

**Terry Creek Ecological Screening Evaluation
Brunswick, Georgia**



**U. S. Environmental Protection Agency
Science and Ecosystem Support Division
Ecological Assessment Branch
Athens, Georgia**

July 1997

Terry Creek Ecological Screening Evaluation

Brunswick, Georgia

1.0 INTRODUCTION

An ecological screening evaluation of Terry Creek and nearby streams was initiated by the United States Environmental Protection Agency (USEPA), Region 4, Science and Ecosystem Support Division on February 18, 1997. This action was in response to a request for assistance by the USEPA Emergency Response Team. The purpose of this study was to evaluate the potential for impacts to human health and the environment from contaminants in Terry Creek. Terry Creek is used as a fishing and blue crab collection site by the general public. Concerns have been raised about dangers to consumer health from possible contaminants in biological organisms collected from this area. The primary contaminant of concern was toxaphene. Sample collection activities were a joint venture involving the Georgia Department of Natural Resources (GDNR) and the USEPA.

2.0 SITE DESCRIPTION

2.1 Study Area

The study area is located in the Atlantic coastal region of the southeastern United States, east of the city of Brunswick in Glynn County, Georgia (Figure 1). The habitats selected for evaluation were tidally influenced streams flowing through emergent herbaceous wetlands. Marsh vegetation was primarily smooth cordgrass (*Spartina alterniflora*) and needle rush (*Juncus roemerianus*).

2.2 Station Locations

A reconnaissance of the area was conducted February 18, 1997 to ensure access and suitability of stations for sample collection. Based on the field reconnaissance, the following five stations were selected for collection of surface water, sediment, and blue crab (*Callinectes sapidus*) samples (Figure 2):

- 001 Terry and Dupree Creeks
- 002 Mouth of Terry Creek
- 003 Mouth of Back River
- 004 Back Landing
- 005 Jove Creek (control station)

Four additional stations (1A, 1B, 1C, 1D) were selected for sediment sampling in small tidal streams draining the two dredge spoil sites located adjacent to Dupree and Terry Creeks (Figure 2). Nine stations were selected for collection of forage fish in and near Dupree and Terry Creeks (Figure 3). Consumer fish were collected from four zones as shown by the shaded areas labeled Zone A through Zone D (Figure 4). Zone A included Back Landing north of Clubbs Creek, Zone B included the upstream segment of Terry Creek, Zone C included the downstream reach of Terry Creek east of its confluence with Dupree Creek, and Zone D included Dupree Creek and a small part of Terry Creek.

3.0 METHODS

3.1 Field Sampling Methods

3.1.1 Sediment and Surface Water Samples

Sediment and surface water samples were collected near the margin of tidal channels during a low tide. Surface water was collected as subsurface grab samples. Sediment samples were collected from the top 15 cm of sediment in depositional areas on the inside bend of a tidal channel.

Pre-cleaned bottles, glass pans, and stainless steel scoops were used to collect sediment and surface water samples at each station. Bottles and plastic bags were labeled immediately prior to sampling. Clean gloves were used at each station. Sample collection information was recorded in a bound field notebook. Samples were placed in coolers on ice immediately after collection. Sample collection activities followed guidelines described in USEPA Environmental Compliance Branch Standard Operating Procedures (USEPA 1991).

3.1.2 Biological Samples

Baited crab pots were deployed during the reconnaissance and remained in place for four complete tidal cycles. Upon retrieval, blue crabs were removed from the crab pots, placed in plastic bags and immediately packed on ice.

Forage and consumer fish sampling activities were conducted over a period of several weeks from February 18 to March 19, 1997, due to delays caused by availability of biological organisms and appropriate daily tidal cycles. Mummichogs (*Fundulus heteroclitus*) were selected as the main forage fish species. Mummichogs were collected using non-baited minnow traps placed in small tidal streams. Traps were placed in the streams during a high tide and retrieved during the falling tide. The traps functioned as a block net. Mummichogs were funneled into the traps as they moved from the marsh during the falling tide. Upon retrieval, mummichogs were removed from the traps, placed in plastic bags, and packed on ice.

Efforts to collect consumer fish were conducted at various times during the tidal cycles. Consumer fish were collected using a variety of collection techniques (otter trawls, trammel nets, and hook and line). The most successful methods were trammel nets and hook and line. Immediately after collection, consumer fish samples were packed on ice. These fish were fileted within 48 hours, and the filets were then frozen, since only the edible portion was to be used for chemical analysis. Based on collection results, spotted sea trout (*Cynoscion nebulosus*) was selected as the target species (USEPA 1995) for chemical analysis.

On two separate occasions, attempts were made to collect clapper rails (*Rallus longirostris*). However, no clapper rails were sited at or near the study area.

Field handling and processing of biological samples were conducted following guidelines suggested in Fish Field and Laboratory Methods for Evaluating the Biological Integrity of Surface Waters (Klemm et al. 1993).

3.2 Laboratory Methods

3.2.1 Tissue Preparation

To prevent loss of fluids, tissue samples were kept frozen during processing. Tissue samples were removed from the freezer, chopped into manageable pieces, and ground in a pre-chilled Waring blender with dry ice. Tissue then was transferred from the blender to a chilled glass jar, and immediately returned to the freezer. Tissue preparation followed basic guidelines suggested in Fish Field and Laboratory Methods for Evaluating the Biological Integrity of Surface Waters (Klemm et al. 1993).

3.2.2 Chemical Analysis

Surface water and sediment samples were analyzed for volatile organics, extractable organics, pesticides, PCB's, and metals. In addition, two sediment samples were scanned for dioxin. Tissue samples were analyzed for extractable organics, pesticides, PCB's, and metals. Chemical analyses were performed by USEPA Analytical Support Branch Laboratories in Athens, Georgia. The laboratory practices, sample handling, quality control, and analytical methods that were used are described in the Laboratory Operations and Quality Control Manual (USEPA 1990) and Methods for Chemical Analysis of Water and Wastes (USEPA 1983).

4.0 RESULTS AND DISCUSSION

4.1 Surface Water Data

Results of surface water analyses are presented in Appendix A. Carbon tetrachloride was detected in surface water at 0.69 ug/L and 0.75 ug/L at Station 001 and its duplicate Station 101, respectively. Carbon tetrachloride is a colorless, nonflammable liquid used as a solvent, grain fumigant, refrigerant, and as a starting material for the manufacture of organic compounds. It was formerly used as a dry-cleaning agent and as a component of fire extinguisher solutions. References suggest that this compound may be a carcinogen (Merck 1989; USEPA 1980). Levels detected at Station 001 are well below the USEPA Region 4 Waste Management Division (WMD) freshwater screening levels of 3520 ug/L for acute toxicity and 352 ug/L for chronic effects (USEPA 1980).

Toxaphene, although listed as a primary contaminant of concern, was not detected in surface water samples collected during this study. The acute screening criteria (USEPA 1995) for toxaphene is 0.21 ug/L for saltwater. The minimum quantitation limit for toxaphene reported by USEPA Region 4 Analytical Support Branch was 5.0 ug/L. Analyses for other organic compounds and metals did not reveal any major contaminants in the surface water samples.

4.2 Sediment Data

Results of sediment sample analyses are presented in Appendix B. Additionally, results of sediment analysis for toxaphene are shown in Table 1. Toxaphene was present in four of the sediment sampling stations located in Terry and Dupree Creeks (001, 1A, 1C, and 1D) but was not detected at the remaining stations 1B and 002-005. Toxaphene concentrations in Dupree and Terry Creek sediment samples ranged from 7900J ug/kg to 230,000J ug/kg with the highest value occurring at Station 1A in Dupree Creek. Because of the complex sample matrix, the values for toxaphene could only be estimated as indicated by the "J" qualifier. Toxaphene is a complex mixture of chlorinated camphenes. It has been used widely as an insecticide on cotton, livestock, grains, vegetables, soybeans, and forage. Toxaphene is persistent in soil with a half-life of about 10 years. Toxaphene is especially hazardous to aquatic organisms which readily accumulate toxaphene from the ambient environment and biomagnify the chemical through food chains. References suggest this compound may be a carcinogen (USFWS 1985).

Table 1. Results of toxaphene analysis of sediment samples.

		Sediment Sampling Stations									
Analyte	Units	001	101	1A	1B	1C	1D	002	003	004	005
Toxaphene	ug/kg	9100J	8100J	230000J	3800JN	7900J	18000J	1500JN	390U	830U	710U

U - The analyte was not present in concentrations above detection limits. The value preceding the "U" is the "minimum quantitation limit".

