x Kp x CW x [SQRT[(6 x LT x t)/Pi] inorganic compounds: Kp x CW x t	See Table 4.2.1	See Table 4.2.1
				LT	Lag Time	Chem Specific	Chem Specific	hr/event	See Table 1.1.			
				t	Event Duration	0.5	0.5	hr/event	Professional Judgement.			
				Pi	Constant	3.14	3.14	unitless	See Appendix B Dermal Guidance (USEPA, 2004).			
				SA	Skin Surface Area	4510	4510	cm^2	USEPA (2004); 50%ile surface areas of forearms, feet, hands and lower legs, avg male and female, 10-18 years old.			
				Kp	Permeability Coefficient	Chem Specific	Chem Specific	cm/hr	See Table 1.1.			
				FA	Fraction Absorbed	Chem Specific	Chem Specific	unitless	See Table 1.1.	For Noncarcinogenic Endpoints: Daily Absorbed Dose DAD (mg/kg-day) = DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT-NC	See Table 4.2.1	See Table 4.2.1
				EF	Exposure Frequency	22	44	days/yr	Assuming 1 or both weekend days in summer months.			
				EV	Event Frequency	1	1	events/day	Professional Judgement.			
				ED	Exposure Duration	8	8	yr	Number of yrs between 10 and 18 yrs of age.			
				DA	Absorbed dose per event	Chem Specific	Chem Specific	mg/cm^2/event	Calculated - Dermal Guidance (USEPA, 2004).			
				BW	Body Weight	50	50	kg	USEPA (1997).	For Carcinogenic Endpoints: Daily Absorbed Dose DAD (mg/kg-day) = DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT-C	See Table 4.2.1	See Table 4.2.1
				AT-NC	Averaging Time (noncancer)	2920	2920	days	365 days x ED			
				AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime.			
Dermal	Hunter	Adult	Cedar Creek Surface Water	CW	Chemical Concentration in Water	Chem Specific	Chem Specific	mg/cm^3	See Table 3.2; concentration converted to mg/cm^3.	DA_{event} (mg/cm^2-event) = organic compounds: 2 x FA x Kp x CW x [SQRT[(6 x LT x t)/Pi] inorganic compounds: Kp x CW x t	See Table 4.2.1	See Table 4.2.1
				SA	Skin Surface Area	2077	2077	cm^2	USEPA (2004); 50%ile surface areas of forearms and hands, avg male and female adult.			
				Kp	Permeability Coefficient	Chem Specific	Chem Specific	cm/hr	See Table 1.1.			
				LT	Lag Time	Chem Specific	Chem Specific	hr/event	See Table 1.1.			
				t	Event Duration	0.5	0.5	hr/event	Professional Judgement.			
				Pi	Constant	3.14	3.14	unitless	See Appendix B Dermal Guidance (USEPA, 2004).			
				FA	Fraction Absorbed	Chem Specific	Chem Specific	unitless	See Table 1.1.			
				EF	Exposure Frequency	13	28	days/yr	Calculated from 2001 USF&WS survey.	For Noncarcinogenic Endpoints: Daily Absorbed Dose DAD (mg/kg-day) = DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT-NC	See Table 4.2.1	See Table 4.2.1
				EV	Event Frequency	1	1	events/day	Professional Judgement.			
				ED	Exposure Duration	9	30	yr	CTE and RME USEPA (1989) residence periods and assumes that individuals would hunt through their residence time.			
				DA	Absorbed dose per event	Chem Specific	Chem Specific	mg/cm^2 - event	Calculated - Dermal Guidance (USEPA, 2004).	For Carcinogenic Endpoints: Daily Absorbed Dose DAD (mg/kg-day) = DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT-C	See Table 4.2.1	See Table 4.2.1
				BW	Body Weight (cancer)	70	70	kg	This BW was used to derive CSF values.			
				BW	Body Weight (noncancer)	71.8	71.8	kg	USEPA (1997).			
				AT-NC	Averaging Time (noncancer)	3285	10950	days	365 days x ED			
				AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime.			

Notes:
USEPA. 1989. *Risk Assessment Guidance for Superfund; Volume I: Human Health Evaluation Manual (Part A) - Interim Final.* U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C. EPA/540/1-89/002. December.
USEPA. 1997. *Exposure Factors Handbook, Volumes I, II and III.* Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment, Washington, D.C. EPA/600/P-95/002Fa,b,c. August.
USEPA. 2004. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment).

TABLE 4.2.1 - CEDAR CREEK
VALUES USED FOR DAILY INTAKE CALCULATIONS - SURFACE WATER
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY

Scenario Timeframe: Current and Future
Medium: Surface Water
Exposure Medium: Surface Water

Exposure Route	Receptor Population	Receptor Age	Exposure Point	COPC	DA =Absorbed dose per event DA_{event} (mg/cm²-event) = organic compounds: 2 x FA x Kp x CW x SQRT[(6 x LT x t)/Pi] inorganic compounds: Kp x CW x t	For Noncarcinogenic Endpoints: Daily Absorbed Dose DAD (mg/kg-day) = DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT-NC		For Carcinogenic Endpoints: Daily Absorbed Dose DAD (mg/kg-day) = DA_{event} x EV x ED x EF x SA x 1/BW x 1/AT-C	
						CTE Case	RME Case	CTE Case	RME Case
Dermal	Trespasser	10 to 18 years	Cedar Creek Surface Water	2-Methylphenol	9.87E-09	5.37E-08	1.07E-07	6.13E-09	1.23E-08
				Aluminum	5.30E-07	2.88E-06	5.76E-06	3.29E-07	6.58E-07
				Iron	8.61E-07	4.68E-06	9.36E-06	5.35E-07	1.07E-06
				Isophorone	5.28E-09	2.87E-08	5.74E-08	3.28E-09	6.56E-09
				Mercury and compounds	7.09E-11	3.86E-10	7.71E-10	4.41E-11	8.81E-11
				Naphthalene	6.88E-08	3.74E-07	7.48E-07	4.27E-08	8.54E-08
				Pentachlorophenol	8.48E-05	4.61E-04	9.22E-04	5.27E-05	1.05E-04
				Pyrene	2.33E-06	1.27E-05	2.53E-05	1.45E-06	2.89E-06
Dermal	Hunter	Adult	Cedar Creek Surface Water	2-Methylphenol	9.87E-09	1.02E-08	2.19E-08	1.34E-09	9.63E-09
				Aluminum	5.30E-07	5.46E-07	1.18E-06	7.20E-08	5.17E-07
				Iron	8.61E-07	8.87E-07	1.91E-06	1.17E-07	8.40E-07
				Isophorone	5.28E-09	5.44E-09	1.17E-08	7.17E-10	5.15E-09
				Mercury and compounds	7.09E-11	7.31E-11	1.57E-10	9.64E-12	6.92E-11
				Naphthalene	6.88E-08	7.08E-08	1.53E-07	9.34E-09	6.71E-08
				Pentachlorophenol	8.48E-05	8.73E-05	1.88E-04	1.15E-05	8.27E-05
				Pyrene	2.33E-06	2.40E-06	5.16E-06	3.16E-07	2.27E-06

TABLE 4.3 - CEDAR CREEK
VALUES USED FOR DAILY INTAKE CALCULATIONS - GAME
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY

Scenario Timeframe: Current and Future
Medium: Wild Game
Exposure Medium: Wild Game

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Input Values		Units	Rationale/ Reference	Intake Equation/ Model Name
						CTE Case	RME Case			
Ingestion	Hunter	Adult	Cedar Creek - Downstream	CG	Estimated Body Burden in Game	Modeled; Chemical Specific	Modeled; Chemical Specific	mg/kg	Based on UCL sediment concentrations; Table 4.3.1 provides values.	
				IR	Ingestion Rate	9.4	9.4	g/day	Mean daily intake from Table 11-21 of USEPA	For Noncarcinogenic Endpoints:
				OAF	Oral Absorption Factor	Chem Specific	Chem Specific	unitless	See Table 1.0.	Chronic Daily Intake (mg/kg-day) =
				EF	Exposure Frequency	365	365	days/yr	Ingestion rate is an annualized rate.	CG x IR x OAF x EF x ED x CF x 1/BW x 1/AT-NC
				ED	Exposure Duration	9	30	years	CTE and RME USEPA (1989) residence periods;assumes that individuals would hunt through	
				CF	Conversion Factor	1E-03	1E-03	kg/g	Calculated.	Lifetime Daily Intake (mg/kg-day) =
				BW	Body Weight (cancer)	70	70	kg	This BW was used to derive CSF values.	CG x IR x OAF x EF x ED x CF x 1/BW x 1/AT-C
				BW	Body Weight (noncancer)	71.8	71.8	kg	USEPA (1997).	
				AT-NC	Averaging Time (noncancer)	3285	10950	days	365 days x ED	
				AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime.	

Notes:
USEPA. 1989. *Risk Assessment Guidance for Superfund; Volume I: Human Health Evaluation Manual (Part A) - Interim Final.* U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C. Dec.
USEPA. 1997. *Exposure Factors Handbook, Volumes I, II and III.* Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment, Washington, D.C. EPA/600/P-95/002Fa,b,c. August.

TABLE 4.3.1 - CEDAR CREEK
VALUES USED FOR DAILY INTAKE CALCULATIONS - GAME
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY

Scenario Timeframe: Current and Future
Medium: Wild Game
Exposure Medium: Wild Game

Exposure Route	Receptor Population	Receptor Age	Exposure Point	COPC	Estimated Body Burden in Wild Game (mg/kg)	For Noncarcinogenic Endpoints: Chronic Daily Intake (mg/kg-day) = CG x IR x OAF x EF x ED x CF x 1/BW x 1/AT-NC		For Carcinogenic Lifetime Daily Intake (mg/kg-day) = CS x IR x OAF x EF x ED x CF x 1/BW x 1/AT-C	
						CTE Case	RME Case	CTE Case	RME Case
Ingestion	Hunter	Adult	Cedar Creek - Downstream	2-Methylnaphthalene	5.74E-06	7.51E-10	7.51E-10	9.90E-11	3.30E-10
				Acenaphthene	1.81E-06	2.36E-10	2.36E-10	3.12E-11	1.04E-10
				Acenaphthylene	8.30E-09	1.09E-12	1.09E-12	1.43E-13	4.78E-13
				Aluminum	4.56E-07	5.97E-11	5.97E-11	7.87E-12	2.62E-11
				Anthracene	6.47E-07	8.47E-11	8.47E-11	1.12E-11	3.72E-11
				Arsenic	1.20E-02	1.56E-06	1.56E-06	2.06E-07	6.88E-07
				Benzo(a)anthracene	1.36E-07	1.77E-11	1.77E-11	2.34E-12	7.80E-12
				Benzo(a)pyrene	1.41E-08	1.84E-12	1.84E-12	2.43E-13	8.09E-13
				Benzo(b)fluoranthene	1.21E-07	1.59E-11	1.59E-11	2.10E-12	6.99E-12
				Benzo(b&k)fluoranthene	NA	NA	NA	NA	NA
				Benzo(g,h,i)perylene	5.12E-09	6.70E-13	6.70E-13	8.84E-14	2.95E-13
				Benzo(k)fluoranthene	4.94E-08	6.46E-12	6.46E-12	8.52E-13	2.84E-12
				Carbazole	7.68E-07	1.01E-10	1.01E-10	1.33E-11	4.42E-11
				Chrysene	1.46E-07	1.91E-11	1.91E-11	2.52E-12	8.38E-12
				Dibenzo(a,h)anthracene	4.01E-09	5.25E-13	5.25E-13	6.92E-14	2.31E-13
				Dibenzofuran	7.56E-06	9.89E-10	9.89E-10	1.30E-10	4.35E-10
				Fluoranthene	8.78E-07	1.15E-10	1.15E-10	1.52E-11	5.05E-11
				Fluorene	1.11E-05	1.45E-09	1.45E-09	1.91E-10	6.38E-10
				Indeno(1,2,3-cd)pyrene	3.50E-09	4.58E-13	4.58E-13	6.04E-14	2.01E-13
				Iron	2.09E-04	2.73E-08	2.73E-08	3.61E-09	1.20E-08
				Manganese	7.58E-08	3.97E-13	3.97E-13	5.24E-14	1.75E-13
				Naphthalene	2.48E-06	3.25E-10	3.25E-10	4.28E-11	1.43E-10
				Pentachlorophenol	5.25E-07	6.87E-11	6.87E-11	9.06E-12	3.02E-11
				Phenanthrene	5.02E-06	6.57E-10	6.57E-10	8.67E-11	2.89E-10
				Vanadium	4.50E-09	1.53E-14	1.53E-14	2.02E-15	6.74E-15
				Dioxin TEQ (mammalian)	2.50E-09	3.28E-13	3.28E-13	4.32E-14	1.44E-13

TABLE 5.1
NON-CANCER TOXICITY DATA -- ORAL/DERMAL
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK - DOWNSTREAM

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
2-Methylnaphthalene	Chronic	4.0E-03	mg/kg-day	1.00	4.0E-03	mg/kg-day	liver/kidneys	3000	IRIS	01/16/2007
Acenaphthene	Chronic	6.0E-02	mg/kg-day	1.00	6.0E-02	mg/kg-day	liver	3000	IRIS	01/16/2007
Acenaphthylene (1)	Chronic	6.0E-02	mg/kg-day	1.00	6.0E-02	mg/kg-day	liver	3000	IRIS	01/16/2007
Aluminum	Chronic	1.0E+00	mg/kg-day	1.00	1.0E+00	mg/kg-day	NA	NA	Provisional	10/01/2004
Anthracene	Chronic	3.0E-01	mg/kg-day	1.00	3.0E-01	mg/kg-day	no observed effects	3000	IRIS	01/16/2007
Arsenic	Chronic	3.0E-04	mg/kg-day	1.00	3.0E-04	mg/kg-day	skin/vascular	3	IRIS	01/16/2007
Benzo(a)anthracene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Benzo(b&k)fluoranthen (2)	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene (3)	Chronic	4.0E-02	mg/kg-day	1.00	4.0E-02	mg/kg-day	liver/kidneys	3000	IRIS	01/16/2007
Benzo(k)fluoranthene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Carbazole	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Chrysene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Dibenzofuran	Chronic	2.0E-03	mg/kg-day	1.00	2.0E-03	mg/kg-day	NA	NA	NCEA	10/01/2004
Fluoranthene	Chronic	4.0E-02	mg/kg-day	1.00	4.0E-02	mg/kg-day	liver/kidneys	3000	IRIS	01/16/2007
Fluorene	Chronic	4.0E-02	mg/kg-day	1.00	4.0E-02	mg/kg-day	blood	3000	IRIS	01/16/2007
Indeno(1,2,3-cd)pyrene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Iron	Chronic	3.0E-01	mg/kg-day	1.00	3.0E-01	mg/kg-day	NA	NA	NCEA	10/01/2004
Manganese	Chronic	1.4E-01	mg/kg-day	0.04	5.6E-03	mg/kg-day	central nervous system	1	IRIS	01/16/2007
Naphthalene	Chronic	2.0E-02	mg/kg-day	1.00	2.0E-02	mg/kg-day	body weight	3000	IRIS	01/16/2007
Pentachlorophenol	Chronic	3.0E-02	mg/kg-day	1.00	3.0E-02	mg/kg-day	liver/kidneys	100	IRIS	01/16/2007
Phenanthrene (3)	Chronic	4.0E-02	mg/kg-day	1.00	4.0E-02	mg/kg-day	liver/kidneys	3000	IRIS	01/16/2007
Vanadium	Chronic	1.0E-03	mg/kg-day	0.026	2.6E-05	mg/kg-day	NA	NA	NCEA	10/01/2004
Dioxin TEQ (mammalian)	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA

Notes:
(1) acenaphthene used as surrogate.
(2) benzo(b)fluoranthene used as surrogate.
(3) fluoranthene used as surrogate.
Absorbed RfD for Dermal: = RfD_{oral} * Oral Absorption
NA = Not Available.
IRIS = Integrated Risk Information System.
Provisional = value as cited in USEPA Region 9 PRGs (2004).
NCEA = National Center for Environmental Assessment, as cited in USEPA Region 9 (2004).

TABLE 5.1.1 - CEDAR CREEK
NON-CANCER TOXICITY DATA -- ORAL/DERMAL
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
SURFACE WATER

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
2-Methylphenol	Chronic	5.0E-02	mg/kg-day	1.00	5.0E-02	mg/kg-day	body weight; neurotoxicity	1000	IRIS	01/23/2007
Aluminum	Chronic	1.0E+00	mg/kg-day	1.00	1.0E+00	mg/kg-day	NA	NA	Provisional	10/01/2004
Iron	Chronic	3.0E-01	mg/kg-day	1.00	3.0E-01	mg/kg-day	NA	NA	NCEA	10/01/2004
Isophorone	Chronic	2.0E-01	mg/kg-day	1.00	2.0E-01	mg/kg-day	no observed effects	1000	IRIS	01/23/2007
Mercury and compounds	Chronic	3.0E-04	mg/kg-day	0.07	2.1E-05	mg/kg-day	autoimmune effects	1000	IRIS	01/23/2007
Naphthalene	Chronic	2.0E-02	mg/kg-day	1.00	2.0E-02	mg/kg-day	body weight	3000	IRIS	01/16/2007
Pentachlorophenol	Chronic	3.0E-02	mg/kg-day	1.00	3.0E-02	mg/kg-day	liver/kidneys	100	IRIS	01/16/2007
Pyrene	Chronic	3.0E-02	mg/kg-day	1.00	3.0E-02	mg/kg-day	neurological dysfunction	100	IRIS	01/23/2007

Notes:
Absorbed RfD for Dermal: = RfD_{oral} * Oral Absorption
NA = Not Available.
IRIS = Integrated Risk Information System.
Provisional = value as cited in USEPA Region 9 PRGs (2004).
NCEA = National Center for Environmental Assessment, as cited in USEPA Region 9 (2004).

TABLE 6.1 - CEDAR CREEK
CANCER TOXICITY DATA -- ORAL/DERMAL
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (unitless)	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence	Oral CSF/ Weight of Evidence	
	Value	Units		Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
2-Methylnaphthalene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Acenaphthene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Acenaphthylene (1)	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Aluminum	NA	NA	1.00	NA	NA	NA	NA	NA
Anthracene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Arsenic	1.5E+00	(mg/kg-day)-1	1.00	1.5E+00	(mg/kg-day)-1	A	IRIS	01/16/2007
Benzo(a)anthracene	7.3E-01	(mg/kg-day)-1	1.00	7.3E-01	(mg/kg-day)-1	B2	IRIS	01/16/2007
Benzo(a)pyrene	7.3E+00	(mg/kg-day)-1	1.00	7.3E+00	(mg/kg-day)-1	B2	IRIS	01/16/2007
Benzo(b)fluoranthene	7.3E-01	(mg/kg-day)-1	1.00	7.3E-01	(mg/kg-day)-1	B2	IRIS	01/16/2007
Benzo(b&k)fluoranther (2)	7.3E-01	(mg/kg-day)-1	1.00	7.3E-01	(mg/kg-day)-1	B2	IRIS	01/16/2007
Benzo(g,h,i)perylene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Benzo(k)fluoranthene	7.3E-02	(mg/kg-day)-1	1.00	7.3E-02	(mg/kg-day)-1	B2	IRIS	01/16/2007
Carbazole	2.0E-02	(mg/kg-day)-1	1.00	2.0E-02	(mg/kg-day)-1	NA	HEAST	10/01/2004
Chrysene	7.3E-03	(mg/kg-day)-1	1.00	7.3E-03	(mg/kg-day)-1	B2	IRIS	01/16/2007
Dibenzo(a,h)anthracene	7.3E+00	(mg/kg-day)-1	1.00	7.3E+00	(mg/kg-day)-1	B2	IRIS	01/16/2007
Dibenzofuran	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Fluoranthene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Fluorene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Indeno(1,2,3-cd)pyrene	7.3E-01	(mg/kg-day)-1	1.00	7.3E-01	(mg/kg-day)-1	B2	IRIS	01/16/2007
Iron	NA	NA	1.00	NA	NA	NA	NA	NA
Manganese	NA	NA	0.04	NA	NA	D	IRIS	01/16/2007
Naphthalene	NA	NA	1.00	NA	NA	C	IRIS	01/16/2007
Pentachlorophenol	1.2E-01	(mg/kg-day)-1	1.00	1.2E-01	(mg/kg-day)-1	B2	IRIS	01/16/2007
Phenanthrene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Vanadium	NA	NA	0.03	NA	NA	NA	NA	NA
Dioxin TEQ (mammalian)	1.5E+05	(mg/kg-day)-1	1.00	1.5E+05	(mg/kg-day)-1	NA	HEAST	10/01/2004

Notes:
(1) acenapthene used as surrogate.
(2) benzo(b)fluoranthene used as surrogate.
Absorbed CSF for Dermal: = CSF_{oral}/Oral Absorption
NA = Not Available.
IRIS = Integrated Risk Information System.
HEAST = Health Effects Assessment Summary Tables, as cited in USEPA Region 9 (200
Provisional = value as cited in USEPA Region 9 PRGs (2004).
NCEA = National Center for Environmental Assessment, as cited in USEPA Region 9 (20

Weight of Evidence (USEPA, 1986):
EPA Group:
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity

TABLE 6.1.1 - CEDAR CREEK
CANCER TOXICITY DATA -- ORAL/DERMAL
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
SURFACE WATER

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (unitless)	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence	Oral CSF/ Weight of Evidence	
	Value	Units		Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
2-Methylphenol	NA	NA	1.00	NA	NA	C	IRIS	01/23/2007
Aluminum	NA	NA	1.00	NA	NA	NA	NA	NA
Iron	NA	NA	1.00	NA	NA	NA	NA	NA
Isophorone	9.5E-04	(mg/kg-day)-1	1.00	9.5E-04	(mg/kg-day)-1	C	IRIS	01/23/2007
Mercury and compounds	NA	NA	0.07	NA	NA	C	IRIS	01/23/2007
Naphthalene	NA	NA	1.00	NA	NA	C	IRIS	01/16/2007
Pentachlorophenol	1.2E-01	(mg/kg-day)-1	1.00	1.2E-01	(mg/kg-day)-1	B2	IRIS	01/16/2007
Pyrene	NA	NA	1.00	NA	NA	NA	IRIS	01/23/2007

Notes:
Absorbed CSF for Dermal: = CSF_{oral}/Oral Absorption
NA = Not Available.
IRIS = Integrated Risk Information System.
HEAST = Health Effects Assessment Summary Tables, as cited in USEPA Region 9 (2004).
Provisional = value as cited in USEPA Region 9 PRGs (2004).
NCEA = National Center for Environmental Assessment, as cited in USEPA Region 9 (2004).

Weight of Evidence (USEPA, 1986):
EPA Group:
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity

TABLE 7.1a RME TRESPASSER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (10 to 18 years)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		RME	Intake/Exposure Concentration		RfD		RME
							Value	Units	Value	Units	Cancer Risk	Value	Units	Value	Units	Hazard Quotient
Sediment	Sediment	CEDAR CREEK DOWNSTREAM	Incidental Ingestion	2-Methylnaphthalene	5.8E+01	mg/kg	4.0E-07	mg/kg-day	NA	NA	NA	3.5E-06	mg/kg-day	4.0E-03	mg/kg-day	0.001
				Acenaphthene	4.3E+01	mg/kg	3.0E-07	mg/kg-day	NA	NA	NA	2.6E-06	mg/kg-day	6.0E-02	mg/kg-day	0.00004
				Acenaphthylene	8.3E-02	mg/kg	5.7E-10	mg/kg-day	NA	NA	NA	5.0E-09	mg/kg-day	6.0E-02	mg/kg-day	0.0000001
				Aluminum	1.2E+04	mg/kg	8.1E-05	mg/kg-day	NA	NA	NA	7.0E-04	mg/kg-day	1.0E+00	mg/kg-day	0.001
				Anthracene	6.7E+00	mg/kg	4.6E-08	mg/kg-day	NA	NA	NA	4.0E-07	mg/kg-day	3.0E-01	mg/kg-day	0.000001
				Arsenic	6.3E+00	mg/kg	4.3E-08	mg/kg-day	1.5E+00	(mg/kg-day)-1	6.5E-08	3.8E-07	mg/kg-day	3.0E-04	mg/kg-day	0.001
				Benzo(a)anthracene	3.0E+00	mg/kg	2.1E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.5E-08	1.8E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(a)pyrene	6.9E-01	mg/kg	4.7E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	3.5E-08	4.1E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b)fluoranthene	4.6E+00	mg/kg	3.2E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	2.3E-08	2.8E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b&k)fluoranthene	2.0E+00	mg/kg	1.4E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.0E-08	1.2E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(g,h,i)perylene	3.3E-01	mg/kg	2.3E-09	mg/kg-day	NA	NA	NA	2.0E-08	mg/kg-day	4.0E-02	mg/kg-day	0.000001
				Benzo(k)fluoranthene	2.2E+00	mg/kg	1.5E-08	mg/kg-day	7.3E-02	(mg/kg-day)-1	1.1E-09	1.3E-07	mg/kg-day	NA	mg/kg-day	NA
				Carbazole	8.0E+00	mg/kg	5.5E-08	mg/kg-day	2.0E-02	(mg/kg-day)-1	1.1E-09	4.8E-07	mg/kg-day	NA	mg/kg-day	NA
				Chrysene	3.4E+00	mg/kg	2.4E-08	mg/kg-day	7.3E-03	(mg/kg-day)-1	1.7E-10	2.1E-07	mg/kg-day	NA	mg/kg-day	NA
				Dibenzo(a,h)anthracene	2.3E-01	mg/kg	1.6E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	1.2E-08	1.4E-08	mg/kg-day	NA	mg/kg-day	NA
				Dibenzofuran	7.5E+01	mg/kg	5.2E-07	mg/kg-day	NA	NA	NA	4.5E-06	mg/kg-day	2.0E-03	mg/kg-day	0.002
				Fluoranthene	2.0E+01	mg/kg	1.4E-07	mg/kg-day	NA	NA	NA	1.2E-06	mg/kg-day	4.0E-02	mg/kg-day	0.00003
				Fluorene	1.1E+02	mg/kg	7.6E-07	mg/kg-day	NA	NA	NA	6.6E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0002
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	1.8E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.3E-09	1.6E-08	mg/kg-day	NA	mg/kg-day	NA
				Iron	2.4E+04	mg/kg	1.7E-04	mg/kg-day	NA	NA	NA	1.5E-03	mg/kg-day	3.0E-01	mg/kg-day	0.005
				Manganese	6.1E+02	mg/kg	1.7E-07	mg/kg-day	NA	NA	NA	1.5E-06	mg/kg-day	1.4E-01	mg/kg-day	0.00001
				Naphthalene	3.2E+01	mg/kg	2.2E-07	mg/kg-day	NA	NA	NA	1.9E-06	mg/kg-day	2.0E-02	mg/kg-day	0.0001
				Pentachlorophenol	1.4E+01	mg/kg	9.3E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.1E-08	8.2E-07	mg/kg-day	3.0E-02	mg/kg-day	0.00003
				Phenanthrene	5.2E+01	mg/kg	3.6E-07	mg/kg-day	NA	NA	NA	3.1E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0001
				Vanadium	4.0E+01	mg/kg	7.1E-09	mg/kg-day	NA	NA	NA	6.2E-08	mg/kg-day	1.0E-03	mg/kg-day	0.0001
				Dioxin TEQ (mammalian)	4.8E-04	mg/kg	3.3E-12	mg/kg-day	1.5E+05	(mg/kg-day)-1	4.9E-07	2.9E-11	mg/kg-day	NA	mg/kg-day	NA
			Exp. Route Total								6.7E-07					0.01
			Dermal Absorption	2-Methylnaphthalene	5.8E+01	mg/kg	2.8E-08	mg/kg-day	NA	NA	NA	2.5E-05	mg/kg-day	4.0E-03	mg/kg-day	0.006
				Acenaphthene	4.3E+01	mg/kg	2.1E-08	mg/kg-day	NA	NA	NA	1.8E-05	mg/kg-day	6.0E-02	mg/kg-day	0.0003
				Acenaphthylene	8.3E-02	mg/kg	4.0E-09	mg/kg-day	NA	NA	NA	3.5E-08	mg/kg-day	6.0E-02	mg/kg-day	0.000001
				Aluminum	1.2E+04	mg/kg	4.4E-06	mg/kg-day	NA	NA	NA	3.8E-05	mg/kg-day	1.0E+00	mg/kg-day	0.00004
				Anthracene	6.7E+00	mg/kg	3.2E-07	mg/kg-day	NA	NA	NA	2.8E-06	mg/kg-day	3.0E-01	mg/kg-day	0.00001
				Arsenic	6.3E+00	mg/kg	7.0E-08	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.1E-07	6.1E-07	mg/kg-day	3.0E-04	mg/kg-day	0.002
				Benzo(a)anthracene	3.0E+00	mg/kg	1.5E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.1E-07	1.3E-06	mg/kg-day	NA	NA	NA
				Benzo(a)pyrene	6.9E-01	mg/kg	3.3E-08	mg/kg-day	7.3E+00	(mg/kg-day)-1	2.4E-07	2.9E-07	mg/kg-day	NA	NA	NA
				Benzo(b)fluoranthene	4.6E+00	mg/kg	2.2E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.6E-07	2.0E-06	mg/kg-day	NA	NA	NA
				Benzo(b&k)fluoranthene	2.0E+00	mg/kg	9.8E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	7.2E-08	8.6E-07	mg/kg-day	NA	NA	NA
				Benzo(g,h,i)perylene	3.3E-01	mg/kg	1.6E-08	mg/kg-day	NA	NA	NA	1.4E-07	mg/kg-day	4.0E-02	mg/kg-day	0.000004
				Benzo(k)fluoranthene	2.2E+00	mg/kg	1.1E-07	mg/kg-day	7.3E-02	(mg/kg-day)-1	7.8E-09	9.3E-07	mg/kg-day	NA	NA	NA
				Carbazole	8.0E+00	mg/kg	3.9E-07	mg/kg-day	2.0E-02	(mg/kg-day)-1	7.8E-09	3.4E-06	mg/kg-day	NA	NA	NA
				Chrysene	3.4E+00	mg/kg	1.7E-07	mg/kg-day	7.3E-03	(mg/kg-day)-1	1.2E-09	1.5E-06	mg/kg-day	NA	NA	NA
				Dibenzo(a,h)anthracene	2.3E-01	mg/kg	1.1E-08	mg/kg-day	7.3E+00	(mg/kg-day)-1	8.2E-08	9.8E-08	mg/kg-day	NA	NA	NA
				Dibenzofuran	7.5E+01	mg/kg	2.8E-07	mg/kg-day	NA	NA	NA	2.4E-06	mg/kg-day	2.0E-03	mg/kg-day	0.001
				Fluoranthene	2.0E+01	mg/kg	9.7E-07	mg/kg-day	NA	NA	NA	8.5E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0002
				Fluorene	1.1E+02	mg/kg	5.3E-06	mg/kg-day	NA	NA	NA	4.7E-05	mg/kg-day	4.0E-02	mg/kg-day	0.001
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	1.3E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	9.4E-09	1.1E-07	mg/kg-day	NA	NA	NA
				Iron	2.4E+04	mg/kg	9.1E-06	mg/kg-day	NA	NA	NA	8.0E-05	mg/kg-day	3.0E-01	mg/kg-day	0.0003
				Manganese	6.1E+02	mg/kg	2.3E-07	mg/kg-day	NA	NA	NA	2.0E-06	mg/kg-day	5.6E-03	mg/kg-day	0.0004
				Naphthalene	3.2E+01	mg/kg	1.5E-06	mg/kg-day	NA	NA	NA	1.3E-05	mg/kg-day	2.0E-02	mg/kg-day	0.001
				Pentachlorophenol	1.4E+01	mg/kg	1.3E-06	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.5E-07	1.1E-05	mg/kg-day	3.0E-02	mg/kg-day	0.0004
				Phenanthrene	5.2E+01	mg/kg	2.5E-06	mg/kg-day	NA	NA	NA	2.2E-05	mg/kg-day	4.0E-02	mg/kg-day	0.001
				Vanadium	4.0E+01	mg/kg	1.5E-08	mg/kg-day	NA	NA	NA	1.3E-07	mg/kg-day	2.6E-05	mg/kg-day	0.005
				Dioxin TEQ (mammalian)	4.8E-04	mg/kg	5.4E-12	mg/kg-day	1.5E+05	(mg/kg-day)-1	8.0E-07	4.7E-11	mg/kg-day	NA	NA	NA
			Exp. Route Total								1.8E-06					0.02
		Exposure Point Total									2.4E-06					0.03
	Exposure Medium Total										2.4E-06					0.03
Sediment Total											2.4E-06					0.03

TABLE 7.1b.CTE TRESPASSER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (10 to 18 years)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		CTE	Intake/Exposure Concentration		RfD		CTE
							Value	Units	Value	Units	Cancer Risk	Value	Units	Value	Units	Hazard Quotient
Sediment	Sediment	CEDAR CREEK DOWNSTREAM	Incidental Ingestion	2-Methylnaphthalene	5.8E+01	mg/kg	1.0E-07	mg/kg-day	NA	NA	NA	8.7E-07	mg/kg-day	4.0E-03	mg/kg-day	0.0002
				Acenaphthene	4.3E+01	mg/kg	7.5E-08	mg/kg-day	NA	NA	NA	6.5E-07	mg/kg-day	6.0E-02	mg/kg-day	0.00001
				Acenaphthylene	8.3E-02	mg/kg	1.4E-10	mg/kg-day	NA	NA	NA	1.3E-09	mg/kg-day	6.0E-02	mg/kg-day	0.00000002
				Aluminum	1.2E+04	mg/kg	2.0E-05	mg/kg-day	NA	NA	NA	1.8E-04	mg/kg-day	1.0E+00	mg/kg-day	0.0002
				Anthracene	6.7E+00	mg/kg	1.2E-08	mg/kg-day	NA	NA	NA	1.0E-07	mg/kg-day	3.0E-01	mg/kg-day	0.0000003
				Arsenic	6.3E+00	mg/kg	1.1E-08	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.6E-08	9.5E-08	mg/kg-day	3.0E-04	mg/kg-day	0.0003
				Benzo(a)anthracene	3.0E+00	mg/kg	5.2E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	3.8E-09	4.5E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(a)pyrene	6.9E-01	mg/kg	1.2E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	8.6E-09	1.0E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b)fluoranthene	4.6E+00	mg/kg	7.9E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	5.8E-09	6.9E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b&k)fluoranthene	2.0E+00	mg/kg	3.5E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	2.5E-09	3.1E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(g,h,i)perylene	3.3E-01	mg/kg	5.7E-10	mg/kg-day	NA	NA	NA	5.0E-09	mg/kg-day	4.0E-02	mg/kg-day	0.0000001
				Benzo(k)fluoranthene	2.2E+00	mg/kg	3.8E-09	mg/kg-day	7.3E-02	(mg/kg-day)-1	2.8E-10	3.3E-08	mg/kg-day	NA	mg/kg-day	NA
				Carbazole	8.0E+00	mg/kg	1.4E-08	mg/kg-day	2.0E-02	(mg/kg-day)-1	2.8E-10	1.2E-07	mg/kg-day	NA	mg/kg-day	NA
				Chrysene	3.4E+00	mg/kg	5.9E-09	mg/kg-day	7.3E-03	(mg/kg-day)-1	4.3E-11	5.2E-08	mg/kg-day	NA	mg/kg-day	NA
				Dibenzo(a,h)anthracene	2.3E-01	mg/kg	4.0E-10	mg/kg-day	7.3E+00	(mg/kg-day)-1	2.9E-09	3.5E-09	mg/kg-day	NA	mg/kg-day	NA
				Dibenzofuran	7.5E+01	mg/kg	1.3E-07	mg/kg-day	NA	NA	NA	1.1E-06	mg/kg-day	2.0E-03	mg/kg-day	0.0006
				Fluoranthene	2.0E+01	mg/kg	3.5E-08	mg/kg-day	NA	NA	NA	3.0E-07	mg/kg-day	4.0E-02	mg/kg-day	0.00001
				Fluorene	1.1E+02	mg/kg	1.9E-07	mg/kg-day	NA	NA	NA	1.7E-06	mg/kg-day	4.0E-02	mg/kg-day	0.00004
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	4.6E-10	mg/kg-day	7.3E-01	(mg/kg-day)-1	3.3E-10	4.0E-09	mg/kg-day	NA	mg/kg-day	NA
				Iron	2.4E+04	mg/kg	4.2E-05	mg/kg-day	NA	NA	NA	3.7E-04	mg/kg-day	3.0E-01	mg/kg-day	0.001
				Manganese	8.1E+02	mg/kg	4.2E-08	mg/kg-day	NA	NA	NA	3.7E-07	mg/kg-day	1.4E-01	mg/kg-day	0.000003
				Naphthalene	3.2E+01	mg/kg	5.4E-08	mg/kg-day	NA	NA	NA	4.8E-07	mg/kg-day	2.0E-02	mg/kg-day	0.00002
				Pentachlorophenol	1.4E+01	mg/kg	2.3E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	2.8E-09	2.0E-07	mg/kg-day	3.0E-02	mg/kg-day	0.00001
				Phenanthrene	5.2E+01	mg/kg	9.0E-08	mg/kg-day	NA	NA	NA	7.8E-07	mg/kg-day	4.0E-02	mg/kg-day	0.00002
				Vanadium	4.0E+01	mg/kg	1.8E-09	mg/kg-day	NA	NA	NA	1.6E-08	mg/kg-day	1.0E-03	mg/kg-day	0.00002
				Dioxin TEQ (mammalian)	4.8E-04	mg/kg	8.2E-13	mg/kg-day	1.5E+05	(mg/kg-day)-1	1.2E-07	7.2E-12	mg/kg-day	NA	mg/kg-day	NA
			Exp. Route Total								1.7E-07					0.003
			Dermal Absorption	2-Methylnaphthalene	5.8E+01	mg/kg	1.4E-06	mg/kg-day	NA	NA	NA	1.2E-05	mg/kg-day	4.0E-03	mg/kg-day	0.003
				Acenaphthene	4.3E+01	mg/kg	1.1E-06	mg/kg-day	NA	NA	NA	9.2E-06	mg/kg-day	6.0E-02	mg/kg-day	0.0002
				Acenaphthylene	8.3E-02	mg/kg	2.0E-09	mg/kg-day	NA	NA	NA	1.8E-08	mg/kg-day	6.0E-02	mg/kg-day	0.0000003
				Aluminum	1.2E+04	mg/kg	2.2E-06	mg/kg-day	NA	NA	NA	1.9E-05	mg/kg-day	1.0E+00	mg/kg-day	0.00002
				Anthracene	6.7E+00	mg/kg	1.6E-07	mg/kg-day	NA	NA	NA	1.4E-06	mg/kg-day	3.0E-01	mg/kg-day	0.000005
				Arsenic	6.3E+00	mg/kg	3.5E-08	mg/kg-day	1.5E+00	(mg/kg-day)-1	5.3E-08	3.1E-07	mg/kg-day	3.0E-04	mg/kg-day	0.001
				Benzo(a)anthracene	3.0E+00	mg/kg	7.3E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	5.3E-08	6.4E-07	mg/kg-day	NA	NA	NA
				Benzo(a)pyrene	6.9E-01	mg/kg	1.7E-08	mg/kg-day	7.3E+00	(mg/kg-day)-1	1.2E-07	1.5E-07	mg/kg-day	NA	NA	NA
				Benzo(b)fluoranthene	4.6E+00	mg/kg	1.1E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	8.1E-08	9.8E-07	mg/kg-day	NA	NA	NA
				Benzo(b&k)fluoranthene	2.0E+00	mg/kg	4.9E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	3.6E-08	4.3E-07	mg/kg-day	NA	NA	NA
				Benzo(g,h,i)perylene	3.3E-01	mg/kg	8.1E-09	mg/kg-day	NA	NA	NA	7.1E-08	mg/kg-day	4.0E-02	mg/kg-day	0.000002
				Benzo(k)fluoranthene	2.2E+00	mg/kg	5.3E-08	mg/kg-day	7.3E-02	(mg/kg-day)-1	3.9E-09	4.7E-07	mg/kg-day	NA	NA	NA
				Carbazole	8.0E+00	mg/kg	1.9E-07	mg/kg-day	2.0E-02	(mg/kg-day)-1	3.9E-09	1.7E-06	mg/kg-day	NA	NA	NA
				Chrysene	3.4E+00	mg/kg	8.3E-08	mg/kg-day	7.3E-03	(mg/kg-day)-1	6.1E-10	7.3E-07	mg/kg-day	NA	NA	NA
				Dibenzo(a,h)anthracene	2.3E-01	mg/kg	5.6E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	4.1E-08	4.9E-08	mg/kg-day	NA	NA	NA
				Dibenzofuran	7.5E+01	mg/kg	1.4E-07	mg/kg-day	NA	NA	NA	1.2E-06	mg/kg-day	2.0E-03	mg/kg-day	0.0006
				Fluoranthene	2.0E+01	mg/kg	4.9E-07	mg/kg-day	NA	NA	NA	4.3E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0001
				Fluorene	1.1E+02	mg/kg	2.7E-06	mg/kg-day	NA	NA	NA	2.3E-05	mg/kg-day	4.0E-02	mg/kg-day	0.0006
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	6.4E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	4.7E-09	5.6E-08	mg/kg-day	NA	NA	NA
				Iron	2.4E+04	mg/kg	4.5E-06	mg/kg-day	NA	NA	NA	4.0E-05	mg/kg-day	3.0E-01	mg/kg-day	0.0001
				Manganese	8.1E+02	mg/kg	1.1E-07	mg/kg-day	NA	NA	NA	9.9E-07	mg/kg-day	5.6E-03	mg/kg-day	0.0002
				Naphthalene	3.2E+01	mg/kg	7.7E-07	mg/kg-day	NA	NA	NA	6.7E-06	mg/kg-day	2.0E-02	mg/kg-day	0.0003
				Pentachlorophenol	1.4E+01	mg/kg	6.3E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	7.6E-08	5.5E-06	mg/kg-day	3.0E-02	mg/kg-day	0.0002
				Phenanthrene	5.2E+01	mg/kg	1.3E-06	mg/kg-day	NA	NA	NA	1.1E-05	mg/kg-day	4.0E-02	mg/kg-day	0.0003
				Vanadium	4.0E+01	mg/kg	7.4E-09	mg/kg-day	NA	NA	NA	6.5E-08	mg/kg-day	2.8E-05	mg/kg-day	0.002
				Dioxin TEQ (mammalian)	4.8E-04	mg/kg	2.7E-12	mg/kg-day	1.5E+05	(mg/kg-day)-1	4.0E-07	2.3E-11	mg/kg-day	NA	NA	NA
			Exp. Route Total								8.8E-07					0.01
		Exposure Point Total									1.0E-06					0.01
	Exposure Medium Total										1.0E-06					0.01
Sediment Total											1.0E-06					0.01