J - The analyte was identified in the sample, but the quantitative value is an estimate. The value preceding the "J" is the "estimated value".

JN - There is some reasonable indication that organic constituents similar to some of those found in toxaphene are present in the sample, but there is not enough proof to positively identify the compound as toxaphene.

Carbon disulfide was detected at Stations 001-005 at levels ranging from 7.5 ug/L to 33 ug/L. Carbon disulfide is clear, colorless or faintly yellow liquid, usually with a strong disagreeable odor. Carbon disulfide may be released to the environment from natural or artificial sources. It can be found in emissions and wastewater and is used in the manufacture of viscose rayon, cellophane, carbon tetrachloride, and as a solvent and fumigant. It also may be formed and released during treatment of sewage and from landfills containing municipal refuse and wastewater sludges. Carbon disulfide also has been used for insect control in stored grain and for soil fumigation to control soil fungi and deep-rooted perennial weeds. If released into water, carbon disulfide will be lost primarily due to volatilization. Carbon disulfide also may occur in the environment as a natural product of anaerobic biodegradation and it is released to the atmosphere from oceans and land masses. Current data suggests that coastal areas and other areas of high biological productivity have greater fluxes of carbon disulfide than the open ocean. Carbon disulfide would not be expected to bioconcentrate significantly in aquatic organisms. The USEPA presently has no established screening value in place for acceptable levels of carbon disulfide in sediments.

Results of dioxin analyses on sediment samples from the background Station 005 and from Station 001 located in Dupree/Terry Creek are shown in Appendix B. Some dioxin compounds were detected at both stations. However, values at Station 001 did not exceed those found at the background Station 005. Metals analysis of sediment samples did not reveal any significant contamination.

4.3 Biological organisms

Results of blue crab tissue analyses (Appendix C) revealed no substantial signs of organic or metals contamination.

Results of forage fish tissue analysis are presented in Appendix D. Forage fish were collected at seven of the nine stations sampled. Constituents which fell within the toxaphene retention time window were detected and calculated against a toxaphene standard. These constituents were present in all forage fish samples at values ranging from 1.9 JN mg/kg to 27 JN mg/kg (Table 2), with the highest concentrations occurring at Station 4 (Hercules effluent channel). However, neither the amount nor the identification of this constituent could be confirmed as indicated by the "JN" qualifier. Toxaphene is a complex mixture of compounds. When released to the environment, toxaphene constituents degrade so that the material is no longer identifiable as toxaphene, but may appear as toxaphene constituents in the sample. However, a number of other compounds from natural and anthropogenic sources may also resemble toxaphene constituents. "JN" indicates there is some reasonable indication of the presence of organic constituents similar to some of those found in toxaphene, but there is not enough proof to positively identify this compound as toxaphene in environmental samples. Therefore, the "JN" qualifier on this data indicates these values should be interpreted with caution.

Table 2. Results of toxaphene analysis of forage fish tissue samples.

		Forage Fish Sampling Stations										
Analyte	Units	02	03	03	04	04	05	05	05	07	08	09
Toxaphene	mg/kg	4.8JN	5.1JN	6.6JN	27JN	14JN	5.6JN	5.3JN	2.3JN	1.9JN	2.7JN	2.3JN

Constituents similar to some of those found in toxaphene were also found in consumer fish (edible fish) at all four zones sampled. Concentrations of this material ranged from 1.6JN mg/kg at Zone A to 3.9JN mg/kg at Zone D (Appendix E; Table 3).

Table 3. Results of toxaphene analysis of consumer fish samples.

		Consumer Fish Sampling Stations			
Analyte	Units	Zone A Back Landing	Zone B Terry Cr. Upstream	Zone C Terry Cr. Downstream	Zone D Dupree/ Terry Cr.
Toxaphene	mg/kg	1.6JN	1.7JN	2.6JN	3.9JN

No substantial metals contamination was detected in biological organisms collected during this study.

5.0 SUMMARY

Results of chemical analyses of surface water samples were similar for all five stations with the exception of low levels of carbon tetrachloride detected at Station 001. Toxaphene was not detected in surface water samples collected during this study.

Toxaphene was present at four sediment sampling stations (001, 1A, 1C, and 1D) in Terry and Dupree Creeks, but was not detected at the remaining stations (1B and 002-005). Toxaphene concentrations at the Terry and Dupree Creek stations were one to three orders of magnitude higher than the minimum detection level at the background station. No screening criterion has been established by USEPA Region 4 for toxaphene concentrations in sediment.

There was some indication that organic constituents similar to those found in toxaphene were present in all forage fish samples collected from Dupree and Terry Creeks. These constituents were two to three times higher at Station 4 (Hercules effluent) than at the remaining stations. Consumer fish filets also revealed some indication of the presence of these constituents.

Toxaphene is especially hazardous to aquatic organisms which readily accumulate this compound from the ambient environment and biomagnify the chemical through food chains. Levels of confirmed toxaphene have been detected in the sediment and may pose a risk of migration.

6.0 REFERENCES

Klemm, Donald J., Q. J. Stober, and J. M. Lazorchak. 1993. Fish Field and Laboratory Methods for Evaluating the Biological Integrity of Surface Waters. United States Environmental Protection Agency, Environmental Monitoring Systems Laboratory, Office of Research and Development. Cincinnati, OH. 348 pp. EPA/600/R-92/111.

Merck. 1989. The Merck Index, Eleventh Edition.

USEPA. 1995. Guidance for Assessing Chemical Contamination Data for Use in Fish Advisories, Volume 1: Fish Sampling and Analysis. U.S. Environmental Protection Agency, Office of Science and Technology, Office of Water. Washington, DC. EPA 823-R-95-007.

USEPA. 1991. Environmental Compliance Branch Standard Operating Procedures and Quality Assurance Manual. U.S. Environmental Protection Agency, Region IV. Environmental Services Division. Athens, GA.

USEPA. 1990. Laboratory Operations and Quality Control Manual. United States Environmental Protection Agency, Region IV. Athens, GA.

USEPA. 1983. Methods for Chemical Analysis of Water and Wastes. United States Environmental Protection Agency. Environmental Monitoring and Support Laboratory, Office of Research and Development. Cincinnati, OH. EPA-600/4-79-020.

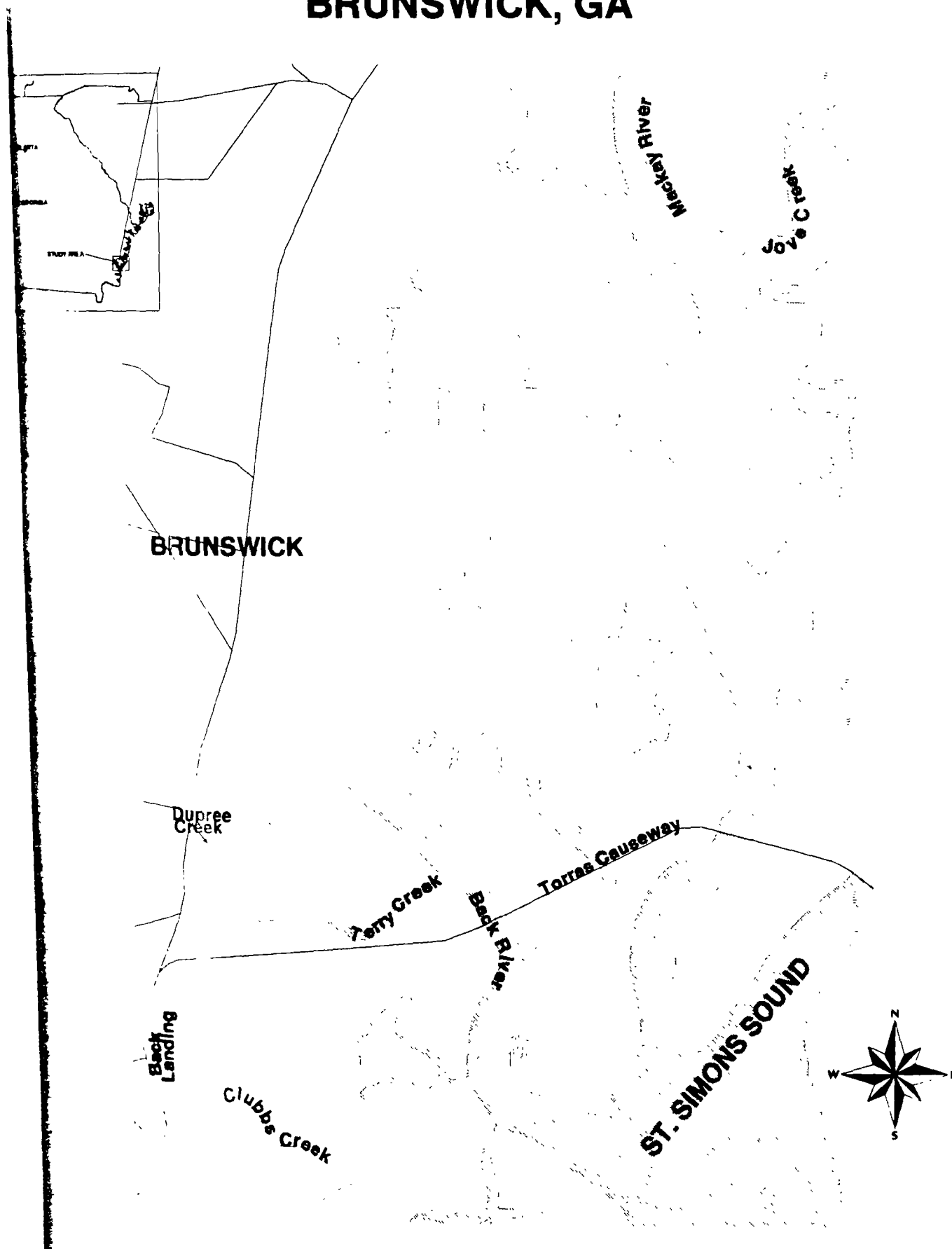
USEPA. 1980. Ambient Water Quality Criteria for Carbon Tetrachloride. United States Environmental Protection Agency. Office of Water Regulations and Standards, Criteria and Standards Division. Washington, DC.