TABLE 7.2a RME HUNTER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		RME	Intake/Exposure Concentration		RfD		RME
							Value	Units	Value	Units	Cancer Risk	Value	Units	Value	Units	Hazard Quotient
Sediment	Sediment	CEDAR CREEK DOWNSTREAM	Incidental Ingestion	2-Methylnaphthalene	5.8E+01	mg/kg	6.8E-07	mg/kg-day	NA	NA	NA	1.6E-06	mg/kg-day	4.0E-03	mg/kg-day	0.0004
				Acenaphthene	4.3E+01	mg/kg	5.1E-07	mg/kg-day	NA	NA	NA	1.2E-06	mg/kg-day	6.0E-02	mg/kg-day	0.00002
				Acenaphthylene	8.3E-02	mg/kg	9.7E-10	mg/kg-day	NA	NA	NA	2.2E-09	mg/kg-day	6.0E-02	mg/kg-day	0.00000004
				Aluminum	1.2E+04	mg/kg	1.4E-04	mg/kg-day	NA	NA	NA	3.1E-04	mg/kg-day	1.0E+00	mg/kg-day	0.0003
				Anthracene	6.7E+00	mg/kg	7.9E-08	mg/kg-day	NA	NA	NA	1.8E-07	mg/kg-day	3.0E-01	mg/kg-day	0.000001
				Arsenic	6.3E+00	mg/kg	7.4E-08	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.1E-07	1.7E-07	mg/kg-day	3.0E-04	mg/kg-day	0.0006
				Benzo(a)anthracene	3.0E+00	mg/kg	3.5E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	2.6E-08	8.1E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(a)pyrene	6.9E-01	mg/kg	8.1E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	5.9E-08	1.8E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b)fluoranthene	4.6E+00	mg/kg	5.4E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	3.9E-08	1.2E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b&k)fluoranthene	2.0E+00	mg/kg	2.4E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.7E-08	5.4E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(g,h,i)perylene	3.3E-01	mg/kg	3.9E-09	mg/kg-day	NA	NA	NA	8.9E-09	mg/kg-day	4.0E-02	mg/kg-day	0.0000002
				Benzo(k)fluoranthene	2.2E+00	mg/kg	2.6E-08	mg/kg-day	7.3E-02	(mg/kg-day)-1	1.9E-09	5.9E-08	mg/kg-day	NA	mg/kg-day	NA
				Carbazole	8.0E+00	mg/kg	9.4E-08	mg/kg-day	2.0E-02	(mg/kg-day)-1	1.9E-09	2.1E-07	mg/kg-day	NA	mg/kg-day	NA
				Chrysene	3.4E+00	mg/kg	4.0E-08	mg/kg-day	7.3E-03	(mg/kg-day)-1	2.9E-10	9.2E-08	mg/kg-day	NA	mg/kg-day	NA
				Dibenzo(a,h)anthracene	2.3E-01	mg/kg	2.7E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	2.0E-08	6.2E-09	mg/kg-day	NA	mg/kg-day	NA
				Dibenzofuran	7.5E+01	mg/kg	8.8E-07	mg/kg-day	NA	NA	NA	2.0E-06	mg/kg-day	2.0E-03	mg/kg-day	0.001
				Fluoranthene	2.0E+01	mg/kg	2.4E-07	mg/kg-day	NA	NA	NA	5.4E-07	mg/kg-day	4.0E-02	mg/kg-day	0.00001
				Fluorene	1.1E+02	mg/kg	1.3E-06	mg/kg-day	NA	NA	NA	2.9E-06	mg/kg-day	4.0E-02	mg/kg-day	0.00007
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	3.1E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	2.3E-09	7.1E-09	mg/kg-day	NA	mg/kg-day	NA
				Iron	2.4E+04	mg/kg	2.9E-04	mg/kg-day	NA	NA	NA	6.5E-04	mg/kg-day	3.0E-01	mg/kg-day	0.002
				Manganese	6.1E+02	mg/kg	2.9E-07	mg/kg-day	NA	NA	NA	6.5E-07	mg/kg-day	1.4E-01	mg/kg-day	0.000005
				Naphthalene	3.2E+01	mg/kg	3.7E-07	mg/kg-day	NA	NA	NA	8.4E-07	mg/kg-day	2.0E-02	mg/kg-day	0.00004
				Pentachlorophenol	1.4E+01	mg/kg	1.6E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.9E-08	3.6E-07	mg/kg-day	3.0E-02	mg/kg-day	0.00001
				Phenanthrene	5.2E+01	mg/kg	6.1E-07	mg/kg-day	NA	NA	NA	1.4E-06	mg/kg-day	4.0E-02	mg/kg-day	0.00003
				Vanadium	4.0E+01	mg/kg	1.2E-08	mg/kg-day	NA	NA	NA	2.8E-06	mg/kg-day	1.0E-03	mg/kg-day	0.00003
				Dioxin TEQ (mammalian)	4.8E-04	mg/kg	5.6E-12	mg/kg-day	1.5E+05	(mg/kg-day)-1	8.4E-07	1.3E-11	mg/kg-day	NA	mg/kg-day	NA
			Exp. Route Total								1.1E-06					0.005
			Dermal Absorption	2-Methylnaphthalene	5.8E+01	mg/kg	2.2E-06	mg/kg-day	NA	NA	NA	5.0E-06	mg/kg-day	4.0E-03	mg/kg-day	0.001
				Acenaphthene	4.3E+01	mg/kg	1.6E-06	mg/kg-day	NA	NA	NA	3.8E-06	mg/kg-day	6.0E-02	mg/kg-day	0.00006
				Acenaphthylene	8.3E-02	mg/kg	3.2E-09	mg/kg-day	NA	NA	NA	7.2E-09	mg/kg-day	6.0E-02	mg/kg-day	0.0000001
				Aluminum	1.2E+04	mg/kg	3.4E-06	mg/kg-day	NA	NA	NA	7.8E-06	mg/kg-day	1.0E+00	mg/kg-day	0.000008
				Anthracene	6.7E+00	mg/kg	2.5E-07	mg/kg-day	NA	NA	NA	5.8E-07	mg/kg-day	3.0E-01	mg/kg-day	0.000002
				Arsenic	6.3E+00	mg/kg	5.5E-08	mg/kg-day	1.5E+00	(mg/kg-day)-1	8.3E-08	1.3E-07	mg/kg-day	3.0E-04	mg/kg-day	0.0004
				Benzo(a)anthracene	3.0E+00	mg/kg	1.1E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	8.4E-08	2.6E-07	mg/kg-day	NA	NA	NA
				Benzo(a)pyrene	6.9E-01	mg/kg	2.6E-08	mg/kg-day	7.3E+00	(mg/kg-day)-1	1.9E-07	5.9E-08	mg/kg-day	NA	NA	NA
				Benzo(b)fluoranthene	4.6E+00	mg/kg	1.8E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.3E-07	4.0E-07	mg/kg-day	NA	NA	NA
				Benzo(b&k)fluoranthene	2.0E+00	mg/kg	7.7E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	5.6E-08	1.8E-07	mg/kg-day	NA	NA	NA
				Benzo(g,h,i)perylene	3.3E-01	mg/kg	1.3E-08	mg/kg-day	NA	NA	NA	2.9E-08	mg/kg-day	4.0E-02	mg/kg-day	0.000001
				Benzo(k)fluoranthene	2.2E+00	mg/kg	8.4E-08	mg/kg-day	7.3E-02	(mg/kg-day)-1	6.1E-09	1.9E-07	mg/kg-day	NA	NA	NA
				Carbazole	8.0E+00	mg/kg	3.1E-07	mg/kg-day	2.0E-02	(mg/kg-day)-1	6.1E-09	7.0E-07	mg/kg-day	NA	NA	NA
				Chrysene	3.4E+00	mg/kg	1.3E-07	mg/kg-day	7.3E-03	(mg/kg-day)-1	9.5E-10	3.0E-07	mg/kg-day	NA	NA	NA
				Dibenzo(a,h)anthracene	2.3E-01	mg/kg	8.8E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	6.4E-08	2.0E-08	mg/kg-day	NA	NA	NA
				Dibenzofuran	7.5E+01	mg/kg	2.2E-07	mg/kg-day	NA	NA	NA	5.0E-07	mg/kg-day	2.0E-03	mg/kg-day	0.0002
				Fluoranthene	2.0E+01	mg/kg	7.6E-07	mg/kg-day	NA	NA	NA	1.7E-06	mg/kg-day	4.0E-02	mg/kg-day	0.00004
				Fluorene	1.1E+02	mg/kg	4.2E-06	mg/kg-day	NA	NA	NA	9.5E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0002
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	1.0E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	7.4E-09	2.3E-08	mg/kg-day	NA	NA	NA
				Iron	2.4E+04	mg/kg	7.1E-06	mg/kg-day	NA	NA	NA	1.6E-05	mg/kg-day	3.0E-01	mg/kg-day	0.0001
				Manganese	6.1E+02	mg/kg	1.8E-07	mg/kg-day	NA	NA	NA	4.0E-07	mg/kg-day	5.6E-03	mg/kg-day	0.0001
				Naphthalene	3.2E+01	mg/kg	1.2E-06	mg/kg-day	NA	NA	NA	2.7E-06	mg/kg-day	2.0E-02	mg/kg-day	0.0001
				Pentachlorophenol	1.4E+01	mg/kg	9.9E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.2E-07	2.3E-06	mg/kg-day	3.0E-02	mg/kg-day	0.0001
				Phenanthrene	5.2E+01	mg/kg	2.0E-06	mg/kg-day	NA	NA	NA	4.5E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0001
				Vanadium	4.0E+01	mg/kg	1.2E-06	mg/kg-day	NA	NA	NA	2.6E-06	mg/kg-day	2.6E-05	mg/kg-day	0.001
				Dioxin TEQ (mammalian)	4.8E-04	mg/kg	4.2E-12	mg/kg-day	1.5E+05	(mg/kg-day)-1	6.3E-07	9.6E-12	mg/kg-day	NA	NA	NA
			Exp. Route Total								1.4E-06					0.004
		Exposure Point Total									2.5E-06					0.008
	Exposure Medium Total										2.5E-06					0.008
Sediment Total											2.5E-06					0.008

TABLE 7.2b.CTE HUNTER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		CTE Cancer Risk	Intake/Exposure Concentration		RfD		CTE Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	CEDAR CREEK DOWNSTREAM	Incidental Ingestion	2-Methylnaphthalene	5.8E+01	mg/kg	4.7E-08	mg/kg-day	NA	NA	NA	3.6E-07	mg/kg-day	4.0E-03	mg/kg-day	0.00009
				Acenaphthene	4.3E+01	mg/kg	3.5E-08	mg/kg-day	NA	NA	NA	2.7E-07	mg/kg-day	6.0E-02	mg/kg-day	0.000004
				Acenaphthylene	8.3E-02	mg/kg	6.8E-11	mg/kg-day	NA	NA	NA	5.1E-10	mg/kg-day	6.0E-02	mg/kg-day	0.00000001
				Aluminum	1.2E+04	mg/kg	9.6E-06	mg/kg-day	NA	NA	NA	7.2E-05	mg/kg-day	1.0E+00	mg/kg-day	0.00007
				Anthracene	6.7E+00	mg/kg	5.5E-09	mg/kg-day	NA	NA	NA	4.1E-08	mg/kg-day	3.0E-01	mg/kg-day	0.0000001
				Arsenic	6.3E+00	mg/kg	5.1E-09	mg/kg-day	1.5E+00	(mg/kg-day)-1	7.7E-09	3.9E-08	mg/kg-day	3.0E-04	mg/kg-day	0.0001
				Benzo(a)anthracene	3.0E+00	mg/kg	2.5E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.8E-09	1.9E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(a)pyrene	6.9E-01	mg/kg	5.6E-10	mg/kg-day	7.3E+00	(mg/kg-day)-1	4.1E-09	4.3E-09	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b)fluoranthene	4.6E+00	mg/kg	3.8E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	2.7E-09	2.9E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b&k)fluoranthene	2.0E+00	mg/kg	1.7E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.2E-09	1.3E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(g,h,i)perylene	3.3E-01	mg/kg	2.7E-10	mg/kg-day	NA	NA	NA	2.1E-09	mg/kg-day	4.0E-02	mg/kg-day	0.0000001
				Benzo(k)fluoranthene	2.2E+00	mg/kg	1.8E-09	mg/kg-day	7.3E-02	(mg/kg-day)-1	1.3E-10	1.4E-08	mg/kg-day	NA	mg/kg-day	NA
				Carbazole	8.0E+00	mg/kg	6.6E-09	mg/kg-day	2.0E-02	(mg/kg-day)-1	1.3E-10	5.0E-08	mg/kg-day	NA	mg/kg-day	NA
				Chrysene	3.4E+00	mg/kg	2.8E-09	mg/kg-day	7.3E-03	(mg/kg-day)-1	2.0E-11	2.1E-08	mg/kg-day	NA	mg/kg-day	NA
				Dibenzo(a,h)anthracene	2.3E-01	mg/kg	1.9E-10	mg/kg-day	7.3E+00	(mg/kg-day)-1	1.4E-09	1.4E-09	mg/kg-day	NA	mg/kg-day	NA
				Dibenzofuran	7.5E+01	mg/kg	6.1E-08	mg/kg-day	NA	NA	NA	4.6E-07	mg/kg-day	2.0E-03	mg/kg-day	0.0002
				Fluoranthene	2.0E+01	mg/kg	1.6E-08	mg/kg-day	NA	NA	NA	1.2E-07	mg/kg-day	4.0E-02	mg/kg-day	0.000003
				Fluorene	1.1E+02	mg/kg	9.0E-08	mg/kg-day	NA	NA	NA	6.8E-07	mg/kg-day	4.0E-02	mg/kg-day	0.00002
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	2.2E-10	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.6E-10	1.6E-09	mg/kg-day	NA	mg/kg-day	NA
				Iron	2.4E+04	mg/kg	2.0E-05	mg/kg-day	NA	NA	NA	1.5E-04	mg/kg-day	3.0E-01	mg/kg-day	0.0005
				Manganese	6.1E+02	mg/kg	2.0E-08	mg/kg-day	NA	NA	NA	1.5E-07	mg/kg-day	1.4E-01	mg/kg-day	0.000001
				Naphthalene	3.2E+01	mg/kg	2.6E-08	mg/kg-day	NA	NA	NA	2.0E-07	mg/kg-day	2.0E-02	mg/kg-day	0.00001
				Pentachlorophenol	1.4E+01	mg/kg	1.1E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.3E-09	8.4E-08	mg/kg-day	3.0E-02	mg/kg-day	0.000003
				Phenanthrene	5.2E+01	mg/kg	4.3E-08	mg/kg-day	NA	NA	NA	3.2E-07	mg/kg-day	4.0E-02	mg/kg-day	0.00001
				Vanadium	4.0E+01	mg/kg	8.4E-10	mg/kg-day	NA	NA	NA	6.4E-09	mg/kg-day	1.0E-03	mg/kg-day	0.00001
				Dioxin TEQ (mammalian)	4.8E-04	mg/kg	3.9E-13	mg/kg-day	1.5E+05	(mg/kg-day)-1	5.9E-08	3.0E-12	mg/kg-day	NA	mg/kg-day	NA
			Exp. Route Total								7.9E-08					0.001
			Dermal Absorption	2-Methylnaphthalene	5.8E+01	mg/kg	3.1E-07	mg/kg-day	NA	NA	NA	2.3E-06	mg/kg-day	4.0E-03	mg/kg-day	0.0006
				Acenaphthene	4.3E+01	mg/kg	2.3E-07	mg/kg-day	NA	NA	NA	1.7E-06	mg/kg-day	6.0E-02	mg/kg-day	0.00003
				Acenaphthylene	8.3E-02	mg/kg	4.4E-10	mg/kg-day	NA	NA	NA	3.3E-09	mg/kg-day	6.0E-02	mg/kg-day	0.0000001
				Aluminum	1.2E+04	mg/kg	4.8E-07	mg/kg-day	NA	NA	NA	3.6E-06	mg/kg-day	1.0E+00	mg/kg-day	0.000004
				Anthracene	6.7E+00	mg/kg	3.5E-08	mg/kg-day	NA	NA	NA	2.7E-07	mg/kg-day	3.0E-01	mg/kg-day	0.000001
				Arsenic	6.3E+00	mg/kg	7.7E-09	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.2E-08	5.8E-08	mg/kg-day	3.0E-04	mg/kg-day	0.0002
				Benzo(a)anthracene	3.0E+00	mg/kg	1.6E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.2E-08	1.2E-07	mg/kg-day	NA	NA	NA
				Benzo(a)pyrene	6.9E-01	mg/kg	3.6E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	2.7E-08	2.8E-08	mg/kg-day	NA	NA	NA
				Benzo(b)fluoranthene	4.6E+00	mg/kg	2.4E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.8E-08	1.8E-07	mg/kg-day	NA	NA	NA
				Benzo(b&k)fluoranthene	2.0E+00	mg/kg	1.1E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	7.8E-09	8.1E-08	mg/kg-day	NA	NA	NA
				Benzo(g,h,i)perylene	3.3E-01	mg/kg	1.8E-09	mg/kg-day	NA	NA	NA	1.3E-08	mg/kg-day	4.0E-02	mg/kg-day	0.0000003
				Benzo(k)fluoranthene	2.2E+00	mg/kg	1.2E-08	mg/kg-day	7.3E-02	(mg/kg-day)-1	8.5E-10	8.8E-08	mg/kg-day	NA	NA	NA
				Carbazole	8.0E+00	mg/kg	4.3E-08	mg/kg-day	2.0E-02	(mg/kg-day)-1	8.5E-10	3.2E-07	mg/kg-day	NA	NA	NA
				Chrysene	3.4E+00	mg/kg	1.8E-08	mg/kg-day	7.3E-03	(mg/kg-day)-1	1.3E-10	1.4E-07	mg/kg-day	NA	NA	NA
				Dibenzo(a,h)anthracene	2.3E-01	mg/kg	1.2E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	8.9E-09	9.3E-09	mg/kg-day	NA	NA	NA
				Dibenzofuran	7.5E+01	mg/kg	3.1E-08	mg/kg-day	NA	NA	NA	2.3E-07	mg/kg-day	2.0E-03	mg/kg-day	0.0001
				Fluoranthene	2.0E+01	mg/kg	1.1E-07	mg/kg-day	NA	NA	NA	8.1E-07	mg/kg-day	4.0E-02	mg/kg-day	0.00002
				Fluorene	1.1E+02	mg/kg	5.8E-07	mg/kg-day	NA	NA	NA	4.4E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0001
				Indeno(1,2,3-cd)pyrene	2.7E-01	mg/kg	1.4E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.0E-09	1.1E-08	mg/kg-day	NA	NA	NA
				Iron	2.4E+04	mg/kg	9.9E-07	mg/kg-day	NA	NA	NA	7.5E-06	mg/kg-day	3.0E-01	mg/kg-day	0.00003
				Manganese	6.1E+02	mg/kg	2.5E-08	mg/kg-day	NA	NA	NA	1.9E-07	mg/kg-day	5.6E-03	mg/kg-day	0.00003
				Naphthalene	3.2E+01	mg/kg	1.7E-07	mg/kg-day	NA	NA	NA	1.3E-06	mg/kg-day	2.0E-02	mg/kg-day	0.00006
				Pentachlorophenol	1.4E+01	mg/kg	1.4E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.7E-08	1.0E-06	mg/kg-day	3.0E-02	mg/kg-day	0.00003
				Phenanthrene	5.2E+01	mg/kg	2.8E-07	mg/kg-day	NA	NA	NA	2.1E-06	mg/kg-day	4.0E-02	mg/kg-day	0.00005
				Vanadium	4.0E+01	mg/kg	1.6E-09	mg/kg-day	NA	NA	NA	1.2E-08	mg/kg-day	2.6E-05	mg/kg-day	0.0005
				Dioxin TEQ (mammalian)	4.8E-04	mg/kg	5.9E-13	mg/kg-day	1.5E+05	(mg/kg-day)-1	8.8E-08	4.4E-12	mg/kg-day	NA	NA	NA
			Exp. Route Total								1.9E-07					0.002
		Exposure Point Total									2.7E-07					0.003
	Exposure Medium Total										2.7E-07					0.003
Sediment Total											2.7E-07					0.003

TABLE 7.3a. RME TRESPASSER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (10 to 18 years)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		RME	Intake/Exposure Concentration		RfD		RME
							Value	Units	Value	Units	Cancer Risk	Value	Units	Value	Units	Hazard Quotient
Surface Water	Surface Water	CEDAR CREEK DOWNSTREAM	Dermal Absorption	2-Methylphenol	1.0E-06	mg/cm3	1.2E-08	mg/kg-day	NA	NA	NA	1.1E-07	mg/kg-day	5.0E-02	mg/kg-day	0.000002
				Aluminum	1.1E-03	mg/cm3	6.6E-07	mg/kg-day	NA	NA	NA	5.8E-06	mg/kg-day	1.0E+00	mg/kg-day	0.00001
				Iron	1.7E-03	mg/cm3	1.1E-06	mg/kg-day	NA	NA	NA	9.4E-06	mg/kg-day	3.0E-01	mg/kg-day	0.00003
				Isophorone	1.0E-06	mg/cm3	6.6E-09	mg/kg-day	9.5E-04	(mg/kg-day)-1	6.2E-12	5.7E-08	mg/kg-day	2.0E-01	mg/kg-day	0.0000003
				Mercury and compounds	1.4E-07	mg/cm3	8.8E-11	mg/kg-day	NA	NA	NA	7.7E-10	mg/kg-day	2.1E-05	mg/kg-day	0.00004
				Naphthalene	1.0E-06	mg/cm3	6.5E-08	mg/kg-day	NA	NA	NA	7.5E-07	mg/kg-day	2.0E-02	mg/kg-day	0.00004
				Pentachlorophenol	6.8E-05	mg/cm3	1.1E-04	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.3E-05	9.2E-04	mg/kg-day	3.0E-02	mg/kg-day	0.03
				Pyrene	3.0E-06	mg/cm3	2.9E-06	mg/kg-day	NA	NA	NA	2.5E-05	mg/kg-day	3.0E-02	mg/kg-day	0.0008
			Exp. Route Total								1.3E-05					0.03
		Exposure Point Total									1.3E-05					0.03
	Exposure Medium Total										1.3E-05					0.03
Surface Water Total											1.3E-05					0.03
										Total of Receptor Risks Across All Media	1.5E-05				Total of Receptor Hazards Across All Media	0.06

TABLE 7.3b. CTE TRESPASSER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (10 to 18 years)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		RME	Intake/Exposure Concentration		RfD		RME
							Value	Units	Value	Units	Cancer Risk	Value	Units	Value	Units	Hazard Quotient
Surface Water	Surface Water	CEDAR CREEK DOWNSTREAM	Dermal Absorption	2-Methylphenol	1.0E-06	mg/cm3	6.1E-09	mg/kg-day	NA	NA	NA	5.4E-08	mg/kg-day	5.0E-02	mg/kg-day	0.000001
				Aluminum	1.1E-03	mg/cm3	3.3E-07	mg/kg-day	NA	NA	NA	2.9E-06	mg/kg-day	1.0E+00	mg/kg-day	0.000003
				Iron	1.7E-03	mg/cm3	5.3E-07	mg/kg-day	NA	NA	NA	4.7E-06	mg/kg-day	3.0E-01	mg/kg-day	0.00002
				Isophorone	1.0E-06	mg/cm3	3.3E-09	mg/kg-day	9.5E-04	(mg/kg-day)-1	3.1E-12	2.9E-08	mg/kg-day	2.0E-01	mg/kg-day	0.0000001
				Mercury and compounds	1.4E-07	mg/cm3	4.4E-11	mg/kg-day	NA	NA	NA	3.9E-10	mg/kg-day	2.1E-05	mg/kg-day	0.00002
				Naphthalene	1.0E-06	mg/cm3	4.3E-08	mg/kg-day	NA	NA	NA	3.7E-07	mg/kg-day	2.0E-02	mg/kg-day	0.00002
				Pentachlorophenol	6.8E-05	mg/cm3	5.3E-05	mg/kg-day	1.2E-01	(mg/kg-day)-1	6.3E-06	4.6E-04	mg/kg-day	3.0E-02	mg/kg-day	0.02
				Pyrene	3.0E-06	mg/cm3	1.4E-06	mg/kg-day	NA	NA	NA	1.3E-05	mg/kg-day	3.0E-02	mg/kg-day	0.0004
			Exp. Route Total								6.3E-06					0.02
		Exposure Point Total									6.3E-06					0.02
	Exposure Medium Total										6.3E-06					0.02
Surface Water Total											6.3E-06					0.02
										Total of Receptor Risks Across All Media	7.4E-06				Total of Receptor Hazards Across All Media	0.03

TABLE 7.4a. RME HUNTER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		RME	Intake/Exposure Concentration		RfD		RME
							Value	Units	Value	Units	Cancer Risk	Value	Units	Value	Units	Hazard Quotient
Surface Water	Surface Water	CEDAR CREEK DOWNSTREAM	Dermal Absorption	2-Methylphenol	1.0E-06	mg/cm3	9.6E-09	mg/kg-day	NA	NA	NA	2.2E-08	mg/kg-day	5.0E-02	mg/kg-day	0.0000004
				Aluminum	1.1E-03	mg/cm3	5.2E-07	mg/kg-day	NA	NA	NA	1.2E-06	mg/kg-day	1.0E+00	mg/kg-day	0.000001
				Iron	1.7E-03	mg/cm3	8.4E-07	mg/kg-day	NA	NA	NA	1.9E-06	mg/kg-day	3.0E-01	mg/kg-day	0.00001
				Isophorone	1.0E-06	mg/cm3	5.1E-09	mg/kg-day	9.5E-04	(mg/kg-day)-1	4.9E-12	1.2E-08	mg/kg-day	2.0E-01	mg/kg-day	0.0000001
				Mercury and compounds	1.4E-07	mg/cm3	6.9E-11	mg/kg-day	NA	NA	NA	1.6E-10	mg/kg-day	2.1E-05	mg/kg-day	0.00001
				Naphthalene	1.0E-06	mg/cm3	6.7E-08	mg/kg-day	NA	NA	NA	1.5E-07	mg/kg-day	2.0E-02	mg/kg-day	0.00001
				Pentachlorophenol	6.8E-05	mg/cm3	8.3E-05	mg/kg-day	1.2E-01	(mg/kg-day)-1	9.9E-06	1.9E-04	mg/kg-day	3.0E-02	mg/kg-day	0.006
				Pyrene	3.0E-06	mg/cm3	2.3E-06	mg/kg-day	NA	NA	NA	5.2E-06	mg/kg-day	3.0E-02	mg/kg-day	0.0002
			Exp. Route Total								9.9E-06					0.006
		Exposure Point Total									9.9E-06					0.006
	Exposure Medium Total										9.9E-06					0.006
Surface Water Total											9.9E-06					0.006

TABLE 7.4b. CTE HUNTER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		RME	Intake/Exposure Concentration		RfD		RME
							Value	Units	Value	Units	Cancer Risk	Value	Units	Value	Units	Hazard Quotient
Surface Water	Surface Water	CEDAR CREEK DOWNSTREAM	Dermal Absorption	2-Methylphenol	1.0E-06	mg/cm3	1.3E-09	mg/kg-day	NA	NA	NA	1.0E-08	mg/kg-day	5.0E-02	mg/kg-day	0.0000002
				Aluminum	1.1E-03	mg/cm3	7.2E-08	mg/kg-day	NA	NA	NA	5.5E-07	mg/kg-day	1.0E+00	mg/kg-day	0.000001
				Iron	1.7E-03	mg/cm3	1.2E-07	mg/kg-day	NA	NA	NA	8.9E-07	mg/kg-day	3.0E-01	mg/kg-day	0.000003
				Isophorone	1.0E-06	mg/cm3	7.2E-10	mg/kg-day	9.5E-04	(mg/kg-day)-1	6.8E-13	5.4E-09	mg/kg-day	2.0E-01	mg/kg-day	0.00000003
				Mercury and compounds	1.4E-07	mg/cm3	9.6E-12	mg/kg-day	NA	NA	NA	7.3E-11	mg/kg-day	2.1E-05	mg/kg-day	0.000003
				Naphthalene	1.0E-06	mg/cm3	9.3E-09	mg/kg-day	NA	NA	NA	7.1E-08	mg/kg-day	2.0E-02	mg/kg-day	0.000004
				Pentachlorophenol	6.8E-05	mg/cm3	1.2E-05	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.4E-06	8.7E-05	mg/kg-day	3.0E-02	mg/kg-day	0.003
				Pyrene	3.0E-06	mg/cm3	3.2E-07	mg/kg-day	NA	NA	NA	2.4E-06	mg/kg-day	3.0E-02	mg/kg-day	0.00008
			Exp. Route Total								1.4E-06					0.003
		Exposure Point Total									1.4E-06					0.003
	Exposure Medium Total										1.4E-06					0.003
Surface Water Total											1.4E-06					0.003

TABLE 7.5a.RME HUNTER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		RME	Intake/Exposure Concentration		RfD		RME
							Value	Units	Value	Units	Cancer Risk	Value	Units	Value	Units	Hazard Quotient
Wild Game	Wild Game	CEDAR CREEK DOWNSTREAM	Ingestion	2-Methylnaphthalene	5.7E-06	mg/kg	3.3E-10	mg/kg-day	NA	NA	NA	7.5E-10	mg/kg-day	4.0E-03	mg/kg-day	0.0000002
				Acenaphthene	1.8E-06	mg/kg	1.0E-10	mg/kg-day	NA	NA	NA	2.4E-10	mg/kg-day	6.0E-02	mg/kg-day	0.000000004
				Acenaphthylene	8.3E-09	mg/kg	4.8E-13	mg/kg-day	NA	NA	NA	1.1E-12	mg/kg-day	6.0E-02	mg/kg-day	1.8E-11
				Aluminum	4.6E-07	mg/kg	2.6E-11	mg/kg-day	NA	NA	NA	6.0E-11	mg/kg-day	1.0E+00	mg/kg-day	0.0000000001
				Anthracene	6.5E-07	mg/kg	3.7E-11	mg/kg-day	NA	NA	NA	8.5E-11	mg/kg-day	3.0E-01	mg/kg-day	0.0000000003
				Arsenic	1.2E-02	mg/kg	6.9E-07	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.0E-06	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	0.005
				Benzo(a)anthracene	1.4E-07	mg/kg	7.8E-12	mg/kg-day	7.3E-01	(mg/kg-day)-1	5.7E-12	1.8E-11	mg/kg-day	NA	mg/kg-day	NA
				Benzo(a)pyrene	1.4E-08	mg/kg	8.1E-13	mg/kg-day	7.3E+00	(mg/kg-day)-1	5.9E-12	1.8E-12	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b)fluoranthene	1.2E-07	mg/kg	7.0E-12	mg/kg-day	7.3E-01	(mg/kg-day)-1	5.1E-12	1.6E-11	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b&k)fluoranthene	NA	mg/kg	NA	mg/kg-day	7.3E-01	(mg/kg-day)-1	NA	NA	mg/kg-day	NA	mg/kg-day	NA
				Benzo(g,h,i)perylene	5.1E-09	mg/kg	2.9E-13	mg/kg-day	NA	NA	NA	6.7E-13	mg/kg-day	4.0E-02	mg/kg-day	1.7E-11
				Benzo(k)fluoranthene	4.9E-08	mg/kg	2.8E-12	mg/kg-day	7.3E-02	(mg/kg-day)-1	2.1E-13	6.5E-12	mg/kg-day	NA	mg/kg-day	NA
				Carbazole	7.7E-07	mg/kg	4.4E-11	mg/kg-day	2.0E-02	(mg/kg-day)-1	8.8E-13	1.0E-10	mg/kg-day	NA	mg/kg-day	NA
				Chrysene	1.5E-07	mg/kg	8.4E-12	mg/kg-day	7.3E-03	(mg/kg-day)-1	6.1E-14	1.9E-11	mg/kg-day	NA	mg/kg-day	NA
				Dibenzo(a,h)anthracene	4.0E-09	mg/kg	2.3E-13	mg/kg-day	7.3E+00	(mg/kg-day)-1	1.7E-12	5.2E-13	mg/kg-day	NA	mg/kg-day	NA
				Dibenzofuran	7.6E-06	mg/kg	4.3E-10	mg/kg-day	NA	NA	NA	9.9E-10	mg/kg-day	2.0E-03	mg/kg-day	0.0000005
				Fluoranthene	8.8E-07	mg/kg	5.1E-11	mg/kg-day	NA	NA	NA	1.1E-10	mg/kg-day	4.0E-02	mg/kg-day	0.000000003
				Fluorene	1.1E-05	mg/kg	6.4E-10	mg/kg-day	NA	NA	NA	1.5E-09	mg/kg-day	4.0E-02	mg/kg-day	0.00000004
				Indeno(1,2,3-cd)pyrene	3.5E-09	mg/kg	2.0E-13	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.5E-13	4.6E-13	mg/kg-day	NA	mg/kg-day	NA
				Iron	2.1E-04	mg/kg	1.2E-08	mg/kg-day	NA	NA	NA	2.7E-08	mg/kg-day	3.0E-01	mg/kg-day	0.0000001
				Manganese	7.6E-08	mg/kg	1.7E-13	mg/kg-day	NA	NA	NA	4.0E-13	mg/kg-day	1.4E-01	mg/kg-day	2.8E-12
				Naphthalene	2.5E-06	mg/kg	1.4E-10	mg/kg-day	NA	NA	NA	3.2E-10	mg/kg-day	2.0E-02	mg/kg-day	0.00000002
				Pentachlorophenol	5.2E-07	mg/kg	3.0E-11	mg/kg-day	1.2E-01	(mg/kg-day)-1	3.6E-12	6.9E-11	mg/kg-day	3.0E-02	mg/kg-day	0.000000002
				Phenanthrene	5.0E-06	mg/kg	2.9E-10	mg/kg-day	NA	NA	NA	6.6E-10	mg/kg-day	4.0E-02	mg/kg-day	0.00000002
				Vanadium	4.5E-09	mg/kg	6.7E-15	mg/kg-day	NA	NA	NA	1.5E-14	mg/kg-day	1.0E-03	mg/kg-day	1.5E-11
				Dioxin TEQ (mammalian)	2.5E-09	mg/kg	1.4E-13	mg/kg-day	1.5E+05	(mg/kg-day)-1	2.2E-08	3.3E-13	mg/kg-day	NA	mg/kg-day	NA
			Exp. Route Total								1.1E-06					0.005
		Exposure Point Total									1.1E-06					0.005
	Exposure Medium Total										1.1E-06					0.005
Wild Game Total											1.1E-06					0.005
										Total of Receptor Risks Across All Media	1.3E-05				Total of Receptor Hazards Across All Media	0.02

TABLE 7.5b.CTE HUNTER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		CTE	Intake/Exposure Concentration		RfD		CTE
							Value	Units	Value	Units	Risk	Value	Units	Value	Units	Hazard Quotient
Wild Game	Wild Game	CEDAR CREEK DOWNSTREAM	Ingestion	2-Methylnaphthalene	5.7E-06	mg/kg	9.9E-11	mg/kg-day	NA	NA	NA	7.5E-10	mg/kg-day	4.0E-03	mg/kg-day	0.0000002
				Acenaphthene	1.8E-06	mg/kg	3.1E-11	mg/kg-day	NA	NA	NA	2.4E-10	mg/kg-day	6.0E-02	mg/kg-day	0.000000004
				Acenaphthylene	8.3E-09	mg/kg	1.4E-13	mg/kg-day	NA	NA	NA	1.1E-12	mg/kg-day	6.0E-02	mg/kg-day	1.8E-11
				Aluminum	4.6E-07	mg/kg	7.9E-12	mg/kg-day	NA	NA	NA	6.0E-11	mg/kg-day	1.0E+00	mg/kg-day	0.0000000001
				Anthracene	6.5E-07	mg/kg	1.1E-11	mg/kg-day	NA	NA	NA	8.5E-11	mg/kg-day	3.0E-01	mg/kg-day	0.0000000003
				Arsenic	1.2E-02	mg/kg	2.1E-07	mg/kg-day	1.5E+00	(mg/kg-day)-1	3.1E-07	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	0.005
				Benzo(a)anthracene	1.4E-07	mg/kg	2.3E-12	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.7E-12	1.8E-11	mg/kg-day	NA	mg/kg-day	NA
				Benzo(a)pyrene	1.4E-08	mg/kg	2.4E-13	mg/kg-day	7.3E+00	(mg/kg-day)-1	1.8E-12	1.8E-12	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b)fluoranthene	1.2E-07	mg/kg	2.1E-12	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.5E-12	1.6E-11	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b&k)fluoranthene	NA	mg/kg	NA	mg/kg-day	7.3E-01	(mg/kg-day)-1	NA	NA	mg/kg-day	NA	mg/kg-day	NA
				Benzo(g,h,i)perylene	5.1E-09	mg/kg	8.8E-14	mg/kg-day	NA	NA	NA	6.7E-13	mg/kg-day	4.0E-02	mg/kg-day	1.7E-11
				Benzo(k)fluoranthene	4.9E-08	mg/kg	8.5E-13	mg/kg-day	7.3E-02	(mg/kg-day)-1	6.2E-14	6.5E-12	mg/kg-day	NA	mg/kg-day	NA
				Carbazole	7.7E-07	mg/kg	1.3E-11	mg/kg-day	2.0E-02	(mg/kg-day)-1	2.7E-13	1.0E-10	mg/kg-day	NA	mg/kg-day	NA
				Chrysene	1.5E-07	mg/kg	2.5E-12	mg/kg-day	7.3E-03	(mg/kg-day)-1	1.8E-14	1.9E-11	mg/kg-day	NA	mg/kg-day	NA
				Dibenzo(a,h)anthracene	4.0E-09	mg/kg	6.9E-14	mg/kg-day	7.3E+00	(mg/kg-day)-1	5.0E-13	5.2E-13	mg/kg-day	NA	mg/kg-day	NA
				Dibenzofuran	7.6E-08	mg/kg	1.3E-10	mg/kg-day	NA	NA	NA	9.9E-10	mg/kg-day	2.0E-03	mg/kg-day	0.0000005
				Fluoranthene	8.8E-07	mg/kg	1.5E-11	mg/kg-day	NA	NA	NA	1.1E-10	mg/kg-day	4.0E-02	mg/kg-day	0.000000003
				Fluorene	1.1E-05	mg/kg	1.9E-10	mg/kg-day	NA	NA	NA	1.5E-09	mg/kg-day	4.0E-02	mg/kg-day	0.00000004
				Indeno(1,2,3-cd)pyrene	3.5E-09	mg/kg	6.0E-14	mg/kg-day	7.3E-01	(mg/kg-day)-1	4.4E-14	4.6E-13	mg/kg-day	NA	mg/kg-day	NA
				Iron	2.1E-04	mg/kg	3.6E-09	mg/kg-day	NA	NA	NA	2.7E-08	mg/kg-day	3.0E-01	mg/kg-day	0.00000009
				Manganese	7.6E-08	mg/kg	5.2E-14	mg/kg-day	NA	NA	NA	4.0E-13	mg/kg-day	1.4E-01	mg/kg-day	2.8E-12
				Naphthalene	2.5E-06	mg/kg	4.3E-11	mg/kg-day	NA	NA	NA	3.2E-10	mg/kg-day	2.0E-02	mg/kg-day	0.00000002
				Pentachlorophenol	5.2E-07	mg/kg	9.1E-12	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.1E-12	6.9E-11	mg/kg-day	3.0E-02	mg/kg-day	0.000000002
				Phenanthrene	5.0E-06	mg/kg	8.7E-11	mg/kg-day	NA	NA	NA	6.6E-10	mg/kg-day	4.0E-02	mg/kg-day	0.00000002
				Vanadium	4.5E-09	mg/kg	2.0E-15	mg/kg-day	NA	NA	NA	1.5E-14	mg/kg-day	1.0E-03	mg/kg-day	1.5E-11
				Dioxin TEQ (mammalian)	2.5E-09	mg/kg	4.3E-14	mg/kg-day	1.5E+05	(mg/kg-day)-1	6.5E-09	3.3E-13	mg/kg-day	NA	mg/kg-day	NA
			Exp. Route Total								3.2E-07					0.005
		Exposure Point Total									3.2E-07					0.005
	Exposure Medium Total										3.2E-07					0.005
Wild Game Total											3.2E-07					0.005
										Total of Receptor Risks Across All Media	2.0E-06				Total of Receptor Hazards Across All Media	0.011

TABLE 9.1a RME TRESPASSER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (10 to 18 years)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Cedar Creek Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	8.7E-04	NA	6.2E-03	0.007
			Acenaphthene	NA	NA	NA	NA	NC	liver	4.4E-05	NA	3.1E-04	0.0004
			Acenaphthylene	NA	NA	NA	NA	NC	liver	8.3E-08	NA	5.9E-07	0.000001
			Aluminum	NA	NA	NA	NA	NC	NA	7.0E-04	NA	3.8E-05	0.0007
			Anthracene	NA	NA	NA	NA	NC	no observed effects	1.3E-06	NA	9.5E-06	0.00001
			Arsenic	6.5E-08	NA	1.1E-07	NA	2.E-07	skin/vascular	1.3E-03	NA	2.0E-03	0.003
			Benzo(a)anthracene	1.5E-08	NA	1.1E-07	NA	1.E-07	NA	NA	NA	NA	NA
			Benzo(a)pyrene	3.5E-08	NA	2.4E-07	NA	3.E-07	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	2.3E-08	NA	1.6E-07	NA	2.E-07	NA	NA	NA	NA	NA
			Benzo(b&k)fluoranthene	1.0E-08	NA	7.2E-08	NA	8.E-08	NA	NA	NA	NA	NA
			Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	5.0E-07	NA	3.5E-06	0.000004
			Benzo(k)fluoranthene	1.1E-09	NA	7.8E-09	NA	9.E-09	NA	NA	NA	NA	NA
			Carbazole	1.1E-09	NA	7.8E-09	NA	9.E-09	NA	NA	NA	NA	NA
			Chrysene	1.7E-10	NA	1.2E-09	NA	1.E-09	NA	NA	NA	NA	NA
			Dibenzo(a,h)anthracene	1.2E-08	NA	8.2E-08	NA	9.E-08	NA	NA	NA	NA	NA
			Dibenzofuran	NA	NA	NA	NA	NC	NA	2.3E-03	NA	1.2E-03	0.003
			Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	3.0E-05	NA	2.1E-04	0.0002
			Fluorene	NA	NA	NA	NA	NC	blood	1.7E-04	NA	1.2E-03	0.001
			Indeno(1,2,3-cd)pyrene	1.3E-09	NA	9.4E-09	NA	1.E-08	NA	NA	NA	NA	NA
			Iron	NA	NA	NA	NA	NC	NA	4.9E-03	NA	2.7E-04	0.005
			Manganese	NA	NA	NA	NA	NC	central nervous system	1.0E-05	NA	3.5E-04	0.0004
			Naphthalene	NA	NA	NA	NA	NC	body weight	9.5E-05	NA	6.7E-04	0.001
			Pentachlorophenol	1.1E-08	NA	1.5E-07	NA	2.E-07	liver/kidneys	2.7E-05	NA	3.7E-04	0.0004
			Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	7.8E-05	NA	5.5E-04	0.001
			Vanadium	NA	NA	NA	NA	NC	NA	6.2E-05	NA	5.0E-03	0.005
			Dioxin TEQ (mammalian)	4.9E-07	NA	8.0E-07	NA	1.E-06	NA	NA	NA	NA	NA
			Chemical Total	6.7E-07	–	1.8E-06	–	2.E-06		1.1E-02	–	1.8E-02	0.03
		Exposure Point Total						2.E-06					0.03
	Exposure Medium Total							2.E-06					0.03
Sediment Total								2.E-06					0.03

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

TABLE 9.1a RME TRESPASSER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (10 to 18 years)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	Cedar Creek Downstream	2-Methylphenol	NA	NA	NA	NA	NC	body weight; neurotoxicity	NA	NA	2.1E-06	0.000002
			Aluminum	NA	NA	NA	NA	NC	NA	NA	NA	5.8E-06	0.00001
			Iron	NA	NA	NA	NA	NC	NA	NA	NA	3.1E-05	0.00003
			Isophorone	NA	NA	6.2E-12	NA	6.E-12	no observed effects	NA	NA	2.9E-07	0.0000003
			Mercury and compounds	NA	NA	NA	NA	NC	autoimmune effects	NA	NA	3.7E-05	0.00004
			Naphthalene	NA	NA	NA	NA	NC	body weight	NA	NA	3.7E-05	0.00004
			Pentachlorophenol	NA	NA	1.3E-05	NA	1.E-05	liver/kidneys	NA	NA	3.1E-02	0.03
			Pyrene	NA	NA	NA	NA	NC	neurological dysfunction	NA	NA	8.4E-04	0.0008
			Chemical Total	0.0E+00	--	1.3E-05	--	1.E-05		0.0E+00	--	3.2E-02	0.03
		Exposure Point Total						1.E-05					0.03
	Exposure Medium Total							1.E-05					0.03
Surface Water Total								1.E-05					0.03
Receptor Total								2.E-05					0.06

Total Risk Across All Media = 2.E-05

Total Hazard Across All Media = 0.06
Total Liver/Kidneys HI Across All Media = 0.04
Total Body Weight HI Across All Media = 0.0008
Total Neurological HI Across All Media = 0.001
Total Skin/Vascular HI Across All Media = 0.005
Total Autoimmune HI Across All Media = 0.00004

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

TABLE 9.1b CTE TRESPASSER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (10 to 18 years)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Cedar Creek Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	2.2E-04	NA	3.1E-03	0.003
			Acenaphthene	NA	NA	NA	NA	NC	liver	1.1E-05	NA	1.5E-04	0.0002
			Acenaphthylene	NA	NA	NA	NA	NC	liver	2.1E-08	NA	2.9E-07	0.0000003
			Aluminum	NA	NA	NA	NA	NC	NA	1.8E-04	NA	1.9E-05	0.0002
			Anthracene	NA	NA	NA	NA	NC	no observed effects	3.4E-07	NA	4.7E-06	0.00001
			Arsenic	1.6E-08	NA	5.3E-08	NA	7.E-08	skin/vascular	3.2E-04	NA	1.0E-03	0.001
			Benzo(a)anthracene	3.8E-09	NA	5.3E-08	NA	6.E-08	NA	NA	NA	NA	NA
			Benzo(a)pyrene	8.6E-09	NA	1.2E-07	NA	1.E-07	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	5.8E-09	NA	8.1E-08	NA	9.E-08	NA	NA	NA	NA	NA
			Benzo(b&k)fluoranthene	2.5E-09	NA	3.6E-08	NA	4.E-08	NA	NA	NA	NA	NA
			Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	1.3E-07	NA	1.8E-06	0.000002
			Benzo(k)fluoranthene	2.8E-10	NA	3.9E-09	NA	4.E-09	NA	NA	NA	NA	NA
			Carbazole	2.8E-10	NA	3.9E-09	NA	4.E-09	NA	NA	NA	NA	NA
			Chrysene	4.3E-11	NA	6.1E-10	NA	6.E-10	NA	NA	NA	NA	NA
			Dibenzo(a,h)anthracene	2.9E-09	NA	4.1E-08	NA	4.E-08	NA	NA	NA	NA	NA
			Dibenzofuran	NA	NA	NA	NA	NC	NA	5.6E-04	NA	6.1E-04	0.001
			Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	7.6E-06	NA	1.1E-04	0.0001
			Fluorene	NA	NA	NA	NA	NC	blood	4.1E-05	NA	5.8E-04	0.001
			Indeno(1,2,3-cd)pyrene	3.3E-10	NA	4.7E-09	NA	5.E-09	NA	NA	NA	NA	NA
			Iron	NA	NA	NA	NA	NC	NA	1.2E-03	NA	1.3E-04	0.001
			Manganese	NA	NA	NA	NA	NC	central nervous system	2.6E-06	NA	1.8E-04	0.0002
			Naphthalene	NA	NA	NA	NA	NC	body weight	2.4E-05	NA	3.4E-04	0.0004
			Pentachlorophenol	2.8E-09	NA	7.6E-08	NA	8.E-08	liver/kidneys	6.8E-06	NA	1.8E-04	0.0002
			Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	2.0E-05	NA	2.8E-04	0.0003
			Vanadium	NA	NA	NA	NA	NC	NA	1.6E-05	NA	2.5E-03	0.003
			Dioxin TEQ (mammalian)	1.2E-07	NA	4.0E-07	NA	5.E-07	NA	NA	NA	NA	NA
			Chemical Total	1.7E-07	–	8.8E-07	–	1.E-06		2.6E-03	–	9.2E-03	0.01
		Exposure Point Total						1.E-06					0.01
	Exposure Medium Total							1.E-06					0.01
Sediment Total								1.E-06					0.01

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

TABLE 9.1b CTE TRESPASSER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (10 to 18 years)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	Cedar Creek Downstream	2-Methylphenol	NA	NA	NA	NA	NC	body weight; neurotoxicity	NA	NA	1.1E-06	0.000001
			Aluminum	NA	NA	NA	NA	NC	NA	NA	NA	2.9E-06	0.000003
			Iron	NA	NA	NA	NA	NC	NA	NA	NA	1.6E-05	0.00002
			Isophorone	NA	NA	3.1E-12	NA	3.E-12	no observed effects	NA	NA	1.4E-07	0.0000001
			Mercury and compounds	NA	NA	NA	NA	NC	autoimmune effects	NA	NA	1.8E-05	0.00002
			Naphthalene	NA	NA	NA	NA	NC	body weight	NA	NA	1.9E-05	0.00002
			Pentachlorophenol	NA	NA	6.3E-06	NA	6.E-06	liver/kidneys	NA	NA	1.5E-02	0.02
			Pyrene	NA	NA	NA	NA	NC	neurological dysfunction	NA	NA	4.2E-04	0.0004
			Chemical Total	0.0E+00	--	6.3E-06	--	6.E-06		0.0E+00	--	1.6E-02	0.02
		Exposure Point Total						6.E-06					0.02
	Exposure Medium Total							6.E-06					0.02
Surface Water Total								6.E-06					0.02
Receptor Total								7.E-06					0.03

Total Risk Across All Media = 7.E-06

Total Hazard Across All Media = 0.03
Total Liver/Kidneys HI Across All Media = 0.02
Total Body Weight HI Across All Media = 0.0004
Total Neurological HI Across All Media = 0.0006
Total Skin/Vascular HI Across All Media = 0.002
Total Autoimmune HI Across All Media = 0.00002

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

TABLE 9.2a RME HUNTER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Cedar Creek Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	3.9E-04	NA	1.3E-03	0.002
			Acenaphthene	NA	NA	NA	NA	NC	liver	1.9E-05	NA	6.3E-05	0.0001
			Acenaphthylene	NA	NA	NA	NA	NC	liver	3.7E-08	NA	1.2E-07	0.0000002
			Aluminum	NA	NA	NA	NA	NC	NA	3.1E-04	NA	7.8E-06	0.0003
			Anthracene	NA	NA	NA	NA	NC	no observed effects	6.0E-07	NA	1.9E-06	0.000003
			Arsenic	1.1E-07	NA	8.3E-08	NA	2.E-07	skin/vascular	5.6E-04	NA	4.2E-04	0.001
			Benzo(a)anthracene	2.6E-08	NA	8.4E-08	NA	1.E-07	NA	NA	NA	NA	NA
			Benzo(a)pyrene	5.9E-08	NA	1.9E-07	NA	2.E-07	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	3.9E-08	NA	1.3E-07	NA	2.E-07	NA	NA	NA	NA	NA
			Benzo(b&k)fluoranthene	1.7E-08	NA	5.6E-08	NA	7.E-08	NA	NA	NA	NA	NA
			Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	2.2E-07	NA	7.2E-07	0.000001
			Benzo(k)fluoranthene	1.9E-09	NA	6.1E-09	NA	8.E-09	NA	NA	NA	NA	NA
			Carbazole	1.9E-09	NA	6.1E-09	NA	8.E-09	NA	NA	NA	NA	NA
			Chrysene	2.9E-10	NA	9.5E-10	NA	1.E-09	NA	NA	NA	NA	NA
			Dibenzo(a,h)anthracene	2.0E-08	NA	6.4E-08	NA	8.E-08	NA	NA	NA	NA	NA
			Dibenzofuran	NA	NA	NA	NA	NC	NA	1.0E-03	NA	2.5E-04	0.001
			Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	1.3E-05	NA	4.3E-05	0.0001
			Fluorene	NA	NA	NA	NA	NC	blood	7.3E-05	NA	2.4E-04	0.0003
			Indeno(1,2,3-cd)pyrene	2.3E-09	NA	7.4E-09	NA	1.E-08	NA	NA	NA	NA	NA
			Iron	NA	NA	NA	NA	NC	NA	2.2E-03	NA	5.4E-05	0.002
			Manganese	NA	NA	NA	NA	NC	central nervous system	4.6E-06	NA	7.2E-05	0.0001
			Naphthalene	NA	NA	NA	NA	NC	body weight	4.2E-05	NA	1.4E-04	0.0002
			Pentachlorophenol	1.9E-08	NA	1.2E-07	NA	1.E-07	liver/kidneys	1.2E-05	NA	7.5E-05	0.0001
			Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	3.5E-05	NA	1.1E-04	0.0001
			Vanadium	NA	NA	NA	NA	NC	NA	2.8E-05	NA	1.0E-03	0.001
			Dioxin TEQ (mammalian)	8.4E-07	NA	6.3E-07	NA	1.E-06	NA	NA	NA	NA	NA
			Chemical Total	1.1E-06	--	1.4E-06	--	3.E-06		4.7E-03	--	3.7E-03	0.008
		Exposure Point Total						3.E-06					0.008
	Exposure Medium Total							3.E-06					0.008
Sediment Total								3.E-06					0.008

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

TABLE 9.2a RME HUNTER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Wild Game	Wild Game	Cedar Creek Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	1.9E-07	NA	NA	0.0000002
			Acenaphthene	NA	NA	NA	NA	NC	liver	3.9E-09	NA	NA	0.000000004
			Acenaphthylene	NA	NA	NA	NA	NC	liver	1.8E-11	NA	NA	2.E-11
			Aluminum	NA	NA	NA	NA	NC	NA	6.0E-11	NA	NA	0.0000000001
			Anthracene	NA	NA	NA	NA	NC	no observed effects	2.8E-10	NA	NA	0.0000000003
			Arsenic	1.0E-06	NA	NA	NA	1.E-06	skin/vascular	5.2E-03	NA	NA	0.005
			Benzo(a)anthracene	5.7E-12	NA	NA	NA	6.E-12	NA	NA	NA	NA	NA
			Benzo(a)pyrene	5.9E-12	NA	NA	NA	6.E-12	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	5.1E-12	NA	NA	NA	5.E-12	NA	NA	NA	NA	NA
			Benzo(b&k)fluoranthene	NA	NA	NA	NA	NC	NA	NA	NA	NA	NA
			Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	1.7E-11	NA	NA	0.00000000002
			Benzo(k)fluoranthene	2.1E-13	NA	NA	NA	2.E-13	NA	NA	NA	NA	NA
			Carbazole	8.8E-13	NA	NA	NA	9.E-13	NA	NA	NA	NA	NA
			Chrysene	6.1E-14	NA	NA	NA	6.E-14	NA	NA	NA	NA	NA
			Dibenzo(a,h)anthracene	1.7E-12	NA	NA	NA	2.E-12	NA	NA	NA	NA	NA
			Dibenzofuran	NA	NA	NA	NA	NC	NA	4.9E-07	NA	NA	0.0000005
			Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	2.9E-09	NA	NA	0.000000003
			Fluorene	NA	NA	NA	NA	NC	blood	3.6E-08	NA	NA	0.00000004
			Indeno(1,2,3-cd)pyrene	1.5E-13	NA	NA	NA	1.E-13	NA	NA	NA	NA	NA
			Iron	NA	NA	NA	NA	NC	NA	9.1E-08	NA	NA	0.00000009
			Manganese	NA	NA	NA	NA	NC	central nervous system	2.8E-12	NA	NA	3.E-12
			Naphthalene	NA	NA	NA	NA	NC	body weight	1.6E-08	NA	NA	0.00000002
			Pentachlorophenol	3.6E-12	NA	NA	NA	4.E-12	liver/kidneys	2.3E-09	NA	NA	0.000000002
			Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	1.6E-08	NA	NA	0.00000002
			Vanadium	NA	NA	NA	NA	NC	NA	1.5E-11	NA	NA	0.00000000002
			Dioxin TEQ (mammalian)	2.2E-08	NA	NA	NA	2.E-08	NA	NA	NA	NA	NA
			Chemical Total	1.1E-06	–	0.0E+00	–	1.E-06		5.2E-03	–	0.0E+00	0.005
		Exposure Point Total						1.E-06					0.005
	Exposure Medium Total							1.E-06					0.005
Wild Game Total								1.E-06					0.005

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

TABLE 9.2a RME HUNTER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	Cedar Creek Downstream	2-Methylphenol	NA	NA	NA	NA	NC	body weight; neurotoxicity	NA	NA	4.4E-07	0.0000004
			Aluminum	NA	NA	NA	NA	NC	NA	NA	NA	1.2E-06	0.000001
			Iron	NA	NA	NA	NA	NC	NA	NA	NA	6.4E-06	0.000006
			Isophorone	NA	NA	4.9E-12	NA	5.E-12	no observed effects	NA	NA	5.9E-08	0.0000001
			Mercury and compounds	NA	NA	NA	NA	NC	autoimmune effects	NA	NA	7.5E-06	0.000007
			Naphthalene	NA	NA	NA	NA	NC	body weight	NA	NA	7.6E-06	0.000008
			Pentachlorophenol	NA	NA	9.9E-06	NA	1.E-05	liver/kidneys	NA	NA	6.3E-03	0.006
			Pyrene	NA	NA	NA	NA	NC	neurological dysfunction	NA	NA	1.7E-04	0.0002
			Chemical Total	0.0E+00	--	9.9E-06	--	1.E-05		0.0E+00	--	6.5E-03	0.006
		Exposure Point Total						1.E-05					0.006
	Exposure Medium Total							1.E-05					0.006
Surface Water Total								1.E-05					0.006
Receptor Total								1.E-05					0.02

Total Risk Across All Media = 1.E-05

Total Hazard Across All Media =	0.02
Total Liver/Kidneys HI Across All Media =	0.008
Total Body Weight HI Across All Media =	0.0002
Total Neurological HI Across All Media =	0.0002
Total Skin/Vascular HI Across All Media =	0.007
Total Autoimmune HI Across All Media =	0.00001

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

TABLE 9.2b CTE HUNTER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Cedar Creek Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	9.0E-05	NA	5.8E-04	0.0007
			Acenaphthene	NA	NA	NA	NA	NC	liver	4.5E-06	NA	2.9E-05	0.00003
			Acenaphthylene	NA	NA	NA	NA	NC	liver	8.6E-09	NA	5.6E-08	0.0000001
			Aluminum	NA	NA	NA	NA	NC	NA	7.2E-05	NA	3.6E-06	0.00008
			Anthracene	NA	NA	NA	NA	NC	no observed effects	1.4E-07	NA	9.0E-07	0.000001
			Arsenic	7.7E-09	NA	1.2E-08	NA	2.E-08	skin/vascular	1.3E-04	NA	1.9E-04	0.0003
			Benzo(a)anthracene	1.8E-09	NA	1.2E-08	NA	1.E-08	NA	NA	NA	NA	NA
			Benzo(a)pyrene	4.1E-09	NA	2.7E-08	NA	3.E-08	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	2.7E-09	NA	1.8E-08	NA	2.E-08	NA	NA	NA	NA	NA
			Benzo(b&k)fluoranthene	1.2E-09	NA	7.8E-09	NA	9.E-09	NA	NA	NA	NA	NA
			Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	5.2E-08	NA	3.4E-07	0.0000004
			Benzo(k)fluoranthene	1.3E-10	NA	8.5E-10	NA	1.E-09	NA	NA	NA	NA	NA
			Carbazole	1.3E-10	NA	8.5E-10	NA	1.E-09	NA	NA	NA	NA	NA
			Chrysene	2.0E-11	NA	1.3E-10	NA	2.E-10	NA	NA	NA	NA	NA
			Dibenzo(a,h)anthracene	1.4E-09	NA	8.9E-09	NA	1.E-08	NA	NA	NA	NA	NA
			Dibenzofuran	NA	NA	NA	NA	NC	NA	2.3E-04	NA	1.2E-04	0.0003
			Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	3.1E-06	NA	2.0E-05	0.00002
			Fluorene	NA	NA	NA	NA	NC	blood	1.7E-05	NA	1.1E-04	0.0001
			Indeno(1,2,3-cd)pyrene	1.6E-10	NA	1.0E-09	NA	1.E-09	NA	NA	NA	NA	NA
			Iron	NA	NA	NA	NA	NC	NA	5.0E-04	NA	2.5E-05	0.0005
			Manganese	NA	NA	NA	NA	NC	central nervous system	1.1E-06	NA	3.4E-05	0.00003
			Naphthalene	NA	NA	NA	NA	NC	body weight	9.8E-06	NA	6.3E-05	0.00007
			Pentachlorophenol	1.3E-09	NA	1.7E-08	NA	2.E-08	liver/kidneys	2.8E-06	NA	3.5E-05	0.00004
			Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	8.1E-06	NA	5.2E-05	0.00006
			Vanadium	NA	NA	NA	NA	NC	NA	6.4E-06	NA	4.7E-04	0.0005
			Dioxin TEQ (mammalian)	5.9E-08	NA	8.8E-08	NA	1.E-07	NA	NA	NA	NA	NA
			Chemical Total	7.9E-08	--	1.9E-07	--	3.E-07		1.1E-03	--	1.7E-03	0.003
		Exposure Point Total						3.E-07					0.003
	Exposure Medium Total							3.E-07					0.003
Sediment Total								3.E-07					0.003

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

TABLE 9.2b CTE HUNTER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Wild Game	Wild Game	Cedar Creek Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	1.9E-07	NA	NA	0.0000002
			Acenaphthene	NA	NA	NA	NA	NC	liver	3.9E-09	NA	NA	0.000000004
			Acenaphthylene	NA	NA	NA	NA	NC	liver	1.8E-11	NA	NA	0.00000000002
			Aluminum	NA	NA	NA	NA	NC	NA	6.0E-11	NA	NA	0.0000000001
			Anthracene	NA	NA	NA	NA	NC	no observed effects	2.8E-10	NA	NA	0.0000000003
			Arsenic	3.1E-07	NA	NA	NA	3.E-07	skin/vascular	5.2E-03	NA	NA	0.005
			Benzo(a)anthracene	1.7E-12	NA	NA	NA	2.E-12	NA	NA	NA	NA	NA
			Benzo(a)pyrene	1.8E-12	NA	NA	NA	2.E-12	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	1.5E-12	NA	NA	NA	2.E-12	NA	NA	NA	NA	NA
			Benzo(b&k)fluoranthene	NA	NA	NA	NA	NC	NA	NA	NA	NA	NA
			Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	1.7E-11	NA	NA	0.00000000002
			Benzo(k)fluoranthene	6.2E-14	NA	NA	NA	6.E-14	NA	NA	NA	NA	NA
			Carbazole	2.7E-13	NA	NA	NA	3.E-13	NA	NA	NA	NA	NA
			Chrysene	1.8E-14	NA	NA	NA	2.E-14	NA	NA	NA	NA	NA
			Dibenzo(a,h)anthracene	5.0E-13	NA	NA	NA	5.E-13	NA	NA	NA	NA	NA
			Dibenzofuran	NA	NA	NA	NA	NC	NA	4.9E-07	NA	NA	0.0000005
			Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	2.9E-09	NA	NA	0.000000003
			Fluorene	NA	NA	NA	NA	NC	blood	3.6E-08	NA	NA	0.00000004
			Indeno(1,2,3-cd)pyrene	4.4E-14	NA	NA	NA	4.E-14	NA	NA	NA	NA	NA
			Iron	NA	NA	NA	NA	NC	NA	9.1E-08	NA	NA	0.00000009
			Manganese	NA	NA	NA	NA	NC	central nervous system	2.8E-12	NA	NA	3.E-12
			Naphthalene	NA	NA	NA	NA	NC	body weight	1.6E-08	NA	NA	0.00000002
			Pentachlorophenol	1.1E-12	NA	NA	NA	1.E-12	liver/kidneys	2.3E-09	NA	NA	0.000000002
			Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	1.6E-08	NA	NA	0.00000002
			Vanadium	NA	NA	NA	NA	NC	NA	1.5E-11	NA	NA	0.00000000002
			Dioxin TEQ (mammalian)	6.5E-09	NA	NA	NA	6.E-09	NA	NA	NA	NA	NA
			Chemical Total	3.2E-07	–	0.0E+00	–	3.E-07		5.2E-03	–	0.0E+00	0.005
		Exposure Point Total						3.E-07					0.005
	Exposure Medium Total							3.E-07					0.005
Wild Game Total								3.E-07					0.005

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

TABLE 9.2b CTE HUNTER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
CEDAR CREEK

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	Cedar Creek Downstream	2-Methylphenol	NA	NA	NA	NA	NC	body weight; neurotoxicity	NA	NA	2.0E-07	0.0000002
			Aluminum	NA	NA	NA	NA	NC	NA	NA	NA	5.5E-07	0.000001
			Iron	NA	NA	NA	NA	NC	NA	NA	NA	3.0E-06	0.000003
			Isophorone	NA	NA	6.8E-13	NA	7.E-13	no observed effects	NA	NA	2.7E-08	0.00000003
			Mercury and compounds	NA	NA	NA	NA	NC	autoimmune effects	NA	NA	3.5E-06	0.000003
			Naphthalene	NA	NA	NA	NA	NC	body weight	NA	NA	3.5E-06	0.000004
			Pentachlorophenol	NA	NA	1.4E-06	NA	1.E-06	liver/kidneys	NA	NA	2.9E-03	0.003
			Pyrene	NA	NA	NA	NA	NC	neurological dysfunction	NA	NA	8.0E-05	0.00008
			Chemical Total	0.0E+00	–	1.4E-06	–	1.E-06		0.0E+00	–	3.0E-03	0.003
		Exposure Point Total						1.E-06					0.003
	Exposure Medium Total							1.E-06					0.003
Surface Water Total								1.E-06					0.003
Receptor Total								2.E-06					0.01

Total Risk Across All Media = 2.E-06

Total Hazard Across All Media = 0.01
Total Liver/Kidneys HI Across All Media = 0.004
Total Body Weight HI Across All Media = 0.00008
Total Neurological HI Across All Media = 0.0001
Total Skin/Vascular HI Across All Media = 0.006
Total Autoimmune HI Across All Media = 0.000003

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Appendix B-2
RAGS Part D Tables for the Drainage Ditch Assessment

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Table 2.1 Drainage Ditch, Occurrence, Distribution, and Selection of Chemicals of Potential Concern, Drainage Ditch Sediments -Downstream

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Table 4.1 Drainage Ditch, Values Used For Daily Intake Calculations – Sediment, Southern Wood Piedmont - Gulf, North Carolina Facility, Drainage Ditch - Downstream

Table 4.2 Drainage Ditch, Values Used For Daily Intake Calculations - Game

Table 4.3.1 Values Used For Daily Intake Calculations –Game, Southern Wood Piedmont - Gulf, North Carolina Facility, Drainage Ditch

Table 5.1 Non-Cancer Toxicity Data --Oral/Dermal, Southern Wood Piedmont -Gulf, North Carolina Facility, Drainage Ditch -Downstream

Table 6.1 Cancer Toxicity Data --Oral/Dermal, Southern Wood Piedmont -Gulf, North Carolina Facility, Drainage Ditch –Downstream

Table 7.1a RME Trespasser, Calculation of Chemical Cancer Risks and Non-Cancer Hazards, Reasonable Maximum Exposure, Southern Wood Piedmont -Gulf, North Carolina Facility, Drainage Ditch

Table 7.1b CTE Trespasser, Calculation of Chemical Cancer Risks and Non-Cancer Hazards, Central Tendency Exposure, Southern Wood Piedmont -Gulf, North Carolina Facility, Drainage Ditch

Table 7.2a RME Hunter, Calculation of Chemical Cancer Risks and Non-Cancer Hazards, Reasonable Maximum Exposure, Southern Wood Piedmont -Gulf, North Carolina Facility, Drainage Ditch

Table 7.2b CTE Hunter, Calculation of Chemical Cancer Risks and Non-Cancer Hazards, Central Tendency Exposure, Southern Wood Piedmont -Gulf, North Carolina Facility, Drainage Ditch

Table 7.3a RME Hunter, Calculation of Chemical Cancer Risks and Non-Cancer Hazards, Reasonable Maximum Exposure, Southern Wood Piedmont -Gulf, North Carolina Facility, Drainage Ditch

Table 7.3b CTE Hunter, Calculation of Chemical Cancer Risks and Non-Cancer Hazards, Central Tendency Exposure, Southern Wood Piedmont -Gulf, North Carolina Facility, Drainage Ditch

Table 9.1a RME Trespasser, Summary of Receptor Risks and Hazards For COPCs, Reasonable Maximum Exposure, Southern Wood Piedmont

Table 9.1b CTE Trespasser, Summary of Receptor Risks and Hazards For COPCs, Central Tendency Exposure, Southern Wood Piedmont, Drainage Ditch

Table 9.2a RME Hunter, Summary of Receptor Risks And Hazards For COPCs, Reasonable Maximum Exposure, Southern Wood Piedmont, Drainage Ditch

Table 9.2b CTE Hunter, Summary of Receptor Risks And Hazards For COPCs, Central Tendency Exposure, Southern Wood Piedmont Drainage Ditch

TABLE 1 - DRAINAGE DITCH
SELECTION OF EXPOSURE PATHWAYS
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
CURRENT AND FUTURE	Sediment	Sediment	Drainage Ditch - Downstream	Adolescent Trespasser	10 - 18 years old	Dermal	Quant	Potential for direct contact with sediment.
						Ingestion	Quant	
			Drainage Ditch - Downstream	Hunter	Adult	Dermal	Quant	Potential for direct contact with sediment.
						Ingestion	Quant	
	Wild Game	Wild Game	Drainage Ditch - Downstream	Hunter	Adult	Ingestion	Quant	Potential for consumption of wild game that has foraged on plants growing in contaminated sediment.

TABLE 2.1 - DRAINAGE DITCH
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH SEDIMENTS - DOWNSTREAM

Scenario Timeframe: Current and Future
Medium: Sediment
Exposure Medium: Sediment (0-1 feet below ground surface)

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits		Concentration Used for Screening (Maximum)	Background Value	Screening Toxicity Value (N/C) (mg/kg)		COPC Flag (Y/N)	Region IV Requirement	Rationale for Selection or Deletion
Drain Ditch - Sediment, Downstream	105-67-9	2,4-Dimethylphenol	3.9	3.9	MG/KG	SW-014-SL (NCDENR)	1/20	0.01	5.1	3.90E+00	-	1.2E+02	N	No		BSL
	91-57-6	2-Methylnaphthalene	0.051	260	MG/KG	SW-014-SL (NCDENR)	4/20	0.01	2	2.60E+02	-	3.1E+01	N	Yes		ASL
	95-48-7	2-Methylphenol	1.2	1.2	MG/KG	SW-014-SL (NCDENR)	1/20	0.01	5.1	1.20E+00	-	3.1E+02	N	No		BSL
	83-32-9	Acenaphthene	0.069	200	MG/KG	SW-014-SL (NCDENR)	4/20	0.01	2	2.00E+02	-	3.7E+02	N	No	Yes	BSL
	208-96-8	Acenaphthylene	0.5	4.3	MG/KG	SW-014-SL (NCDENR)	3/14	0.33	0.44	4.30E+00	-	3.7E+02	N	No	Yes	BSL
	7429-90-5	Aluminum	7400	13000	MG/KG	SW-024-SL (NCDENR)	5/5	-	-	1.30E+04	NA	7.8E+03	N	Yes		ASL
	120-12-7	Anthracene	0.088	860	MG/KG	SW-014-SL (NCDENR)	8/20	0.01	0.41	8.60E+02	-	2.2E+03	N	No	Yes	BSL
	7440-38-2	Arsenic	3.1	8.9	MG/KG	SW-014-SL (NCDENR)	5/5	-	-	8.90E+00	NA	3.9E-01	C	Yes		ASL
	7440-39-3	Barium	62	150	MG/KG	SW-024-SL (NCDENR)	5/5	-	-	1.50E+02	NA	5.4E+02	N	No		BSL
	71-43-2	Benzene	0.039	0.039	MG/KG	SW-014-SL (NCDENR)	1/10	0.005	0.015	3.90E-02	-	6.4E-01	C	No		BSL
	56-55-3	Benzo(a)anthracene	0.014	32	MG/KG	SW-014-SL (NCDENR)	10/20	0.01	0.44	3.20E+01	-	6.2E-01	C	Yes		ASL
	50-32-8	Benzo(a)pyrene	0.067	8.1	MG/KG	SW-014-SL (NCDENR)	10/20	0.01	0.41	8.10E+00	-	6.2E-02	C	Yes		ASL
	205-99-2	Benzo(b)fluoranthene	0.03	7.9	MG/KG	SWP-003	8/13	0.01	0.33	7.90E+00	NA	6.2E-01	C	Yes		ASL
	none	Benzo(b&k)fluoranthene	0.056	22	MG/KG	6753	13/16	0.33	0.82	2.20E+01	0.079	6.2E-01	C	Yes		ASL
	191-24-2	Benzo(g,h,i)perylene	0.032	0.36	MG/KG	SW-059-SD	8/14	0.33	13	3.60E-01	-	2.3E+02	N	No	Yes	BSL
	207-08-9	Benzo(k)fluoranthene	0.027	0.65	MG/KG	SW-059-SD	7/12	0.01	0.33	6.50E-01	NA	6.2E+00	C	No	Yes	BSL
	7440-41-7	Beryllium	0.32	0.9	MG/KG	SW-024-SL (NCDENR)	5/5	-	-	9.00E-01	NA	1.5E+01	N	No		BSL
	7440-70-2	Calcium	960	1500	MG/KG	SW-023-SL (NCDENR)	4/4	-	-	1.50E+03	NA	NA		No		EN
	86-74-8	Carbazole	0.044	300	MG/KG	SW-014-SL (NCDENR)	4/19	0.01	0.42	3.00E+02	-	2.4E+01	C	Yes		ASL
	none	Chromium,total	14	26	MG/KG	SWP-003	5/5	-	-	2.60E+01	NA	2.1E+02	C	No		BSL
	218-01-9	Chrysene	0.027	29	MG/KG	SW-014-SL (NCDENR)	12/20	0.01	0.41	2.90E+01	0.067	6.2E+01	C	No	Yes	BSL
	7440-48-4	Cobalt	12	15	MG/KG	SW-023-SL (NCDENR)	2/5	9	20	1.50E+01	NA	9.0E+02	C	No		BSL
	7440-50-8	Copper	13	26	MG/KG	SW-024-SL (NCDENR)	4/5	20	20	2.60E+01	NA	3.1E+02	N	No		BSL
	53-70-3	Dibenzo(a,h)anthracene	0.078	0.15	MG/KG	SW-059-SD	2/20	0.01	13	1.50E-01	-	6.2E-02	C	Yes		ASL
	132-64-9	Dibenzofuran	0.026	220	MG/KG	SW-014-SL (NCDENR)	4/14	0.33	2	2.20E+02	-	1.5E+01	N	Yes		ASL
	100-41-4	Ethylbenzene	0.1	0.1	MG/KG	SW-015-SL	1/6	0.005	0.005	1.00E-01	NA	4.0E+01	N	No		BSL
	206-44-0	Fluoranthene	0.14	200	MG/KG	SW-014-SL (NCDENR)	11/20	0.01	0.41	2.00E+02	0.072	2.3E+02	N	No	Yes	BSL
	86-73-7	Fluorene	0.48	370	MG/KG	SW-014-SL (NCDENR)	5/20	0.01	0.42	3.70E+02	-	2.7E+02	N	Yes		ASL
	193-39-5	Indeno(1,2,3-cd)pyrene	0.093	0.39	MG/KG	SW-059-SD	5/20	0.01	13	3.90E-01	-	6.2E-01	C	No	Yes	BSL
	7439-89-6	Iron	15000	29000	MG/KG	SW-014-SL (NCDENR)	5/5	-	-	2.90E+04	NA	2.3E+03	N	Yes		ASL
	7439-95-4	Magnesium	1800	3200	MG/KG	SW-024-SL (NCDENR)	4/4	-	-	3.20E+03	NA	NA		No		EN
	7439-96-5	Manganese	220	350	MG/KG	SW-014-SL (NCDENR)	5/5	-	-	3.50E+02	100	1.8E+02	N	Yes		ASL
	91-20-3	Naphthalene	0.35	480	MG/KG	SW-014-SL (NCDENR)	4/20	0.01	2	4.80E+02	-	5.6E+00	N	Yes		ASL
	7440-02-0	Nickel	14	23	MG/KG	SW-023-SL (NCDENR)	5/5	-	-	2.30E+01	17	1.6E+02	N	No		BSL
	87-86-5	Pentachlorophenol	0.25	11	MG/KG	SWP-003	5/20	0.05	32	1.10E+01	-	3.0E+00	C	Yes		ASL
	85-01-8	Phenanthrene	0.021	700	MG/KG	SW-014-SL (NCDENR)	9/20	0.01	0.41	7.00E+02	-	2.3E+02	N	Yes		ASL
	108-95-2	Phenol	0.065	0.12	MG/KG	SW-058-SD	3/19	0.01	13	1.20E-01	-	1.8E+03	N	No		BSL
	7440-09-7	Potassium	170	530	MG/KG	SW-014-SL (NCDENR)	4/4	-	-	5.30E+02	570	NA		No		EN
	129-00-0	Pyrene	0.068	120	MG/KG	SW-014-SL (NCDENR)	11/14	0.33	0.33	1.20E+02	0.061	2.3E+02	N	No		BSL
	7440-22-4	Silver	2.9	2.9	MG/KG	SWP-003	1/5	0.79	0.93	2.90E+00	-	3.9E+01	N	No		BSL
	100-42-5	Styrene	0.082	0.082	MG/KG	SW-014-SL (NCDENR)	1/4	0.013	0.015	8.20E-02	-	1.7E+02	N	No		BSL
	7440-31-5	Tin	13	13	MG/KG	SWP-003	1/1	-	-	1.30E+01	NA	4.7E+03	N	No		BSL
	108-88-3	Toluene	0.043	0.14	MG/KG	SW-014-SL (NCDENR)	3/10	0.005	0.015	1.40E-01	-	5.2E+01	N	No		BSL
	7440-62-2	Vanadium	24	41	MG/KG	SW-024-SL (NCDENR)	5/5	-	-	4.10E+01	30	7.8E+00	N	Yes		ASL
	1330-20-7	Xylenes (total)	0.016	0.42	MG/KG	SW-015-SL	3/10	0.005	0.014	4.20E-01	-	2.7E+01	N	No		BSL
	7440-66-6	Zinc	25	25	MG/KG	SWP-003	1/5	30	50	2.50E+01	-	2.3E+03	N	No		BSL
	1746-01-6	2,3,7,8-TeCDD	0.82	3.35	NG/KG	SW-059-SD	2/11	0.2	7	3.35E+00	0.8	3.9E-08	C	Yes		ASL
	40321-76-4	1,2,3,7,8-PeCDD	0.7	32.7	NG/KG	SW-059-SD	5/6	5	5	3.27E+01	2.3		C	Yes		ASL
	39227-28-6	1,2,3,4,7,8-HxCDD	1.1	117	NG/KG	SW-059-SD	11/11	-	-	1.17E+02	3.7		C	Yes		ASL
	57653-85-7	1,2,3,6,7,8-HxCDD	3	634	NG/KG	SW-059-SD	11/11	-	-	6.34E+02	7.9		C	Yes		ASL
	19408-74-3	1,2,3,7,8,9-HxCDD	4.4	207	NG/KG	SW-059-SD	11/11	-	-	2.07E+02	9.1		C	Yes		ASL
	35822-46-9	1,2,3,4,6,7,8-HpCDD	104	33000	NG/KG	SW-059-SD	11/11	-	-	3.30E+04	320		C	Yes		ASL
	3268-87-9	OCDD	2780	138000	NG/KG	SW-059-SD	11/11	-	-	1.38E+05	12000		C	Yes		ASL
	51207-31-9	2,3,7,8-TeCDF	0.37	1	NG/KG	SW-053-SD	5/11	1	7	1.00E+00	-		C	Yes		ASL
	57117-41-6	1,2,3,7,8-PeCDF	0.41	4.4	NG/KG	SW-055-SD	8/14	5	18	4.40E+00	-		C	Yes		ASL
	57117-31-4	2,3,4,7,8-PeCDF	0.36	35.9	NG/KG	SW-059-SD	7/11	5	18	3.59E+01	1.4		C	Yes		ASL
	70648-26-9	1,2,3,4,7,8-HxCDF	0.87	123	NG/KG	SW-059-SD	9/11	200	210	1.23E+02	-		C	Yes		ASL
	57117-44-9	1,2,3,6,7,8-HxCDF	0.63	47.2	NG/KG	SW-059-SD	8/11	5	18	4.72E+01	2.5		C	Yes		ASL
	72918-21-9	1,2,3,7,8,9-HxCDF	0.51	19.2	NG/KG	SW-059-SD	5/11	0.3	18	1.92E+01	-		C	Yes		ASL
	60851-34-5	2,3,4,6,7,8-HxCDF	0.85	100	NG/KG	SW-059-SD	10/11	18	18	1.00E+02	6.9		C	Yes		ASL
	67562-39-4	1,2,3,4,6,7,8-HpCDF	13.4	3600	NG/KG	SW-059-SD	11/11	-	-	3.60E+03	31		C	Yes		ASL
	55673-89-7	1,2,3,4,7,8,9-HpCDF	1.8	276	NG/KG	SW-059-SD	11/11	-	-	2.76E+02	1.9		C	Yes		ASL
	39001-02-0	OCDF	42.4	13400	NG/KG	SW-059-SD	11/11	-	-	1.34E+04	120		C	Yes		ASL
		TeCDFs (total)	1.8	78.8	NG/KG	SW-059-SD	11/11	-	-	7.88E+01	23		C	Yes		ASL
		HpCDD (total)	417	79700	NG/KG	SW-059-SD	11/11	-	-	7.97E+04	1100		C	Yes		ASL
		HpCDF (total)	25.7	19200	NG/KG	SW-059-SD	11/11	-	-	1.92E+04	130		C	Yes		ASL
		HxCDD (total)	38.2	4590	NG/KG	SW-059-SD	11/11	-	-	4.59E+03	87		C	Yes		ASL
		HxCDF (total)	10.5	3350	NG/KG	SW-059-SD	11/11	-	-	3.35E+03	100		C	Yes		ASL
		TeCDDs (total)	1.1	92	NG/KG	SW-059-SD	10/11	1	1	9.20E+01	7.4		C	Yes		ASL
		PeCDDs (total)	3.4	391	NG/KG	SW-059-SD	8/9	5	5	3.91E+02	NA		C	Yes		ASL
		PeCDFs (total)	3.8	428	NG/KG	SW-059-SD	9/9	-	-	4.28E+02	NA		C	Yes		ASL
		Dioxin TEQ (mammalian)	50.9	585.7	NG/KG	NA	-	-	-	5.86E+02	13.495		C	Yes		ASL

(1) Toxicity Screening Values are EPA Region IX residential PRGs, except for 2-methylnaphthalene which is Region III residential RBC. All screening values based on noncarcinogenic effects are reported as 1/10 of original value.
Surrogate chemicals:
acenaphthene used for acenaphthylene.
benzo(b)fluoranthene used for benzo(k)fluoranthene and benzo(b&k)fluoranthene.
fluoranthene used for benzo(g,h,i)perylene and phenanthrene.