USFWS. 1985. Toxaphene Hazards to Fish, Wildlife, and invertebrates: a Synoptic Review. United States Department of the Interior, Fish and Wildlife Service. Washington, DC. Biological Report 85(1.4).

FIGURE 1

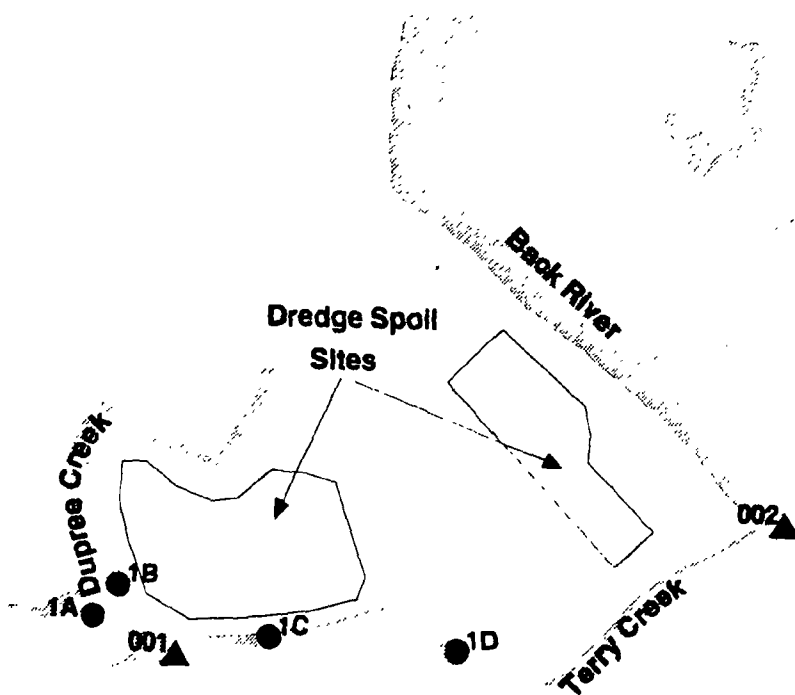
TERRY CREEK STUDY AREA

BRUNSWICK, GA



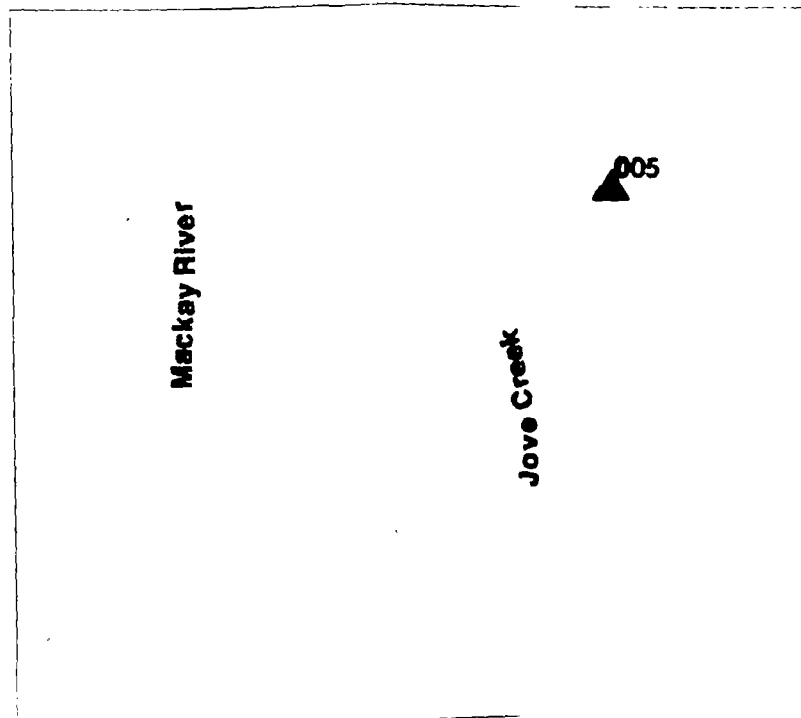
Back Landing

004▲



003▲

FIGURE 2
SAMPLING STATIONS
TERRY CREEK PROJECT
BRUNSWICK, GA



- ▲ Surface Water, Sediment & Blue Crab Sampling Stations
- Sediment Only Sampling Stations