Rationale Codes: Selection Reason: Above Screening Level (ASL)
Deletion Reason: Essential Nutrient (EN) or Below Screening Level (BSL)
NA = Not Available
N = Noncarcinogen
C = Carcinogen

TABLE 3.1.1 - DRAINAGE DITCH
EXPOSURE POINT CONCENTRATION SUMMARY - SEDIMENT
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH - DOWNSTREAM

Scenario Timeframe: Current and Future
Medium: Sediment
Exposure Medium: Surface (0 - 1 fbgs)

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Distribution	Maximum Concentration (Qualifier)	Exposure Point Concentration		
							Value	Units	Statistic
Drainage Ditch Downstrream Surface Sediment 0 - 1 fbgs	2-Methylnaphthalene	mg/kg	1.6E+01	1.5E+02	Data are Non-parametric (0.05)	2.6E+02	1.5E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
	Acenaphthene	mg/kg	1.4E+01	1.2E+02	Data are Non-parametric (0.05)	2.0E+02	1.2E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
	Acenaphthylene	mg/kg	5.3E-01	1.8E+00	Data are Non-parametric (0.05)	4.3E+00	1.8E+00	mg/Kg	95% Chebyshev (Mean, Sd) UCL
	Aluminum	mg/kg	9.9E+03	1.2E+04	Data are normal (0.05)	1.3E+04	1.2E+04	mg/Kg	Student's-t UCL
	Anthracene	mg/kg	4.5E+01	4.7E+02	Data are Non-parametric (0.05)	8.6E+02	4.7E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
	Arsenic	mg/kg	4.7E+00	7.2E+00	Assuming gamma distribution (0.05)	6.9E+00	6.9E+00	mg/Kg	Maximum Concentration
	Benzo(a)anthracene	mg/kg	2.6E+00	1.9E+01	Data are Non-parametric (0.05)	3.2E+01	1.9E+01	mg/Kg	99% Chebyshev (Mean, Sd) UCL
	Benzo(a)pyrene	mg/kg	1.1E+00	6.1E+00	Data are Non-parametric (0.05)	8.1E+00	6.1E+00	mg/Kg	99% Chebyshev (Mean, Sd) UCL
	Benzo(b)fluoranthene	mg/kg	8.2E-01	5.2E+00	Data are lognormal (0.05)	7.9E+00	5.2E+00	mg/Kg	99% Chebyshev (Mean, Sd) UCL
	Benzo(b&k)fluoranthene	mg/kg	3.1E+00	1.5E+01	Data are lognormal (0.05)	2.2E+01	1.5E+01	mg/Kg	99% Chebyshev (MVUE) UCL
	Benzo(g,h,i)perylene	mg/kg	8.2E-01	3.3E+00	Data are lognormal (0.05)	3.6E-01	3.6E-01	mg/Kg	Maximum Concentration
	Benzo(k)fluoranthene	mg/kg	1.5E-01	3.3E-01	Data follow gamma distribution (0.05)	6.5E-01	3.3E-01	mg/Kg	Approximate Gamma UCL
	Carbazole	mg/kg	1.6E+01	8.1E+01	Data are Non-parametric (0.05)	3.0E+02	8.1E+01	mg/Kg	95% Chebyshev (Mean, Sd) UCL
	Chrysene	mg/kg	3.0E+00	1.8E+01	Data are lognormal (0.05)	2.9E+01	1.8E+01	mg/Kg	97.5% Chebyshev (MVUE) UCL
	Dibenzo(a,h)anthracene	mg/kg	6.2E-01	2.0E+00	Data are Non-parametric (0.05)	1.5E-01	1.5E-01	mg/Kg	Maximum Concentration
	Dibenzofuran	mg/kg	1.8E+01	1.7E+02	Data are Non-parametric (0.05)	2.2E+02	1.7E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
	Fluoranthene	mg/kg	1.7E+01	1.2E+02	Data are Non-parametric (0.05)	2.0E+02	1.2E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
	Fluorene	mg/kg	2.3E+01	2.1E+02	Data are Non-parametric (0.05)	3.7E+02	2.1E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
	Indeno(1,2,3-cd)pyrene	mg/kg	6.3E-01	4.0E+00	Data are Non-parametric (0.05)	3.9E-01	3.9E-01	mg/Kg	Maximum Concentration
	Iron	mg/kg	2.1E+04	2.7E+04	Data are normal (0.05)	2.9E+04	2.7E+04	mg/Kg	Student's-t UCL
	Manganese	mg/kg	2.8E+02	3.2E+02	Data are normal (0.05)	3.5E+02	3.2E+02	mg/Kg	Student's-t UCL
	Naphthalene	mg/kg	2.9E+01	2.7E+02	Data are Non-parametric (0.05)	4.8E+02	2.7E+02	mg/Kg	99% Chebyshev (Mean, Sd) UCL
	Pentachlorophenol	mg/kg	3.2E+00	1.5E+01	Data are Non-parametric (0.05)	1.1E+01	1.1E+01	mg/Kg	Maximum Concentration
	Phenanthrene	mg/kg	4.7E+01	3.3E+02	Data are Non-parametric (0.05)	7.0E+02	3.3E+02	mg/Kg	Hall's Bootstrap UCL
	Vanadium	mg/kg	3.1E+01	3.8E+01	Data are normal (0.05)	4.1E+01	3.8E+01	mg/Kg	Student's-t UCL
	Dioxin TEQ (mammalian)	mg/kg	1.9E-04	3.8E-04	Data follow gamma distribution (0.05)	5.9E-04	3.8E-04	mg/Kg	Approximate Gamma UCL

Notes:
fbgs = feet below ground surface

TABLE 4.1 - DRAINAGE DITCH
VALUES USED FOR DAILY INTAKE CALCULATIONS - SEDIMENT
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH - DOWNSTREAM

Scenario Timeframe: Current and Future
Medium: Sediment
Exposure Medium: Sediment (0 - 1 fbgs)

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Input Values		Units	Rationale/ Reference	Intake Equation/ Model Name	RME (1/day)	CTE (1/day)
						CTE Case	RME Case					
Incidental Ingestion	Trespasser	10 to 18 years	Drainage Ditch Sediment	CS	Chemical Concentration in Sediment	Chem Specific	Chem Specific	mg/kg	See Tables 3.1.1	For Noncarcinogenic Endpoints: Chronic Daily Intake (mg/kg-day) = CS x IR x FS x OAF x EF x ED x CF x 1/BW x 1/AT-NC	8.0E-08	1.5E-08
				IR	Ingestion Rate of Sediment	50	100	mg/day	USEPA (1997).			
				OAF	Oral Absorption Factor	Chem Specific	Chem Specific	unitless	See Table 1.0			
				EF	Exposure Frequency	22	44	days/yr	Assuming 1 or both weekend days during the warmer months (May through September).			
				ED	Exposure Duration	8	8	yrs	Number of yrs between 10 and 18 yrs of age.			
				FS	Fraction from Site	0.25	0.25	unitless	Professional Judgment.	For Carcinogenic Endpoints: Lifetime Daily Intake (mg/kg-day) = CS x IR x FS x OAF x EF x ED x CF x 1/BW x 1/AT-C	6.9E-09	1.7E-09
				CF	Conversion Factor	1.00E-06	1.00E-06	kg/mg	Calculated.			
				BW	Body Weight	50	50	kg	USEPA (1997).			
				AT-NC	Averaging Time (noncancer)	2920	2920	days	365 days x ED			
				AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime			
Incidental Ingestion	Hunter	Adult	Drainage Ditch Sediment	CS	Chemical Concentration in Sediment	Chem Specific	Chem Specific	mg/kg	See Tables 3.1.1	For Noncarcinogenic Endpoints: Chronic Daily Intake (mg/kg-day) = CS x IR x FS x OAF x EF x ED x CF x 1/BWnc x 1/AT-NC	2.7E-08	8.2E-09
				IR	Ingestion Rate of Sediment	50	100	mg/day	USEPA (1997)			
				OAF	Oral Absorption Factor	Chem Specific	Chem Specific	unitless	See Table 1.0			
				EF	Exposure Frequency	13	26	days/yr	Calculated from 2001 USF&WS survey.			
				FS	Fraction from Site	0.25	0.25	unitless	Professional Judgment.			
				ED	Exposure Duration	9	30	yr	CTE and RME USEPA (1989) residence periods; assumes that individuals would hunt through their residence time.			
				CF	Conversion Factor	1.00E-06	1.00E-06	kg/mg	Calculated.	For Carcinogenic Endpoints: Lifetime Daily Intake (mg/kg-day) = CS x IR x FS x OAF x EF x ED x CF x 1/BWc x 1/AT-C	1.2E-08	8.2E-10
				BWc	Body Weight (cancer)	70	70	kg	USEPA (1989); BW was used to derive CSF values.			
				BWnc	Body Weight (noncancer)	71.8	71.8	kg	USEPA (1997).			
				AT-NC	Averaging Time (noncancer)	3285	10950	days	365 days x ED			
				AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime			
Dermal	Trespasser	10 to18 years	Drainage Ditch Sediment	CS	Chemical Concentration in Sediment	Chem Specific	Chem Specific	mg/kg	See Tables 3.1.1	For Noncarcinogenic Endpoints: Chronic Daily Intake (mg/kg-day)= CS x SA x DAF x ABS x EF x ED x CF x 1/BW x 1/AT-NC	3.3E-08	1.6E-08
				SA	Skin Surface Area	4510	4510	cm^2/day	USEPA (2004); 50%tile surface areas of forearms, feet, hands and lower legs, avg male and female, 10-18 years old.			
				DAF	Dermal Adherence Factor	0.3	0.3	mg/cm^2	Average of 95%tile weighted adherence factors for various activities (USEPA, 2004).			
				ABS	Dermal Absorption Factor	Chem Specific	Chem.-specific	unitless	See Table 1.0			
				EF	Exposure Frequency	22	44	days/yr	Assuming 1 or both weekend days during the warmer months (May through September).			
				ED	Exposure Duration	8	8	yr	Number of yrs between 10 and 18 yrs of age.			
				CF	Conversion Factor	1.00E-06	1.00E-06	kg/mg	Calculated.	For Carcinogenic Endpoints: Lifetime Daily Intake (mg/kg-day)= CS x SA x DAF x ABS x EF x ED x CF x 1/BW x 1/AT-C	3.7E-07	1.9E-07
				BW	Body Weight	50	50	kg	USEPA (1997).			
				AT-NC	Averaging Time (noncancer)	2920	2920	days	365 days x ED			
				AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime.			
Dermal	Hunter	Adult	Drainage Ditch Sediment	CS	Chemical Concentration in Sediment	Chem Specific	Chem Specific	mg/kg	See Tables 3.1.1	For Noncarcinogenic Endpoints: Chronic Daily Intake (mg/kg-day)= CS x SA x DAF x ABS x EF x ED x CF x 1/BWnc x 1/AT-N	8.7E-07	3.1E-07
				SA	Skin Surface Area	2077	2077	cm^2/day	USEPA (2004); 50%tile surface areas of forearms and hands, avg male and female adult.			
				DAF	Dermal Adherence Factor	0.3	0.3	mg/cm^2	Average of 95%tile weighted adherence factors for various activities (USEPA, 2004).			
				ABS	Dermal Absorption Factor	Chem Specific	Chem Specific	unitless	See Table 1.0			
				EF	Exposure Frequency	13	26	days/yr	Calculated from 2001 USF&WS survey.			
				ED	Exposure Duration	9	30	yr	CTE and RME USEPA (1989) residence periods; assumes that individuals would hunt through their residence time.			
				CF	Conversion Factor	1.00E-06	1.00E-06	kg/mg	Calculated	For Carcinogenic Endpoints: Lifetime Daily Intake (mg/kg-day)= CS x SA x DAF x ABS x EF x ED x CF x 1/BWc x 1/AT-C	2.9E-07	4.08E-08
				BWc	Body Weight (cancer)	70	70	kg	USEPA (1989); BW was used to derive CSF values.			
				BWnc	Body Weight (noncancer)	71.8	71.8	kg	USEPA (1997)			
				AT-NC	Averaging Time (noncancer)	3285	10950	days	365 days x ED			
				AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime			

Notes:
fbgs = feet below ground surface

USEPA. 1989. *Risk Assessment Guidance for Superfund; Volume I; Human Health Evaluation Manual (Part A) - Interim Final.* U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C. EPA/540/1-89/002. December.
USEPA. 1997. *Exposure Factors Handbook, Volumes I, II and III.* Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment, Washington, D.C. EPA/600/P-95/002Fa,b,c. August.
USEPA. 2004. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment).

TABLE 4.2 - DRAINAGE DITCH
VALUES USED FOR DAILY INTAKE CALCULATIONS - GAME
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY

Scenario Timeframe: Current and Future
Medium: Wild Game
Exposure Medium: Wild Game

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Input Values		Units	Rationale/ Reference	Intake Equation/ Model Name
						CTE Case	RME Case			
Ingestion	Hunter	Adult	Drainage Ditch - Downstream	CG	Estimated Body Burden in Game	Modeled; Chemical Specific	Modeled; Chemical Specific	mg/kg	Based on UCL sediment concentrations; Table 4.2.1 provides values.	
				IR	Ingestion Rate	9.4	9.4	g/day	Mean daily intake from Table 11-21 of USEPA (1997).	For Noncarcinogenic Endpoints:
				OAF	Oral Absorption Factor	Chem Specific	Chem Specific	unitless	See Table 1.0.	Chronic Daily Intake (mg/kg-day) =
				EF	Exposure Frequency	365	365	days/yr	Ingestion rate is an annualized rate.	CG x IR x OAF x EF x ED x CF x 1/BW x 1/AT-NC
				ED	Exposure Duration	9	30	years	CTE and RME USEPA (1989) residence periods;assumes that individuals would hunt through their residence time.	
				CF	Conversion Factor	1E-03	1E-03	kg/g	Calculated.	Lifetime Daily Intake (mg/kg-day) =
				BW	Body Weight (cancer)	70	70	kg	This BW was used to derive CSF values.	CG x IR x OAF x EF x ED x CF x 1/BW x 1/AT-C
				BW	Body Weight (noncancer)	71.8	71.8	kg	USEPA (1997).	
				AT-NC	Averaging Time (noncancer)	3285	10950	days	365 days x ED	
				AT-C	Averaging Time (cancer)	25550	25550	days	365 days x 70 years (USEPA, 1989); CSF based on 70 yr lifetime.	

Notes:

USEPA. 1989. *Risk Assessment Guidance for Superfund; Volume I: Human Health Evaluation Manual (Part A) - Interim Final.* U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C. EPA/540/1-89/002. December.
USEPA. 1997. *Exposure Factors Handbook, Volumes I, II and III.* Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment, Washington, D.C. EPA/600/P-95/002Fa,b,c. August.

TABLE 4.3.1
VALUES USED FOR DAILY INTAKE CALCULATIONS - GAME
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH

Scenario Timeframe: Current and Future
Medium: Game
Exposure Medium: Game

Exposure Route	Receptor Population	Receptor Age	Exposure Point	COPC	Estimated Body Burden in Wild Game (mg/kg)	For Noncarcinogenic Endpoints: Chronic Daily Intake (mg/kg-day) = CG x IR x OAF x EF x ED x CF x 1/BW x 1/AT-NC		For Carcinogenic Endpoints: Lifetime Daily Intake (mg/kg-day) = CS x IR x OAF x EF x ED x CF x 1/BW x 1/AT-C	
						CTE Case	RME Case	CTE Case	RME Case
Ingestion	Hunter	Adult	Drainage Ditch - Downstream	2-Methylnaphthalene	3.12E-07	4.08E-11	4.08E-11	5.38E-12	1.79E-11
				Acenaphthene	1.04E-07	1.36E-11	1.36E-11	1.79E-12	5.97E-12
				Acenaphthylene	3.90E-09	5.11E-13	5.11E-13	6.73E-14	2.24E-13
				Aluminum	1.03E-08	1.35E-12	1.35E-12	1.78E-13	5.94E-13
				Anthracene	9.86E-07	1.29E-10	1.29E-10	1.70E-11	5.68E-11
				Arsenic	1.31E-02	1.72E-06	1.72E-06	2.27E-07	7.55E-07
				Benzo(a)anthracene	1.83E-08	2.39E-12	2.39E-12	3.16E-13	1.05E-12
				Benzo(a)pyrene	2.68E-09	3.51E-13	3.51E-13	4.63E-14	1.54E-13
				Benzo(b)fluoranthene	2.96E-09	3.87E-13	3.87E-13	5.11E-14	1.70E-13
				Benzo(b&k)fluoranthene	NA	NA	NA	NA	NA
				Benzo(g,h,i)perylene	1.19E-10	1.56E-14	1.56E-14	2.06E-15	6.87E-15
				Benzo(k)fluoranthene	1.62E-10	2.12E-14	2.12E-14	2.79E-15	9.31E-15
				Carbazole	1.66E-07	2.18E-11	2.18E-11	2.87E-12	9.58E-12
				Chrysene	1.66E-08	2.18E-12	2.18E-12	2.87E-13	9.57E-13
				Dibenzo(a,h)anthracene	5.63E-11	7.37E-15	7.37E-15	9.71E-16	3.24E-15
				Dibenzofuran	3.79E-07	4.96E-11	4.96E-11	6.54E-12	2.18E-11
				Fluoranthene	1.13E-07	1.48E-11	1.48E-11	1.95E-12	6.50E-12
				Fluorene	4.51E-07	5.90E-11	5.90E-11	7.78E-12	2.59E-11
				Indeno(1,2,3-cd)pyrene	1.11E-10	1.45E-14	1.45E-14	1.91E-15	6.38E-15
				Iron	4.94E-06	6.47E-10	6.47E-10	8.53E-11	2.84E-10
				Manganese	8.73E-10	4.57E-15	4.57E-15	6.03E-16	2.01E-15
				Naphthalene	4.54E-07	5.94E-11	5.94E-11	7.84E-12	2.61E-11
				Pentachlorophenol	9.22E-09	1.21E-12	1.21E-12	1.59E-13	5.31E-13
				Phenanthrene	6.79E-07	8.89E-11	8.89E-11	1.17E-11	3.91E-11
				Vanadium	9.38E-11	3.19E-16	3.19E-16	4.21E-17	1.40E-16
				Dioxin TEQ (mammalian)	2.94E-11	3.85E-15	3.85E-15	5.07E-16	1.69E-15

TABLE 5.1
NON-CANCER TOXICITY DATA -- ORAL/DERMAL
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH - DOWNSTREAM

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
2-Methylnaphthalene	Chronic	4.0E-03	mg/kg-day	1.00	4.0E-03	mg/kg-day	liver/kidneys	3000	IRIS	01/16/2007
Acenaphthene	Chronic	6.0E-02	mg/kg-day	1.00	6.0E-02	mg/kg-day	liver	3000	IRIS	01/16/2007
Acenaphthylene (1)	Chronic	6.0E-02	mg/kg-day	1.00	6.0E-02	mg/kg-day	liver	3000	IRIS	01/16/2007
Aluminum	Chronic	1.0E+00	mg/kg-day	1.00	1.0E+00	mg/kg-day			Provisional	10/01/2004
Anthracene	Chronic	3.0E-01	mg/kg-day	1.00	3.0E-01	mg/kg-day	no observed effects	3000	IRIS	01/16/2007
Arsenic	Chronic	3.0E-04	mg/kg-day	1.00	3.0E-04	mg/kg-day	skin/vascular	3	IRIS	01/16/2007
Benzo(a)anthracene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Benzo(b&k)fluoranthen (2)	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene (3)	Chronic	4.0E-02	mg/kg-day	1.00	4.0E-02	mg/kg-day	liver/kidneys	3000	IRIS	01/16/2007
Benzo(k)fluoranthene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Carbazole	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Chrysene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Dibenzofuran	Chronic	2.0E-03	mg/kg-day	1.00	2.0E-03	mg/kg-day			NCEA	10/01/2004
Fluoranthene	Chronic	4.0E-02	mg/kg-day	1.00	4.0E-02	mg/kg-day	liver/kidneys	3000	IRIS	01/16/2007
Fluorene	Chronic	4.0E-02	mg/kg-day	1.00	4.0E-02	mg/kg-day	blood	3000	IRIS	01/16/2007
Indeno(1,2,3-cd)pyrene	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA
Iron	Chronic	3.0E-01	mg/kg-day	1.00	3.0E-01	mg/kg-day			NCEA	10/01/2004
Manganese	Chronic	1.4E-01	mg/kg-day	0.04	5.6E-03	mg/kg-day	central nervous system	1	IRIS	01/16/2007
Naphthalene	Chronic	2.0E-02	mg/kg-day	1.00	2.0E-02	mg/kg-day	body weight	3000	IRIS	01/16/2007
Pentachlorophenol	Chronic	3.0E-02	mg/kg-day	1.00	3.0E-02	mg/kg-day	liver/kidneys	100	IRIS	01/16/2007
Phenanthrene (3)	Chronic	4.0E-02	mg/kg-day	1.00	4.0E-02	mg/kg-day	liver/kidneys	3000	IRIS	01/16/2007
Vanadium	Chronic	1.0E-03	mg/kg-day	0.026	2.6E-05	mg/kg-day			NCEA	10/01/2004
Dioxin TEQ (mammalian)	Chronic	NA	NA	1.00	NA	NA	NA	NA	NA	NA

Notes:
(1) acenaphthene used as surrogate.
(2) benzo(b)fluoranthene used as surrogate.
(3) fluoranthene used as surrogate.

Absorbed RfD for Dermal: = RfD_{oral} * Oral Absorption
NA = Not Available.
IRIS = Integrated Risk Information System.
Provisional = value as cited in USEPA Region 9 PRGs (2004).
NCEA = National Center for Environmental Assessment, as cited in USEPA Region 9 (2004).

TABLE 6.1
CANCER TOXICITY DATA -- ORAL/DERMAL
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH - DOWNSTREAM

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (unitless)	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence	Oral CSF/ Weight of Evidence	
	Value	Units		Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
2-Methylnaphthalene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Acenaphthene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Acenaphthylene (1)	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Aluminum	NA	NA	1.00	NA	NA	NA	NA	NA
Anthracene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Arsenic	1.5E+00	(mg/kg-day)-1	1.00	1.5E+00	(mg/kg-day)-1	A	IRIS	01/16/2007
Benzo(a)anthracene	7.3E-01	(mg/kg-day)-1	1.00	7.3E-01	(mg/kg-day)-1	B2	IRIS	01/16/2007
Benzo(a)pyrene	7.3E+00	(mg/kg-day)-1	1.00	7.3E+00	(mg/kg-day)-1	B2	IRIS	01/16/2007
Benzo(b)fluoranthene	7.3E-01	(mg/kg-day)-1	1.00	7.3E-01	(mg/kg-day)-1	B2	IRIS	01/16/2007
Benzo(b&k)fluoranthen (2)	7.3E-01	(mg/kg-day)-1	1.00	7.3E-01	(mg/kg-day)-1	B2	IRIS	01/16/2007
Benzo(g,h,i)perylene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Benzo(k)fluoranthene	7.3E-02	(mg/kg-day)-1	1.00	7.3E-02	(mg/kg-day)-1	B2	IRIS	01/16/2007
Carbazole	2.0E-02	(mg/kg-day)-1	1.00	2.0E-02	(mg/kg-day)-1		HEAST	10/01/2004
Chrysene	7.3E-03	(mg/kg-day)-1	1.00	7.3E-03	(mg/kg-day)-1	B2	IRIS	01/16/2007
Dibenzo(a,h)anthracene	7.3E+00	(mg/kg-day)-1	1.00	7.3E+00	(mg/kg-day)-1	B2	IRIS	01/16/2007
Dibenzofuran	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Fluoranthene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Fluorene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Indeno(1,2,3-cd)pyrene	7.3E-01	(mg/kg-day)-1	1.00	7.3E-01	(mg/kg-day)-1	B2	IRIS	01/16/2007
Iron	NA	NA	1.00	NA	NA	NA	NA	NA
Manganese	NA	NA	0.04	NA	NA	D	IRIS	01/16/2007
Naphthalene	NA	NA	1.00	NA	NA	C	IRIS	01/16/2007
Pentachlorophenol	1.2E-01	(mg/kg-day)-1	1.00	1.2E-01	(mg/kg-day)-1	B2	IRIS	01/16/2007
Phenanthrene	NA	NA	1.00	NA	NA	D	IRIS	01/16/2007
Vanadium	NA	NA	0.03	NA	NA	NA	NA	NA
Dioxin TEQ (mammalian)	1.5E+05	(mg/kg-day)-1	1.00	1.5E+05	(mg/kg-day)-1		HEAST	10/01/2004

Notes:
(1) acenapthene used as surrogate.
(2) benzo(b)fluoranthene used as surrogate.

Absorbed CSF for Dermal: = CSF_{oral}/Oral Absorption
NA = Not Available.
IRIS = Integrated Risk Information System.
HEAST = Health Effects Assessment Summary Tables, as cited in USEPA Region 9 (2004).
Provisional = value as cited in USEPA Region 9 PRGs (2004).
NCEA = National Center for Environmental Assessment, as cited in USEPA Region 9 (2004).

Weight of Evidence (USEPA 1986):
EPA Group:
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity

TABLE 7.1a. RME TRESPASSER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (10 to 18 years)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		RME	Intake/Exposure Concentration		RfD		RME
							Value	Units	Value	Units	Cancer Risk	Value	Units	Value	Units	Hazard Quotient
Sediment	Sediment	DRAINAGE DITCH DOWNSTREAM	Incidental Ingestion	2-Methylnaphthalene	1.5E+02	mg/kg	1.0E-06	mg/kg-day	NA	NA	NA	8.8E-06	mg/kg-day	4.0E-03	mg/kg-day	0.002
				Acenaphthene	1.2E+02	mg/kg	7.9E-07	mg/kg-day	NA	NA	NA	6.9E-06	mg/kg-day	6.0E-02	mg/kg-day	0.0001
				Acenaphthylene	1.8E+00	mg/kg	1.2E-08	mg/kg-day	NA	NA	NA	1.1E-07	mg/kg-day	6.0E-02	mg/kg-day	0.000002
				Aluminum	1.2E+04	mg/kg	8.4E-05	mg/kg-day	NA	NA	NA	7.4E-04	mg/kg-day	1.0E+00	mg/kg-day	0.0007
				Anthracene	4.7E+02	mg/kg	3.2E-06	mg/kg-day	NA	NA	NA	2.8E-05	mg/kg-day	3.0E-01	mg/kg-day	0.00009
				Arsenic	6.9E+00	mg/kg	4.8E-08	mg/kg-day	1.5E+00	(mg/kg-day)-1	7.1E-08	4.2E-07	mg/kg-day	3.0E-04	mg/kg-day	0.001
				Benzo(a)anthracene	1.9E+01	mg/kg	1.3E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	9.5E-08	1.1E-06	mg/kg-day	NA	mg/kg-day	NA
				Benzo(a)pyrene	6.1E+00	mg/kg	4.2E-08	mg/kg-day	7.3E+00	(mg/kg-day)-1	3.0E-07	3.7E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b)fluoranthene	5.2E+00	mg/kg	3.6E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	2.6E-08	3.1E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b&k)fluoranthene	1.5E+01	mg/kg	1.0E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	7.5E-08	9.0E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(g,h,i)perylene	3.6E-01	mg/kg	2.5E-09	mg/kg-day	NA	NA	NA	2.2E-08	mg/kg-day	4.0E-02	mg/kg-day	0.000001
				Benzo(k)fluoranthene	3.3E-01	mg/kg	2.3E-09	mg/kg-day	7.3E-02	(mg/kg-day)-1	1.7E-10	2.0E-08	mg/kg-day	NA	mg/kg-day	NA
				Carbazole	8.1E+01	mg/kg	5.6E-07	mg/kg-day	2.0E-02	(mg/kg-day)-1	1.1E-08	4.9E-06	mg/kg-day	NA	mg/kg-day	NA
				Chrysene	1.8E+01	mg/kg	1.2E-07	mg/kg-day	7.3E-03	(mg/kg-day)-1	9.1E-10	1.1E-06	mg/kg-day	NA	mg/kg-day	NA
				Dibenzo(a,h)anthracene	1.5E-01	mg/kg	1.0E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	7.5E-09	9.0E-09	mg/kg-day	NA	mg/kg-day	NA
				Dibenzofuran	1.7E+02	mg/kg	1.2E-06	mg/kg-day	NA	NA	NA	1.0E-05	mg/kg-day	2.0E-03	mg/kg-day	0.005
				Fluoranthene	1.2E+02	mg/kg	8.2E-07	mg/kg-day	NA	NA	NA	7.2E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0002
				Fluorene	2.1E+02	mg/kg	1.4E-06	mg/kg-day	NA	NA	NA	1.2E-05	mg/kg-day	4.0E-02	mg/kg-day	0.0003
				Indeno(1,2,3-cd)pyrene	3.9E-01	mg/kg	2.7E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	2.0E-09	2.4E-08	mg/kg-day	NA	mg/kg-day	NA
				Iron	2.7E+04	mg/kg	1.8E-04	mg/kg-day	NA	NA	NA	1.6E-03	mg/kg-day	3.0E-01	mg/kg-day	0.005
				Manganese	3.2E+02	mg/kg	8.9E-06	mg/kg-day	NA	NA	NA	7.8E-07	mg/kg-day	1.4E-01	mg/kg-day	0.00001
				Naphthalene	2.7E+02	mg/kg	1.8E-06	mg/kg-day	NA	NA	NA	1.6E-05	mg/kg-day	2.0E-02	mg/kg-day	0.0008
				Pentachlorophenol	1.1E+01	mg/kg	7.6E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	9.1E-09	6.6E-07	mg/kg-day	3.0E-02	mg/kg-day	0.00002
				Phenanthrene	3.3E+02	mg/kg	2.2E-06	mg/kg-day	NA	NA	NA	2.0E-05	mg/kg-day	4.0E-02	mg/kg-day	0.0005
				Vanadium	3.8E+01	mg/kg	6.8E-09	mg/kg-day	NA	NA	NA	6.0E-08	mg/kg-day	1.0E-03	mg/kg-day	0.00006
				Dioxin TEQ (mammalian)	3.8E-04	mg/kg	2.6E-12	mg/kg-day	1.5E+05	(mg/kg-day)-1	3.9E-07	2.3E-11	mg/kg-day	NA	mg/kg-day	NA
			Exp. Route Total								9.9E-07					0.02
			Dermal Absorption	2-Methylnaphthalene	1.5E+02	mg/kg	7.1E-06	mg/kg-day	NA	NA	NA	6.2E-05	mg/kg-day	4.0E-03	mg/kg-day	0.02
				Acenaphthene	1.2E+02	mg/kg	5.6E-06	mg/kg-day	NA	NA	NA	4.9E-05	mg/kg-day	6.0E-02	mg/kg-day	0.0008
				Acenaphthylene	1.8E+00	mg/kg	8.7E-08	mg/kg-day	NA	NA	NA	7.7E-07	mg/kg-day	6.0E-02	mg/kg-day	0.00001
				Aluminum	1.2E+04	mg/kg	4.6E-06	mg/kg-day	NA	NA	NA	4.0E-05	mg/kg-day	1.0E+00	mg/kg-day	0.00004
				Anthracene	4.7E+02	mg/kg	2.3E-05	mg/kg-day	NA	NA	NA	2.0E-04	mg/kg-day	3.0E-01	mg/kg-day	0.0007
				Arsenic	6.9E+00	mg/kg	7.7E-06	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.2E-07	6.8E-07	mg/kg-day	3.0E-04	mg/kg-day	0.002
				Benzo(a)anthracene	1.9E+01	mg/kg	9.1E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	6.7E-07	8.0E-06	mg/kg-day	NA	NA	NA
				Benzo(a)pyrene	6.1E+00	mg/kg	2.9E-07	mg/kg-day	7.3E+00	(mg/kg-day)-1	2.1E-06	2.6E-06	mg/kg-day	NA	NA	NA
				Benzo(b)fluoranthene	5.2E+00	mg/kg	2.5E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.8E-07	2.2E-06	mg/kg-day	NA	NA	NA
				Benzo(b&k)fluoranthene	1.5E+01	mg/kg	7.2E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	5.3E-07	6.3E-06	mg/kg-day	NA	NA	NA
				Benzo(g,h,i)perylene	3.6E-01	mg/kg	1.7E-08	mg/kg-day	NA	NA	NA	1.5E-07	mg/kg-day	4.0E-02	mg/kg-day	0.000004
				Benzo(k)fluoranthene	3.3E-01	mg/kg	1.6E-08	mg/kg-day	7.3E-02	(mg/kg-day)-1	1.2E-09	1.4E-07	mg/kg-day	NA	NA	NA
				Carbazole	8.1E+01	mg/kg	3.9E-06	mg/kg-day	2.0E-02	(mg/kg-day)-1	7.8E-08	3.4E-05	mg/kg-day	NA	NA	NA
				Chrysene	1.8E+01	mg/kg	8.8E-07	mg/kg-day	7.3E-03	(mg/kg-day)-1	6.4E-09	7.7E-06	mg/kg-day	NA	NA	NA
				Dibenzo(a,h)anthracene	1.5E-01	mg/kg	7.3E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	5.3E-08	6.4E-08	mg/kg-day	NA	NA	NA
				Dibenzofuran	1.7E+02	mg/kg	8.4E-06	mg/kg-day	NA	NA	NA	7.4E-05	mg/kg-day	2.0E-03	mg/kg-day	0.04
				Fluoranthene	1.2E+02	mg/kg	5.8E-06	mg/kg-day	NA	NA	NA	5.1E-05	mg/kg-day	4.0E-02	mg/kg-day	0.001
				Fluorene	2.1E+02	mg/kg	1.0E-05	mg/kg-day	NA	NA	NA	8.8E-05	mg/kg-day	4.0E-02	mg/kg-day	0.002
				Indeno(1,2,3-cd)pyrene	3.9E-01	mg/kg	1.9E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.4E-08	1.7E-07	mg/kg-day	NA	NA	NA
				Iron	2.7E+04	mg/kg	1.0E-05	mg/kg-day	NA	NA	NA	8.7E-05	mg/kg-day	3.0E-01	mg/kg-day	0.0003
				Manganese	3.2E+02	mg/kg	1.2E-07	mg/kg-day	NA	NA	NA	1.1E-06	mg/kg-day	5.6E-03	mg/kg-day	0.0002
				Naphthalene	2.7E+02	mg/kg	1.3E-05	mg/kg-day	NA	NA	NA	1.1E-04	mg/kg-day	2.0E-02	mg/kg-day	0.006
				Pentachlorophenol	1.1E+01	mg/kg	1.0E-06	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.2E-07	9.0E-06	mg/kg-day	3.0E-02	mg/kg-day	0.0003
				Phenanthrene	3.3E+02	mg/kg	1.6E-05	mg/kg-day	NA	NA	NA	1.4E-04	mg/kg-day	4.0E-02	mg/kg-day	0.003
				Vanadium	3.8E+01	mg/kg		mg/kg-day	NA	NA	NA	1.2E-07	mg/kg-day	2.6E-05	mg/kg-day	0.005
				Dioxin TEQ (mammalian)	3.8E-04	mg/kg	4.2E-12	mg/kg-day	1.5E+05	(mg/kg-day)-1	6.3E-07	3.7E-11	mg/kg-day	NA	NA	NA
			Exp. Route Total								4.5E-06					0.07
		Exposure Point Total									5.5E-06					0.09
	Exposure Medium Total										5.5E-06					0.09
Sediment Total											5.5E-06					0.09
							Total of Receptor Risks Across All Media				5.5E-06	Total of Receptor Hazards Across All Media				0.09

TABLE 7.1b.CTE TRESPASSER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (10 to 18 years)

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		CTE	Intake/Exposure Concentration		RfD		CTE
							Value	Units	Value	Units	Cancer Risk	Value	Units	Value	Units	Hazard Quotient
Sediment	Sediment	DRAINAGE DITCH DOWNSTREAM	Incidental Ingestion	2-Methylnaphthalene	1.5E+02	mg/kg	2.5E-07	mg/kg-day	NA	NA	NA	2.2E-06	mg/kg-day	4.0E-03	mg/kg-day	0.001
				Acenaphthene	1.2E+02	mg/kg	2.0E-07	mg/kg-day	NA	NA	NA	1.7E-06	mg/kg-day	6.0E-02	mg/kg-day	0.00003
				Acenaphthylene	1.8E+00	mg/kg	3.1E-09	mg/kg-day	NA	NA	NA	2.7E-08	mg/kg-day	6.0E-02	mg/kg-day	0.0000005
				Aluminum	1.2E+04	mg/kg	2.1E-05	mg/kg-day	NA	NA	NA	1.8E-04	mg/kg-day	1.0E+00	mg/kg-day	0.0002
				Anthracene	4.7E+02	mg/kg	8.1E-07	mg/kg-day	NA	NA	NA	7.1E-06	mg/kg-day	3.0E-01	mg/kg-day	0.00002
				Arsenic	6.9E+00	mg/kg	1.2E-08	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.8E-08	1.0E-07	mg/kg-day	3.0E-04	mg/kg-day	0.0003
				Benzo(a)anthracene	1.9E+01	mg/kg	3.2E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	2.4E-08	2.8E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(a)pyrene	8.1E+00	mg/kg	1.0E-08	mg/kg-day	7.3E+00	(mg/kg-day)-1	7.6E-08	9.1E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b)fluoranthene	5.2E+00	mg/kg	8.9E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	6.5E-09	7.8E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b&k)fluoranthene	1.5E+01	mg/kg	2.6E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.9E-08	2.2E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(g,h,i)perylene	3.6E-01	mg/kg	6.2E-10	mg/kg-day	NA	NA	NA	5.4E-09	mg/kg-day	4.0E-02	mg/kg-day	0.0000001
				Benzo(k)fluoranthene	3.3E-01	mg/kg	5.7E-10	mg/kg-day	7.3E-02	(mg/kg-day)-1	4.2E-11	5.0E-09	mg/kg-day	NA	mg/kg-day	NA
				Carbazole	8.1E+01	mg/kg	1.4E-07	mg/kg-day	2.0E-02	(mg/kg-day)-1	2.8E-09	1.2E-06	mg/kg-day	NA	mg/kg-day	NA
				Chrysene	1.8E+01	mg/kg	3.1E-08	mg/kg-day	7.3E-03	(mg/kg-day)-1	2.3E-10	2.7E-07	mg/kg-day	NA	mg/kg-day	NA
				Dibenzo(a,h)anthracene	1.5E-01	mg/kg	2.6E-10	mg/kg-day	7.3E+00	(mg/kg-day)-1	1.9E-09	2.3E-09	mg/kg-day	NA	mg/kg-day	NA
				Dibenzofuran	1.7E+02	mg/kg	3.0E-07	mg/kg-day	NA	NA	NA	2.6E-06	mg/kg-day	2.0E-03	mg/kg-day	0.001
				Fluoranthene	1.2E+02	mg/kg	2.1E-07	mg/kg-day	NA	NA	NA	1.8E-06	mg/kg-day	4.0E-02	mg/kg-day	0.000
				Fluorene	2.1E+02	mg/kg	3.6E-07	mg/kg-day	NA	NA	NA	3.1E-06	mg/kg-day	4.0E-02	mg/kg-day	0.000
				Indeno(1,2,3-cd)pyrene	3.9E-01	mg/kg	6.7E-10	mg/kg-day	7.3E-01	(mg/kg-day)-1	4.9E-10	5.9E-09	mg/kg-day	NA	mg/kg-day	NA
				Iron	2.7E+04	mg/kg	4.6E-05	mg/kg-day	NA	NA	NA	4.0E-04	mg/kg-day	3.0E-01	mg/kg-day	0.001
				Manganese	3.2E+02	mg/kg	2.2E-06	mg/kg-day	NA	NA	NA	1.9E-07	mg/kg-day	1.4E-01	mg/kg-day	0.000001
				Naphthalene	2.7E+02	mg/kg	4.6E-07	mg/kg-day	NA	NA	NA	4.0E-06	mg/kg-day	2.0E-02	mg/kg-day	0.0002
				Pentachlorophenol	1.1E+01	mg/kg	1.9E-08	mg/kg-day	1.2E-01	(mg/kg-day)-1	2.3E-09	1.7E-07	mg/kg-day	3.0E-02	mg/kg-day	0.0000
				Phenanthrene	3.3E+02	mg/kg	5.6E-07	mg/kg-day	NA	NA	NA	4.9E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0001
				Vanadium	3.8E+01	mg/kg	1.7E-09	mg/kg-day	NA	NA	NA	1.5E-08	mg/kg-day	1.0E-03	mg/kg-day	0.00001
				Dioxin TEQ (mammalian)	3.8E-04	mg/kg	6.5E-13	mg/kg-day	1.5E+05	(mg/kg-day)-1	9.8E-08	8.7E-12	mg/kg-day	NA	mg/kg-day	NA
			Exp. Route Total								2.5E-07					0.004
			Dermal Absorption	2-Methylnaphthalene	1.5E+02	mg/kg	3.5E-06	mg/kg-day	NA	NA	NA	3.1E-05	mg/kg-day	4.0E-03	mg/kg-day	0.008
				Acenaphthene	1.2E+02	mg/kg	2.8E-06	mg/kg-day	NA	NA	NA	2.4E-05	mg/kg-day	6.0E-02	mg/kg-day	0.0004
				Acenaphthylene	1.8E+00	mg/kg	4.4E-08	mg/kg-day	NA	NA	NA	3.8E-07	mg/kg-day	6.0E-02	mg/kg-day	0.00001
				Aluminum	1.2E+04	mg/kg	2.3E-06	mg/kg-day	NA	NA	NA	2.0E-05	mg/kg-day	1.0E+00	mg/kg-day	0.00002
				Anthracene	4.7E+02	mg/kg	1.1E-05	mg/kg-day	NA	NA	NA	1.0E-04	mg/kg-day	3.0E-01	mg/kg-day	0.0003
				Arsenic	6.9E+00	mg/kg	3.9E-08	mg/kg-day	1.5E+00	(mg/kg-day)-1	5.8E-08	3.4E-07	mg/kg-day	3.0E-04	mg/kg-day	0.001
				Benzo(a)anthracene	1.9E+01	mg/kg	4.6E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	3.3E-07	4.0E-06	mg/kg-day	NA	NA	NA
				Benzo(a)pyrene	8.1E+00	mg/kg	1.5E-07	mg/kg-day	7.3E+00	(mg/kg-day)-1	1.1E-06	1.3E-06	mg/kg-day	NA	NA	NA
				Benzo(b)fluoranthene	5.2E+00	mg/kg	1.3E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	9.2E-08	1.1E-06	mg/kg-day	NA	NA	NA
				Benzo(b&k)fluoranthene	1.5E+01	mg/kg	3.6E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	2.6E-07	3.2E-06	mg/kg-day	NA	NA	NA
				Benzo(g,h,i)perylene	3.6E-01	mg/kg	8.7E-09	mg/kg-day	NA	NA	NA	7.6E-08	mg/kg-day	4.0E-02	mg/kg-day	0.000002
				Benzo(k)fluoranthene	3.3E-01	mg/kg	8.1E-09	mg/kg-day	7.3E-02	(mg/kg-day)-1	5.9E-10	7.1E-08	mg/kg-day	NA	NA	NA
				Carbazole	8.1E+01	mg/kg	2.0E-06	mg/kg-day	2.0E-02	(mg/kg-day)-1	3.9E-08	1.7E-05	mg/kg-day	NA	NA	NA
				Chrysene	1.8E+01	mg/kg	4.4E-07	mg/kg-day	7.3E-03	(mg/kg-day)-1	3.2E-09	3.8E-06	mg/kg-day	NA	NA	NA
				Dibenzo(a,h)anthracene	1.5E-01	mg/kg	3.6E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	2.7E-08	3.2E-08	mg/kg-day	NA	NA	NA
				Dibenzofuran	1.7E+02	mg/kg	4.2E-06	mg/kg-day	NA	NA	NA	3.7E-05	mg/kg-day	2.0E-03	mg/kg-day	0.02
				Fluoranthene	1.2E+02	mg/kg	2.9E-06	mg/kg-day	NA	NA	NA	2.5E-05	mg/kg-day	4.0E-02	mg/kg-day	0.001
				Fluorene	2.1E+02	mg/kg	5.0E-06	mg/kg-day	NA	NA	NA	4.4E-05	mg/kg-day	4.0E-02	mg/kg-day	0.001
				Indeno(1,2,3-cd)pyrene	3.9E-01	mg/kg	9.5E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	6.9E-09	8.3E-08	mg/kg-day	NA	NA	NA
				Iron	2.7E+04	mg/kg	5.0E-06	mg/kg-day	NA	NA	NA	4.4E-05	mg/kg-day	3.0E-01	mg/kg-day	0.0001
				Manganese	3.2E+02	mg/kg	6.0E-08	mg/kg-day	NA	NA	NA	5.3E-07	mg/kg-day	5.6E-03	mg/kg-day	0.0001
				Naphthalene	2.7E+02	mg/kg	6.5E-06	mg/kg-day	NA	NA	NA	5.7E-05	mg/kg-day	2.0E-02	mg/kg-day	0.003
				Pentachlorophenol	1.1E+01	mg/kg	5.1E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	6.2E-08	4.5E-06	mg/kg-day	3.0E-02	mg/kg-day	0.0001
				Phenanthrene	3.3E+02	mg/kg	7.9E-06	mg/kg-day	NA	NA	NA	6.9E-05	mg/kg-day	4.0E-02	mg/kg-day	0.002
				Vanadium	3.8E+01	mg/kg	7.1E-09	mg/kg-day	NA	NA	NA	6.2E-08	mg/kg-day	2.6E-05	mg/kg-day	0.002
				Dioxin TEQ (mammalian)	3.8E-04	mg/kg	2.1E-12	mg/kg-day	1.5E+05	(mg/kg-day)-1	3.2E-07	1.9E-11	mg/kg-day	NA	NA	NA
			Exp. Route Total								2.3E-06					0.04
		Exposure Point Total									2.5E-06					0.04
	Exposure Medium Total										2.5E-06					0.04
Sediment Total											2.5E-06					0.04
							Total of Receptor Risks Across All Media				2.5E-06					0.04

TABLE 7.2a.RME HUNTER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		RME	Intake/Exposure Concentration		RfD		RME
							Value	Units	Value	Units	Cancer Risk	Value	Units	Value	Units	Hazard Quotient
Sediment	Sediment	DRAINAGE DITCH DOWNSTREAM	Incidental Ingestion	2-Methylnaphthalene	1.5E+02	mg/kg	1.7E-06	mg/kg-day	NA	NA	NA	3.9E-06	mg/kg-day	4.0E-03	mg/kg-day	0.001
				Acenaphthene	1.2E+02	mg/kg	1.4E-06	mg/kg-day	NA	NA	NA	3.1E-06	mg/kg-day	6.0E-02	mg/kg-day	0.0001
				Acenaphthylene	1.8E+00	mg/kg	2.1E-08	mg/kg-day	NA	NA	NA	4.8E-08	mg/kg-day	6.0E-02	mg/kg-day	0.000001
				Aluminum	1.2E+04	mg/kg	1.4E-04	mg/kg-day	NA	NA	NA	3.3E-04	mg/kg-day	1.0E+00	mg/kg-day	0.0003
				Anthracene	4.7E+02	mg/kg	5.5E-06	mg/kg-day	NA	NA	NA	1.3E-05	mg/kg-day	3.0E-01	mg/kg-day	0.00004
				Arsenic	6.9E+00	mg/kg	8.1E-08	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.2E-07	1.8E-07	mg/kg-day	3.0E-04	mg/kg-day	0.0006
				Benzo(a)anthracene	1.9E+01	mg/kg	2.2E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.6E-07	5.0E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(a)pyrene	6.1E+00	mg/kg	7.1E-08	mg/kg-day	7.3E+00	(mg/kg-day)-1	5.2E-07	1.6E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b)fluoranthene	5.2E+00	mg/kg	6.1E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	4.4E-08	1.4E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b&k)fluoranthene	1.5E+01	mg/kg	1.7E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.3E-07	4.0E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(g,h,i)perylene	3.6E-01	mg/kg	4.2E-09	mg/kg-day	NA	NA	NA	9.6E-09	mg/kg-day	4.0E-02	mg/kg-day	0.0000002
				Benzo(k)fluoranthene	3.3E-01	mg/kg	3.9E-09	mg/kg-day	7.3E-02	(mg/kg-day)-1	2.9E-10	8.9E-09	mg/kg-day	NA	mg/kg-day	NA
				Carbazole	8.1E+01	mg/kg	9.5E-07	mg/kg-day	2.0E-02	(mg/kg-day)-1	1.9E-08	2.2E-06	mg/kg-day	NA	mg/kg-day	NA
				Chrysene	1.8E+01	mg/kg	2.1E-07	mg/kg-day	7.3E-03	(mg/kg-day)-1	1.6E-09	4.8E-07	mg/kg-day	NA	mg/kg-day	NA
				Dibenzo(a,h)anthracene	1.5E-01	mg/kg	1.8E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	1.3E-08	4.0E-09	mg/kg-day	NA	mg/kg-day	NA
				Dibenzofuran	1.7E+02	mg/kg	2.0E-06	mg/kg-day	NA	NA	NA	4.6E-06	mg/kg-day	2.0E-03	mg/kg-day	0.002
				Fluoranthene	1.2E+02	mg/kg	1.4E-06	mg/kg-day	NA	NA	NA	3.2E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0001
				Fluorene	2.1E+02	mg/kg	2.4E-06	mg/kg-day	NA	NA	NA	5.5E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0001
				Indeno(1,2,3-cd)pyrene	3.9E-01	mg/kg	4.6E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	3.3E-09	1.0E-08	mg/kg-day	NA	mg/kg-day	NA
				Iron	2.7E+04	mg/kg	3.1E-04	mg/kg-day	NA	NA	NA	7.1E-04	mg/kg-day	3.0E-01	mg/kg-day	0.002
				Manganese	3.2E+02	mg/kg	1.5E-07	mg/kg-day	NA	NA	NA	3.5E-07	mg/kg-day	1.4E-01	mg/kg-day	0.000002
				Naphthalene	2.7E+02	mg/kg	3.1E-06	mg/kg-day	NA	NA	NA	7.1E-06	mg/kg-day	2.0E-02	mg/kg-day	0.0004
				Pentachlorophenol	1.1E+01	mg/kg	1.3E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.5E-08	2.9E-07	mg/kg-day	3.0E-02	mg/kg-day	0.00001
				Phenanthrene	3.3E+02	mg/kg	3.8E-06	mg/kg-day	NA	NA	NA	8.7E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0002
				Vanadium	3.8E+01	mg/kg	1.2E-08	mg/kg-day	NA	NA	NA	2.7E-08	mg/kg-day	1.0E-03	mg/kg-day	0.00003
				Dioxin TEQ (mammalian)	3.8E-04	mg/kg	4.4E-12	mg/kg-day	1.5E+05	(mg/kg-day)-1	6.7E-07	1.0E-11	mg/kg-day	NA	mg/kg-day	NA
			Exp. Route Total								1.7E-06					0.008
			Dermal Absorption	2-Methylnaphthalene	1.5E+02	mg/kg	5.6E-06	mg/kg-day	NA	NA	NA	1.3E-05	mg/kg-day	4.0E-03	mg/kg-day	0.003
				Acenaphthene	1.2E+02	mg/kg	4.4E-06	mg/kg-day	NA	NA	NA	1.0E-05	mg/kg-day	6.0E-02	mg/kg-day	0.0002
				Acenaphthylene	1.8E+00	mg/kg	6.9E-08	mg/kg-day	NA	NA	NA	1.6E-07	mg/kg-day	6.0E-02	mg/kg-day	0.000003
				Aluminum	1.2E+04	mg/kg	3.6E-06	mg/kg-day	NA	NA	NA	8.1E-06	mg/kg-day	1.0E+00	mg/kg-day	0.00001
				Anthracene	4.7E+02	mg/kg	1.8E-05	mg/kg-day	NA	NA	NA	4.1E-05	mg/kg-day	3.0E-01	mg/kg-day	0.0001
				Arsenic	6.9E+00	mg/kg	6.1E-08	mg/kg-day	1.5E+00	(mg/kg-day)-1	9.1E-08	1.4E-07	mg/kg-day	3.0E-04	mg/kg-day	0.0005
				Benzo(a)anthracene	1.9E+01	mg/kg	7.2E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	5.2E-07	1.6E-06	mg/kg-day	NA	NA	NA
				Benzo(a)pyrene	6.1E+00	mg/kg	2.3E-07	mg/kg-day	7.3E+00	(mg/kg-day)-1	1.7E-06	5.2E-07	mg/kg-day	NA	NA	NA
				Benzo(b)fluoranthene	5.2E+00	mg/kg	2.0E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.4E-07	4.5E-07	mg/kg-day	NA	NA	NA
				Benzo(b&k)fluoranthene	1.5E+01	mg/kg	5.7E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	4.1E-07	1.3E-06	mg/kg-day	NA	NA	NA
				Benzo(g,h,i)perylene	3.6E-01	mg/kg	1.4E-08	mg/kg-day	NA	NA	NA	3.1E-08	mg/kg-day	4.0E-02	mg/kg-day	0.000001
				Benzo(k)fluoranthene	3.3E-01	mg/kg	1.3E-08	mg/kg-day	7.3E-02	(mg/kg-day)-1	9.3E-10	2.9E-08	mg/kg-day	NA	NA	NA
				Carbazole	8.1E+01	mg/kg	3.1E-06	mg/kg-day	2.0E-02	(mg/kg-day)-1	6.1E-08	7.0E-06	mg/kg-day	NA	NA	NA
				Chrysene	1.8E+01	mg/kg	6.9E-07	mg/kg-day	7.3E-03	(mg/kg-day)-1	5.0E-09	1.6E-06	mg/kg-day	NA	NA	NA
				Dibenzo(a,h)anthracene	1.5E-01	mg/kg	5.7E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	4.2E-08	1.3E-08	mg/kg-day	NA	NA	NA
				Dibenzofuran	1.7E+02	mg/kg	6.6E-06	mg/kg-day	NA	NA	NA	1.5E-05	mg/kg-day	2.0E-03	mg/kg-day	0.008
				Fluoranthene	1.2E+02	mg/kg	4.5E-06	mg/kg-day	NA	NA	NA	1.0E-05	mg/kg-day	4.0E-02	mg/kg-day	0.0003
				Fluorene	2.1E+02	mg/kg	7.9E-06	mg/kg-day	NA	NA	NA	1.8E-05	mg/kg-day	4.0E-02	mg/kg-day	0.0004
				Indeno(1,2,3-cd)pyrene	3.9E-01	mg/kg	1.5E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.1E-08	3.4E-08	mg/kg-day	NA	NA	NA
				Iron	2.7E+04	mg/kg	7.8E-06	mg/kg-day	NA	NA	NA	1.8E-05	mg/kg-day	3.0E-01	mg/kg-day	0.0001
				Manganese	3.2E+02	mg/kg	9.5E-06	mg/kg-day	NA	NA	NA	2.2E-07	mg/kg-day	5.6E-03	mg/kg-day	0.00004
				Naphthalene	2.7E+02	mg/kg	1.0E-05	mg/kg-day	NA	NA	NA	2.3E-05	mg/kg-day	2.0E-02	mg/kg-day	0.001
				Pentachlorophenol	1.1E+01	mg/kg	8.0E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	9.7E-08	1.8E-06	mg/kg-day	3.0E-02	mg/kg-day	0.0001
				Phenanthrene	3.3E+02	mg/kg	1.2E-05	mg/kg-day	NA	NA	NA	2.8E-05	mg/kg-day	4.0E-02	mg/kg-day	0.0007
				Vanadium	3.8E+01	mg/kg	1.1E-08	mg/kg-day	NA	NA	NA	2.5E-08	mg/kg-day	2.6E-05	mg/kg-day	0.001
				Dioxin TEQ (mammalian)	3.8E-04	mg/kg	3.3E-12	mg/kg-day	1.5E+05	(mg/kg-day)-1	5.0E-07	7.6E-12	mg/kg-day	NA	NA	NA
			Exp. Route Total								3.6E-06					0.02
		Exposure Point Total									5.3E-06					0.02
	Exposure Medium Total										5.3E-06					0.02
Sediment Total											5.3E-06					0.02

TABLE 7.2b.CTE HUNTER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		CTE Cancer Risk	Intake/Exposure Concentration		RfD		CTE Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	DRAINAGE DITCH DOWNSTREAM	Incidental Ingestion	2-Methylnaphthalene	1.5E+02	mg/kg	1.2E-07	mg/kg-day	NA	NA	NA	9.1E-07	mg/kg-day	4.0E-03	mg/kg-day	0.0002
				Acenaphthene	1.2E+02	mg/kg	9.4E-08	mg/kg-day	NA	NA	NA	7.1E-07	mg/kg-day	6.0E-02	mg/kg-day	0.00001
				Acenaphthylene	1.8E+00	mg/kg	1.5E-09	mg/kg-day	NA	NA	NA	1.1E-08	mg/kg-day	6.0E-02	mg/kg-day	0.0000002
				Aluminum	1.2E+04	mg/kg	1.0E-05	mg/kg-day	NA	NA	NA	7.6E-05	mg/kg-day	1.0E+00	mg/kg-day	0.00008
				Anthracene	4.7E+02	mg/kg	3.9E-07	mg/kg-day	NA	NA	NA	2.9E-06	mg/kg-day	3.0E-01	mg/kg-day	0.00001
				Arsenic	6.9E+00	mg/kg	5.6E-09	mg/kg-day	1.5E+00	(mg/kg-day)-1	8.5E-09	4.3E-08	mg/kg-day	3.0E-04	mg/kg-day	0.0001
				Benzo(a)anthracene	1.9E+01	mg/kg	1.5E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.1E-08	1.2E-07	mg/kg-day	NA	mg/kg-day	NA
				Benzo(a)pyrene	6.1E+00	mg/kg	5.0E-09	mg/kg-day	7.3E+00	(mg/kg-day)-1	3.6E-08	3.8E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b)fluoranthene	5.2E+00	mg/kg	4.2E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	3.1E-09	3.2E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b&k)fluoranthene	1.5E+01	mg/kg	1.2E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	8.9E-09	9.2E-08	mg/kg-day	NA	mg/kg-day	NA
				Benzo(g,h,i)perylene	3.6E-01	mg/kg	2.9E-10	mg/kg-day	NA	NA	NA	2.2E-09	mg/kg-day	4.0E-02	mg/kg-day	0.0000001
				Benzo(k)fluoranthene	3.3E-01	mg/kg	2.7E-10	mg/kg-day	7.3E-02	(mg/kg-day)-1	2.0E-11	2.1E-09	mg/kg-day	NA	mg/kg-day	NA
				Carbazole	8.1E+01	mg/kg	6.6E-08	mg/kg-day	2.0E-02	(mg/kg-day)-1	1.3E-09	5.0E-07	mg/kg-day	NA	mg/kg-day	NA
				Chrysene	1.8E+01	mg/kg	1.5E-08	mg/kg-day	7.3E-03	(mg/kg-day)-1	1.1E-10	1.1E-07	mg/kg-day	NA	mg/kg-day	NA
				Dibenzo(a,h)anthracene	1.5E-01	mg/kg	1.2E-10	mg/kg-day	7.3E+00	(mg/kg-day)-1	9.0E-10	9.3E-10	mg/kg-day	NA	mg/kg-day	NA
				Dibenzofuran	1.7E+02	mg/kg	1.4E-07	mg/kg-day	NA	NA	NA	1.1E-06	mg/kg-day	2.0E-03	mg/kg-day	0.001
				Fluoranthene	1.2E+02	mg/kg	9.8E-08	mg/kg-day	NA	NA	NA	7.4E-07	mg/kg-day	4.0E-02	mg/kg-day	0.00002
				Fluorene	2.1E+02	mg/kg	1.7E-07	mg/kg-day	NA	NA	NA	1.3E-06	mg/kg-day	4.0E-02	mg/kg-day	0.00003
				Indeno(1,2,3-cd)pyrene	3.9E-01	mg/kg	3.2E-10	mg/kg-day	7.3E-01	(mg/kg-day)-1	2.3E-10	2.4E-09	mg/kg-day	NA	mg/kg-day	NA
				Iron	2.7E+04	mg/kg	2.2E-05	mg/kg-day	NA	NA	NA	1.7E-04	mg/kg-day	3.0E-01	mg/kg-day	0.001
				Manganese	3.2E+02	mg/kg	1.1E-08	mg/kg-day	NA	NA	NA	8.0E-08	mg/kg-day	1.4E-01	mg/kg-day	0.000001
				Naphthalene	2.7E+02	mg/kg	2.2E-07	mg/kg-day	NA	NA	NA	1.7E-06	mg/kg-day	2.0E-02	mg/kg-day	0.00008
				Pentachlorophenol	1.1E+01	mg/kg	9.0E-09	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.1E-09	6.8E-08	mg/kg-day	3.0E-02	mg/kg-day	0.000002
				Phenanthrene	3.3E+02	mg/kg	2.7E-07	mg/kg-day	NA	NA	NA	2.0E-06	mg/kg-day	4.0E-02	mg/kg-day	0.00005
				Vanadium	3.8E+01	mg/kg	8.1E-10	mg/kg-day	NA	NA	NA	6.2E-09	mg/kg-day	1.0E-03	mg/kg-day	0.00001
				Dioxin TEQ (mammalian)	3.8E-04	mg/kg	3.1E-13	mg/kg-day	1.5E+05	(mg/kg-day)-1	4.6E-08	2.3E-12	mg/kg-day	NA	mg/kg-day	NA
			Exp. Route Total								1.2E-07					0.002
			Dermal Absorption	2-Methylnaphthalene	1.5E+02	mg/kg	7.7E-07	mg/kg-day	NA	NA	NA	5.9E-06	mg/kg-day	4.0E-03	mg/kg-day	0.001
				Acenaphthene	1.2E+02	mg/kg	6.1E-07	mg/kg-day	NA	NA	NA	4.6E-06	mg/kg-day	6.0E-02	mg/kg-day	0.00008
				Acenaphthylene	1.8E+00	mg/kg	9.6E-09	mg/kg-day	NA	NA	NA	7.2E-08	mg/kg-day	6.0E-02	mg/kg-day	0.000001
				Aluminum	1.2E+04	mg/kg	5.0E-07	mg/kg-day	NA	NA	NA	3.8E-06	mg/kg-day	1.0E+00	mg/kg-day	0.000004
				Anthracene	4.7E+02	mg/kg	2.5E-06	mg/kg-day	NA	NA	NA	1.9E-05	mg/kg-day	3.0E-01	mg/kg-day	0.00006
				Arsenic	6.9E+00	mg/kg	8.4E-09	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.3E-08	6.4E-08	mg/kg-day	3.0E-04	mg/kg-day	0.0002
				Benzo(a)anthracene	1.9E+01	mg/kg	1.0E-07	mg/kg-day	7.3E-01	(mg/kg-day)-1	7.3E-08	7.6E-07	mg/kg-day	NA	NA	NA
				Benzo(a)pyrene	6.1E+00	mg/kg	3.2E-08	mg/kg-day	7.3E+00	(mg/kg-day)-1	2.3E-07	2.4E-07	mg/kg-day	NA	NA	NA
				Benzo(b)fluoranthene	5.2E+00	mg/kg	2.7E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	2.0E-08	2.1E-07	mg/kg-day	NA	NA	NA
				Benzo(b&k)fluoranthene	1.5E+01	mg/kg	7.9E-08	mg/kg-day	7.3E-01	(mg/kg-day)-1	5.8E-08	6.0E-07	mg/kg-day	NA	NA	NA
				Benzo(g,h,i)perylene	3.6E-01	mg/kg	1.9E-09	mg/kg-day	NA	NA	NA	1.4E-08	mg/kg-day	4.0E-02	mg/kg-day	0.0000004
				Benzo(k)fluoranthene	3.3E-01	mg/kg	1.8E-09	mg/kg-day	7.3E-02	(mg/kg-day)-1	1.3E-10	1.3E-08	mg/kg-day	NA	NA	NA
				Carbazole	8.1E+01	mg/kg	4.3E-07	mg/kg-day	2.0E-02	(mg/kg-day)-1	8.5E-09	3.2E-06	mg/kg-day	NA	NA	NA
				Chrysene	1.8E+01	mg/kg	9.6E-08	mg/kg-day	7.3E-03	(mg/kg-day)-1	7.0E-10	7.3E-07	mg/kg-day	NA	NA	NA
				Dibenzo(a,h)anthracene	1.5E-01	mg/kg	7.9E-10	mg/kg-day	7.3E+00	(mg/kg-day)-1	5.8E-09	6.0E-09	mg/kg-day	NA	NA	NA
				Dibenzofuran	1.7E+02	mg/kg	9.2E-07	mg/kg-day	NA	NA	NA	7.0E-06	mg/kg-day	2.0E-03	mg/kg-day	0.003
				Fluoranthene	1.2E+02	mg/kg	6.3E-07	mg/kg-day	NA	NA	NA	4.8E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0001
				Fluorene	2.1E+02	mg/kg	1.1E-06	mg/kg-day	NA	NA	NA	8.3E-06	mg/kg-day	4.0E-02	mg/kg-day	0.0002
				Indeno(1,2,3-cd)pyrene	3.9E-01	mg/kg	2.1E-09	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.5E-09	1.6E-08	mg/kg-day	NA	NA	NA
				Iron	2.7E+04	mg/kg	1.1E-06	mg/kg-day	NA	NA	NA	8.3E-06	mg/kg-day	3.0E-01	mg/kg-day	0.00003
				Manganese	3.2E+02	mg/kg	1.3E-08	mg/kg-day	NA	NA	NA	1.0E-07	mg/kg-day	5.6E-03	mg/kg-day	0.00002
				Naphthalene	2.7E+02	mg/kg	1.4E-06	mg/kg-day	NA	NA	NA	1.1E-05	mg/kg-day	2.0E-02	mg/kg-day	0.001
				Pentachlorophenol	1.1E+01	mg/kg	1.1E-07	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.3E-08	8.5E-07	mg/kg-day	3.0E-02	mg/kg-day	0.00003
				Phenanthrene	3.3E+02	mg/kg	1.7E-06	mg/kg-day	NA	NA	NA	1.3E-05	mg/kg-day	4.0E-02	mg/kg-day	0.0003
				Vanadium	3.8E+01	mg/kg	1.6E-09	mg/kg-day	NA	NA	NA	1.2E-08	mg/kg-day	2.6E-05	mg/kg-day	0.0005
				Dioxin TEQ (mammalian)	3.8E-04	mg/kg	4.6E-13	mg/kg-day	1.5E+05	(mg/kg-day)-1	6.9E-08	3.5E-12	mg/kg-day	NA	NA	NA
			Exp. Route Total								5.0E-07					0.007
		Exposure Point Total									6.2E-07					0.009
	Exposure Medium Total										6.2E-07					0.009
Sediment Total											6.2E-07					0.009

TABLE 7.3a.RME HUNTER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		RME	Intake/Exposure Concentration		RfD		RME
							Value	Units	Value	Units	Cancer Risk	Value	Units	Value	Units	Hazard Quotient
Wild Game	Wild Game	DRAINAGE DITCH DOWNSTREAM	Ingestion	2-Methylnaphthalene	3.1E-07	mg/kg	1.8E-11	mg/kg-day	NA	NA	NA	4.1E-11	mg/kg-day	4.0E-03	mg/kg-day	0.00000001
				Acenaphthene	1.0E-07	mg/kg	6.0E-12	mg/kg-day	NA	NA	NA	1.4E-11	mg/kg-day	6.0E-02	mg/kg-day	0.0000000002
				Acenaphthylene	3.9E-09	mg/kg	2.2E-13	mg/kg-day	NA	NA	NA	5.1E-13	mg/kg-day	6.0E-02	mg/kg-day	9.E-12
				Aluminum	1.0E-08	mg/kg	5.9E-13	mg/kg-day	NA	NA	NA	1.4E-12	mg/kg-day	1.0E+00	mg/kg-day	1.E-12
				Anthracene	9.9E-07	mg/kg	5.7E-11	mg/kg-day	NA	NA	NA	1.3E-10	mg/kg-day	3.0E-01	mg/kg-day	0.0000000004
				Arsenic	1.3E-02	mg/kg	7.6E-07	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.1E-06	1.7E-06	mg/kg-day	3.0E-04	mg/kg-day	0.006
				Benzo(a)anthracene	1.8E-08	mg/kg	1.1E-12	mg/kg-day	7.3E-01	(mg/kg-day)-1	7.7E-13	2.4E-12	mg/kg-day	NA	mg/kg-day	NA
				Benzo(a)pyrene	2.7E-09	mg/kg	1.5E-13	mg/kg-day	7.3E+00	(mg/kg-day)-1	1.1E-12	3.5E-13	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b)fluoranthene	3.0E-09	mg/kg	1.7E-13	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.2E-13	3.9E-13	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b&k)fluoranthene	NA	mg/kg	NA	mg/kg-day	7.3E-01	(mg/kg-day)-1	NA	NA	mg/kg-day	NA	mg/kg-day	NA
				Benzo(g,h,i)perylene	1.2E-10	mg/kg	6.9E-15	mg/kg-day	NA	NA	NA	1.8E-14	mg/kg-day	4.0E-02	mg/kg-day	4.E-13
				Benzo(k)fluoranthene	1.6E-10	mg/kg	9.3E-15	mg/kg-day	7.3E-02	(mg/kg-day)-1	6.8E-16	2.1E-14	mg/kg-day	NA	mg/kg-day	NA
				Carbazole	1.7E-07	mg/kg	9.8E-12	mg/kg-day	2.0E-02	(mg/kg-day)-1	1.9E-13	2.2E-11	mg/kg-day	NA	mg/kg-day	NA
				Chrysene	1.7E-08	mg/kg	9.8E-13	mg/kg-day	7.3E-03	(mg/kg-day)-1	7.0E-15	2.2E-12	mg/kg-day	NA	mg/kg-day	NA
				Dibenzo(a,h)anthracene	5.6E-11	mg/kg	3.2E-15	mg/kg-day	7.3E+00	(mg/kg-day)-1	2.4E-14	7.4E-15	mg/kg-day	NA	mg/kg-day	NA
				Dibenzofuran	3.8E-07	mg/kg	2.2E-11	mg/kg-day	NA	NA	NA	5.0E-11	mg/kg-day	2.0E-03	mg/kg-day	0.00000002
				Fluoranthene	1.1E-07	mg/kg	6.5E-12	mg/kg-day	NA	NA	NA	1.5E-11	mg/kg-day	4.0E-02	mg/kg-day	0.0000000004
				Fluorene	4.5E-07	mg/kg	2.6E-11	mg/kg-day	NA	NA	NA	5.9E-11	mg/kg-day	4.0E-02	mg/kg-day	0.000000001
				Indeno(1,2,3-cd)pyrene	1.1E-10	mg/kg	6.4E-15	mg/kg-day	7.3E-01	(mg/kg-day)-1	4.7E-15	1.5E-14	mg/kg-day	NA	mg/kg-day	NA
				Iron	4.9E-06	mg/kg	2.8E-10	mg/kg-day	NA	NA	NA	6.5E-10	mg/kg-day	3.0E-01	mg/kg-day	0.000000002
				Manganese	8.7E-10	mg/kg	2.0E-15	mg/kg-day	NA	NA	NA	4.6E-15	mg/kg-day	1.4E-01	mg/kg-day	3.E-14
				Naphthalene	4.5E-07	mg/kg	2.6E-11	mg/kg-day	NA	NA	NA	5.9E-11	mg/kg-day	2.0E-02	mg/kg-day	0.000000003
				Pentachlorophenol	9.2E-09	mg/kg	5.3E-13	mg/kg-day	1.2E-01	(mg/kg-day)-1	6.4E-14	1.2E-12	mg/kg-day	3.0E-02	mg/kg-day	4.E-11
				Phenanthrene	6.8E-07	mg/kg	3.9E-11	mg/kg-day	NA	NA	NA	8.9E-11	mg/kg-day	4.0E-02	mg/kg-day	0.000000002
				Vanadium	9.4E-11	mg/kg	1.4E-16	mg/kg-day	NA	NA	NA	3.2E-16	mg/kg-day	1.0E-03	mg/kg-day	3.E-13
				Dioxin TEQ (mammalian)	2.9E-11	mg/kg	1.7E-15	mg/kg-day	1.5E+05	(mg/kg-day)-1	2.5E-10	3.8E-15	mg/kg-day	NA	mg/kg-day	NA
			Exp. Route Total								1.1E-06					0.006
		Exposure Point Total									1.1E-06					0.006
	Exposure Medium Total										1.1E-06					0.006
Wild Game Total											1.1E-06					0.006
										Total of Receptor Risks Across All Media	6.4E-06				Total of Receptor Hazards Across All Media	0.03

TABLE 7.3b.CTE HUNTER
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT - GULF, NORTH CAROLINA FACILITY
DRAINAGE DITCH

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		CTE	Intake/Exposure Concentration		RfD		CTE
							Value	Units	Value	Units	Risk	Value	Units	Value	Units	Hazard Quotient
Wild Game	Wild Game	DRAINAGE DITCH DOWNSTREAM	Ingestion	2-Methylnaphthalene	3.1E-07	mg/kg	5.4E-12	mg/kg-day	NA	NA	NA	4.1E-11	mg/kg-day	4.0E-03	mg/kg-day	0.00000001
				Acenaphthene	1.0E-07	mg/kg	1.8E-12	mg/kg-day	NA	NA	NA	1.4E-11	mg/kg-day	6.0E-02	mg/kg-day	0.0000000002
				Acenaphthylene	3.9E-09	mg/kg	6.7E-14	mg/kg-day	NA	NA	NA	5.1E-13	mg/kg-day	6.0E-02	mg/kg-day	9.E-12
				Aluminum	1.0E-08	mg/kg	1.8E-13	mg/kg-day	NA	NA	NA	1.4E-12	mg/kg-day	1.0E+00	mg/kg-day	1.E-12
				Anthracene	9.9E-07	mg/kg	1.7E-11	mg/kg-day	NA	NA	NA	1.3E-10	mg/kg-day	3.0E-01	mg/kg-day	0.0000000004
				Arsenic	1.3E-02	mg/kg	2.3E-07	mg/kg-day	1.5E+00	(mg/kg-day)-1	3.4E-07	1.7E-06	mg/kg-day	3.0E-04	mg/kg-day	0.006
				Benzo(a)anthracene	1.8E-08	mg/kg	3.2E-13	mg/kg-day	7.3E-01	(mg/kg-day)-1	2.3E-13	2.4E-12	mg/kg-day	NA	mg/kg-day	NA
				Benzo(a)pyrene	2.7E-09	mg/kg	4.6E-14	mg/kg-day	7.3E+00	(mg/kg-day)-1	3.4E-13	3.5E-13	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b)fluoranthene	3.0E-09	mg/kg	5.1E-14	mg/kg-day	7.3E-01	(mg/kg-day)-1	3.7E-14	3.9E-13	mg/kg-day	NA	mg/kg-day	NA
				Benzo(b&k)fluoranthene	NA	mg/kg	NA	mg/kg-day	7.3E-01	(mg/kg-day)-1	NA	NA	mg/kg-day	NA	mg/kg-day	NA
				Benzo(g,h,i)perylene	1.2E-10	mg/kg	2.1E-15	mg/kg-day	NA	NA	NA	1.6E-14	mg/kg-day	4.0E-02	mg/kg-day	4.E-13
				Benzo(k)fluoranthene	1.6E-10	mg/kg	2.8E-15	mg/kg-day	7.3E-02	(mg/kg-day)-1	2.0E-16	2.1E-14	mg/kg-day	NA	mg/kg-day	NA
				Carbazole	1.7E-07	mg/kg	2.9E-12	mg/kg-day	2.0E-02	(mg/kg-day)-1	5.7E-14	2.2E-11	mg/kg-day	NA	mg/kg-day	NA
				Chrysene	1.7E-08	mg/kg	2.9E-13	mg/kg-day	7.3E-03	(mg/kg-day)-1	2.1E-15	2.2E-12	mg/kg-day	NA	mg/kg-day	NA
				Dibenzo(a,h)anthracene	5.6E-11	mg/kg	9.7E-16	mg/kg-day	7.3E+00	(mg/kg-day)-1	7.1E-15	7.4E-15	mg/kg-day	NA	mg/kg-day	NA
				Dibenzofuran	3.8E-07	mg/kg	6.5E-12	mg/kg-day	NA	NA	NA	5.0E-11	mg/kg-day	2.0E-03	mg/kg-day	0.00000002
				Fluoranthene	1.1E-07	mg/kg	1.9E-12	mg/kg-day	NA	NA	NA	1.5E-11	mg/kg-day	4.0E-02	mg/kg-day	0.0000000004
				Fluorene	4.5E-07	mg/kg	7.8E-12	mg/kg-day	NA	NA	NA	5.9E-11	mg/kg-day	4.0E-02	mg/kg-day	0.000000001
				Indeno(1,2,3-cd)pyrene	1.1E-10	mg/kg	1.9E-15	mg/kg-day	7.3E-01	(mg/kg-day)-1	1.4E-15	1.5E-14	mg/kg-day	NA	mg/kg-day	NA
				Iron	4.9E-06	mg/kg	8.5E-11	mg/kg-day	NA	NA	NA	6.5E-10	mg/kg-day	3.0E-01	mg/kg-day	0.000000002
				Manganese	8.7E-10	mg/kg	6.0E-16	mg/kg-day	NA	NA	NA	4.6E-15	mg/kg-day	1.4E-01	mg/kg-day	3.E-14
				Naphthalene	4.5E-07	mg/kg	7.8E-12	mg/kg-day	NA	NA	NA	5.9E-11	mg/kg-day	2.0E-02	mg/kg-day	0.000000003
				Pentachlorophenol	9.2E-09	mg/kg	1.6E-13	mg/kg-day	1.2E-01	(mg/kg-day)-1	1.9E-14	1.2E-12	mg/kg-day	3.0E-02	mg/kg-day	4.E-11
				Phenanthrene	6.8E-07	mg/kg	1.2E-11	mg/kg-day	NA	NA	NA	8.9E-11	mg/kg-day	4.0E-02	mg/kg-day	0.000000002
				Vanadium	9.4E-11	mg/kg	4.2E-17	mg/kg-day	NA	NA	NA	3.2E-16	mg/kg-day	1.0E-03	mg/kg-day	3.E-13
				Dioxin TEQ (mammalian)	2.9E-11	mg/kg	5.1E-16	mg/kg-day	1.5E+05	(mg/kg-day)-1	7.6E-11	3.8E-15	mg/kg-day	NA	mg/kg-day	NA
			Exp. Route Total								3.4E-07					0.006
		Exposure Point Total									3.4E-07					0.006
	Exposure Medium Total										3.4E-07					0.006
Wild Game Total											3.4E-07					0.006
										Total of Receptor Risks Across All Media	9.6E-07				Total of Receptor Hazards Across All Media	0.01

TABLE 9.1a RME TRESPASSER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (10 to 18 years)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Drainage Ditch Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	2.2E-03	NA	1.5E-02	0.02
			Acenaphthene	NA	NA	NA	NA	NC	liver	1.2E-04	NA	8.1E-04	0.0009
			Acenaphthylene	NA	NA	NA	NA	NC	liver	1.8E-06	NA	1.3E-05	0.00001
			Aluminum	NA	NA	NA	NA	NC	0	7.4E-04	NA	4.0E-05	0.0008
			Anthracene	NA	NA	NA	NA	NC	no observed effects	9.5E-05	NA	6.7E-04	0.0008
			Arsenic	7.1E-08	NA	1.2E-07	NA	2.E-07	skin/vascular	1.4E-03	NA	2.3E-03	0.004
			Benzo(a)anthracene	9.5E-08	NA	6.7E-07	NA	8.E-07	NA	NA	NA	NA	NA
			Benzo(a)pyrene	3.0E-07	NA	2.1E-06	NA	2.E-06	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	2.6E-08	NA	1.8E-07	NA	2.E-07	NA	NA	NA	NA	NA
			Benzo(b&k)fluoranthene	7.5E-08	NA	5.3E-07	NA	6.E-07	NA	NA	NA	NA	NA
			Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	5.4E-07	NA	3.8E-06	0.000004
			Benzo(k)fluoranthene	1.7E-10	NA	1.2E-09	NA	1.E-09	NA	NA	NA	NA	NA
			Carbazole	1.1E-08	NA	7.8E-08	NA	9.E-08	NA	NA	NA	NA	NA
			Chrysene	9.1E-10	NA	6.4E-09	NA	7.E-09	NA	NA	NA	NA	NA
			Dibenzo(a,h)anthracene	7.5E-09	NA	5.3E-08	NA	6.E-08	NA	NA	NA	NA	NA
			Dibenzofuran	NA	NA	NA	NA	NC	0	5.2E-03	NA	3.7E-02	0.04
			Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	1.8E-04	NA	1.3E-03	0.001
			Fluorene	NA	NA	NA	NA	NC	blood	3.1E-04	NA	2.2E-03	0.003
			Indeno(1,2,3-cd)pyrene	2.0E-09	NA	1.4E-08	NA	2.E-08	NA	NA	NA	NA	NA
			Iron	NA	NA	NA	NA	NC	0	5.4E-03	NA	2.9E-04	0.006
			Manganese	NA	NA	NA	NA	NC	central nervous system	5.6E-06	NA	1.9E-04	0.0002
			Naphthalene	NA	NA	NA	NA	NC	body weight	8.1E-04	NA	5.7E-03	0.006
			Pentachlorophenol	9.1E-09	NA	1.2E-07	NA	1.E-07	liver/kidneys	2.2E-05	NA	3.0E-04	0.0003
			Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	4.9E-04	NA	3.5E-03	0.004
			Vanadium	NA	NA	NA	NA	NC	0	6.0E-05	NA	4.8E-03	0.005
			Dioxin TEQ (mammalian)	3.9E-07	NA	6.3E-07	NA	1.E-06	NA	NA	NA	NA	NA
			Chemical Total	9.9E-07	--	4.5E-06	--	6.E-06		1.7E-02	--	7.4E-02	0.09
		Exposure Point Total						6.E-06					0.09
	Exposure Medium Total							6.E-06					0.09
Sediment Total								6.E-06					0.09
Receptor Total								6.E-06					0.09

Total Risk Across All Media = 6.E-06

Total Hazard Across All Media = 0.09
Total Liver/Kidneys HI Across All Media = 0.02
Total Body Weight HI Across All Media = 0.006
Total Neurological HI Across All Media = 0.0002
Total Skin/Vascular HI Across All Media = 0.006

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

TABLE 9.1b CTE TRESPASSER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY EXPOSURE
SOUTHERN WOOD PIEDMONT
DRAINAGE DITCH

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (10 to 18 years)

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Drainage Ditch Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	5.5E-04	NA	7.7E-03	0.008
			Acenaphthene	NA	NA	NA	NA	NC	liver	2.9E-05	NA	4.1E-04	0.0004
			Acenaphthylene	NA	NA	NA	NA	NC	liver	4.5E-07	NA	6.4E-06	0.00001
			Aluminum	NA	NA	NA	NA	NC	0	1.8E-04	NA	2.0E-05	0.0002
			Anthracene	NA	NA	NA	NA	NC	no observed effects	2.4E-05	NA	3.3E-04	0.0004
			Arsenic	1.8E-08	NA	5.8E-08	NA	8.E-08	skin/vascular	3.5E-04	NA	1.1E-03	0.001
			Benzo(a)anthracene	2.4E-08	NA	3.3E-07	NA	4.E-07	NA	NA	NA	NA	NA
			Benzo(a)pyrene	7.6E-08	NA	1.1E-06	NA	1.E-06	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	6.5E-09	NA	9.2E-08	NA	1.E-07	NA	NA	NA	NA	NA
			Benzo(b&k)fluoranthene	1.9E-08	NA	2.6E-07	NA	3.E-07	NA	NA	NA	NA	NA
			Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	1.4E-07	NA	1.9E-06	0.000002
			Benzo(k)fluoranthene	4.2E-11	NA	5.9E-10	NA	6.E-10	NA	NA	NA	NA	NA
			Carbazole	2.8E-09	NA	3.9E-08	NA	4.E-08	NA	NA	NA	NA	NA
			Chrysene	2.3E-10	NA	3.2E-09	NA	3.E-09	NA	NA	NA	NA	NA
			Dibenzo(a,h)anthracene	1.9E-09	NA	2.7E-08	NA	3.E-08	NA	NA	NA	NA	NA
			Dibenzofuran	NA	NA	NA	NA	NC	0	1.3E-03	NA	1.8E-02	0.02
			Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	4.5E-05	NA	6.3E-04	0.0007
			Fluorene	NA	NA	NA	NA	NC	blood	7.8E-05	NA	1.1E-03	0.001
			Indeno(1,2,3-cd)pyrene	4.9E-10	NA	6.9E-09	NA	7.E-09	NA	NA	NA	NA	NA
			Iron	NA	NA	NA	NA	NC	0	1.3E-03	NA	1.5E-04	0.001
			Manganese	NA	NA	NA	NA	NC	central nervous system	1.4E-06	NA	9.4E-05	0.0001
			Naphthalene	NA	NA	NA	NA	NC	body weight	2.0E-04	NA	2.8E-03	0.003
			Pentachlorophenol	2.3E-09	NA	6.2E-08	NA	6.E-08	liver/kidneys	5.5E-06	NA	1.5E-04	0.0002
			Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	1.2E-04	NA	1.7E-03	0.002
			Vanadium	NA	NA	NA	NA	NC	0	1.5E-05	NA	2.4E-03	0.002
			Dioxin TEQ (mammalian)	9.8E-08	NA	3.2E-07	NA	4.E-07	NA	NA	NA	NA	NA
			Chemical Total	2.5E-07	--	2.3E-06	--	3.E-06		4.3E-03	--	3.7E-02	0.04
		Exposure Point Total						3.E-06					0.04
	Exposure Medium Total							3.E-06					0.04
Sediment Total								3.E-06					0.04
Receptor Total								3.E-06					0.04

Total Risk Across All Media = 3.E-06

Total Hazard Across All Media = 0.04
Total Liver/Kidneys HI Across All Media = 0.01
Total Body Weight HI Across All Media = 0.003
Total Neurological HI Across All Media = 0.0001
Total Skin/Vascular HI Across All Media = 0.003

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

TABLE 9.2a RME HUNTER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT
DRAINAGE DITCH

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Drainage Ditch Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	9.7E-04	NA	3.2E-03	0.004
			Acenaphthene	NA	NA	NA	NA	NC	liver	5.1E-05	NA	1.7E-04	0.0002
			Acenaphthylene	NA	NA	NA	NA	NC	liver	8.0E-07	NA	2.6E-06	0.000003
			Aluminum	NA	NA	NA	NA	NC	0	3.3E-04	NA	8.1E-06	0.0003
			Anthracene	NA	NA	NA	NA	NC	no observed effects	4.2E-05	NA	1.4E-04	0.0002
			Arsenic	1.2E-07	NA	9.1E-08	NA	2.E-07	skin/vascular	6.1E-04	NA	4.6E-04	0.001
			Benzo(a)anthracene	1.6E-07	NA	5.2E-07	NA	7.E-07	NA	NA	NA	NA	NA
			Benzo(a)pyrene	5.2E-07	NA	1.7E-06	NA	2.E-06	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	4.4E-08	NA	1.4E-07	NA	2.E-07	NA	NA	NA	NA	NA
			Benzo(b&k)fluoranthene	1.3E-07	NA	4.1E-07	NA	5.E-07	NA	NA	NA	NA	NA
			Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	2.4E-07	NA	7.8E-07	0.000001
			Benzo(k)fluoranthene	2.9E-10	NA	9.3E-10	NA	1.E-09	NA	NA	NA	NA	NA
			Carbazole	1.9E-08	NA	6.1E-08	NA	8.E-08	NA	NA	NA	NA	NA
			Chrysene	1.6E-09	NA	5.0E-09	NA	7.E-09	NA	NA	NA	NA	NA
			Dibenzo(a,h)anthracene	1.3E-08	NA	4.2E-08	NA	5.E-08	NA	NA	NA	NA	NA
			Dibenzofuran	NA	NA	NA	NA	NC	0	2.3E-03	NA	7.5E-03	0.01
			Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	8.0E-05	NA	2.6E-04	0.0003
			Fluorene	NA	NA	NA	NA	NC	blood	1.4E-04	NA	4.5E-04	0.0006
			Indeno(1,2,3-cd)pyrene	3.3E-09	NA	1.1E-08	NA	1.E-08	NA	NA	NA	NA	NA
			Iron	NA	NA	NA	NA	NC	0	2.4E-03	NA	5.9E-05	0.002
			Manganese	NA	NA	NA	NA	NC	central nervous system	2.5E-06	NA	3.8E-05	0.00004
			Naphthalene	NA	NA	NA	NA	NC	body weight	3.6E-04	NA	1.2E-03	0.002
			Pentachlorophenol	1.5E-08	NA	9.7E-08	NA	1.E-07	liver/kidneys	9.8E-06	NA	6.1E-05	0.0001
			Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	2.2E-04	NA	7.0E-04	0.0009
			Vanadium	NA	NA	NA	NA	NC	0	2.7E-05	NA	9.8E-04	0.001
			Dioxin TEQ (mammalian)	6.7E-07	NA	5.0E-07	NA	1.E-06	NA	NA	NA	NA	NA
			Chemical Total	1.7E-06	--	3.6E-06	--	5.E-06		7.5E-03	--	1.5E-02	0.02
		Exposure Point Total						5.E-06					0.02
	Exposure Medium Total							5.E-06					0.02
Sediment Total								5.E-06					0.02