FIGURE 3
FORAGE FISH SAMPLING STATIONS
TERRY CREEK PROJECT
BRUNSWICK, GA

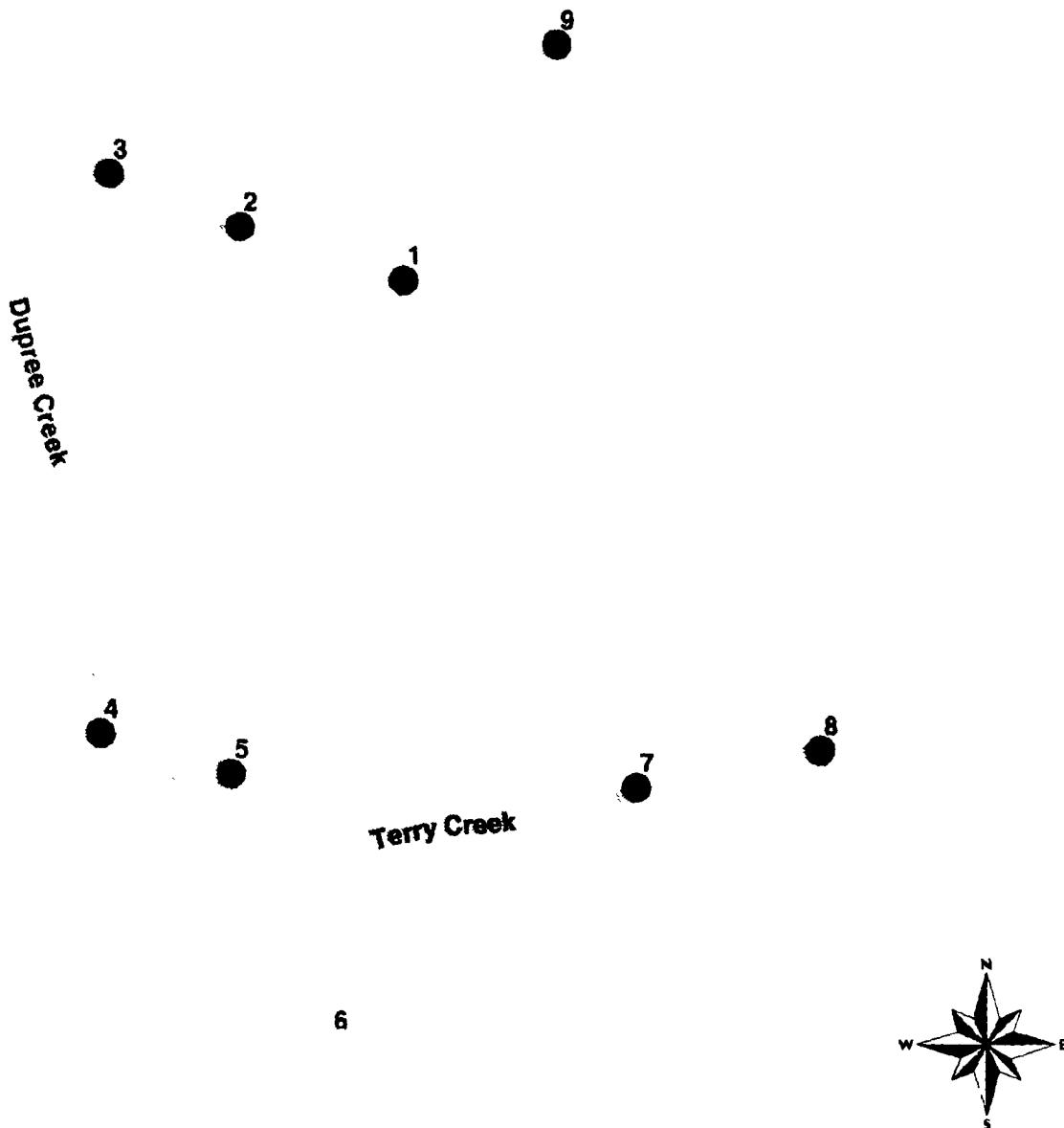


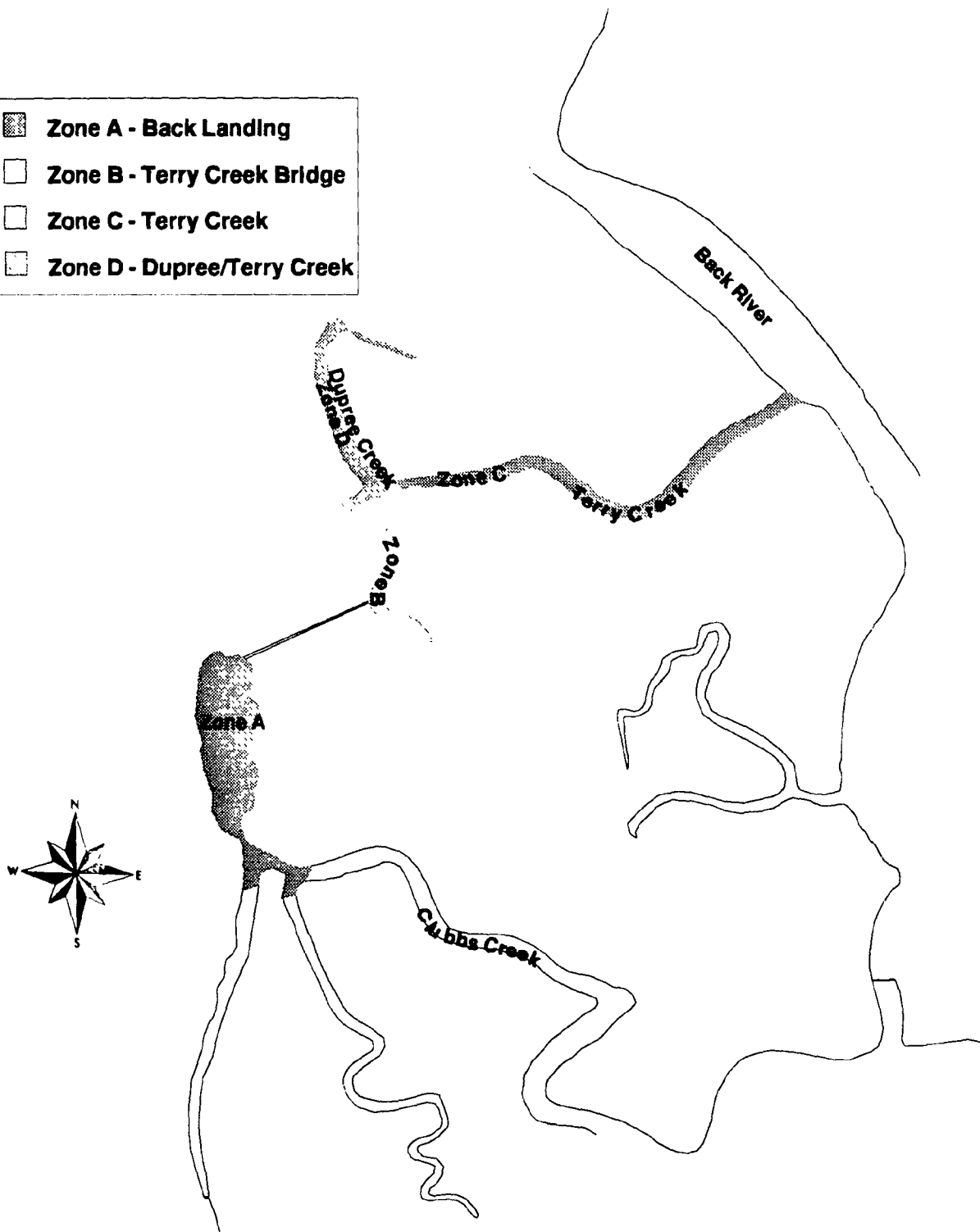
FIGURE 4

CONSUMER FISH SAMPLING STATIONS

TERRY CREEK PROJECT

BRUNSWICK, GA

-  Zone A - Back Landing
-  Zone B - Terry Creek Bridge
-  Zone C - Terry Creek
-  Zone D - Dupree/Terry Creek



APPENDICES

Terry Creek Ecological Screening Evaluation Brunswick, Georgia

1997 Chemical Data

List of Appendices

Appendix A. Surface Water Data

- A-1. Volatile Organic Compounds**
- A-2. Extractable Organic Compounds**
- A-3. Pesticides/PCB's**
- A-4. Metals**

Appendix B. Sediment Data

- B-1. Volatile Organic Compounds**
- B-2. Extractable Organic Compounds**
- B-3. Pesticides/PCB's**
- B-4. Metals**
- B-5. Dioxin Scan**

Appendix C. Blue Crab Tissue Data

- C-1. Extractable Organic Compounds**
- C-2. Pesticides/PCB's**
- C-3. Metals**

Appendix D. Forage Fish Tissue Data

- D-1. Extractable Organic Compounds**
- D-2. Pesticides/PCB's**
- D-3. Metals**

Appendix E. Consumer Fish Tissue Data

- E-1. Extractable Organic Compounds**
- E-2. Pesticides/PCB's**
- E-3. Metals**

Appendix C

Appendix B

Appendix A

**A-1. Volatile Organic Compounds in Surface Water.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station						
		001	101	005	002	003	004	Blank
TRICHLOROFLUOROMETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROMETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BROMOMETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VINYL CHLORIDE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
METHYLENE CHLORIDE	UG/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-DICHLOROETHENE (1,1-DICHLOROETHYLENE)	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ACETONE	UG/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
CARBON DISULFIDE	UG/L	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,1-DICHLOROETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CIS-1,2-DICHLOROETHENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,2-DICHLOROPROPANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
METHYL ETHYL KETONE	UG/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
BROMOCHLOROMETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TRANS-1,2-DICHLOROETHENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROFORM	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-TRICHLOROETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-DICHLOROPROPENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CARBON TETRACHLORIDE	UG/L	0.69 AJ	0.75 AJ	1 U	1 U	1 U	1 U	1 U
BROMODICHLOROMETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
METHYL ISOBUTYL KETONE	UG/L	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2-DICHLOROPROPANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
DIBROMOMETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TRANS-1,3-DICHLOROPROPENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TRICHLOROETHENE (TRICHLOROETHYLENE)	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
DIBROMOCHLOROMETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-TRICHLOROETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CIS-1,3-DICHLOROPROPENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BROMOFORM	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BROMOBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-TETRACHLOROETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U

**A-1 (cont). Volatile Organic Compounds in Surface Water.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station						
		001	101	005	002	003	004	Blank
TETRACHLOROETHENE (TETRACHLOROETHYLEN	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-DICHLOROPROPANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
METHYL BUTYL KETONE	UG/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U
TOLUENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CHLOROBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1,2-TETRACHLOROETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ETHYL BENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
(M- AND/OR P-)XYLENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
O-XYLENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
STYRENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-TRICHLOROPROPANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
O-CHLOROTOLUENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
P-CHLOROTOLUENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-DICHLOROBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-DICHLOROBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-DICHLOROBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-DIBROMOETHANE (EDB)	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ISOPROPYLBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
N-PROPYLBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-TRIMETHYLBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TERT-BUTYLBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-TRIMETHYLBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
SEC-BUTYLBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
P-ISOPROPYLTOLUENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
N-BUTYLBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-DIBROMO-3-CHLOROPROPANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-TRICHLOROBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
HEXACHLORO-1,3-BUTADIENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-TRICHLOROBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U