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

TABLE 9.2a RME HUNTER
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
SOUTHERN WOOD PIEDMONT
DRAINAGE DITCH

Scenario Timeframe: Current and Future
Receptor Population: Hunter
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Wild Game	Wild Game	Drainage Ditch Downstream	2-Methylnaphthalene	NA	NA	NA	NA	NC	liver/kidneys	1.0E-08	NA	NA	0.00000001
			Acenaphthene	NA	NA	NA	NA	NC	liver	2.3E-10	NA	NA	0.0000000002
			Acenaphthylene	NA	NA	NA	NA	NC	liver	8.5E-12	NA	NA	0.00000000001
			Aluminum	NA	NA	NA	NA	NC	0	1.4E-12	NA	NA	1.E-12
			Anthracene	NA	NA	NA	NA	NC	no observed effects	4.3E-10	NA	NA	0.0000000004
			Arsenic	1.1E-06	NA	NA	NA	1.E-06	skin/vascular	5.7E-03	NA	NA	0.006
			Benzo(a)anthracene	7.7E-13	NA	NA	NA	8.E-13	NA	NA	NA	NA	NA
			Benzo(a)pyrene	1.1E-12	NA	NA	NA	1.E-12	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	1.2E-13	NA	NA	NA	1.E-13	NA	NA	NA	NA	NA
			Benzo(b&k)fluoranthene	NA	NA	NA	NA	NC	NA	NA	NA	NA	NA
			Benzo(g,h,i)perylene	NA	NA	NA	NA	NC	liver/kidneys	3.9E-13	NA	NA	4.E-13
			Benzo(k)fluoranthene	6.8E-16	NA	NA	NA	7.E-16	NA	NA	NA	NA	NA
			Carbazole	1.9E-13	NA	NA	NA	2.E-13	NA	NA	NA	NA	NA
			Chrysene	7.0E-15	NA	NA	NA	7.E-15	NA	NA	NA	NA	NA
			Dibenzo(a,h)anthracene	2.4E-14	NA	NA	NA	2.E-14	NA	NA	NA	NA	NA
			Dibenzofuran	NA	NA	NA	NA	NC	0	2.5E-08	NA	NA	0.00000002
			Fluoranthene	NA	NA	NA	NA	NC	liver/kidneys	3.7E-10	NA	NA	0.0000000004
			Fluorene	NA	NA	NA	NA	NC	blood	1.5E-09	NA	NA	0.000000001
			Indeno(1,2,3-cd)pyrene	4.7E-15	NA	NA	NA	5.E-15	NA	NA	NA	NA	NA
			Iron	NA	NA	NA	NA	NC	0	2.2E-09	NA	NA	0.000000002
			Manganese	NA	NA	NA	NA	NC	central nervous system	3.3E-14	NA	NA	3.E-14
			Naphthalene	NA	NA	NA	NA	NC	body weight	3.0E-09	NA	NA	0.000000003
			Pentachlorophenol	6.4E-14	NA	NA	NA	6.E-14	liver/kidneys	4.0E-11	NA	NA	0.00000000004
			Phenanthrene	NA	NA	NA	NA	NC	liver/kidneys	2.2E-09	NA	NA	0.000000002
			Vanadium	NA	NA	NA	NA	NC	0	3.2E-13	NA	NA	3.E-13
			Dioxin TEQ (mammalian)	2.5E-10	NA	NA	NA	3.E-10	NA	NA	NA	NA	NA
			Chemical Total	1.1E-06	–	0.0E+00	–	1.E-06		5.7E-03	–	0.0E+00	0.006
		Exposure Point Total						1.E-06					0.006
	Exposure Medium Total							1.E-06					0.006
Wild Game Total								1.E-06					0.006
Receptor Total								6.E-06					0.03

Total Risk Across All Media = 6.E-06

Total Hazard Across All Media = 0.03
Total Liver/Kidneys HI Across All Media = 0.00000001
Total Body Weight HI Across All Media = 0.000000003
Total Neurological HI Across All Media = 3.E-14
Total Skin/Vascular HI Across All Media = 0.006

Notes:
NC = Not Carcinogenic
NA = Not Available/Not Applicable

Appendix C
Compilation of Analytical Results

APPENDIX C
COMPILATION OF ANALYTICAL RESULTS

Preface

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

List of Tables

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

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

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

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

		Sample ID	SW-025-SW	SW-025-SW (NCDENR)	SW-026-SW	SW-026-SW (NCDENR)	SW-027-SW (NCDENR)	SW-028-SW (NCDENR)	S746	S747	S748	S867	S868	S869 [1]
		Station ID	SW-025-SW	SW-025-SW	SW-026-SW	SW-026-SW	SW-027-SW	SW-028-SW	SW-01	SW-02	SW-03	SS-DRAINDT	SS-DWNSDI8	SS-DWNSSUF
		Date Collected	11/13/1995	11/13/1995	11/13/1995	11/13/1995	11/13/1995	11/13/1995	8/3/1995	8/3/1995	8/3/1995	8/13/1995	8/13/1995	8/13/1995
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Background	Background	Background	Background	Background	Background	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
Chem Class	Analyte Name	Conc Unit												
VOCs	1,1,1-Trichloroethane	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	1,1,2,2-Tetrachloroethane	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	1,1,2-Trichloroethane	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	1,1-Dichloroethane	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	1,1-Dichloroethene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	1,2,4-Trichlorobenzene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	1,2-Dichlorobenzene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	1,2-Dichloroethane	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	1,2-Dichloroethene (total)	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	1,2-Dichloropropane	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	1,3-Dichlorobenzene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	1,4-Dichlorobenzene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	2-Butanone	mg/L	0.025 U	0.01 U	0.025 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
VOCs	4-Bromophenyl phenyl ether	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Acetone	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Benzene	mg/L	0.005 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
VOCs	Bis(2-chloroethoxy) methane	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Bis(2-Chloroethyl) ether	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Bis(2-Chloroisopropyl) ether	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Bromodichloromethane	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Bromoform	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Bromomethane	mg/L		0.01 UR		0.01 UR	0.01 UR	0.01 UR						
VOCs	Carbon disulfide	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Carbon tetrachloride	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Chlorobenzene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Chloroethane	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Chloroform	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Chloromethane	mg/L		0.01 U		0.01 U	0.01 U	0.01 U	0.001 U	0.001 U	0.001 U			
VOCs	cis-1,3-Dichloropropene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Dibromochloromethane	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Ethylbenzene	mg/L	0.005 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
VOCs	Methyl butyl ketone	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Methyl isobutyl ketone	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Methylene chloride	mg/L	0.005 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U				0.001 U	0.001 U	0.001 U
VOCs	m-Xylene	mg/L								0.001 U	0.001 U			
VOCs	o-Xylene	mg/L								0.001 U	0.001 U			
VOCs	p-Xylene	mg/L								0.001 U	0.001 U			
VOCs	Styrene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Tetrachloroethene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Toluene	mg/L	0.005 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
VOCs	trans-1,3-Dichloropropene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Trichloroethene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Vinyl chloride	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
VOCs	Xylenes (total)	mg/L	0.005 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
SVOCs	2,4-Dinitrotoluene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	2,6-Dinitrotoluene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	2-Chloronaphthalene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	2-Methylphenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
SVOCs	2-Nitroaniline	mg/L		0.025 U		0.025 U	0.025 U	0.025 U						
SVOCs	3,3'-Dichlorobenzidine	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	3-Nitroaniline	mg/L		0.025 U		0.025 U	0.025 U	0.025 U						
SVOCs	4-Chloroaniline	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	4-Chlorophenyl Phenyl Ether	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	4-Nitroaniline	mg/L		0.025 U		0.025 U	0.025 U	0.025 U						
SVOCs	Aniline	mg/L	0.05 U		0.05 U				0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
SVOCs	Bis(2-ethylhexyl) phthalate	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	Butyl benzyl phthalate	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	Diethylphthalate	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	Dimethylphthalate	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	Di-n-butylphthalate	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	Di-n-octylphthalate	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	Hexachlorobenzene	mg/L		0.01 UJ		0.01 UJ	0.01 UJ	0.01 UJ						
SVOCs	Hexachlorobutadiene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	Hexachlorocyclopentadiene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	Hexachloroethane	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	Isophorone	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	Nitrobenzene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
SVOCs	N-nitrosodi-n-propylamine	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						

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

		Sample ID	SW-025-SW	SW-025-SW (NCDENR)	SW-026-SW	SW-026-SW (NCDENR)	SW-027-SW (NCDENR)	SW-028-SW (NCDENR)	S746	S747	S748	S967	S968	S969 [1]
		Station ID	SW-025-SW	SW-025-SW	SW-026-SW	SW-026-SW	SW-027-SW	SW-028-SW	SW-01	SW-02	SW-03	SS-DRAINDT	SS-DWNSDIS	SS-DWNSDUF
		Date Collected	11/13/1995	11/13/1995	11/13/1995	11/13/1995	11/13/1995	11/13/1995	5/3/1990	5/3/1990	5/3/1990	8/13/1990	8/13/1990	8/13/1990
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Background	Background	Background	Background	Background	Background	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
ChemClass	Analyte Name	Conc Unit												
SVOCs	N-nitrosodiphenylamine	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
Phenolics	2,3,4,6-Tetrachlorophenol	mg/L	0.05 U		0.05 U				0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	2,4,5-Trichlorophenol	mg/L		0.025 U		0.025 U	0.025 U	0.025 U						
Phenolics	2,4,6-Trichlorophenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	2,4-Dichlorophenol	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
Phenolics	2,4-Dimethylphenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	2,4-Dinitrophenol	mg/L		0.025 U		0.025 U	0.025 U	0.025 U						
Phenolics	2-Chlorophenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	2-Methyl-4,6-dinitrophenol	mg/L		0.025 U		0.025 U	0.025 U	0.025 U						
Phenolics	2-Nitrophenol	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
Phenolics	3&4-Methylphenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	4-Chloro-3-methylphenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	4-Nitrophenol	mg/L		0.025 U		0.025 U	0.025 U	0.025 U						
Phenolics	Pentachlorophenol	mg/L	0.05 U	0.025 U	0.05 U	0.025 U	0.025 U	0.025 U	0.01 U	0.15	0.01 U	0.05 U	0.05 U	0.05 U
Phenolics	Phenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	2-Methylnaphthalene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Acenaphthene	mg/L	0.01 U	0.01 UJ	0.01 U	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Acenaphthylene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
PAHs	Anthracene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Benzo(a)anthracene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Benzo(a)pyrene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Benzo(b&k)fluoranthene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Benzo(b)fluoranthene	mg/L	0.01 U		0.01 U									
PAHs	Benzo(g,h,i)perylene	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
PAHs	Benzo(k)fluoranthene	mg/L	0.01 U		0.01 U									
PAHs	Carbazole	mg/L	0.05 U	0.01 U	0.05 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Chrysene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Dibenzo(a,h)anthracene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Dibenzofuran	mg/L		0.01 U		0.01 U	0.01 U	0.01 U						
PAHs	Fluoranthene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.58	0.01 U
PAHs	Fluorene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.013	0.01 U
PAHs	Indeno(1,2,3-cd)pyrene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Naphthalene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U	0.05 U	0.05 U	0.01 U	0.01 U	0.01 U
PAHs	Phenanthrene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.057	0.01 U
PAHs	Pyrene	mg/L		0.01 UJ		0.01 UJ	0.01 UJ	0.01 UJ						
Metals	Aluminum	mg/L		0.4 J		0.57	0.59	0.47 J						
Metals	Antimony	mg/L		0.02 UJ		0.02 U	0.02 U	0.02 UJ						
Metals	Arsenic	mg/L		0.003 UJ		0.003 U	0.003 U	0.003 UJ						
Metals	Barium	mg/L		0.02 UJ		0.02 U	0.02 U	0.02 J						
Metals	Beryllium	mg/L		0.001 UJ		0.001 U	0.001 U	0.001 UJ						
Metals	Cadmium	mg/L		0.002 UJ		0.002 U	0.002 U	0.002 UJ						
Metals	Calcium	mg/L		6.2 J		6.4	6.3	6.2 J						
Metals	Chromium	mg/L		0.002 UJ		0.002 U	0.003 U	0.002 UJ						
Metals	Cobalt	mg/L		0.004 UJ		0.004 U	0.003 U	0.003 UJ						
Metals	Copper	mg/L		0.007 UJ		0.007 U	0.004 U	0.007 UJ						
Metals	Iron	mg/L		0.77 J		0.92	0.95	0.82 J						
Metals	Lead	mg/L		0.001 UJ		0.001 U	0.001 U	0.001 UJ						
Metals	Magnesium	mg/L		3.3 J		3.4	3.3	3.3 J						
Metals	Manganese	mg/L		0.037 J		0.043	0.04	0.04 J						
Metals	Mercury	mg/L		0.0002 UJ		0.0002 U	0.0002 UJ	0.0002 UJ						
Metals	Nickel	mg/L		0.007 UJ		0.007 U	0.007 U	0.007 UJ						
Metals	Potassium	mg/L		1.9 J		1.9	2	1.9 J						
Metals	Selenium	mg/L		0.003 UJ		0.003 U	0.003 U	0.003 UJ						
Metals	Silver	mg/L		0.003 UJ		0.003 U	0.004 U	0.003 UJ						
Metals	Sodium	mg/L		5.1 J		5.2	5.1	5 J						
Metals	Thallium	mg/L		0.003 UJ		0.003 U	0.003 U	0.003 UJ						
Metals	Tin	mg/L												
Metals	Vanadium	mg/L		0.003 UJ		0.003 U	0.004 U	0.003 UJ						
Metals	Zinc	mg/L		0.007 UJ		0.011 J	0.008 U	0.028 J						
General Parameters	Total Suspended Solids	mg/L										110	21	5 U

Table C-1. (continued)

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

Table C-1. (continued)

		Sample ID	SW-029-SW	SW-029-SW (NCDENR)	SW-129-SW (NCDENR) [SW-029-SW (NCDENR) Dup]	SW-030-SW	SW-030-SW (NCDENR)	SW-031-SW (NCDENR)	SW-032-SW (NCDENR)	SW-033-SW (NCDENR)	SW-034-SW (NCDENR)
		Station ID	SW-029-SW	SW-029-SW	SW-129-SW	SW-030-SW	SW-030-SW	SW-031-SW	SW-032-SW	SW-033-SW	SW-034-SW
		Date Collected	11/13/1995	11/13/1995	11/13/1995	11/13/1995	11/13/1995	11/13/1995	11/13/1995	11/13/1995	11/13/1995
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
ChemClass	Analyte Name	Conc Unit									
SVOCs	N-nitrosodiphenylamine	mg/L		0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	2,3,4,6-Tetrachlorophenol	mg/L	0.05 U			0.05 U					
Phenolics	2,4,5-Trichlorophenol	mg/L		0.025 U	0.025 U		0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Phenolics	2,4,6-Trichlorophenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	2,4-Dichlorophenol	mg/L		0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	2,4-Dimethylphenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	2,4-Dinitrophenol	mg/L		0.025 U	0.025 U		0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Phenolics	2-Chlorophenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	2-Methyl-4,6-dinitrophenol	mg/L		0.025 U	0.025 U		0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Phenolics	2-Nitrophenol	mg/L		0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	3&4-Methylphenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	4-Chloro-3-methylphenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenolics	4-Nitrophenol	mg/L		0.025 U	0.025 U		0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Phenolics	Pentachlorophenol	mg/L	0.05 U	0.011 J	0.016 J	0.05 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Phenolics	Phenol	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	2-Methylnaphthalene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Acenaphthene	mg/L	0.01 U	0.01 UJ	0.01 UJ	0.01 U	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
PAHs	Acenaphthylene	mg/L		0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Anthracene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Benzo(a)anthracene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Benzo(a)pyrene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Benzo(b&k)fluoranthene	mg/L		0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Benzo(b)fluoranthene	mg/L	0.01 U			0.01 U					
PAHs	Benzo(g,h,i)perylene	mg/L		0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Benzo(k)fluoranthene	mg/L	0.01 U			0.01 U					
PAHs	Carbazole	mg/L	0.05 U	0.01 U	0.01 U	0.05 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Chrysene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Dibenzo(a,h)anthracene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Dibenzofuran	mg/L		0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Fluoranthene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Fluorene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Indeno(1,2,3-cd)pyrene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Naphthalene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.001 J
PAHs	Phenanthrene	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PAHs	Pyrene	mg/L		0.01 UJ	0.01 UJ		0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.003 J
Metals	Aluminum	mg/L		1.2 J	0.73		0.45	0.66	0.64	1.3	0.83 J
Metals	Antimony	mg/L		0.02 UJ	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ
Metals	Arsenic	mg/L		0.003 UJ	0.003 U		0.003 U	0.003 U	0.003 U	0.003 U	0.003 UJ
Metals	Barium	mg/L		0.027 J	0.025		0.024	0.026	0.036	0.028	0.031 J
Metals	Beryllium	mg/L		0.001 UJ	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 UJ
Metals	Cadmium	mg/L		0.002 UJ	0.002 U		0.002 U	0.002 U	0.002 U	0.002 U	0.002 UJ
Metals	Calcium	mg/L		6.2 J	6.2		5.9	2	3.6	2.2	4.8 J
Metals	Chromium	mg/L		0.002 UJ	0.002 U		0.002 U	0.002 U	0.002 U	0.003 U	0.002 UJ
Metals	Cobalt	mg/L		0.003 UJ	0.003 U		0.003 U	0.003 U	0.003 U	0.003 U	0.003 UJ
Metals	Copper	mg/L		0.006 UJ	0.005 U		0.004 U	0.006 U	0.005 U	0.007 U	0.005 UJ
Metals	Iron	mg/L		2 J	1.3		0.81	0.94	1.5	1.9	1.3 J
Metals	Lead	mg/L		0.001 UJ	0.002 UJ		0.002 UJ	0.002 UJ	0.001 U	0.002 UJ	0.001 UJ
Metals	Magnesium	mg/L		3.7 J	3.5		3.1	1.7	1.4	1	2.4 J
Metals	Manganese	mg/L		0.069 J	0.052		0.037	0.057	0.11	0.072	0.078 J
Metals	Mercury	mg/L		0.0002 J	0.0002 UJ		0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0001 UJ
Metals	Nickel	mg/L		0.007 UJ	0.007 U		0.007 U	0.007 U	0.007 U	0.007 U	0.007 UJ
Metals	Potassium	mg/L		1.8 J	1.9		1.8	0.86	0.89	1	1.4 J
Metals	Selenium	mg/L		0.003 UJ	0.003 U		0.003 U	0.003 U	0.003 U	0.003 U	0.003 UJ
Metals	Silver	mg/L		0.003 UJ	0.003 U		0.003 U	0.003 U	0.003 U	0.003 U	0.005 UJ
Metals	Sodium	mg/L		5.9 J	5.5		4.8	3.2	3.2	3.1	4.8 J
Metals	Thallium	mg/L		0.003 UJ	0.003 U		0.003 U	0.003 U	0.003 U	0.003 U	0.003 UJ
Metals	Tin	mg/L									
Metals	Vanadium	mg/L		0.005 UJ	0.005 U		0.005 U	0.004 U	0.003 U	0.004 U	0.004 UJ
Metals	Zinc	mg/L		0.008 UJ	0.007 U		0.02 U	0.007 U	0.007 U	0.013 J	0.009 UJ
General Parameters	Total Suspended Solids	mg/L									

Table C-1 Notes

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

		Sample ID	SW-025-SD	SW-025-SD (NCDENR)	SW-026-SD	SW-026-SD (NCDENR)	SW-027-SD (NCDENR)	SW-028-SD (NCDENR)	SW-038-SD (NCDENR)	SW-039-SD	SW-039-SD (NCDENR)	SW-040-SD	SW-040-SD (NCDENR)
		Station ID		SW-025-SD		SW-026-SD	SW-027-SD	SW-028-SD	SW-038-SD		SW-039-SD		SW-040-SD
		Date Collected	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Background	Background	Background	Background	Background	Background	Background	Background	Background	Background	Background
		Depth Interval	0 - 12"	0 - 12"	0 - 12"	0 - 12"	0 - 12"	0 - 12"		0 - 4"	0 - 4"	0 - 4"	0 - 4"
ChemClass	Analyte Name	Conc Unit											
VOCs	1,1,1-Trichloroethane	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	1,1,2-Trichloroethane	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	1,1-Dichloroethane	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	1,1-Dichloroethene	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	1,2,4-Trichlorobenzene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
VOCs	1,2-Dichlorobenzene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
VOCs	1,2-Dichloroethane	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	1,2-Dichloroethene (total)	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	1,2-Dichloropropane	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	1,3-Dichlorobenzene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
VOCs	1,4-Dichlorobenzene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
VOCs	2-Butanone	mg/Kg dw	0.025 U	0.013 U	0.025 U	0.012 U	0.016 U						
VOCs	4-Bromophenyl phenyl ether	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
VOCs	Acetone	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Benzene	mg/Kg dw	0.005 U	0.013 U	0.005 U	0.012 U	0.016 U						
VOCs	bis(2-Chloro-1-methylethyl) ether	mg/Kg dw								0.33 U		0.33 U	
VOCs	Bis(2-chloroethoxy) methane	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
VOCs	Bis(2-Chloroethyl) ether	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
VOCs	Bis(2-Chloroisopropyl) ether	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U				0.41 U
VOCs	Bromodichloromethane	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Bromoform	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Bromomethane	mg/Kg dw		0.013 UR		0.012 UR	0.016 UR						
VOCs	Carbon disulfide	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Carbon tetrachloride	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Chlorobenzene	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Chloroethane	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Chloroform	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Chloromethane	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	cis-1,3-Dichloropropene	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Dibromochloromethane	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Ethylbenzene	mg/Kg dw	0.005 U	0.013 U	0.005 U	0.012 U	0.016 U						
VOCs	Methyl butyl ketone	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Methyl isobutyl ketone	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Methylene chloride	mg/Kg dw	0.005 U	0.013 U	0.005 U	0.012 U	0.016 U						
VOCs	m-Xylene	mg/Kg dw											
VOCs	o-Xylene	mg/Kg dw											
VOCs	p-Xylene	mg/Kg dw											
VOCs	Styrene	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Tetrachloroethene	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Toluene	mg/Kg dw	0.005 U	0.013 U	0.064	0.012 U	0.016 U						
VOCs	trans-1,3-Dichloropropene	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Trichloroethene	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Vinyl chloride	mg/Kg dw		0.013 U		0.012 U	0.016 U						
VOCs	Xylenes (total)	mg/Kg dw	0.005 U	0.013 U	0.005 U	0.012 U	0.016 U						
SVOCs	2,4-Dinitrotoluene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	2,6-Dinitrotoluene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	2-Chloronaphthalene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	2-Methylphenol	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	2-Nitroaniline	mg/Kg dw		1 U		0.99 U	1.3 U	1 U	0.9 U	1.7 U		1.7 U	1 U
SVOCs	3,3'-Dichlorobenzidine	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 UR	0.66 U		0.66 U	0.41 U
SVOCs	3-Nitroaniline	mg/Kg dw		1 U		0.99 U	1.3 U	1 U	0.9 U	1.7 U		1.7 U	1 U
SVOCs	4-Chloroaniline	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U				0.41 U
SVOCs	4-Chlorophenyl Phenyl Ether	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	4-Nitroaniline	mg/Kg dw		1 U		0.99 U	1.3 U	1 U	0.9 U	1.7 U		1.7 U	1 U
SVOCs	Aniline	mg/Kg dw	0.33 U		0.33 U								
SVOCs	Benzidine	mg/Kg dw								2.7 U		2.7 U	
SVOCs	Benzoic acid	mg/Kg dw								1.7 U		1.7 U	
SVOCs	Benzyl alcohol	mg/Kg dw								0.33 U		0.33 U	
SVOCs	Biphenyl	mg/Kg dw											
SVOCs	Bis(2-ethylhexyl) phthalate	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	Butyl benzyl phthalate	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	Diethylphthalate	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	Dimethylphthalate	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	Di-n-butylphthalate	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	Di-n-octylphthalate	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	Hexachlorobenzene	mg/Kg dw		0.42 UJ		0.39 UJ	0.51 UJ	0.41 UJ	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	Hexachlorobutadiene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	Hexachlorocyclopentadiene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	Hexachloroethane	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	Isophorone	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	Nitrobenzene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U

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

		Sample ID	SW-025-SD	SW-025-SD (NCDENR)	SW-026-SD	SW-026-SD (NCDENR)	SW-027-SD (NCDENR)	SW-028-SD (NCDENR)	SW-038-SD (NCDENR)	SW-039-SD	SW-039-SD (NCDENR)	SW-040-SD	SW-040-SD (NCDENR)
		Station ID		SW-025-SD		SW-026-SD	SW-027-SD	SW-028-SD	SW-038-SD		SW-039-SD		SW-040-SD
		Date Collected	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Background	Background	Background	Background	Background	Background	Background	Background	Background	Background	Background
		Depth Interval	0 - 12"	0 - 12"	0 - 12"	0 - 12"	0 - 12"	0 - 12"		0 - 4"	0 - 4"	0 - 4"	0 - 4"
ChemClass	Analyte Name	Conc Unit											
SVOCs	N-Nitrosodimethylamine	mg/Kg dw								0.33 U		0.33 U	
SVOCs	N-nitrosodi-n-propylamine	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	N-nitrosodiphenylamine	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
SVOCs	p-Chloroaniline	mg/Kg dw								0.66 U		0.66 U	
Phenolics	2,3,4,6-Tetrachlorophenol	mg/Kg dw	1.7 U		1.7 U								
Phenolics	2,4,5-Trichlorophenol	mg/Kg dw		1 U		0.99 U	1.3 U	1 U	0.9 U	0.33 U		0.33 U	1 U
Phenolics	2,4,6-Trichlorophenol	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
Phenolics	2,4-Dichlorophenol	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
Phenolics	2,4-Dimethylphenol	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
Phenolics	2,4-Dinitrophenol	mg/Kg dw		1 U		0.99 U	1.3 U	1 U	0.9 U	1.7 U		1.7 U	1 U
Phenolics	2-Chlorophenol	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
Phenolics	2-Methyl-4,6-dinitrophenol	mg/Kg dw		1 U		0.99 U	1.3 U	1 U	0.9 U				1 U
Phenolics	2-Nitrophenol	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
Phenolics	3&4-Methylphenol	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
Phenolics	4,6-Dinitro-2-methylphenol	mg/Kg dw								1.7 U		1.7 U	
Phenolics	4-Chloro-3-methylphenol	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
Phenolics	4-Methylphenol	mg/Kg dw											
Phenolics	4-Nitrophenol	mg/Kg dw		1 U		0.99 U	1.3 U	1 U	0.9 U	1.7 U		1.7 U	1 U
Phenolics	Pentachlorophenol	mg/Kg dw	1.7 U	1 U	1.7 U	0.99 U	1.3 U	1 U	0.9 U	1.7 U		1.7 U	1 U
Phenolics	Phenol	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	1-Methylnaphthalene	mg/Kg dw											
PAHs	2-Methylnaphthalene	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Acenaphthene	mg/Kg dw	0.33 U	0.42 UJ	0.33 U	0.39 UJ	0.51 UJ	0.41 UJ	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Acenaphthylene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Anthracene	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Benzo(a)anthracene	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Benzo(a)pyrene	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Benzo(b&k)fluoranthene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U				0.41 U
PAHs	Benzo(b)fluoranthene	mg/Kg dw	0.33 U		0.33 U					0.33 U		0.33 U	
PAHs	Benzo(g,h,i)perylene	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Benzo(k)fluoranthene	mg/Kg dw	0.33 U		0.33 U					0.33 U		0.33 U	
PAHs	Carbazole	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U				0.41 U
PAHs	Chrysene	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Dibenzo(a,h)anthracene	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Dibenzo(a,h)pyrene	mg/Kg dw											
PAHs	Dibenzofuran	mg/Kg dw		0.42 U		0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Fluoranthene	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Fluorene	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Indeno(1,2,3-cd)pyrene	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Naphthalene	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Phenanthrene	mg/Kg dw	0.33 U	0.42 U	0.33 U	0.39 U	0.51 U	0.41 U	0.36 U	0.33 U		0.33 U	0.41 U
PAHs	Pyrene	mg/Kg dw		0.42 UJ		0.39 UJ	0.51 UJ	0.41 UJ	0.36 U	0.33 U		0.33 U	0.41 U
PCDD/Fs	1,2,3,4,6,7,8-HpCDD	ng/Kg dw		30 U				12 U		3.5	9 U	5.9	6 U
PCDD/Fs	1,2,3,4,6,7,8-HpCDF	ng/Kg dw		13				12 U		0.1 U	5 U	0.26	5 U
PCDD/Fs	1,2,3,4,7,8,9-HpCDF	ng/Kg dw		12 U				12 U		0.2 U	5 U	0.1 U	5 U
PCDD/Fs	1,2,3,4,7,8-HxCDD	ng/Kg dw		12 U				12 U		0.07 U	5 U	0.06 U	5 U
PCDD/Fs	1,2,3,4,7,8-HxCDF	ng/Kg dw		12 U				12 U		0.06 U	5 U	0.12	5 U
PCDD/Fs	1,2,3,6,7,8-HxCDD	ng/Kg dw		12 U				12 U		0.07 U	5 U	0.07 U	5 U
PCDD/Fs	1,2,3,6,7,8-HxCDF	ng/Kg dw		12 U				12 U		0.05 U	5 U	0.05 U	5 U
PCDD/Fs	1,2,3,7,8,9-HxCDD	ng/Kg dw		12 U				12 U		0.07 U	5 U	0.21 EMPC	5 U
PCDD/Fs	1,2,3,7,8,9-HxCDF	ng/Kg dw		12 U				12 U		0.07 U	5 U	0.07 U	5 U
PCDD/Fs	1,2,3,7,8-PeCDD	ng/Kg dw		12 U				12 U			5 U		5 U
PCDD/Fs	1,2,3,7,8-PeCDF	ng/Kg dw		12 U				12 U		0.08 U	5 R	0.09 U	5 R
PCDD/Fs	2,3,4,6,7,8-HxCDF	ng/Kg dw		12 U				12 U		0.06 U	5 U	0.06 U	5 U
PCDD/Fs	2,3,4,7,8-PeCDF	ng/Kg dw		12 U				12 U		0.07 U	5 U	0.06 U	5 U
PCDD/Fs	2,3,7,8-TeCDD	ng/Kg dw		5 U				5 U		0.13 EMPC	2 U	0.06 U	2 U
PCDD/Fs	2,3,7,8-TeCDF	ng/Kg dw		5 U				5 U		0.29	2 U	0.27	2 U
PCDD/Fs	OCDD	ng/Kg dw		810				140 U		301	520	406	410
PCDD/Fs	OCDF	ng/Kg dw		25 U				25 U		0.3 U	10 U	0.3 U	10 U
PCDD/F TEQ	TEQ (I-TEF)	ng/Kg dw		0.94				0			0.52		0.41
PCDD/F homologs	TeCDDs (total)	ng/Kg dw		5 UJ				5 UJ		0.13 EMPC	2 UJ	0.09 EMPC	2 UJ
PCDD/F homologs	TeCDFs (total)	ng/Kg dw		5 UJ				5 UJ		0.29	0.4 J	0.27	0.27 J
PCDD/F homologs	PeCDDs (total)	ng/Kg dw		12 UJ				12 UJ		0.08 U	5 UJ	0.09 U	5 UJ
PCDD/F homologs	PeCDFs (total)	ng/Kg dw		12 UJ				12 UJ		0	1.4 U	0.48 EMPC	5 UJ
PCDD/F homologs	HxCDD (total)	ng/Kg dw		22 J				12 UJ		0.59	6 U	1.5	5 U
PCDD/F homologs	HxCDF (total)	ng/Kg dw		27 J				12 UJ		0	5 UJ	0.31	5 UJ
PCDD/F homologs	HpCDD (total)	ng/Kg dw		70 UJ				20 UJ		8.9	20 U	14	14 UJ
PCDD/F homologs	HpCDF (total)	ng/Kg dw		16 J				12 UJ		0	5 UJ	0.56	5 UJ
Metals	Aluminum	mg/Kg dw		4500		9700	4100	1900					
Metals	Antimony	mg/Kg dw		3 UR		2.8 UR	2.7 UR	3 UR					
Metals	Arsenic	mg/Kg dw		2.6 J		2 U	3 U	3.3					
Metals	Barium	mg/Kg dw		35		70	37	14					

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

		Sample ID	SW-025-SD	SW-025-SD (NCDENR)	SW-026-SD	SW-026-SD (NCDENR)	SW-027-SD (NCDENR)	SW-028-SD (NCDENR)	SW-038-SD (NCDENR)	SW-039-SD	SW-039-SD (NCDENR)	SW-040-SD	SW-040-SD (NCDENR)
		Station ID		SW-025-SD		SW-026-SD	SW-027-SD	SW-028-SD	SW-038-SD		SW-039-SD		SW-040-SD
		Date Collected	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Background	Background	Background	Background	Background	Background	Background	Background	Background	Background	Background
		Depth Interval	0 - 12"	0 - 12"	0 - 12"	0 - 12"	0 - 12"	0 - 12"		0 - 4"	0 - 4"	0 - 4"	0 - 4"
ChemClass	Analyte Name	Conc Unit											
Metals	Beryllium	mg/Kg dw		1 U		0.65 J	0.24 J	1 U					
Metals	Cadmium	mg/Kg dw		0.29 U		0.28 U	0.26 U	0.3 U					
Metals	Calcium	mg/Kg dw		480		550	530	250					
Metals	Chromium	mg/Kg dw		11		15	9.8	9.7					
Metals	Cobalt	mg/Kg dw		5 U		6 U	6 U	4 U					
Metals	Copper	mg/Kg dw		6 U		8 U	7 U	3 U					
Metals	Iron	mg/Kg dw		11000		13000	9000	13000					
Metals	Lead	mg/Kg dw		6.2 J		7.4 J	6.3 J	4.9 J					
Metals	Magnesium	mg/Kg dw		790		1500	710	250					
Metals	Manganese	mg/Kg dw		240 J		200 J	190 J	160 J					
Metals	Mercury	mg/Kg dw		0.06 U		0.06 U	0.06 U	0.06 U					
Metals	Nickel	mg/Kg dw		4 U		8 U	4 U	3 U					
Metals	Potassium	mg/Kg dw		140		200	130	46 J					
Metals	Selenium	mg/Kg dw		0.52 U		1 U	0.46 U	0.53 U					
Metals	Silver	mg/Kg dw		0.61 U		0.77 U	0.73 U	0.83 U					
Metals	Sodium	mg/Kg dw		70 U		80 U	40 U	20 U					
Metals	Thallium	mg/Kg dw		0.54 U		0.61 U	0.48 U	0.55 U					
Metals	Tin	mg/Kg dw											
Metals	Vanadium	mg/Kg dw		26		30	20	19					
Metals	Zinc	mg/Kg dw		30 UJ		30 UJ	30 UJ	20 UJ					
General Parameters	Percent Clay	%											
General Parameters	Percent Gravel	%											
General Parameters	Percent Sand	%											
General Parameters	Percent Silt	%											
General Parameters	Total Organic Carbon	mg/Kg dw											
General Parameters	Total Solids	%											
General Parameters	Percent Moisture (metals)	%		22		20	17	26					
General Parameters	Percent Moisture (PCDD/F)	%		15				13			17		12
General Parameters	Percent Moisture (SVOC)	%							8				19
General Parameters	Percent Moisture (SVOCs)	%		21		21	37	20					
General Parameters	Percent Moisture (VOCs)	%		21		18	37						
TCLP-PAHs	Acenaphthene in TCLP Extract	mg/L											
TCLP-PAHs	Acenaphthylene in TCLP Extract	mg/L											
TCLP-PAHs	Anthracene in TCLP Extract	mg/L											
TCLP-PAHs	Benzo(a)anthracene in TCLP Extract	mg/L											
TCLP-PAHs	Benzo(a)pyrene in TCLP Extract	mg/L											
TCLP-PAHs	Benzo(b)fluoranthene in TCLP Extract	mg/L											
TCLP-PAHs	Benzo(g,h,i)perylene in TCLP Extract	mg/L											
TCLP-PAHs	Benzo(k)fluoranthene in TCLP Extract	mg/L											
TCLP-PAHs	Carbazole in TCLP Extract	mg/L											
TCLP-PAHs	Chrysene in TCLP Extract	mg/L											
TCLP-PAHs	Dibenzo(a,h)anthracene in TCLP Extract	mg/L											
TCLP-PAHs	Dibenzofuran in TCLP Extract	mg/L											
TCLP-PAHs	Dimethyl Naphthalene in TCLP Extract	mg/L											
TCLP-PAHs	Fluoranthene in TCLP Extract	mg/L											
TCLP-PAHs	Fluorene in TCLP Extract	mg/L											
TCLP-PAHs	Indeno(1,2,3-cd)pyrene in TCLP Extract	mg/L											
TCLP-PAHs	Isophorone in TCLP Extract	mg/L											
TCLP-PAHs	Naphthalene in TCLP Extract	mg/L											
TCLP-PAHs	Phenanthrene in TCLP Extract	mg/L											
TCLP-PAHs	Pyrene in TCLP Extract	mg/L											
TCLP-Phenolics	Extract	mg/L											
TCLP-Phenolics	2,4,5-Trichlorophenol in TCLP Extract	mg/L											
TCLP-Phenolics	2,4-Dimethylphenol in TCLP Extract	mg/L											
TCLP-Phenolics	2-Chlorophenol in TCLP Extract	mg/L											
TCLP-Phenolics	2-Methylphenol in TCLP Extract	mg/L											
TCLP-Phenolics	4-Chloro-3-methylphenol in TCLP Extract	mg/L											
TCLP-Phenolics	Pentachlorophenol in TCLP Extract	mg/L											
TCLP-Phenolics	Phenol in TCLP Extract	mg/L											
TCLP-SVOCs	Aniline in TCLP Extract	mg/L											

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

		Sample ID	SW-041-SD	SW-041-SD (NCDENR)	SW-042-SD	SW-042-SD (NCDENR)	SWP-008	6749	6750	6751	6871	SW-029-SD	SW-029-SD (NCDENR)	SW-030-SD	SW-030-SD (NCDENR)
		Station ID		SW-041-SD		SW-042-SD	SWP-008						SW-029-SD		SW-030-SD
		Date Collected	11/8/1996	11/8/1996	11/8/1996	11/8/1996	8/21/1993	5/3/1990	5/3/1990	5/3/1990	8/13/1990	11/13/1995	11/13/1995	11/13/1995	11/13/1995
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Background	Background	Background	Background	Background	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 4"	0 - 4"	0 - 4"	0 - 4"	Surface	NA	NA	NA	NA	0 - 12"	0 - 12"	0 - 12"	0 - 12"
ChemClass	Analyte Name	Conc Unit													
VOCs	1,1,1-Trichloroethane	mg/Kg dw											0.013 U		0.015 U
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg dw											0.013 U		0.015 U
VOCs	1,1,2-Trichloroethane	mg/Kg dw											0.013 U		0.015 U
VOCs	1,1-Dichloroethane	mg/Kg dw											0.013 U		0.015 U
VOCs	1,1-Dichloroethene	mg/Kg dw											0.013 U		0.015 U
VOCs	1,2,4-Trichlorobenzene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
VOCs	1,2-Dichlorobenzene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
VOCs	1,2-Dichloroethane	mg/Kg dw											0.013 U		0.015 U
VOCs	1,2-Dichloroethene (total)	mg/Kg dw											0.013 U		0.015 U
VOCs	1,2-Dichloropropane	mg/Kg dw											0.013 U		0.015 U
VOCs	1,3-Dichlorobenzene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
VOCs	1,4-Dichlorobenzene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
VOCs	2-Butanone	mg/Kg dw						0.05 U	0.05 U	0.05 U	0.05 U	0.025 U	0.013 U	0.025 U	0.015 U
VOCs	4-Bromophenyl phenyl ether	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
VOCs	Acetone	mg/Kg dw											0.013 U		0.015 U
VOCs	Benzene	mg/Kg dw						0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.013 U	0.005 U	0.015 U
VOCs	bis(2-Chloro-1-methylethyl) ether	mg/Kg dw	0.33 U		0.33 U										
VOCs	Bis(2-chloroethoxy) methane	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
VOCs	Bis(2-Chloroethyl) ether	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
VOCs	Bis(2-Chloroisopropyl) ether	mg/Kg dw		0.35 U		0.38 U							0.43 U		0.99 U
VOCs	Bromodichloromethane	mg/Kg dw											0.013 U		0.015 U
VOCs	Bromoform	mg/Kg dw											0.013 U		0.015 U
VOCs	Bromomethane	mg/Kg dw											0.013 UR		0.015 UR
VOCs	Carbon disulfide	mg/Kg dw											0.013 U		0.015 U
VOCs	Carbon tetrachloride	mg/Kg dw											0.013 U		0.015 U
VOCs	Chlorobenzene	mg/Kg dw											0.013 U		0.015 U
VOCs	Chloroethane	mg/Kg dw											0.013 U		0.015 U
VOCs	Chloroform	mg/Kg dw											0.013 U		0.015 U
VOCs	Chloromethane	mg/Kg dw											0.013 U		0.015 U
VOCs	cis-1,3-Dichloropropene	mg/Kg dw											0.013 U		0.015 U
VOCs	Dibromochloromethane	mg/Kg dw											0.013 U		0.015 U
VOCs	Ethylbenzene	mg/Kg dw						0.005 U	0.1	0.005 U	0.005 U	0.005 U	0.013 U	0.005 U	0.015 U
VOCs	Methyl butyl ketone	mg/Kg dw											0.013 U		0.015 U
VOCs	Methyl isobutyl ketone	mg/Kg dw											0.013 U		0.015 U
VOCs	Methylene chloride	mg/Kg dw						5 U	5 U	5 U	0.005 U	0.005 U	0.013 U	0.005 U	0.015 U
VOCs	m-Xylene	mg/Kg dw						0.05 U	0.16	0.05 U					
VOCs	o-Xylene	mg/Kg dw						0.05 U	0.15	0.05 U					
VOCs	p-Xylene	mg/Kg dw						0.005 U	0.005 U	0.005 U					
VOCs	Styrene	mg/Kg dw											0.013 U		0.015 U
VOCs	Tetrachloroethene	mg/Kg dw											0.013 U		0.015 U
VOCs	Toluene	mg/Kg dw						0.005 U	0.0085	0.005 U	0.005 U	0.006	0.013 U	0.018	0.015 U
VOCs	trans-1,3-Dichloropropene	mg/Kg dw											0.013 U		0.015 U
VOCs	Trichloroethene	mg/Kg dw											0.013 U		0.015 U
VOCs	Vinyl chloride	mg/Kg dw											0.013 U		0.015 U
VOCs	Xylenes (total)	mg/Kg dw						0.005 U	0.34	0.005 U	0.005 U	0.0077	0.002 J	0.005 U	0.015 U
SVOCs	2,4-Dinitrotoluene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	2,6-Dinitrotoluene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	2-Chloronaphthalene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	2-Methylphenol	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	2 U	0.41 U	0.41 U	0.41 U	0.33 U	0.33 U	0.43 U	0.33 U	0.99 U
SVOCs	2-Nitroaniline	mg/Kg dw	1.7 U	0.89 U	1.7 U	0.96 U							1.1 U		2.5 U
SVOCs	3,3'-Dichlorobenzidine	mg/Kg dw	0.66 U	0.35 U	0.66 U	0.38 U							0.43 U		0.99 U
SVOCs	3-Nitroaniline	mg/Kg dw	1.7 U	0.89 U	1.7 U	0.96 U							1.1 U		2.5 U
SVOCs	4-Chloroaniline	mg/Kg dw		0.35 U		0.38 U							0.43 U		0.99 U
SVOCs	4-Chlorophenyl Phenyl Ether	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	4-Nitroaniline	mg/Kg dw	1.7 U	0.89 U	1.7 U	0.96 U							1.1 U		2.5 U
SVOCs	Aniline	mg/Kg dw						0.41 U	0.41 U	0.41 U	0.33 U	0.33 U		0.33 U	
SVOCs	Benzidine	mg/Kg dw	2.7 U		2.7 U										
SVOCs	Benzoic acid	mg/Kg dw	1.7 U		1.7 U										
SVOCs	Benzyl alcohol	mg/Kg dw	0.33 U		0.33 U										
SVOCs	Biphenyl	mg/Kg dw													
SVOCs	Bis(2-ethylhexyl) phthalate	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	Butyl benzyl phthalate	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	Diethylphthalate	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	Dimethylphthalate	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	Di-n-butylphthalate	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	Di-n-octylphthalate	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	Hexachlorobenzene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 UJ		0.99 UJ
SVOCs	Hexachlorobutadiene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	Hexachlorocyclopentadiene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	Hexachloroethane	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	Isophorone	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	Nitrobenzene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U