**A-2. Extractable Organic Compounds in Surface Water.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station					
		001	101	002	003	004	005
BIS(2-CHLOROETHYL) ETHER	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
HEXACHLOROETHANE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
BIS(2-CHLOROISOPROPYL) ETHER	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
N-NITROSODI-N-PROPYLAMINE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
NITROBENZENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
HEXACHLOROBUTADIENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2-METHYLNAPHTHALENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-TRICHLOROBENZENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
NAPHTHALENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
4-CHLOROANILINE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
BIS(2-CHLOROETHOXY)METHANE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
ISOPHORONE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
HEXACHLOROCYCLOPENTADIENE (HCCP)	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2-CHLORONAPHTHALENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2-NITROANILINE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
ACENAPHTHYLENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
ACENAPHTHENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
DIMETHYL PHTHALATE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
DIBENZOFURAN	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2,4-DINITROTOLUENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2,6-DINITROTOLUENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
3-NITROANILINE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
4-CHLOROPHENYL PHENYL ETHER	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
4-NITROANILINE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
FLUORENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
DIETHYL PHTHALATE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
N-NITROSODIPHENYLAMINE/DIPHENYLAMIN	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
HEXACHLOROBENZENE (HCB)	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
4-BROMOPHENYL PHENYL ETHER	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
PHENANTHRENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
ANTHRACENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
DI-N-BUTYLPHTHALATE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
FLUORANTHENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
PYRENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U

**A-2 (cont). Extractable Organic Compounds in Surface Water.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station					
		001	101	002	003	004	005
BENZYL BUTYL PHTHALATE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
BENZO(A)ANTHRACENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
CHRYSENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-DICHLOROBENZIDINE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
DI-N-OCTYLPHTHALATE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
BENZO(B AND/OR K)FLUORANTHENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
BENZO-A-PYRENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
INDENO (1,2,3-CD) PYRENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
DIBENZO(A,H)ANTHRACENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
BENZO(GHI)PERYLENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2-CHLOROPHENOL	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2-METHYLPHENOL	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
(3-AND/OR 4-)METHYLPHENOL	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2-NITROPHENOL	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
PHENOL	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2,4-DIMETHYLPHENOL	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2,4-DICHLOROPHENOL	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-TRICHLOROPHENOL	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-TRICHLOROPHENOL	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
4-CHLORO-3-METHYLPHENOL	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
2,4-DINITROPHENOL	UG/L	20 U	20 U	20 U	20 U	20 U	20 U
2-METHYL-4,6-DINITROPHENOL	UG/L	20 U	20 U	20 U	20 U	20 U	20 U
PENTACHLOROPHENOL	UG/L	20 U	20 U	20 U	20 U	20 U	20 U
4-NITROPHENOL	UG/L	20 U	20 U	20 U	20 U	20 U	20 U
2,3,4,6-TETRACHLOROPHENOL	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
CARBAZOLE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U

**A-3. Pesticides/PCB's in Surface Water.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station					
		001	101	002	003	004	005
ALDRIN	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
HEPTACHLOR	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
HEPTACHLOR EPOXIDE	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ALPHA-BHC	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
BETA-BHC	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
GAMMA-BHC (LINDANE)	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
DELTA-BHC	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDOSULFAN I (ALPHA)	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
DIELDRIN	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT (P,P'-DDT)	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE (P,P'-DDE)	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDD (P,P'-DDD)	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDRIN	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDOSULFAN II (BETA)	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDOSULFAN SULFATE	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
CHLORDANE (TECH. MIXTURE) /	UG/L	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
PCB-1242 (AROCLOR 1242)	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
PCB-1254 (AROCLOR 1254)	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
PCB-1221 (AROCLOR 1221)	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
PCB-1232 (AROCLOR 1232)	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
PCB-1248 (AROCLOR 1248)	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
PCB-1260 (AROCLOR 1260)	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
PCB-1016 (AROCLOR 1016)	UG/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TOXAPHENE	UG/L	5 U	5 U	5 U	5 U	5 U	5 U
METHOXYCHLOR	UG/L	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
ENDRIN KETONE	UG/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

**A-4. Metals in Surface Water.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station						
		001	101	002	003	004	005	Blank
SILVER	UG/L	40 U	40 U	40 U	40 U	40 U	40 U	40 U
ARSENIC	UG/L	120 U	120 U	120 U	120 U	120 U	120 U	120 U
BARIUM	UG/L	40 U	40 U	40 U	40 U	40 U	40 U	40 U
BERYLLIUM	UG/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U
CADMIUM	UG/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U
COBALT	UG/L	40 U	40 U	40 U	40 U	40 U	40 U	40 U
CHROMIUM	UG/L	40 U	40 U	40 U	40 U	40 U	40 U	40 U
COPPER	UG/L	40 U	40 U	40 U	40 U	40 U	40 U	40 U
MOLYBDENUM	UG/L	40 U	40 U	40 U	40 U	40 U	40 U	40 U
NICKEL	UG/L	80 U	80 U	80 U	80 U	80 U	80 U	80 U
LEAD	UG/L	160 U	160 U	160 U	160 U	160 U	160 U	160 U
ANTIMONY	UG/L	120 U	120 U	120 U	120 U	120 U	120 U	120 U
SELENIUM	UG/L	160 U	160 U	160 U	160 U	160 U	160 U	160 U
TIN	UG/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U
STRONTIUM	UG/L	2900	3200	2800	3300	3200	1700	40 U
TELLURIUM	UG/L	200 U	200 U	200 U	200 U	200 U	200 U	200 U
TITANIUM	UG/L	40 U	40 U	40 U	40 U	40 U	40 U	40 U
THALLIUM	UG/L	400 U	400 U	400 U	400 U	400 U	400 U	400 U
VANADIUM	UG/L	40 U	40 U	40 U	40 U	40 U	40 U	40 U
YTTRIUM	UG/L	40 U	40 U	40 U	40 U	40 U	40 U	40 U
ZINC	UG/L	40 U	40 U	40 U	40 U	40 U	40 U	40 U
TOTAL MERCURY	UG/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
ALUMINUM	UG/L	940	790 U	870	870	730	660	400 U
MANGANESE	UG/L	140	140	54	46	130	60	40 U
CALCIUM	MG/L	170	180	160	190	190	97	2 U
MAGNESIUM	MG/L	490	520	480	570	550	280	0.4 U
IRON	MG/L	0.49	0.48	0.44	0.53	0.43	0.55	0.2 U
SODIUM	MG/L	4100	4400	4000	4700	4600	2400	4 U
POTASSIUM	MG/L	170	170	170	190	180	96	8 U

Appendix B

**B-1. Volatile Organic Compounds in Sediment.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station										
		001	101	1A	1B	1C	1D	002	003	004	005	BLANK
TRICHLOROFLUOROMETHANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
CHLOROMETHANE	UG/KG	14 U	14 U	110 UJ	140 UJ	110 UJ	75 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
BROMOMETHANE	UG/KG	14 U	14 U	110 UJ	140 UJ	110 UJ	75 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
VINYL CHLORIDE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
CHLOROETHANE	UG/KG	14 U	14 U	110 UJ	140 UJ	110 UJ	75 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
METHYLENE CHLORIDE	UG/KG	240 U	280 U	110 UJ	140 UJ	110 UJ	75 UJ	110 U	110 U	250 U	280 U	32 U
1,1-DICHLOROETHENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
ACETONE	UG/KG	140 U	140 U	440 J	280 UJ	210 UJ	150 UJ	53 U	51 U	490 U	160 U	19 U
CARBON DISULFIDE	UG/KG	19	29	21 J	22 J	21 UJ	10 J	7.5	14	33 J	20	1.9 U
1,1-DICHLOROETHANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
CIS-1,2-DICHLOROETHENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
2,2-DICHLOROPROPANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
METHYL ETHYL KETONE	UG/KG	140 U	140 U	220 UJ	280 UJ	210 UJ	150 UJ	53 U	51 U	490 U	160 U	19 U
BROMOCHLOROMETHANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
TRANS-1,2-DICHLOROETHENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
CHLOROFORM	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,2-DICHLOROETHANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,1,1-TRICHLOROETHANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,1-DICHLOROPROPENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
CARBON TETRACHLORIDE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
BROMODICHLOROMETHANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
METHYL ISOBUTYL KETONE	UG/KG	34 U	36 U	55 UJ	70 UJ	53 UJ	37 UJ	13 U	13 U	120 U	39 U	4.3 J
1,2-DICHLOROPROPANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
DIBROMOMETHANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
TRANS-1,3-DICHLOROPROPENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
TRICHLOROETHENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
BENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
DIBROMOCHLOROMETHANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,1,2-TRICHLOROETHANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
CIS-1,3-DICHLOROPROPENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
BROMOFORM	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
BROMOBENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,1,2,2-TETRACHLOROETHANE	UG/KG	14 U	14 U	110 UJ	140 UJ	110 UJ	75 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
TETRACHLOROETHENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U