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

		Sample ID	SW-041-SD	SW-041-SD (NCDENR)	SW-042-SD	SW-042-SD (NCDENR)	SWP-009	S746	S750	S751	S871	SW-029-SD	SW-029-SD (NCDENR)	SW-030-SD	SW-030-SD (NCDENR)
		Station ID		SW-041-SD		SW-042-SD	SWP-009						SW-029-SD		SW-030-SD
		Date Collected	11/8/1996	11/8/1996	11/8/1996	11/8/1996	8/21/1993	5/3/1990	5/3/1990	5/3/1990	8/13/1995	11/13/1995	11/13/1995	11/13/1995	11/13/1995
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Background	Background	Background	Background	Background	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 4"	0 - 4"	0 - 4"	0 - 4"	Surface	NA	NA	NA	NA	0 - 12"	0 - 12"	0 - 12"	0 - 12"
Chem Class	Analyte Name	Conc Unit													
SVOCs	N-Nitrosodimethylamine	mg/Kg dw	0.33 U		0.33 U										
SVOCs	N-nitrosodi-n-propylamine	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	N-nitrosodiphenylamine	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
SVOCs	p-Chloroaniline	mg/Kg dw	0.66 U		0.66 U										
Phenolics	2,3,4,6-Tetrachlorophenol	mg/Kg dw						0.33 U	0.33 U	0.33 U	0.33 U	1.7 U		1.7 U	
Phenolics	2,4,5-Trichlorophenol	mg/Kg dw	0.33 U	0.89 U	0.33 U	0.96 U							1.1 U		2.5 U
Phenolics	2,4,6-Trichlorophenol	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	2 U	0.41 U	0.41 U	0.41 U	0.33 U	0.33 U	0.43 U	0.33 U	0.99 U
Phenolics	2,4-Dichlorophenol	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
Phenolics	2,4-Dimethylphenol	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	2 U	0.41 U	0.41 U	0.41 U	0.33 U	0.33 U	0.43 U	0.33 U	0.99 U
Phenolics	2,4-Dinitrophenol	mg/Kg dw	1.7 U	0.89 U	1.7 U	0.96 U							1.1 U		2.5 U
Phenolics	2-Chlorophenol	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	2 U	0.41 U	0.41 U	0.41 U	0.33 U	0.33 U	0.43 U	0.33 U	0.99 U
Phenolics	2-Methyl-4,6-dinitrophenol	mg/Kg dw		0.89 U		0.96 U							1.1 U		2.5 U
Phenolics	2-Nitrophenol	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U							0.43 U		0.99 U
Phenolics	3&4-Methylphenol	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	2 U	0.41 U	0.41 U	0.41 U	0.33 U	0.33 U	0.43 U	0.33 U	0.99 U
Phenolics	4,6-Dinitro-2-methylphenol	mg/Kg dw	1.7 U		1.7 U										
Phenolics	4-Chloro-3-methylphenol	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	2 U	0.83 U	0.83 U	0.83 U	0.33 U	0.33 U	0.43 U	0.33 U	0.99 U
Phenolics	4-Methylphenol	mg/Kg dw													
Phenolics	4-Nitrophenol	mg/Kg dw	1.7 U	0.89 U	1.7 U	0.96 U							1.1 U		2.5 U
Phenolics	Pentachlorophenol	mg/Kg dw	1.7 U	0.89 U	1.7 U	0.96 U	2 U	2.1 U	2.1 U	2.1 U	1.7 U	1.7 U	110 J	1.7 U	0.74 J
Phenolics	Phenol	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	2 U	0.41 U	0.41 U	0.41 U	0.33 U	0.33 U	0.43 U	0.33 U	0.99 U
PAHs	1-Methylnaphthalene	mg/Kg dw													
PAHs	2-Methylnaphthalene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	2 U	0.33 U	0.33 U	0.33 U	0.33 U	25	250	0.33 U	0.99 U
PAHs	Acenaphthene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	2 U	0.41 U	5.8	0.41 U	1.5	39	180 J	0.33 U	0.22 J
PAHs	Acenaphthylene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	1.2 J						0.43 U		0.99 U
PAHs	Anthracene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	0.0036	0.41 U	0.41 U	0.41 U	2.1	15	9.2 J	1.9	1.1
PAHs	Benzo(a)anthracene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	0.0057	0.41 U	0.41 U	0.41 U	1.9	6.6	6.5 J	3.4	2
PAHs	Benzo(a)pyrene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	0.0091	0.41 U	0.41 U	0.41 U	0.86	0.33 U	1.2	1.4	1.8
PAHs	Benzo(b&k)fluoranthene	mg/Kg dw		0.35 U		0.38 U		0.82 U	0.82 U	0.82 U	3.1		4.2 J		5.3
PAHs	Benzo(b)fluoranthene	mg/Kg dw	0.33 U		0.33 U		0.013					4.6		3.4	
PAHs	Benzo(g,h,i)perylene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	0.003						0.089 J		0.5 J
PAHs	Benzo(k)fluoranthene	mg/Kg dw	0.33 U		0.33 U							0.33 U		1.1	
PAHs	Carbazole	mg/Kg dw		0.35 U		0.38 U		0.41 U	0.41 U	0.41 U	0.33 U	5.8	12 J	0.33 U	0.18 J
PAHs	Chrysene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	0.019	0.41 U	0.41 U	0.41 U	2.5	6.6	4.6 J	3.9	3.5
PAHs	Dibenzo(a,h)anthracene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	2 U	0.41 U	0.41 U	0.41 U	0.33 U	0.33 U	0.43 U	0.33 U	0.26 J
PAHs	Dibenzo(e,h)pyrene	mg/Kg dw													
PAHs	Dibenzofuran	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	2 U						150		0.2 J
PAHs	Fluoranthene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	0.014	0.41 U	12	0.41 U	7.5	44	59	11	3.5
PAHs	Fluorene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	0.34 J	0.33 U	7.1	0.33 U	1.9	38	110	0.33 U	0.38 J
PAHs	Indeno(1,2,3-cd)pyrene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	0.0044	0.41 U	0.41 U	0.41 U	0.33 U	0.33 U	0.18 J	0.33 U	0.99 J
PAHs	Naphthalene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	2 U	0.41 U	0.41 U	0.41 U	0.33 U	12	53	0.33 U	0.99 U
PAHs	Phenanthrene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	0.0025	0.41 U	17	0.41 U	5.2	67	200	3.6	0.9 J
PAHs	Pyrene	mg/Kg dw	0.33 U	0.35 U	0.33 U	0.38 U	0.013						10 J		3.2 J
PCDD/Fs	1,2,3,4,6,7,8-HpCDD	ng/Kg dw	3.8	7 U	1.6	3.2 U							18000		
PCDD/Fs	1,2,3,4,6,7,8-HpCDF	ng/Kg dw	0.1 U	4.5 U	0.14 EMPC	3.2 U							4300		
PCDD/Fs	1,2,3,4,7,8,9-HpCDF	ng/Kg dw	0.2 U	4.5 U	0.1 U	3.2 U							170		
PCDD/Fs	1,2,3,4,7,8-HxCDD	ng/Kg dw	0.08 U	4.5 U	0.05 U	3.2 U							23		
PCDD/Fs	1,2,3,4,7,8-HxCDF	ng/Kg dw	0.06 U	4.5 U	0.04 U	3.2 U							610 U		
PCDD/Fs	1,2,3,6,7,8-HxCDD	ng/Kg dw	0.07 U	4.5 U	0.05 U	3.2 U							470		
PCDD/Fs	1,2,3,6,7,8-HxCDF	ng/Kg dw	0.05 U	4.5 U	0.04 U	3.2 U							9 J		
PCDD/Fs	1,2,3,7,8,9-HxCDD	ng/Kg dw	0.08 U	4.5 U	0.05 U	3.2 U							100		
PCDD/Fs	1,2,3,7,8,9-HxCDF	ng/Kg dw	0.07 U	4.5 U	0.05 U	3.2 U							14 U		
PCDD/Fs	1,2,3,7,8-PeCDD	ng/Kg dw		4.5 U		3.2 U							4 J		
PCDD/Fs	1,2,3,7,8-PeCDF	ng/Kg dw	0.1 U	4.5 R	0.07 U	3.2 R							14 U		
PCDD/Fs	2,3,4,6,7,8-HxCDF	ng/Kg dw	0.06 U	4.5 U	0.04 U	3.2 U							14 U		
PCDD/Fs	2,3,4,7,8-PeCDF	ng/Kg dw	0.08 U	4.5 U	0.06 U	3.2 U							4 J		
PCDD/Fs	2,3,7,8-TeCDD	ng/Kg dw	0.08 U	1.8 U	0.06 U	1.3 U							6 U		
PCDD/Fs	2,3,7,8-TeCDF	ng/Kg dw	0.25	1.8 U	0.18 EMPC	3.2 U							6 U		
PCDD/Fs	OCDD	ng/Kg dw	258	560	115	170							220000 J		
PCDD/Fs	OCDF	ng/Kg dw	0.4 U	10 U	0.1 U	6.5 U							20000		
PCDD/F TEQ	TEQ (I-TEF)	ng/Kg dw		0.56		0.17							530 J		
PCDD/F homologs	TeCDDs (total)	ng/Kg dw	0.08 EMPC	1.8 UJ	0.14 EMPC	1.3 UJ							24 J		
PCDD/F homologs	TeCDFs (total)	ng/Kg dw	0.25	0.7 J	0.41 EMPC	3.2 UJ							8.5 J		
PCDD/F homologs	PeCDDs (total)	ng/Kg dw	0.1 U	4.5 UJ	0.07 U	3.2 UJ							40 J		
PCDD/F homologs	PeCDFs (total)	ng/Kg dw	0.23 EMPC	4.5 UJ	0.06 U	3.2 UJ							120 J		
PCDD/F homologs	HxCDD (total)	ng/Kg dw	0.4	4.5 UJ	0.24	3.2 UJ							4100 J		
PCDD/F homologs	HxCDF (total)	ng/Kg dw	0.06 U	4.5 UJ	0.04 U	3.2 UJ							3300 J		
PCDD/F homologs	HpCDD (total)	ng/Kg dw	9.8	17 UJ	4	7 UJ							72000 J		
PCDD/F homologs	HpCDF (total)	ng/Kg dw	0.2 U	4.5 UJ	0.14 EMPC	3.2 UJ							5200 J		
Metals	Aluminum	mg/Kg dw					3200						10000		12000
Metals	Antimony	mg/Kg dw					1 U						3.2 UR		6 UJ
Metals	Arsenic	mg/Kg dw					2.1						2 U		9.9
Metals	Barium	mg/Kg dw					29						110		100

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

		Sample ID	SW-041-SD	SW-041-SD (NCDENR)	SW-042-SD	SW-042-SD (NCDENR)	SWP-009	6748	6750	6751	6871	SW-029-SD	SW-029-SD (NCDENR)	SW-030-SD	SW-030-SD (NCDENR)
		Station ID		SW-041-SD		SW-042-SD	SWP-009						SW-029-SD		SW-030-SD
		Date Collected	11/8/1995	11/8/1995	11/8/1995	11/8/1995	9/21/1993	5/3/1990	5/3/1990	5/3/1990	8/13/1990	11/13/1995	11/13/1995	11/13/1995	11/13/1995
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Background	Background	Background	Background	Background	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 4"	0 - 4"	0 - 4"	0 - 4"	Surface	NA	NA	NA	NA	0 - 12"	0 - 12"	0 - 12"	0 - 12"
ChemClass	Analyte Name	Conv Unit													
Metals	Beryllium	mg/Kg dw					0.25 U						1 U		1.1 J
Metals	Cadmium	mg/Kg dw					0.05 U						0.32 U		0.3 U
Metals	Calcium	mg/Kg dw											820		1300
Metals	Chromium	mg/Kg dw					4.6						15		32
Metals	Cobalt	mg/Kg dw					5.4						20 U		18
Metals	Copper	mg/Kg dw					3.9						20 U		20
Metals	Iron	mg/Kg dw					9500						15000		37000
Metals	Lead	mg/Kg dw					6.9						7 J		11 J
Metals	Magnesium	mg/Kg dw											2000		2600
Metals	Manganese	mg/Kg dw					260						360 J		570 J
Metals	Mercury	mg/Kg dw											0.06 U		0.06 U
Metals	Nickel	mg/Kg dw					2.3						15 U		36
Metals	Potassium	mg/Kg dw											240 J		310
Metals	Selenium	mg/Kg dw					1 U						1 U		1 U
Metals	Silver	mg/Kg dw					1.4						0.87 U		1 U
Metals	Sodium	mg/Kg dw											100 U		110 U
Metals	Thallium	mg/Kg dw					0.5 U						0.58 U		0.54 U
Metals	Tin	mg/Kg dw					3.3 X								
Metals	Vanadium	mg/Kg dw					12						27		51
Metals	Zinc	mg/Kg dw					13						30 UJ		40 UJ
General Parameters	Percent Clay	%													
General Parameters	Percent Gravel	%													
General Parameters	Percent Sand	%													
General Parameters	Percent Silt	%													
General Parameters	Total Organic Carbon	mg/Kg dw													
General Parameters	Total Solids	%						84	67	89					
General Parameters	Percent Moisture (metals)	%					0						25		24
General Parameters	Percent Moisture (PCDD/F)	%				18							24		
General Parameters	Percent Moisture (SVOC)	%		7		14									
General Parameters	Percent Moisture (SVOCs)	%					11						23		34
General Parameters	Percent Moisture (VOCs)	%											23		34
TCLP-PAHs	Acenaphthene in TCLP Extract	mg/L										0.009 U			
TCLP-PAHs	Acenaphthylene in TCLP Extract	mg/L										0.009 U			
TCLP-PAHs	Anthracene in TCLP Extract	mg/L										0.008 U			
TCLP-PAHs	Benzo(a)anthracene in TCLP Extract	mg/L										0.0065 U			
TCLP-PAHs	Benzo(a)pyrene in TCLP Extract	mg/L										0.0075 U			
TCLP-PAHs	Benzo(b)fluoranthene in TCLP Extract	mg/L										0.008 U			
TCLP-PAHs	Benzo(g,h,i)perylene in TCLP Extract	mg/L										0.012 U			
TCLP-PAHs	Benzo(k)fluoranthene in TCLP Extract	mg/L										0.006 U			
TCLP-PAHs	Carbazole in TCLP Extract	mg/L										0.0085 U			
TCLP-PAHs	Chrysene in TCLP Extract	mg/L										0.0044 U			
TCLP-PAHs	Dibenzo(a,h)anthracene in TCLP Extract	mg/L										0.014 U			
TCLP-PAHs	Dibenzofuran in TCLP Extract	mg/L										0.0075 U			
TCLP-PAHs	Dimethyl Naphthalene in TCLP Extract	mg/L										0.025 U			
TCLP-PAHs	Fluoranthene in TCLP Extract	mg/L										0.01 U			
TCLP-PAHs	Fluorene in TCLP Extract	mg/L										0.0085 U			
TCLP-PAHs	Indeno(1,2,3-cd)pyrene in TCLP Extract	mg/L										0.016 U			
TCLP-PAHs	Isophorone in TCLP Extract	mg/L										0.0095 U			
TCLP-PAHs	Naphthalene in TCLP Extract	mg/L										0.0095 U			
TCLP-PAHs	Phenanthrene in TCLP Extract	mg/L										0.0075 U			
TCLP-PAHs	Pyrene in TCLP Extract	mg/L										0.006 U			
TCLP-Phenolics	Extract	mg/L										0.0065 U			
TCLP-Phenolics	2,4,5-Trichlorophenol in TCLP Extract	mg/L										0.0075 U			
TCLP-Phenolics	2,4-Dimethylphenol in TCLP Extract	mg/L										0.01 U			
TCLP-Phenolics	2-Chlorophenol in TCLP Extract	mg/L										0.0075 U			
TCLP-Phenolics	2-Methylphenol in TCLP Extract	mg/L										0.0075 U			
TCLP-Phenolics	4-Chloro-3-methylphenol in TCLP Extract	mg/L										0.0085 U			
TCLP-Phenolics	Pentachlorophenol in TCLP Extract	mg/L										0.01 U			
TCLP-Phenolics	Phenol in TCLP Extract	mg/L										0.0065 U			
TCLP-SVOCs	Aniline in TCLP Extract	mg/L										0.008 U			

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

		Sample ID	SW-031-SD (NCDENR)	SW-032-SD	SW-032-SD (NCDENR)	SW-033-SD (NCDENR)	SW-034-SD (NCDENR)	SW-043-SD	SW-043-SD (NCDENR)	SW-044-SD	SW-044-SD (NCDENR)	SW-045-SD	SW-045-SD (NCDENR)
		Station ID	SW-031-SD	SW-032-SD	SW-032-SD	SW-033-SD	SW-034-SD		SW-043-SD		SW-044-SD	SW-045-SD	SW-045-SD
		Date Collected	11/13/1996	7/19/2006	11/14/1996	11/13/1996	11/13/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	7/19/2006	11/8/1996
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 12"	0 - 3"	0 - 12"	0 - 12"	0 - 12"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 4"
ChemClass	Analyte Name	Conc Unit											
VOCs	1,1,1-Trichloroethane	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	1,1,2-Trichloroethane	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	1,1-Dichloroethane	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	1,1-Dichloroethene	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	1,2,4-Trichlorobenzene	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
VOCs	1,2-Dichlorobenzene	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
VOCs	1,2-Dichloroethene	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	1,2-Dichloroethene (total)	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	1,2-Dichloropropane	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	1,3-Dichlorobenzene	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
VOCs	1,4-Dichlorobenzene	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
VOCs	2-Butanone	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	4-Bromophenyl phenyl ether	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
VOCs	Acetone	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Benzene	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	bis(2-Chloro-1-methylethyl) ether	mg/Kg dw						0.33 U		0.33 U		0.33 U	
VOCs	Bis(2-chloroethoxy) methane	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
VOCs	Bis(2-Chloroethyl) ether	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
VOCs	Bis(2-Chloroisopropyl) ether	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U		0.35 U		0.38 U		0.42 U
VOCs	Bromodichloromethane	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Bromoform	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Bromomethane	mg/Kg dw	0.014 UR		0.016 UR	0.014 UR	0.016 UR						
VOCs	Carbon disulfide	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Carbon tetrachloride	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Chlorobenzene	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Chloroethane	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Chloroform	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Chloromethane	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	cis-1,3-Dichloropropene	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Dibromochloromethane	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Ethylbenzene	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Methyl butyl ketone	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Methyl isobutyl ketone	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Methylene chloride	mg/Kg dw	0.02 U		0.016 U	0.014 U	0.03 U						
VOCs	m-Xylene	mg/Kg dw											
VOCs	o-Xylene	mg/Kg dw											
VOCs	p-Xylene	mg/Kg dw											
VOCs	Styrene	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Tetrachloroethene	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Toluene	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	trans-1,3-Dichloropropene	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Trichloroethene	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Vinyl chloride	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
VOCs	Xylenes (total)	mg/Kg dw	0.014 U		0.016 U	0.014 U	0.016 U						
SVOCs	2,4-Dinitrotoluene	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	2,6-Dinitrotoluene	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	2-Chloronaphthalene	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	2-Methylphenol	mg/Kg dw	0.46 U	150 U	0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	2-Nitroaniline	mg/Kg dw	1.2 U		1.4 U	1.2 U	1.2 U	1.7 U	0.89 U	1.7 U	0.94 U	1.7 U	1.1 U
SVOCs	3,3'-Dichlorobenzidine	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.66 U	0.35 U	0.66 U	0.38 U	0.66 U	0.42 U
SVOCs	3-Nitroaniline	mg/Kg dw	1.2 U		1.4 U	1.2 U	1.3 U	1.7 U	0.89 U	1.7 U	0.94 U	1.7 U	1.1 U
SVOCs	4-Chloroaniline	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U		0.35 U		0.38 U		0.42 U
SVOCs	4-Chlorophenyl Phenyl Ether	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	4-Nitroaniline	mg/Kg dw	1.2 U		1.4 U	1.2 U	1.3 U	1.7 U	0.89 U	1.7 U	0.94 U	1.7 U	1.1 U
SVOCs	Aniline	mg/Kg dw		0.69 U									
SVOCs	Benzidine	mg/Kg dw						2.7 U		2.7 U		2.7 U	
SVOCs	Benzoic acid	mg/Kg dw						1.7 U		1.7 U		1.7 U	
SVOCs	Benzyl alcohol	mg/Kg dw						0.33 U		0.33 U		0.33 U	
SVOCs	Biphenyl	mg/Kg dw											
SVOCs	Bis(2-ethylhexyl) phthalate	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	Butyl benzyl phthalate	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	Diethylphthalate	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	Dimethylphthalate	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	Di-n-butylphthalate	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	Di-n-octylphthalate	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	Hexachlorobenzene	mg/Kg dw	0.46 UJ		0.54 UJ	0.47 UJ	0.52 UJ	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	Hexachlorobutadiene	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	Hexachlorocyclopentadiene	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	Hexachloroethane	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	Isophorone	mg/Kg dw	0.46 U	0.054 U	0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	Nitrobenzene	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U

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

		Sample ID	SW-031-SD (NCDENR)	SW-032-SD	SW-032-SD (NCDENR)	SW-033-SD (NCDENR)	SW-034-SD (NCDENR)	SW-043-SD	SW-043-SD (NCDENR)	SW-044-SD	SW-044-SD (NCDENR)	SW-045-SD	SW-045-SD (NCDENR)
		Station ID	SW-031-SD	SW-032-SD	SW-032-SD	SW-033-SD	SW-034-SD		SW-043-SD		SW-044-SD	SW-045-SD	SW-045-SD
		Date Collected	11/13/1996	7/18/2006	11/14/1996	11/13/1996	11/13/1996	11/9/1996	11/9/1996	11/9/1996	11/9/1996	7/19/2006	11/9/1996
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 12"	0 - 3"	0 - 12"	0 - 12"	0 - 12"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 4"
ChemClass	Analyte Name	Conc Unit											
SVOCs	N-Nitrosodimethylamine	mg/Kg dw						0.33 U		0.33 U		0.33 U	
SVOCs	N-nitrosodi-n-propylamine	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	N-nitrosodiphenylamine	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
SVOCs	p-Chloroaniline	mg/Kg dw						0.66 U		0.66 U		0.66 U	
Phenolics	2,3,4,6-Tetrachlorophenol	mg/Kg dw		0.69 U									
Phenolics	2,4,5-Trichlorophenol	mg/Kg dw	1.2 U		1.4 U	1.2 U	1.3 U	0.33 U	0.89 U	0.33 U	0.94 U	0.33 U	1.1 U
Phenolics	2,4,6-Trichlorophenol	mg/Kg dw	0.46 U	0.69 U	0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
Phenolics	2,4-Dichlorophenol	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
Phenolics	2,4-Dimethylphenol	mg/Kg dw	0.46 U	0.69 U	0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
Phenolics	2,4-Dinitrophenol	mg/Kg dw	1.2 U		1.4 U	1.2 U	1.3 U	1.7 U	0.89 U	1.7 U	0.94 U	1.7 U	1.1 U
Phenolics	2-Chlorophenol	mg/Kg dw	0.46 U	0.69 U	0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
Phenolics	2-Methyl-4,6-dinitrophenol	mg/Kg dw	1.2 U		1.4 U	1.2 U	1.3 U		0.89 U		0.94 U		1.1 U
Phenolics	2-Nitrophenol	mg/Kg dw	0.46 U		0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
Phenolics	3&4-Methylphenol	mg/Kg dw	0.46 U		0.052 J	0.08 J	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
Phenolics	4,6-Dinitro-2-methylphenol	mg/Kg dw						1.7 U		1.7 U		1.7 U	
Phenolics	4-Chloro-3-methylphenol	mg/Kg dw	0.46 U	0.69 U	0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
Phenolics	4-Methylphenol	mg/Kg dw											
Phenolics	4-Nitrophenol	mg/Kg dw	1.2 U		1.4 U	1.2 U	1.3 U	1.7 U	0.89 U	1.7 U	0.94 U	1.7 U	1.1 U
Phenolics	Pentachlorophenol	mg/Kg dw	1.2 U	3.5 U	0.3 J	1.2 U	1.3 U	1.7 U	0.89 U	1.7 U	0.94 U	1.7 U	0.31 J
Phenolics	Phenol	mg/Kg dw	0.46 U	0.69 U	0.54 U	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.42 U
PAHs	1-Methylnaphthalene	mg/Kg dw											
PAHs	2-Methylnaphthalene	mg/Kg dw	0.46 U	0.69 U	0.064 J	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.15 J	0.33 U	0.61
PAHs	Acenaphthene	mg/Kg dw	0.46 UJ	0.69 U	0.065 J	0.47 UJ	0.52 UJ	0.33 U	0.35 U	3.1	1.8	0.33 U	0.42 U
PAHs	Acenaphthylene	mg/Kg dw	0.46 U	150 U	0.074 J	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.38 U	0.33 U	0.083 J
PAHs	Anthracene	mg/Kg dw	0.46 U	0.69 U	0.39 J	0.47 U	0.52 U	0.33 U	0.35 U	4.2	1.5	6.9	18
PAHs	Benzo(a)anthracene	mg/Kg dw	0.049 J	0.69 U	0.28 J	0.47 U	0.52 U	0.33 U	0.35 U	3.1	1.3	3	1.1
PAHs	Benzo(a)pyrene	mg/Kg dw	0.46 U	0.69 U	0.53 J	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.51	1.7	0.82
PAHs	Benzo(b&k)fluoranthene	mg/Kg dw	0.08 J		1.9	0.47 U	0.12 J		0.35 U		1.3		2.9
PAHs	Benzo(b)fluoranthene	mg/Kg dw		130 U				0.33 U		2.2		4.5	
PAHs	Benzo(g,h,i)perylene	mg/Kg dw	0.46 U	0.048 U	0.27 J	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.16 J	0.33 U	0.46
PAHs	Benzo(k)fluoranthene	mg/Kg dw		130 U				0.33 U		0.33 U		2.2	
PAHs	Carbazole	mg/Kg dw	0.46 U	0.69 U	0.1 J	0.47 U	0.52 U		0.35 U		0.086 J		3.3 J
PAHs	Chrysene	mg/Kg dw	0.064 J	0.69 U	0.64	0.47 U	0.52 U	0.33 U	0.35 U	3.7	1.5	5.3	1.9
PAHs	Dibenzo(a,h)anthracene	mg/Kg dw	0.46 U		0.11 J	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.094 J	0.33 U	0.23 J
PAHs	Dibenzo(a,h)pyrene	mg/Kg dw		0.69 U									
PAHs	Dibenzofuran	mg/Kg dw	0.2 J	0.071 U	0.066 J	0.47 U	0.52 U	0.33 U	0.35 U	2.1	1.1	0.33 U	0.64
PAHs	Fluoranthene	mg/Kg dw	0.2 J	0.69 U	0.23 J	0.47 U	0.52 U	0.33 U	0.35 U	19	7.1	6.4	1.1
PAHs	Fluorene	mg/Kg dw	0.46 U	0.69 U	0.08 J	0.47 U	0.52 U	0.33 U	0.35 U	4.6	2.4	0.33 U	1.6
PAHs	Indeno(1,2,3-cd)pyrene	mg/Kg dw	0.46 U	0.69 U	0.54 J	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.19 J	0.33 U	0.63
PAHs	Naphthalene	mg/Kg dw	0.46 U	0.69 U	0.12 J	0.47 U	0.52 U	0.33 U	0.35 U	0.33 U	0.079 J	0.33 U	0.26 J
PAHs	Phenanthrene	mg/Kg dw	0.24 J	0.69 U	0.23 J	0.47 U	0.52 U	0.33 U	0.35 U	18	6.4	0.96	3.9 J
PAHs	Pyrene	mg/Kg dw	0.16 J	150 U	0.23 J	0.47 UJ	0.52 UJ	0.33 U	0.35 U	14	4.2	5.2	1
PCDD/Fs	1,2,3,4,6,7,8-HpCDD	ng/Kg dw	130		30000	53		82.6	120	30060	26000	34840	17000
PCDD/Fs	1,2,3,4,6,7,8-HpCDF	ng/Kg dw	10 J		4800	29		13.6	12	5080	3400	5450	2700
PCDD/Fs	1,2,3,4,7,8,9-HpCDF	ng/Kg dw	12 U		390	16 U		1.1	4.3 U	514	190	573	240
PCDD/Fs	1,2,3,4,7,8-HxCDD	ng/Kg dw	12 U		62	16 U		0.4	4.3 U	29.1	16	78.9	50
PCDD/Fs	1,2,3,4,7,8-HxCDF	ng/Kg dw	12 U		1200 U	16 U		0.42	4.3 U	122	73 J	147	89 J
PCDD/Fs	1,2,3,6,7,8-HxCDD	ng/Kg dw	3 J		790	1.4 J		1.7	2.6 J	529	490	680	530
PCDD/Fs	1,2,3,6,7,8-HxCDF	ng/Kg dw	12 U		17 U	16 U		0.17 EMPC	4.3 U	38.6 EMPC	12	51.4	25
PCDD/Fs	1,2,3,7,8,9-HxCDD	ng/Kg dw	2 J		210	2.2 J		1	1.3 J	133	63	238	140
PCDD/Fs	1,2,3,7,8,9-HxCDF	ng/Kg dw	12 U		17 U	16 U		0.03 U	4.3 U	15.1 U	6.3 U	27.6	4.6 U
PCDD/Fs	1,2,3,7,8-PeCDD	ng/Kg dw	12 U		7 J	16 U			4.3 U		2.4 J		10
PCDD/Fs	1,2,3,7,8-PeCDF	ng/Kg dw	12 U		17 U	16 U		0.16 EMPC	4.3 R	20.4 U	1 J	20.4 U	2.1 J
PCDD/Fs	2,3,4,6,7,8-HxCDF	ng/Kg dw	12 U		38 U	16 U		0.32 EMPC	4.3 U	68.4	7.9	136	17
PCDD/Fs	2,3,4,7,8-PeCDF	ng/Kg dw	12 U		6.2 J	4.4 J		0.05 U	4.3 U	14.7 U	3.9 J	15.7 U	7.2
PCDD/Fs	2,3,7,8-TeCDD	ng/Kg dw	5 U		6.7 U	6.3 U		0.13	1.7 U	19.9 U	0.22 J	20.9 U	0.95 J
PCDD/Fs	2,3,7,8-TeCDF	ng/Kg dw	5 U		6.7 U	6.3 U		0.28	1.7 U	15.1 U	0.27 J	16.1 U	0.59 J
PCDD/Fs	OCDD	ng/Kg dw	2000		360000 J	1400 J		2280	2700 J	300700	37000	325020	170000 J
PCDD/Fs	OCDF	ng/Kg dw	63		31000	32 U		41.7	82 J	19390	28000	22060	12000 J
PCDD/F TEQ	TEQ (I-TEF)	ng/Kg dw	3.9 J		830 J	2.6 J			4.6 J		430		460 J
PCDD/F homologs	TeCDDs (total)	ng/Kg dw	5 UJ		11 J	0.7 J		0.13	1.7 UJ	19.9 U	6.1 J	20.9 U	25 J
PCDD/F homologs	TeCDFs (total)	ng/Kg dw	5 UJ		22 J	1.8 J		0.28	0.12 J	15.1 U	9.9 J	16.1 U	55 J
PCDD/F homologs	PeCDDs (total)	ng/Kg dw	1.3 J		79 J	16 UJ		0.32	4.3 UJ	20.4 U	45 J	92	140 J
PCDD/F homologs	PeCDFs (total)	ng/Kg dw	1.6 J		200 J	200 J		0.62	4.3 UJ	107 EMPC	54 J	243	210 J
PCDD/F homologs	HxCDD (total)	ng/Kg dw	26 J		5200 J	14 J		12.5	17 J	3030	2400 J	3900	3200 J
PCDD/F homologs	HxCDF (total)	ng/Kg dw	12 J		4400 J	12 J		9.1	10 J	3820	580 J	4450	3000 J
PCDD/F homologs	HpCDD (total)	ng/Kg dw	340 J		79000 J	130 J		213	300 J	76650	65000 J	86060	45000 J
PCDD/F homologs	HpCDF (total)	ng/Kg dw	13 J		6100 J	34 J		48.7	52 J	25530	1400 J	27590	13000 J
Metals	Aluminum	mg/Kg dw	3900		8400	8600	13000						
Metals	Antimony	mg/Kg dw	5 UJ		4 UJ	3.3 UR	3.3 UR						
Metals	Arsenic	mg/Kg dw	6.2		2 U	1 U	2.9						
Metals	Barium	mg/Kg dw	34		95	76	140						

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

		Sample ID	SW-031-SD (NCDENR)	SW-032-SD	SW-032-SD (NCDENR)	SW-033-SD (NCDENR)	SW-034-SD (NCDENR)	SW-043-SD	SW-043-SD (NCDENR)	SW-044-SD	SW-044-SD (NCDENR)	SW-045-SD	SW-045-SD (NCDENR)
		Station ID	SW-031-SD	SW-031-SD	SW-032-SD	SW-033-SD	SW-034-SD		SW-043-SD		SW-044-SD	SW-045-SD	SW-045-SD
		Date Collected	11/13/1996	7/18/2006	11/14/1996	11/13/1996	11/13/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	7/18/2006	11/8/1996
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 12"	0 - 3"	0 - 12"	0 - 12"	0 - 12"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 4"	0 - 4"
ChemClass	Analyte Name	Conc Unit											
Metals	Beryllium	mg/Kg dw	1		0.69 J	1 U	0.79 J						
Metals	Cadmium	mg/Kg dw	0.36 U		0.34 U	0.32 U	0.33 U						
Metals	Calcium	mg/Kg dw	360		670	560	920						
Metals	Chromium	mg/Kg dw	27		12	8.5	14						
Metals	Cobalt	mg/Kg dw	5 U		20 U	4 U	20 U						
Metals	Copper	mg/Kg dw	20 U		20 U	20 U	25						
Metals	Iron	mg/Kg dw	19000		9800	4000	18000						
Metals	Lead	mg/Kg dw	6.2 J		13	12 J	9.6						
Metals	Magnesium	mg/Kg dw	390		1500	680	1700						
Metals	Manganese	mg/Kg dw	130 J		460 J	92 J	660						
Metals	Mercury	mg/Kg dw	0.08 U		0.07 U	0.07 U	0.2 U						
Metals	Nickel	mg/Kg dw	3 U		9 U	4 U	9 U						
Metals	Potassium	mg/Kg dw	70 J		310	330	380						
Metals	Selenium	mg/Kg dw	0.63 U		0.6 U	0.57 U	1 U						
Metals	Silver	mg/Kg dw	0.99 U		0.94 U	0.89 U	0.9 U						
Metals	Sodium	mg/Kg dw	40 U		70 U	60 U	70 U						
Metals	Thallium	mg/Kg dw	0.66 U		0.63 U	0.6 U	0.6 U						
Metals	Tin	mg/Kg dw											
Metals	Vanadium	mg/Kg dw	28		24	14	42						
Metals	Zinc	mg/Kg dw	30 UJ		40 UJ	40 UJ	40 UJ						
General Parameters	Percent Clay	%		12.7								3.5	
General Parameters	Percent Gravel	%		22								29.1	
General Parameters	Percent Sand	%		43.8								51.5	
General Parameters	Percent Silt	%		21.5								15.9	
General Parameters	Total Organic Carbon	mg/Kg dw		24000								3740	
General Parameters	Total Solids	%											
General Parameters	Percent Moisture (metals)	%	36		33	40	30						
General Parameters	Percent Moisture (PCDD/F)	%	15		35	30					19		22
General Parameters	Percent Moisture (SVOC)	%							7		12		22
General Parameters	Percent Moisture (SVOCs)	%	29		39	31	36						
General Parameters	Percent Moisture (VOCs)	%	29		39	31	36						
TCLP-PAHs	Acenaphthene in TCLP Extract	mg/L											
TCLP-PAHs	Acenaphthylene in TCLP Extract	mg/L											
TCLP-PAHs	Anthracene in TCLP Extract	mg/L											
TCLP-PAHs	Benzo(a)anthracene in TCLP Extract	mg/L											
TCLP-PAHs	Benzo(a)pyrene in TCLP Extract	mg/L											
TCLP-PAHs	Benzo(b)fluoranthene in TCLP Extract	mg/L											
TCLP-PAHs	Benzo(g,h,i)perylene in TCLP Extract	mg/L											
TCLP-PAHs	Benzo(k)fluoranthene in TCLP Extract	mg/L											
TCLP-PAHs	Carbazole in TCLP Extract	mg/L											
TCLP-PAHs	Chrysene in TCLP Extract	mg/L											
TCLP-PAHs	Dibenzo(a,h)anthracene in TCLP Extract	mg/L											
TCLP-PAHs	Dibenzofuran in TCLP Extract	mg/L											
TCLP-PAHs	Dimethyl Naphthalene in TCLP Extract	mg/L											
TCLP-PAHs	Fluoranthene in TCLP Extract	mg/L											
TCLP-PAHs	Fluorene in TCLP Extract	mg/L											
TCLP-PAHs	Indeno(1,2,3-cd)pyrene in TCLP Extract	mg/L											
TCLP-PAHs	Isophorone in TCLP Extract	mg/L											
TCLP-PAHs	Naphthalene in TCLP Extract	mg/L											
TCLP-PAHs	Phenanthrene in TCLP Extract	mg/L											
TCLP-PAHs	Pyrene in TCLP Extract	mg/L											
TCLP-Phenolics	Extract	mg/L											
TCLP-Phenolics	2,4,5-Trichlorophenol in TCLP Extract	mg/L											
TCLP-Phenolics	2,4-Dimethylphenol in TCLP Extract	mg/L											
TCLP-Phenolics	2-Chlorophenol in TCLP Extract	mg/L											
TCLP-Phenolics	2-Methylphenol in TCLP Extract	mg/L											
TCLP-Phenolics	4-Chloro-3-methylphenol in TCLP Extract	mg/L											
TCLP-Phenolics	Pentachlorophenol in TCLP Extract	mg/L											
TCLP-Phenolics	Phenol in TCLP Extract	mg/L											
TCLP-SVOCs	Aniline in TCLP Extract	mg/L											