**B-1 (cont). Volatile Organic Compounds in Sediment.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station										
		001	101	1A	1B	1C	1D	002	003	004	005	BLANK
1,3-DICHLOROPROPANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
METHYL BUTYL KETONE	UG/KG	34 U	36 U	55 UJ	70 UJ	53 UJ	37 UJ	13 U	13 U	120 U	39 U	4 J
TOLUENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
CHLOROBENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,1,1,2-TETRACHLOROETHANE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
ETHYL BENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
(M- AND/OR P-)XYLENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
O-XYLENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
STYRENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,2,3-TRICHLOROPROPANE	UG/KG	14 U	14 U	110 UJ	140 UJ	110 UJ	75 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
O-CHLOROTOLUENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
P-CHLOROTOLUENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,3-DICHLOROBENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,4-DICHLOROBENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,2-DICHLOROBENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,2-DIBROMOETHANE (EDB)	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
ISOPROPYLBENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
N-PROPYLBENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,3,5-TRIMETHYLBENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
TERT-BUTYLBENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,2,4-TRIMETHYLBENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
SEC-BUTYLBENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
P-ISOPROPYLTOLUENE	UG/KG	14 U	14 U	31 J	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
N-BUTYLBENZENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,2-DIBROMO-3-CHLOROPROPANE	UG/KG	14 U	14 U	110 UJ	140 UJ	110 UJ	75 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,2,4-TRICHLOROBENZENE	UG/KG	14 U	14 U	110 UJ	140 UJ	110 UJ	75 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
HEXACHLORO-1,3-BUTADIENE	UG/KG	14 U	14 U	22 UJ	28 UJ	21 UJ	15 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
1,2,3-TRICHLOROBENZENE	UG/KG	14 U	14 U	110 UJ	140 UJ	110 UJ	75 UJ	5.3 U	5.1 U	49 U	16 U	1.9 U
% MOISTURE	%	76	75.3	77.1	74.6	66.6	52.3	53.2	48.8	74.7	71	10

**B-2. Extractable Organic Compounds in Sediments.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station									
		001	101	1A	1B	1C	1D	002	003	004	005
BIS(2-CHLOROETHYL) ETHER	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
HEXACHLOROETHANE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
BIS(2-CHLOROISOPROPYL) ETHER	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
N-NITROSODI-N-PROPYLAMINE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
NITROBENZENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
HEXACHLOROBUTADIENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2-METHYLNAPHTHALENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
1,2,4-TRICHLOROBENZENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
NAPHTHALENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
4-CHLOROANILINE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
BIS(2-CHLOROETHOXY)METHANE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
ISOPHORONE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
HEXACHLOROCYCLOPENTADIENE (HCCP)	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2-CHLORONAPHTHALENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2-NITROANILINE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
ACENAPHTHYLENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
ACENAPHTHENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
DIMETHYL PHTHALATE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
DIBENZOFURAN	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2,4-DINITROTOLUENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2,6-DINITROTOLUENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
3-NITROANILINE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
4-CHLOROPHENYL PHENYL ETHER	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
4-NITROANILINE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
FLUORENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
DIETHYL PHTHALATE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
N-NITROSODIPHENYLAMINE/DIPHENYLAMIN	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
HEXACHLOROBENZENE (HCB)	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
4-BROMOPHENYL PHENYL ETHER	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
PHENANTHRENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
ANTHRACENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
DI-N-BUTYLPHTHALATE	UG/KG	4300 J	4300 J	5700 J	4800 J	2800 J	2700 U	2700 J	1900 U	4200 U	3900 U
FLUORANTHENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U

**B-2 (cont). Extractable Organic Compounds in Sediments.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station									
		001	101	1A	1B	1C	1D	002	003	004	005
PYRENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
BENZYL BUTYL PHTHALATE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
BIS(2-ETHYLHEXYL) PHTHALATE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
BENZO(A)ANTHRACENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
CHRYSENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
3,3'-DICHLOROBENZIDINE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
DI-N-OCTYLPHTHALATE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
BENZO(B AND/OR K)FLUORANTHENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
BENZO-A-PYRENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
INDENO (1,2,3-CD) PYRENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
DIBENZO(A,H)ANTHRACENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
BENZO(GHI)PERYLENE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2-CHLOROPHENOL	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2-METHYLPHENOL	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
(3-AND/OR 4-)METHYLPHENOL	UG/KG	4300 U	4300 U	5000 J	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2-NITROPHENOL	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
PHENOL	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2,4-DIMETHYLPHENOL	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2,4-DICHLOROPHENOL	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2,4,6-TRICHLOROPHENOL	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2,4,5-TRICHLOROPHENOL	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
4-CHLORO-3-METHYLPHENOL	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
2,4-DINITROPHENOL	UG/KG	8500 U	8500 U	11000 U	9500 U	7100 U	5400 U	5500 U	3900 U	8300 U	7700 U
2-METHYL-4,6-DINITROPHENOL	UG/KG	8500 U	8500 U	11000 U	9500 U	7100 U	5400 U	5500 U	3900 U	8300 U	7700 U
PENTACHLOROPHENOL	UG/KG	8500 U	8500 U	11000 U	9500 U	7100 U	5400 U	5500 U	3900 U	8300 U	7700 U
4-NITROPHENOL	UG/KG	8500 U	8500 U	11000 U	9500 U	7100 U	5400 U	5500 U	3900 U	8300 U	7700 U
2,3,4,6-TETRACHLOROPHENOL	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
CARBAZOLE	UG/KG	4300 U	4300 U	5700 U	4800 U	3600 U	2700 U	2700 U	1900 U	4200 U	3900 U
% MOISTURE	%	75.8				33.9	45	53.2	51.2	74.7	73.2

**B-2 (cont.). Miscellaneous Extractable Compounds in Sediment .
Terry Creek, Brunswick, Georgia. 1997.**

Compound	Station		
	1A	1D	005
1 UNIDENTIFIED COMPOUND			4000 J
10 UNIDENTIFIED COMPOUNDS	100000 J		
3 UNIDENTIFIED COMPOUNDS		10000 J	
CAMPHENE UG/KG	300 JN		
DECAHYDROTRIMETHYLMETHANOAZULENE	7000 JN		
METHYL(METHYLETHYL)BENZENE	40000 JN		
METHYL(METHYLETHYL)CYCLOHEXANE	20000 JN		
OCTAHYDRO(DIMETHYLETHYL)PHENANTHRENECARBOXYLIC ACID, METHYL ESTE	6000 JN		
PINENE	8000 JN		
TRIMETHYLBICYCLOHEPTANONE	8000 JN		
TWO UNIDENTIFIED CO UG/KG	800 JN		

**B-3. Pesticides / PCB's in Sediment.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station									
		001	101	1A	1B	1C	1D	002	003	004	005
ALDRIN	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
HEPTACHLOR	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
HEPTACHLOR EPOXIDE	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
ALPHA-BHC	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
BETA-BHC	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
GAMMA-BHC (LINDANE)	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
DELTA-BHC	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
ENDOSULFAN I (ALPHA)	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
DIELDRIN	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
4,4'-DDT (P,P'-DDT)	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
4,4'-DDE (P,P'-DDE)	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
4,4'-DDD (P,P'-DDD)	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
ENDRIN	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
ENDOSULFAN II (BETA)	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
ENDOSULFAN SULFATE	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
CHLORDANE (TECH. MIXTURE)	UG/KG	800 U	530 U	11000 U	600 U	440 U	3400 U	200 U	24 U	52 U	44 U
PCB-1242 (AROCLOR 1242)	UG/KG	1600 U	1100 U	22000 U	1200 U	890 U	6800 U	500 U	48 U	100 U	89 U
PCB-1254 (AROCLOR 1254)	UG/KG	1600 U	1100 U	22000 U	1200 U	890 U	6800 U	500 U	48 U	100 U	89 U
PCB-1221 (AROCLOR 1221)	UG/KG	1600 U	1100 U	22000 U	1200 U	890 U	6800 U	500 U	48 U	100 U	89 U
PCB-1232 (AROCLOR 1232)	UG/KG	1600 U	1100 U	22000 U	1200 U	890 U	6800 U	500 U	48 U	100 U	89 U
PCB-1248 (AROCLOR 1248)	UG/KG	1600 U	1100 U	22000 U	1200 U	890 U	6800 U	500 U	48 U	100 U	89 U
PCB-1260 (AROCLOR 1260)	UG/KG	1600 U	1100 U	22000 U	1200 U	890 U	6800 U	500 U	48 U	100 U	89 U
PCB-1016 (AROCLOR 1016)	UG/KG	1600 U	1100 U	22000 U	1200 U	890 U	6800 U	500 U	48 U	100 U	89 U
PCB-1268 (AROCLOR 1268)	UG/KG	530 U	530 U	22000 U	1100 U	890 U	6800 U	500 U	48 U	100 U	89 U
TOXAPHENE	UG/KG	9100 J	8100 J	230000 J	3800 JN	7900 J	18000 J	1500 JN	390 U	830 U	710 U
METHOXYCHLOR	UG/KG	430 U	420 U	5700 U	240 U	180 U	1400 U	200 U	19 U	41 U	36 U
ENDRIN KETONE	UG/KG	210 U	210 U	5700 U	240 U	180 U	1400 U	50 U	10 U	21 U	18 U
% MOISTURE	%	76	75	79	77	66	55	53	49	75	71

B-4. Metals in Sediment.
Terry Creek, Brunswick, Georgia. 1997

Analyte	Units	Station									
		001	101	1A	1B	1C	1D	002	003	004	005
SILVER	MG/KG	3 U	3 U	3 U	3 U	4 U	2 U	2 U	2 U	3 U	3 U
ARSENIC	MG/KG	15	14	14	16	19	10	12	8 9	17	17
BARIUM	MG/KG	28	32	44	27	36	20	22	18	26	39
BERYLLIUM	MG/KG	1.5 U	1.5 U	1.5 U	1.5 U	2 U	1 U	1 U	1 U	1.5 U	1.6
CADMIUM	MG/KG	1.5 U	1.5 U	1.5 U	1.5 U	2 U	1 U	1 U	1 U	1.5 U	1.5 U
COBALT	MG/KG	7	8.3	6.5	6.9	7.3	4.9	4.6	4.2	7.2	9.8
CHROMIUM	MG/KG	44	51	44	42	55	28	30	26	43	52
COPPER	MG/KG	15	17	31	12	14	9.6	7.2	5.6	10	15
MOLYBDENUM	MG/KG	3 U	3 U	3 U	3 U	4 U	2 U	2 U	2 U	3 U	3 U
NICKEL	MG/KG	12	16	18	12	15	7.9	8.6	6.1	10	18
LEAD	MG/KG	23	24	32	22	26	12	12	10	21	24
ANTIMONY	MG/KG	9 U	9 U	9 U	9 U	12 U	6 U	6 U	6 U	9 U	9 U
SELENIUM	MG/KG	12 U	8 U	12 U	12 U	16 U	8 U	8 U	8 U	12 U	12 U
TIN	MG/KG	7.5 U	8 U	8.5 U	9 U	10 U	5 U	6 U	6 U	7.5 U	8 U
STRONTIUM	MG/KG	56	59	79	63	70	48	100	150	57	61
TELLURIUM	MG/KG	15 U	15 U	15 U	15 U	20 U	10 U	10 U	10 U	15 U	15 U
TITANIUM	MG/KG	260	250	250	240	280	240	220	230	240	310
THALLIUM	MG/KG	30 U	30 U	30 U	30 U	40 U	20 U	20 U	20 U	30 U	30 U
VANADIUM	MG/KG	57	63	55	56	74	37	39	32	53	74
YTTRIUM	MG/KG	17	19	15	17	19	12	13	12	14	21
ZINC	MG/KG	69	78	110	64	75	35	41	34	55	79
TOTAL MERCURY	MG/KG	0.075	0.8	0.12	0.053	0.068	0.052	0.05 U	0.05 U	0.074	0.056
ALUMINUM	MG/KG	30000	35000	27000	27000	37000	18000	19000	15000	27000	35000
MANGANESE	MG/KG	260	260	260	330	520	310	360	260	350	510
CALCIUM	MG/KG	4200	4300	7600	5600	5400	8400	14000	25000	5000	4100
MAGNESIUM	MG/KG	6700	7300	7000	6200	7600	4100	5000	4700	6400	6600
IRON	MG/KG	25000	28000	24000	24000	32000	17000	20000	16000	24000	33000
SODIUM	MG/KG	19000	19000	20000	16000	14000	8600	11000	9100	18000	8700
POTASSIUM	MG/KG	3700	4300	3500	3600	4200	2200	2000	2000	3700	3400
% MOISTURE	%	70	74	77	75	67	52	53	53	73	71

Collected By
Beginning 02/19/97 14:10
Ending

DIOXIN SCAN

Facility TERRY CREEK DRUDGE

BRUNSWICK, GA

Program SSF

Id/Station 001

Media SOIL

SAS Number: SPR

D Number 001

Org Contractor: SWOK

RESULTS	UNITS	ANALYTE
10U	NG/KG	2,3,7,8-TETRACHLORODIBENZODIOXIN
10UJ	NG/KG	TETRACHLORODIBENZODIOXIN (TOTAL)
25U	NG/KG	1,2,3,7,8-PENTACHLORODIBENZODIOXIN
25UJ	NG/KG	PENTACHLORODIBENZODIOXIN (TOTAL)
25U	NG/KG	1,2,3,4,7,8-HEXACHLORODIBENZODIOXIN
25U	NG/KG	1,2,3,6,7,8-HEXACHLORODIBENZODIOXIN
25U	NG/KG	1,2,3,7,8,9-HEXACHLORODIBENZODIOXIN
8 6J	NG/KG	HEXACHLORODIBENZODIOXIN (TOTAL)
25U	NG/KG	1,2,3,4,6,7,8-HEPTACHLORODIBENZODIOXIN
9 3J	NG/KG	HEPTACHLORODIBENZODIOXIN (TOTAL)
77	NG/KG	OCTACHLORODIBENZODIOXIN
10U	NG/KG	2,3,7,8-TETRACHLORODIBENZOFURAN
14J	NG/KG	TETRACHLORODIBENZOFURAN (TOTAL)
25U	NG/KG	1,2,3,7,8-PENTACHLORODIBENZOFURAN
25U	NG/KG	2,3,4,7,8-PENTACHLORODIBENZOFURAN
22J	NG/KG	PENTACHLORODIBENZOFURAN (TOTAL)
25U	NG/KG	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN
25U	NG/KG	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN
25U	NG/KG	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN
25U	NG/KG	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN
25UJ	NG/KG	HEXACHLORODIBENZOFURAN (TOTAL)
25U	NG/KG	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN
25U	NG/KG	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN
25UJ	NG/KG	HEPTACHLORODIBENZOFURAN (TOTAL)
50U	NG/KG	OCTACHLORODIBENZOFURAN
0 08	NG/KG	TEQ (TOXIC EQUIV VALUE, FROM I-TEF/89)
79	%	% MOISTURE

A-average value NA-not analyzed NAI-interferences J-estimated value N-presumptive evidence of presence of material

K-actual value is known to be less than value given L-actual value is known to be greater than value given U-material was analyzed for but not detected. the number is the minimum quantitation limit.