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

		Sample ID	SW-046-SD	SW-046-SD (NCDENR)	SW-047-SD	SW-047-SD (NCDENR)	SW-048-SD	SW-048-SD (NCDENR)	SW-049-SD	SW-049-SD (NCDENR)	SW-050-SD	SW-050-SD (NCDENR)	SW-051-SD	SW-051-SD (NCDENR)
		Station ID	SW-046-SD	SW-046-SD	SW-047-SD	SW-047-SD	SW-048-SD	SW-048-SD	SW-049-SD	SW-049-SD	SW-050-SD	SW-050-SD	SW-051-SD	SW-051-SD
		Date Collected	7/19/2006	11/9/1998	7/19/2006	11/9/1998	7/19/2006	11/9/1998	7/19/2006	11/9/1998	7/19/2006	11/9/1998	7/19/2006	11/9/1998
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"
ChemClass	Analyte Name	Conc Unit												
VOCs	1,1,1-Trichloroethane	mg/Kg dw												
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg dw												
VOCs	1,1,2-Trichloroethane	mg/Kg dw												
VOCs	1,1-Dichloroethane	mg/Kg dw												
VOCs	1,1-Dichloroethene	mg/Kg dw												
VOCs	1,2,4-Trichlorobenzene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
VOCs	1,2-Dichlorobenzene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
VOCs	1,2-Dichloroethane	mg/Kg dw												
VOCs	1,2-Dichloroethene (total)	mg/Kg dw												
VOCs	1,2-Dichloropropane	mg/Kg dw												
VOCs	1,3-Dichlorobenzene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
VOCs	1,4-Dichlorobenzene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
VOCs	2-Butanone	mg/Kg dw												
VOCs	4-Bromophenyl phenyl ether	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
VOCs	Acetone	mg/Kg dw												
VOCs	Benzene	mg/Kg dw												
VOCs	bis(2-Chloro-1-methylethyl) ether	mg/Kg dw	0.33 U		0.33 U		0.33 U		0.33 U		0.33 U		0.33 U	
VOCs	Bis(2-chloroethoxy) methane	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
VOCs	Bis(2-Chloroethyl) ether	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
VOCs	Bis(2-Chloroisopropyl) ether	mg/Kg dw		0.7 U		0.39 U		0.42 UJ		0.36 U		0.44 U		0.41 U
VOCs	Bromodichloromethane	mg/Kg dw												
VOCs	Bromoform	mg/Kg dw												
VOCs	Bromomethane	mg/Kg dw												
VOCs	Carbon disulfide	mg/Kg dw												
VOCs	Carbon tetrachloride	mg/Kg dw												
VOCs	Chlorobenzene	mg/Kg dw												
VOCs	Chloroethane	mg/Kg dw												
VOCs	Chloroform	mg/Kg dw												
VOCs	Chloromethane	mg/Kg dw												
VOCs	cis-1,3-Dichloropropene	mg/Kg dw												
VOCs	Dibromochloromethane	mg/Kg dw												
VOCs	Ethylbenzene	mg/Kg dw												
VOCs	Methyl butyl ketone	mg/Kg dw												
VOCs	Methyl isobutyl ketone	mg/Kg dw												
VOCs	Methylene chloride	mg/Kg dw												
VOCs	m-Xylene	mg/Kg dw												
VOCs	o-Xylene	mg/Kg dw												
VOCs	p-Xylene	mg/Kg dw												
VOCs	Styrene	mg/Kg dw												
VOCs	Tetrachloroethene	mg/Kg dw												
VOCs	Toluene	mg/Kg dw												
VOCs	trans-1,3-Dichloropropene	mg/Kg dw												
VOCs	Trichloroethene	mg/Kg dw												
VOCs	Vinyl chloride	mg/Kg dw												
VOCs	Xylenes (total)	mg/Kg dw												
SVOCs	2,4-Dinitrotoluene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	2,6-Dinitrotoluene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	2-Chloronaphthalene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	2-Methylphenol	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	2-Nitroaniline	mg/Kg dw	1.7 U	1.8 U	1.7 U	0.99 U	1.7 U	1.1 UJ	1.7 U	0.9 U	1.7 U	1.1 U	1.7 U	1 U
SVOCs	3,3'-Dichlorobenzidine	mg/Kg dw	0.66 U	0.7 UR	0.66 U	0.39 U	0.66 U	0.42 UJ	0.66 U	0.36 U	0.66 U	0.44 U	0.66 U	0.41 U
SVOCs	3-Nitroaniline	mg/Kg dw	1.7 U	1.8 U	1.7 U	0.99 U	1.7 U	1.1 UJ	1.7 U	0.9 U	1.7 U	1.1 U	1.7 U	1 U
SVOCs	4-Chloroaniline	mg/Kg dw		0.7 U		0.39 U		0.42 UJ		0.36 U		0.44 U		0.41 U
SVOCs	4-Chlorophenyl Phenyl Ether	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	4-Nitroaniline	mg/Kg dw	1.7 U	1.8 U	1.7 U	0.99 U	1.7 U	1.1 UJ	1.7 U	0.9 U	1.7 U	1.1 U	1.7 U	1 U
SVOCs	Aniline	mg/Kg dw												
SVOCs	Benzidine	mg/Kg dw	2.7 U		2.7 U		2.7 U		2.7 U		2.7 U		2.7 U	
SVOCs	Benzoic acid	mg/Kg dw	1.7 U		1.7 U		1.7 U		1.7 U		1.7 U		1.7 U	
SVOCs	Benzyl alcohol	mg/Kg dw	0.33 U		0.33 U		0.33 U		0.33 U		0.33 U		0.33 U	
SVOCs	Biphenyl	mg/Kg dw												
SVOCs	Bis(2-ethylhexyl) phthalate	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	Butyl benzyl phthalate	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	Diethylphthalate	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	Dimethylphthalate	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	Di-n-butylphthalate	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	Di-n-octylphthalate	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	Hexachlorobenzene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	Hexachlorobutadiene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	Hexachlorocyclopentadiene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	Hexachloroethane	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	Isophorone	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	Nitrobenzene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U

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

		Sample ID	SW-046-SD	SW-046-SD (NCDENR)	SW-047-SD	SW-047-SD (NCDENR)	SW-048-SD	SW-048-SD (NCDENR)	SW-049-SD	SW-049-SD (NCDENR)	SW-050-SD	SW-050-SD (NCDENR)	SW-051-SD	SW-051-SD (NCDENR)
		Station ID	SW-046-SD	SW-046-SD	SW-047-SD	SW-047-SD	SW-048-SD	SW-048-SD	SW-049-SD	SW-049-SD	SW-050-SD	SW-050-SD	SW-051-SD	SW-051-SD
		Date Collected	7/19/2006	11/8/1996	7/19/2006	11/8/1996	7/18/2006	11/8/1996	7/18/2006	11/8/1996	7/18/2006	11/8/1996	7/18/2006	11/8/1996
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"
ChemClass	Analyte Name	Conc Unit												
SVOCs	N-Nitrosodimethylamine	mg/Kg dw	0.33 U		0.33 U		0.33 U		0.33 U		0.33 U		0.33 U	
SVOCs	N-nitrosodi-n-propylamine	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	N-nitrosodiphenylamine	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
SVOCs	p-Chloroaniline	mg/Kg dw	0.66 U		0.66 U		0.66 U		0.66 U		0.66 U		0.66 U	
Phenolics	2,3,4,6-Tetrachlorophenol	mg/Kg dw												
Phenolics	2,4,5-Trichlorophenol	mg/Kg dw	0.33 U	1.8 U	0.33 U	0.99 U	0.33 U	1.1 UJ	0.33 U	0.9 U	0.33 U	1.1 U	0.33 U	1 U
Phenolics	2,4,6-Trichlorophenol	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
Phenolics	2,4-Dichlorophenol	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
Phenolics	2,4-Dimethylphenol	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
Phenolics	2,4-Dinitrophenol	mg/Kg dw	1.7 U	1.8 U	1.7 U	0.99 U	1.7 U	1.1 UJ	1.7 U	0.9 U	1.7 U	1.1 U	1.7 U	1 U
Phenolics	2-Chlorophenol	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
Phenolics	2-Methyl-4,6-dinitrophenol	mg/Kg dw		1.8 U		0.99 U		1.1 UJ		0.9 U		1.1 U		1 U
Phenolics	2-Nitrophenol	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
Phenolics	3&4-Methylphenol	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
Phenolics	4,6-Dinitro-2-methylphenol	mg/Kg dw	1.7 U		1.7 U		1.7 U		1.7 U		1.7 U		1.7 U	
Phenolics	4-Chloro-3-methylphenol	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
Phenolics	4-Methylphenol	mg/Kg dw												
Phenolics	4-Nitrophenol	mg/Kg dw	1.7 U	1.8 U	1.7 U	0.99 U	1.7 U	1.1 UJ	1.7 U	0.9 U	1.7 U	1.1 U	1.7 U	1 U
Phenolics	Pentachlorophenol	mg/Kg dw	1.7 U	1.8 U	1.7 U	0.99 U	1.7 U	1.1 UJ	1.7 U	0.9 U	1.7 U	1.1 U	1.7 U	1 U
Phenolics	Phenol	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	1-Methylnaphthalene	mg/Kg dw												
PAHs	2-Methylnaphthalene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Acenaphthene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Acenaphthylene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Anthracene	mg/Kg dw	0.33 U	0.7 U	0.9	0.89	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Benzo(a)anthracene	mg/Kg dw	0.33 U	0.7 U	0.6	0.3 J	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Benzo(a)pyrene	mg/Kg dw	0.33 U	0.7 U	0.64	0.38 J	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Benzo(b&k)fluoranthene	mg/Kg dw		0.7 U		1.2 J		0.42 UJ		0.36 U		0.44 U		0.41 U
PAHs	Benzo(b)fluoranthene	mg/Kg dw	0.33 U		1.3		0.33 U		0.33 U		0.33 U		0.33 U	
PAHs	Benzo(g,h,i)perylene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.2 J	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Benzo(k)fluoranthene	mg/Kg dw	0.33 U		0.66		0.33 U		0.33 U		0.33 U		0.33 U	
PAHs	Carbazole	mg/Kg dw		0.7 U		0.096 J		0.42 UJ		0.36 U		0.44 U		0.41 U
PAHs	Chrysene	mg/Kg dw	0.33 U	0.7 U	1	0.54	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Dibenzo(a,h)anthracene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.12 J	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Dibenzo(a,h)pyrene	mg/Kg dw												
PAHs	Dibenzofuran	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Fluoranthene	mg/Kg dw	0.33 U	0.7 U	0.8	0.32 J	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Fluorene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.092 J	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Indeno(1,2,3-cd)pyrene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.24 J	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Naphthalene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.39 U	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Phenanthrene	mg/Kg dw	0.33 U	0.7 U	0.33 U	0.25 J	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PAHs	Pyrene	mg/Kg dw	0.33 U	0.7 U	1	0.32 J	0.33 U	0.42 UJ	0.33 U	0.36 U	0.33 U	0.44 U	0.33 U	0.41 U
PCDD/Fs	1,2,3,4,6,7,8-HpCDD	ng/Kg dw	192	180	6730	4200	1930	1300	708	680	1610	820	777	720
PCDD/Fs	1,2,3,4,6,7,8-HpCDF	ng/Kg dw	22.9	17	946	490	273	220	130	130	242	160	120	80
PCDD/Fs	1,2,3,4,7,8,9-HpCDF	ng/Kg dw	1.5	1.3 J	55	34	14.3	16	6.6	7.8	17.8	13	6.8	5.5
PCDD/Fs	1,2,3,4,7,8-HxCDD	ng/Kg dw	0.86 EMPC	0.87 J	13.2	7.8	6.1	5.8	1.3 EMPC	1.8 J	5.3	3.8 J	1.9	17 J
PCDD/Fs	1,2,3,4,7,8-HxCDF	ng/Kg dw	1.2	5 U	32.3	16 J	8	5.4 J	3.3	3 J	7.9	4.8 J	3.5	2.5 J
PCDD/Fs	1,2,3,6,7,8-HxCDD	ng/Kg dw	4.3	3.8 J	137	83	39.4	37	16.7	21	34.6	20	17.5	1.4
PCDD/Fs	1,2,3,6,7,8-HxCDF	ng/Kg dw	0.3 U	5 U	6.4	3.4 J	3.2	2.4 J	1.1 EMPC	5 U	3.1	1.8 J	1.2	0.7 J
PCDD/Fs	1,2,3,7,8,9-HxCDD	ng/Kg dw	6.1	2 J	52.2	18	23.4	15	5.1	4.8 J	15.3	10	6.3	4.6
PCDD/Fs	1,2,3,7,8,9-HxCDF	ng/Kg dw	0.3 U	5 U	0.4 U	4.4 U	0.3 U	5 U	0.2 U	5 U	0.51 EMPC	5 U	0 U	4.2 U
PCDD/Fs	1,2,3,7,8-PeCDD	ng/Kg dw		5 U		1.3 J		1.3 J		5 U		0.93 J		4.2 U
PCDD/Fs	1,2,3,7,8-PeCDF	ng/Kg dw	0.3 U	5 R	1.9 EMPC	0.36 J	2.1	0.4 J	0.2 U	5 R	1.3	0.27 J	0.2 U	4.2 R
PCDD/Fs	2,3,4,6,7,8-HxCDF	ng/Kg dw	0.68 EMPC	5 U	16.8	2.6 J	6.7	2.2 J	2.2	5 U	7.2	1.4 J	2.9	4.2 U
PCDD/Fs	2,3,4,7,8-PeCDF	ng/Kg dw	0.3 U	5 U	2 EMPC	1.5 J	0.91 EMPC	5 U	0.1 U	5 U	0.91	5 U	0.38 EMPC	4.2 U
PCDD/Fs	2,3,7,8-TeCDD	ng/Kg dw	0.03 U	2 U	0.3 U	1.7 U	0.4 U	2 U	0.1 U	2 U	0.23	2 U	0.1 U	1.7 U
PCDD/Fs	2,3,7,8-TeCDF	ng/Kg dw	0.4 U	2 U	0.3 U	1.7 U	0.4 U	0.43 J	0.5	0.15 J	0.72	0.31 J	0.54	0.18 J
PCDD/Fs	OCDD	ng/Kg dw	5800	6200	66030	57000	24490	15000	7600	6100	17860	8300	8760	12000
PCDD/Fs	OCDF	ng/Kg dw	67.8	97	2590	3800	701	1200	398	900	810	1000	447	570
PCDD/F TEQ	TEQ (I-TEF)	ng/Kg dw		11		120		39		18		25		23
PCDD/F homologs	TeCDDs (total)	ng/Kg dw	0.68 EMPC	2 UJ	1.6 EMPC	2.7 UJ	0.74 EMPC	2 UJ	0.17	2 UJ	3.1	3.6 UJ	0.62	1.9 UJ
PCDD/F homologs	TeCDFs (total)	ng/Kg dw	2.8 EMPC	1.6 J	4	9.2 J	1.9 EMPC	7.4 J	1	1.6 J	4.7	3.8 J	2.4	1.9 J
PCDD/F homologs	PeCDDs (total)	ng/Kg dw	8.2 EMPC	1.8 J	9.9	20 J	6	6.4 J	3.6 EMPC	4.6 J	17.3	9.4 J	3.6	5.6 J
PCDD/F homologs	PeCDFs (total)	ng/Kg dw	1.9	1.3 J	46.3	43 J	20.3	22 J	5.6	7.2 J	25.4	15 J	9.3	7.2 J
PCDD/F homologs	HxCDD (total)	ng/Kg dw	43.2	30 J	951	420 J	267	230 J	112	120 J	270	190 J	118	65 J
PCDD/F homologs	HxCDF (total)	ng/Kg dw	14.1	15 J	834	430 J	191	190 J	99.3	110 J	204	150 J	98.6	78 J
PCDD/F homologs	HpCDD (total)	ng/Kg dw	519	480 J	21260	11000 J	5030	3000 J	1740	1700 J	4330	2000 J	2030	720 J
PCDD/F homologs	HpCDF (total)	ng/Kg dw	67	74 J	4010	520 J	902	1000 J	530	690 J	957	780 J	515	400 J
Metals	Aluminum	mg/Kg dw												
Metals	Antimony	mg/Kg dw												
Metals	Arsenic	mg/Kg dw												
Metals	Barium	mg/Kg dw												

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

		Sample ID	SW-046-SD	SW-046-SD (NCDENR)	SW-047-SD	SW-047-SD (NCDENR)	SW-048-SD	SW-048-SD (NCDENR)	SW-049-SD	SW-049-SD (NCDENR)	SW-050-SD	SW-050-SD (NCDENR)	SW-051-SD	SW-051-SD (NCDENR)
		Station ID	SW-046-SD	SW-046-SD	SW-047-SD	SW-047-SD	SW-048-SD	SW-048-SD	SW-049-SD	SW-049-SD	SW-050-SD	SW-050-SD	SW-051-SD	SW-051-SD
		Date Collected	7/19/2006	11/8/1996	7/19/2006	11/8/1996	7/19/2006	11/8/1996	7/19/2006	11/8/1996	7/19/2006	11/8/1996	7/19/2006	11/8/1996
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"	0 - 2"
ChemClass	Analyte Name	Conc Unit												
Metals	Beryllium	mg/Kg dw												
Metals	Cadmium	mg/Kg dw												
Metals	Calcium	mg/Kg dw												
Metals	Chromium	mg/Kg dw												
Metals	Cobalt	mg/Kg dw												
Metals	Copper	mg/Kg dw												
Metals	Iron	mg/Kg dw												
Metals	Lead	mg/Kg dw												
Metals	Magnesium	mg/Kg dw												
Metals	Manganese	mg/Kg dw												
Metals	Mercury	mg/Kg dw												
Metals	Nickel	mg/Kg dw												
Metals	Potassium	mg/Kg dw												
Metals	Selenium	mg/Kg dw												
Metals	Silver	mg/Kg dw												
Metals	Sodium	mg/Kg dw												
Metals	Thallium	mg/Kg dw												
Metals	Tin	mg/Kg dw												
Metals	Vanadium	mg/Kg dw												
Metals	Zinc	mg/Kg dw												
General Parameters	Percent Clay	%	0.9		0.8		6.2		0.8		18.8		38	
General Parameters	Percent Gravel	%	0 U		6.1		38		16.1		0 U		0 U	
General Parameters	Percent Sand	%	89.9		83.7		47.1		81		47.6		3.9	
General Parameters	Percent Silt	%	9.2		7.4		8.7		2.1		38.1		58.1	
General Parameters	Total Organic Carbon	mg/Kg dw	4530		1830		16100		523		44200		7450	
General Parameters	Total Solids	%												
General Parameters	Percent Moisture (metals)	%												
General Parameters	Percent Moisture (PCDD/F)	%		49		25		36		25		44		33
General Parameters	Percent Moisture (SVOC)	%		53		16		22		8		25		20
General Parameters	Percent Moisture (SVOCs)	%												
General Parameters	Percent Moisture (VOCs)	%												
TCLP-PAHs	Acenaphthene in TCLP Extract	mg/L												
TCLP-PAHs	Acenaphthylene in TCLP Extract	mg/L												
TCLP-PAHs	Anthracene in TCLP Extract	mg/L												
TCLP-PAHs	Benzo(a)anthracene in TCLP Extract	mg/L												
TCLP-PAHs	Benzo(a)pyrene in TCLP Extract	mg/L												
TCLP-PAHs	Benzo(b)fluoranthene in TCLP Extract	mg/L												
TCLP-PAHs	Benzo(g,h,i)perylene in TCLP Extract	mg/L												
TCLP-PAHs	Benzo(k)fluoranthene in TCLP Extract	mg/L												
TCLP-PAHs	Carbazole in TCLP Extract	mg/L												
TCLP-PAHs	Chrysene in TCLP Extract	mg/L												
TCLP-PAHs	Dibenzo(a,h)anthracene in TCLP Extract	mg/L												
TCLP-PAHs	Dibenzofuran in TCLP Extract	mg/L												
TCLP-PAHs	Dimethyl Naphthalene in TCLP Extract	mg/L												
TCLP-PAHs	Fluoranthene in TCLP Extract	mg/L												
TCLP-PAHs	Fluorene in TCLP Extract	mg/L												
TCLP-PAHs	Indeno(1,2,3-cd)pyrene in TCLP Extract	mg/L												
TCLP-PAHs	Isophorone in TCLP Extract	mg/L												
TCLP-PAHs	Naphthalene in TCLP Extract	mg/L												
TCLP-PAHs	Phenanthrene in TCLP Extract	mg/L												
TCLP-PAHs	Pyrene in TCLP Extract	mg/L												
TCLP-Phenolics	Extract	mg/L												
TCLP-Phenolics	2,4,5-Trichlorophenol in TCLP Extract	mg/L												
TCLP-Phenolics	2,4-Dimethylphenol in TCLP Extract	mg/L												
TCLP-Phenolics	2-Chlorophenol in TCLP Extract	mg/L												
TCLP-Phenolics	2-Methylphenol in TCLP Extract	mg/L												
TCLP-Phenolics	4-Chloro-3-methylphenol in TCLP Extract	mg/L												
TCLP-Phenolics	Pentachlorophenol in TCLP Extract	mg/L												
TCLP-Phenolics	Phenol in TCLP Extract	mg/L												
TCLP-SVOCs	Aniline in TCLP Extract	mg/L												

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

		Sample ID	SW-062-SD	SW-062-SD (NCDENR)	SW-061-SD	SW-062-SD	SW-063-SD	SW-064-SD	SW-065-SD	SW-066-SD	SW-067-SD	SW-068-SD	SW-129-SD (NCDENR)	SW-143-SD	SW-143-SD (NCDENR)	SW-152-SD
		Station ID	SW-062-SD	SW-062-SD				SW-064-SD		SW-066-SD	SW-067-SD		SW-029-SD Dup		SW-043-SD Dup	
		Date Collected	7/18/2006	11/8/1996	7/17/2002	7/17/2002	7/17/2002	7/18/2006	7/17/2002	7/18/2006	7/18/2006	7/18/2002	11/13/1995	11/8/1996	11/8/1996	11/8/1996
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 12"	0 - 4"	0 - 4"	0 - 3"
ChemClass	Analyte Name	Conv Unit														
VOCs	1,1,1-Trichloroethane	mg/Kg dw											0.013 U			
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg dw											0.013 U			
VOCs	1,1,2-Trichloroethane	mg/Kg dw											0.013 U			
VOCs	1,1-Dichloroethane	mg/Kg dw											0.013 U			
VOCs	1,1-Dichloroethene	mg/Kg dw											0.013 U			
VOCs	1,2,4-Trichlorobenzene	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
VOCs	1,2-Dichlorobenzene	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
VOCs	1,2-Dichloroethane	mg/Kg dw											0.013 U			
VOCs	1,2-Dichloroethene (total)	mg/Kg dw											0.013 U			
VOCs	1,2-Dichloropropane	mg/Kg dw											0.013 U			
VOCs	1,3-Dichlorobenzene	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
VOCs	1,4-Dichlorobenzene	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
VOCs	2-Butanone	mg/Kg dw											0.013 U			
VOCs	4-Bromophenyl phenyl ether	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
VOCs	Acetone	mg/Kg dw											0.013 U			
VOCs	Benzene	mg/Kg dw											0.013 U			
VOCs	bis(2-Chloro-1-methylethyl) ether	mg/Kg dw	0.33 U											0.33 U		0.33 U
VOCs	Bis(2-chloroethoxy) methane	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
VOCs	Bis(2-Chloroethyl) ether	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
VOCs	Bis(2-Chloroisopropyl) ether	mg/Kg dw		0.43 U									0.41 U		0.39 U	
VOCs	Bromodichloromethane	mg/Kg dw											0.013 U			
VOCs	Bromoform	mg/Kg dw											0.013 U			
VOCs	Bromomethane	mg/Kg dw											0.013 UR			
VOCs	Carbon disulfide	mg/Kg dw											0.013 U			
VOCs	Carbon tetrachloride	mg/Kg dw											0.013 U			
VOCs	Chlorobenzene	mg/Kg dw											0.013 U			
VOCs	Chloroethane	mg/Kg dw											0.013 U			
VOCs	Chloroform	mg/Kg dw											0.013 U			
VOCs	Chloromethane	mg/Kg dw											0.013 U			
VOCs	cis-1,3-Dichloropropene	mg/Kg dw											0.013 U			
VOCs	Dibromochloromethane	mg/Kg dw											0.013 U			
VOCs	Ethylbenzene	mg/Kg dw											0.013 U			
VOCs	Methyl butyl ketone	mg/Kg dw											0.013 U			
VOCs	Methyl isobutyl ketone	mg/Kg dw											0.013 U			
VOCs	Methylene chloride	mg/Kg dw											0.02 U			
VOCs	m-Xylene	mg/Kg dw														
VOCs	o-Xylene	mg/Kg dw														
VOCs	p-Xylene	mg/Kg dw														
VOCs	Styrene	mg/Kg dw											0.013 U			
VOCs	Tetrachloroethene	mg/Kg dw											0.013 U			
VOCs	Toluene	mg/Kg dw											0.013 U			
VOCs	trans-1,3-Dichloropropene	mg/Kg dw											0.013 U			
VOCs	Trichloroethene	mg/Kg dw											0.013 U			
VOCs	Vinyl chloride	mg/Kg dw											0.013 U			
VOCs	Xylenes (total)	mg/Kg dw											0.013 U			
SVOCs	2,4-Dinitrotoluene	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	2,6-Dinitrotoluene	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	2-Chloronaphthalene	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	2-Methylphenol	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	91 U	160 U		0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	2-Nitroaniline	mg/Kg dw	1.7 U	1.1 U									1 U	1.7 U	0.99 U	1.7 U
SVOCs	3,3'-Dichlorobenzidine	mg/Kg dw	0.66 U	0.43 U									0.41 U	0.66 U	0.39 U	0.66 U
SVOCs	3-Nitroaniline	mg/Kg dw	1.7 U	1.1 U									10 U	1.7 U	0.99 U	1.7 U
SVOCs	4-Chloroaniline	mg/Kg dw		0.43 U									0.41 U		0.39 U	
SVOCs	4-Chlorophenyl Phenyl Ether	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	4-Nitroaniline	mg/Kg dw	1.7 U	1.1 U									1 U	1.7 U	0.99 U	1.7 U
SVOCs	Aniline	mg/Kg dw			0.034 J	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.7 U					
SVOCs	Benzidine	mg/Kg dw	2.7 U											2.7 U		2.7 U
SVOCs	Benzoic acid	mg/Kg dw	1.7 U											1.7 U		1.7 U
SVOCs	Benzyl alcohol	mg/Kg dw	0.33 U											0.33 U		0.33 U
SVOCs	Biphenyl	mg/Kg dw														
SVOCs	Bis(2-ethylhexyl) phthalate	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	Butyl benzyl phthalate	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	Diethylphthalate	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	Dimethylphthalate	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	Di-n-butylphthalate	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	Di-n-octylphthalate	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	Hexachlorobenzene	mg/Kg dw	0.33 U	0.43 U									0.41 UJ	0.33 U	0.39 U	0.33 U
SVOCs	Hexachlorobutadiene	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	Hexachlorocyclopentadiene	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	Hexachloroethane	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	Isophorone	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.032 U	0.055 U		0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	Nitrobenzene	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U

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

		Sample ID	SW-062-SD	SW-062-SD (NCDENR)	SW-061-SD	SW-063-SD	SW-063-SD	SW-064-SD	SW-065-SD	SW-066-SD	SW-067-SD	SW-068-SD	SW-129-SD (NCDENR)	SW-143-SD	SW-143-SD (NCDENR)	SW-182-SD
		Station ID	SW-062-SD	SW-062-SD				SW-064-SD		SW-066-SD	SW-067-SD		SW-129-SD Dup		SW-143-SD Dup	
		Date Collected	7/19/2006	11/8/1996	7/17/2002	7/17/2002	7/17/2002	7/19/2006	7/17/2002	7/19/2006	7/19/2006	7/19/2002	11/13/1996	11/8/1996	11/8/1996	11/8/1996
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 2"	0 - 2"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 12"	0 - 4"	0 - 4"	0 - 2"
ChemClass	Analyte Name	Core Unit														
SVOCs	N-Nitrosodimethylamine	mg/Kg dw	0.33 U											0.33 U		0.33 U
SVOCs	N-nitrosodi-n-propylamine	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	N-nitrosodiphenylamine	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
SVOCs	p-Chloroaniline	mg/Kg dw	0.66 U											0.66 U		0.66 U
Phenolics	2,3,4,6-Tetrachlorophenol	mg/Kg dw			0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.7 U					
Phenolics	2,4,5-Trichlorophenol	mg/Kg dw	0.33 U	1.1 U									1 U	0.33 U	0.99 U	0.33 U
Phenolics	2,4,6-Trichlorophenol	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.7 U		0.41 U	0.33 U	0.39 U	0.33 U
Phenolics	2,4-Dichlorophenol	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
Phenolics	2,4-Dimethylphenol	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.7 U		0.41 U	0.33 U	0.39 U	0.33 U
Phenolics	2,4-Dinitrophenol	mg/Kg dw	1.7 U	1.1 U									1 U	1.7 U	0.99 U	1.7 U
Phenolics	2-Chlorophenol	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.7 U		0.41 U	0.33 U	0.39 U	0.33 U
Phenolics	2-Methyl-4,6-dinitrophenol	mg/Kg dw		1.1 U									1 U		0.99 U	
Phenolics	2-Nitrophenol	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
Phenolics	3&4-Methylphenol	mg/Kg dw	0.33 U	0.43 U									0.41 U	0.33 U	0.39 U	0.33 U
Phenolics	4,6-Dinitro-2-methylphenol	mg/Kg dw	1.7 U											1.7 U		1.7 U
Phenolics	4-Chloro-3-methylphenol	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.7 U		0.41 U	0.33 U	0.39 U	0.33 U
Phenolics	4-Methylphenol	mg/Kg dw			0.33 U	0.33 U	0.33 U	0.33 U	0.33 U							
Phenolics	4-Nitrophenol	mg/Kg dw	1.7 U	1.1 U									1 U	1.7 U	0.99 U	1.7 U
Phenolics	Pentachlorophenol	mg/Kg dw	1.7 U	1.1 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	2.1 U	3.6 U		1.2	1.7 U	0.99 U	1.7 U
Phenolics	Phenol	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.7 U		0.41 U	0.33 U	0.39 U	0.33 U
PAHs	1-Methylnaphthalene	mg/Kg dw														
PAHs	2-Methylnaphthalene	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.7 U		42	0.33 U	0.39 U	0.33 U
PAHs	Acenaphthene	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.051 J	0.075 J	0.33 U	0.33 U	0.13 J	0.7 U		37 J	0.33 U	0.39 U	0.33 U
PAHs	Acenaphthylene	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	90 U	150 U		0.41 U	0.33 U	0.39 U	0.33 U
PAHs	Anthracene	mg/Kg dw	0.33 U	0.43 U	0.31 J	0.063 J	0.16 J	0.58 J	0.052 J	0.41 U	0.7 U		2.8	0.33 U	0.39 U	0.33 U
PAHs	Benzo(a)anthracene	mg/Kg dw	0.33 U	0.43 U	0.4 J	0.059 J	0.2 J	0.26 J	0.059 J	0.41 U	0.7 U		2.3	0.33 U	0.39 U	0.33 U
PAHs	Benzo(a)pyrene	mg/Kg dw	0.33 U	0.43 U	0.43 J	0.075 J	0.17 J	0.19 J	0.064 J	0.41 U	0.12 J		0.63	0.33 U	0.39 U	0.33 U
PAHs	Benzo(b&k)fluoranthene	mg/Kg dw		0.43 U	1.3	0.033 J	0.54	0.72 J	0.16 J				2.5		0.39 U	
PAHs	Benzo(b)fluoranthene	mg/Kg dw	0.33 U		0.72	0.33 U	0.25 J	0.72 J	0.33 U	78 U	130 U			0.33 U		0.33 U
PAHs	Benzo(g,h,i)perylene	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.029 U	0.049 U		0.13 J	0.33 U	0.39 U	0.33 U
PAHs	Benzo(k)fluoranthene	mg/Kg dw	0.33 U		0.63	0.33 U	0.28 J	0.33 U	0.33 U	80 U	140 U			0.33 U		0.33 U
PAHs	Carbazole	mg/Kg dw		0.43 U	0.05 J	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.7 U		5.4 J		0.39 U	
PAHs	Chrysene	mg/Kg dw	0.33 U	0.43 U	0.7	0.07 J	0.28 J	0.52 J	0.13 J	0.41 U	0.12 J		2	0.33 U	0.39 U	0.33 U
PAHs	Dibenzo(a,h)anthracene	mg/Kg dw	0.33 U	0.43 U	0.073 J	0.33 U	0.33 U	0.33 U	0.33 U				0.057 J	0.33 U	0.39 U	0.33 U
PAHs	Dibenzo(a,h)pyrene	mg/Kg dw								0.41 U	0.7 U					
PAHs	Dibenzofuran	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.042 U	0.072 U		32	0.33 U	0.39 U	0.33 U
PAHs	Fluoranthene	mg/Kg dw	0.33 U	0.43 U	0.48	0.39 J	0.22 J	0.72 J	0.33 U	0.12 J	0.086 J		18	0.33 U	0.39 U	0.33 U
PAHs	Fluorene	mg/Kg dw	0.33 U	0.43 U	0.054 J	0.065 J	0.062 J	0.09 J	0.33 U	0.14 J	0.7 U		31	0.33 U	0.39 U	0.33 U
PAHs	Indeno(1,2,3-cd)pyrene	mg/Kg dw	0.33 U	0.43 U	0.21 J	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.058 J		0.21 J	0.33 U	0.39 U	0.33 U
PAHs	Naphthalene	mg/Kg dw	0.33 U	0.43 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.41 U	0.7 U		12	0.33 U	0.39 U	0.33 U
PAHs	Phenanthrene	mg/Kg dw	0.33 U	0.43 U	0.19 J	0.2 J	0.11 J	0.19 J	0.33 U	0.13 J	0.7 U		47	0.33 U	0.39 U	0.33 U
PAHs	Pyrene	mg/Kg dw	0.33 U	0.43 U	0.6	0.3 J	0.31 J	0.8	0.33 U	91 U	160 U		15 J	0.33 U	0.39 U	0.33 U
PCDD/Fs	1,2,3,4,6,7,8-HpCDD	ng/Kg dw	519	630				9560		1250	1020	79	36000 J	76.5	100	489
PCDD/Fs	1,2,3,4,6,7,8-HpCDF	ng/Kg dw	77.4	70				1010		167	133	9.29	6800	12.8	11	72.3
PCDD/Fs	1,2,3,4,7,8,9-HpCDF	ng/Kg dw	4.4	4.4 J				61.9		9.02	9.3	5 U	310	0.85	5 U	4.9
PCDD/Fs	1,2,3,4,7,8-HxCDD	ng/Kg dw	1.6	5 U				19.3		5 U	5 U	5 U	43	0.38 EMPC	5 U	2.2
PCDD/Fs	1,2,3,4,7,8-HxCDF	ng/Kg dw	2.7	5 U				33.7		5 U	5 U	5 U	1200 U	0.65	5 U	2.6
PCDD/Fs	1,2,3,6,7,8-HxCDD	ng/Kg dw	12.4	13				174		30.6	24.9	5 U	820	1.6	2.1 J	11.8
PCDD/Fs	1,2,3,6,7,8-HxCDF	ng/Kg dw	0.9 EMPC	5 U				11		5 U	5 U	5 U	31 J	0.22 EMPC	5 U	1.3
PCDD/Fs	1,2,3,7,8,9-HxCDD	ng/Kg dw	5.1	4.1 J				40.6		5.76	5 U	5 U	130	0.76 EMPC	1.1 J	5.1
PCDD/Fs	1,2,3,7,8,9-HxCDF	ng/Kg dw	0 U	5 U				5 U		5 U	5 U	5 U	14 U	0.2 U	5 U	0.8 U
PCDD/Fs	1,2,3,7,8-PeCDD	ng/Kg dw		5 J									5.1 J		5 U	
PCDD/Fs	1,2,3,7,8-PeCDF	ng/Kg dw	0.58	5 R				5 U		5 U	5 U	5 U	14 U	0.2 U	5 R	0.76 EMPC
PCDD/Fs	2,3,4,6,7,8-HxCDF	ng/Kg dw	2.2	5 U				25.3		5 U	5 U	5 U	14 U	0.46	5 U	2
PCDD/Fs	2,3,4,7,8-PeCDF	ng/Kg dw	0.44 EMPC	5 U				17.5		5 U	5 U	5 U	9.1 J	0.2 U	5 U	0.4 U
PCDD/Fs	2,3,7,8-TeCDD	ng/Kg dw	0.13	2 U				1 U		1 U	1 U	1 U	6 U	0.1 U	2 U	0.3 U
PCDD/Fs	2,3,7,8-TeCDF	ng/Kg dw	0.69	0.4 J				1 U		1 U	1 U	1 U	6 U	0.21	2 U	1.2
PCDD/Fs	OCDD	ng/Kg dw	8380	6100				75700		13800 E	11600 E	2530	340000 J	1550	3800	9220
PCDD/Fs	OCDF	ng/Kg dw	293	430				4490		766	629	25.4	37000	33.3	70	295
PCDD/F TEQ	TEQ (I-TEF)	ng/Kg dw		15									920 J		5.3	
PCDD/F homologs	TeCDDs (total)	ng/Kg dw	2.5	2 UJ				11.4		1 U	1 U	1 U	17 J	0.1 U	2 UJ	2.2
PCDD/F homologs	TeCDFs (total)	ng/Kg dw	6	5.3 J				43.4		1.7	1 U	1 U	11 J	0.21 EMPC	2 UJ	7.3
PCDD/F homologs	PeCDDs (total)	ng/Kg dw	5.4	4 J				32.4		5 U	5 U	5 U	38 J	0.2 U	5 UJ	3.6
PCDD/F homologs	PeCDFs (total)	ng/Kg dw	9.8	8.4 J				236		20.9	8.72	5 U	190 J	0.53 EMPC	5 UJ	14.3
PCDD/F homologs	HxCDD (total)	ng/Kg dw	94	85 J				1220		205	160	17.2	5400 J	10.5	14 J	97.5
PCDD/F homologs	HxCDF (total)	ng/Kg dw	73.5	60 J				858		155	113	5 U	5000 J	10.2	8.4 J	67.9
PCDD/F homologs	HpCDD (total)	ng/Kg dw	1400	1600 J				26300		3320	2820	215	120000 J	205	240 J	1260
PCDD/F homologs	HpCDF (total)	ng/Kg dw	312	360 J				5470		802	634	28.6	6200 J	49.1	46 J	272
Metals	Aluminum	mg/Kg dw											12000			
Metals	Antimony	mg/Kg dw											3.2 UR			
Metals	Arsenic	mg/Kg dw											4 J			
Metals	Barium	mg/Kg dw											160			

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

		Sample ID	SW-062-SD	SW-062-SD (NCDENR)	SW-061-SD	SW-062-SD	SW-063-SD	SW-064-SD	SW-065-SD	SW-066-SD	SW-067-SD	SW-068-SD	SW-129-SD (NCDENR)	SW-143-SD	SW-143-SD (NCDENR)	SW-162-SD
		Station ID	SW-062-SD	SW-062-SD				SW-064-SD		SW-066-SD	SW-067-SD		SW-029-SD Dup		SW-043-SD Dup	
		Date Collected	7/19/2006	11/9/1996	7/17/2002	7/17/2002	7/17/2002	7/19/2006	7/17/2002	7/19/2006	7/19/2006	7/18/2002	11/13/1996	11/9/1996	11/9/1996	11/9/1996
		Waterbody	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek	Cedar Creek
		Location	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream
		Depth Interval	0 - 2"	0 - 2"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 3"	0 - 12"	0 - 4"	0 - 4"	0 - 2"
ChemClass	Analyte Name	Conv Unit														
Metals	Beryllium	mg/Kg dw											0.99 J			
Metals	Cadmium	mg/Kg dw											0.32 U			
Metals	Calcium	mg/Kg dw											2100			
Metals	Chromium	mg/Kg dw											28			
Metals	Cobalt	mg/Kg dw											27			
Metals	Copper	mg/Kg dw											26			
Metals	Iron	mg/Kg dw											20000			
Metals	Lead	mg/Kg dw											9.2 J			
Metals	Magnesium	mg/Kg dw											4000			
Metals	Manganese	mg/Kg dw											900 J			
Metals	Mercury	mg/Kg dw											0.06 U			
Metals	Nickel	mg/Kg dw											37			
Metals	Potassium	mg/Kg dw											310			
Metals	Selenium	mg/Kg dw											1 U			
Metals	Silver	mg/Kg dw											0.87 U			
Metals	Sodium	mg/Kg dw											190 U			
Metals	Thallium	mg/Kg dw											0.58 U			
Metals	Tin	mg/Kg dw														
Metals	Vanadium	mg/Kg dw											46			
Metals	Zinc	mg/Kg dw											40 UJ			
General Parameters	Percent Clay	%	21.5					9.3		3.5	11.5					
General Parameters	Percent Gravel	%	0 U					0 U		0 U	2.8					
General Parameters	Percent Sand	%	12					46.9		77.5	83					
General Parameters	Percent Silt	%	66.5					43.8		19	2.7					
General Parameters	Total Organic Carbon	mg/Kg dw	7220					20400		5000	917					
General Parameters	Total Solids	%														
General Parameters	Percent Moisture (metals)	%											25			
General Parameters	Percent Moisture (PCDD/F)	%		40									26		19	
General Parameters	Percent Moisture (SVOC)	%		23											16	
General Parameters	Percent Moisture (SVOCs)	%											21			
General Parameters	Percent Moisture (VOCs)	%											21			
TCLP-PAHs	Acenaphthene in TCLP Extract	mg/L						0.009 U		0.009 U						
TCLP-PAHs	Acenaphthylene in TCLP Extract	mg/L						0.009 U		0.009 U						
TCLP-PAHs	Anthracene in TCLP Extract	mg/L						0.008 U		0.008 U						
TCLP-PAHs	Benzo(a)anthracene in TCLP Extract	mg/L						0.0065 U		0.0065 U						
TCLP-PAHs	Benzo(a)pyrene in TCLP Extract	mg/L						0.0075 U		0.0075 U						
TCLP-PAHs	Benzo(b)fluoranthene in TCLP Extract	mg/L						0.008 U		0.008 U						
TCLP-PAHs	Benzo(g,h,i)perylene in TCLP Extract	mg/L						0.012 U		0.012 U						
TCLP-PAHs	Benzo(k)fluoranthene in TCLP Extract	mg/L						0.006 U		0.006 U						
TCLP-PAHs	Carbazole in TCLP Extract	mg/L						0.0085 U		0.0085 U						
TCLP-PAHs	Chrysene in TCLP Extract	mg/L						0.0044 U		0.0044 U						
TCLP-PAHs	Dibenzo(a,h)anthracene in TCLP Extract	mg/L						0.014 U		0.014 U						
TCLP-PAHs	Dibenzofuran in TCLP Extract	mg/L						0.0075 U		0.0075 U						
TCLP-PAHs	Dimethyl Naphthalene in TCLP Extract	mg/L						0.025 U		0.025 U						
TCLP-PAHs	Fluoranthene in TCLP Extract	mg/L						0.01 U		0.01 U						
TCLP-PAHs	Fluorene in TCLP Extract	mg/L						0.0085 U		0.0085 U						
TCLP-PAHs	Indeno(1,2,3-cd)pyrene in TCLP Extract	mg/L						0.016 U		0.016 U						
TCLP-PAHs	Isophorone in TCLP Extract	mg/L						0.0095 U		0.0095 U						
TCLP-PAHs	Naphthalene in TCLP Extract	mg/L						0.0095 U		0.0095 U						
TCLP-PAHs	Phenanthrene in TCLP Extract	mg/L						0.0075 U		0.0075 U						
TCLP-PAHs	Pyrene in TCLP Extract	mg/L						0.006 U		0.006 U						
TCLP-Phenolics	Extract	mg/L						0.0065 U		0.0065 U						
TCLP-Phenolics	2,4,5-Trichlorophenol in TCLP Extract	mg/L						0.0075 U		0.0075 U						
TCLP-Phenolics	2,4-Dimethylphenol in TCLP Extract	mg/L						0.01 U		0.01 U						
TCLP-Phenolics	2-Chlorophenol in TCLP Extract	mg/L						0.0075 U		0.0075 U						
TCLP-Phenolics	2-Methylphenol in TCLP Extract	mg/L						0.0075 U		0.0075 U						
TCLP-Phenolics	4-Chloro-3-methylphenol in TCLP Extract	mg/L						0.0065 U		0.0065 U						
TCLP-Phenolics	Pentachlorophenol in TCLP Extract	mg/L						0.01 U		0.01 U						
TCLP-Phenolics	Phenol in TCLP Extract	mg/L						0.0065 U		0.0065 U						
TCLP-SVOCs	Aniline in TCLP Extract	mg/L						0.008 U		0.008 U						

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

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