R-qc indicates that data unusable. compound may or may not be present resampling and reanalysis is necessary for verification

1-confirmed by qcms 1 when no value is reported, see chlordane constituents 2 constituents or metabolites of technical chlordane

Project 87-0140

DIOXIN SCAN

Facility TERRY CREEK DRUDGE BRUNSWICK, GA

Program SSF

Id/Station 005

Media SOIL

D Number 005

SAS Number: SPR

Org Contractor: SWOK

Collected By:

Beginning 02/19/97 15:20

Ending:

RESULTS	UNITS	ANALYTE
7.0U	NG/KG	2,3,7,8-TETRACHLORODIBENZODIOXIN
7.0UJ	NG/KG	TETRACHLORODIBENZODIOXIN (TOTAL)
18U	NG/KG	1,2,3,7,8-PENTACHLORODIBENZODIOXIN
18UJ	NG/KG	PENTACHLORODIBENZODIOXIN (TOTAL)
18U	NG/KG	1,2,3,4,7,8-HEXACHLORODIBENZODIOXIN
18U	NG/KG	1,2,3,6,7,8-HEXACHLORODIBENZODIOXIN
18U	NG/KG	1,2,3,7,8,9-HEXACHLORODIBENZODIOXIN
14J	NG/KG	HEXACHLORODIBENZODIOXIN (TOTAL)
8.4J	NG/KG	1,2,3,4,6,7,8-HEPTACHLORODIBENZODIOXIN
19J	NG/KG	HEPTACHLORODIBENZODIOXIN (TOTAL)
80	NG/KG	OCTACHLORODIBENZODIOXIN
7.0U	NG/KG	2,3,7,8-TETRACHLORODIBENZOFURAN
7.0UJ	NG/KG	TETRACHLORODIBENZOFURAN (TOTAL)
18U	NG/KG	1,2,3,7,8-PENTACHLORODIBENZOFURAN
18U	NG/KG	2,3,4,7,8-PENTACHLORODIBENZOFURAN
18UJ	NG/KG	PENTACHLORODIBENZOFURAN (TOTAL)
18U	NG/KG	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN
18U	NG/KG	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN
18U	NG/KG	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN
18U	NG/KG	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN
18UJ	NG/KG	HEXACHLORODIBENZOFURAN (TOTAL)
18U	NG/KG	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN
18U	NG/KG	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN
18UJ	NG/KG	HEPTACHLORODIBENZOFURAN (TOTAL)
35U	NG/KG	OCTACHLORODIBENZOFURAN
0.16J	NG/KG	TEQ (TOXIC EQUIV. VALUE, FROM I-TEF/89)
72	%	% MOISTURE

A-average value NA-not analyzed, NAI-interferences, J-estimated value, N-presumptive evidence of presence of material.

K-actual value is known to be less than value given, L-actual value is known to be greater than value given, U-material was analyzed for but not detected, the number is the minimum quantitation limit.

R-qc indicates that data unusable compound may or may not be present, resampling and reanalysis is necessary for verification

confirmed by gcms 1 when no value is reported, see chlordan constituents 2 constituents or metabolites of technical chlordan

Collected By
Beginning 02/20/97 10 45
Ending
#BJV279

DIOXIN SCAN

Facility: TERRY CREEK DRUDGE BRUNSWICK, GA
Program: SSF
Id/Station: LVPE
Media: LVPE

SAS Number: SPR

Org Contractor: SWOK

D Number: LVPE

RESULTS	UNITS	ANALYTE
260	NG/KG	2,3,7,8-TETRACHLORODIBENZODIOXIN
2800J	NG/KG	TETRACHLORODIBENZODIOXIN (TOTAL)
5 0U	NG/KG	1,2,3,7,8-PENTACHLORODIBENZODIOXIN
5 0UJ	NG/KG	PENTACHLORODIBENZODIOXIN (TOTAL)
5 0U	NG/KG	1,2,3,4,7,8-HEXACHLORODIBENZODIOXIN
5 0U	NG/KG	1,2,3,6,7,8-HEXACHLORODIBENZODIOXIN
5 0U	NG/KG	1,2,3,7,8,9-HEXACHLORODIBENZODIOXIN
5.0UJ	NG/KG	HEXACHLORODIBENZODIOXIN (TOTAL)
0 27J	NG/KG	1,2,3,4,6,7,8-HEPTACHLORODIBENZODIOXIN
0.27J	NG/KG	HEPTACHLORODIBENZODIOXIN (TOTAL)
10U	NG/KG	OCTACHLORODIBENZODIOXIN
2 0U	NG/KG	2,3,7,8-TETRACHLORODIBENZOFURAN
1 1J	NG/KG	TETRACHLORODIBENZOFURAN (TOTAL)
5.0U	NG/KG	1,2,3,7,8-PENTACHLORODIBENZOFURAN
5 0U	NG/KG	2,3,4,7,8-PENTACHLORODIBENZOFURAN
5 0UJ	NG/KG	PENTACHLORODIBENZOFURAN (TOTAL)
5.0U	NG/KG	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN
5 0U	NG/KG	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN
5 0U	NG/KG	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN
5.0U	NG/KG	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN
5.0UJ	NG/KG	HEXACHLORODIBENZOFURAN (TOTAL)
5 0U	NG/KG	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN
5 0U	NG/KG	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN
5 0UJ	NG/KG	HEPTACHLORODIBENZOFURAN (TOTAL)
10U	NG/KG	OCTACHLORODIBENZOFURAN
--	NG/KG	TEQ (TOXIC. EQUIV. VALUE, FROM I-TEF/89)
NA	%	% MOISTURE

A-average value NA-not analyzed NAI-interferences J-estimated value N-presumptive evidence of presence of material.

K-actual value is known to be less than value given L-actual value is known to be greater than value given U-material was analyzed for but not detected the number is the minimum quantitation limit.

R-qc Indicates that data unusable compound may or may not be present resampling and reanalysis is necessary for verification.

1-confirmed by gcms 1 when no value is reported, see chlordane constituents 2 constituents or metabolites of technical chlordane

Collected By:
Beginning 02/20/97 10:45
Ending:

DIOXIN SCAN

Facility TERRY CREEK DRUDGE BRUNSWICK, GA
Program SSF
Id/Station QCBLK
Media QCBLK

SAS Number: SPR

#PC01196

D Number: BLK

Org Contractor: SWOK

RESULTS	UNITS	ANALYTE
2 0U	NG/KG	2,3,7,8-TETRACHLORODIBENZODIOXIN
2 0UJ	NG/KG	TETRACHLORODIBENZODIOXIN (TOTAL)
5 0U	NG/KG	1,2,3,7,8-PENTACHLORODIBENZODIOXIN
5 0UJ	NG/KG	PENTACHLORODIBENZODIOXIN (TOTAL)
5 0U	NG/KG	1,2,3,4,7,8-HEXACHLORODIBENZODIOXIN
5 0U	NG/KG	1,2,3,6,7,8-HEXACHLORODIBENZODIOXIN
5 0U	NG/KG	1,2,3,7,8,9-HEXACHLORODIBENZODIOXIN
5 0UJ	NG/KG	HEXACHLORODIBENZODIOXIN (TOTAL)
5 0U	NG/KG	1,2,3,4,6,7,8-HEPTACHLORODIBENZODIOXIN
5 0U	NG/KG	HEPTACHLORODIBENZODIOXIN (TOTAL)
1 5J	NG/KG	OCTACHLORODIBENZODIOXIN
2 0U	NG/KG	2,3,7,8-TETRACHLORODIBENZOFURAN
2 0UJ	NG/KG	TETRACHLORODIBENZOFURAN (TOTAL)
5 0U	NG/KG	1,2,3,7,8-PENTACHLORODIBENZOFURAN
5 0U	NG/KG	2,3,4,7,8-PENTACHLORODIBENZOFURAN
5 0UJ	NG/KG	PENTACHLORODIBENZOFURAN (TOTAL)
5 0U	NG/KG	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN
5 0U	NG/KG	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN
5 0U	NG/KG	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN
5 0U	NG/KG	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN
5 0UJ	NG/KG	HEXACHLORODIBENZOFURAN (TOTAL)
0 16J	NG/KG	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN
5 0U	NG/KG	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN
0 16J	NG/KG	HEPTACHLORODIBENZOFURAN (TOTAL)
10U	NG/KG	OCTACHLORODIBENZOFURAN
---	NG/KG	TEQ (TOXIC EQUIV. VALUE, FROM I-TEF/89)
NA	%	% MOISTURE

A-average value NA-not analyzed. NAI-interferences J-estimated value. N-presumptive evidence of presence of material.

K-actual value is known to be less than value given. L-actual value is known to be greater than value given U-material was analyzed for but not detected the number is the minimum quantitation limit.

R-qc indicates that data unusable compound may or may not be present resampling and reanalysis is necessary for verification

C-confirmed by gcms 1. when no value is reported, see chlordane constituents 2 constituents or metabolites of technical chlordane

DATA QUALIFIER REPORT

Project No.: 97-0146

Site Name: Terry Creek Dredge

<u>Affected</u> <u>Samples</u>	<u>Analyte</u>	<u>Flag</u> <u>Used</u>	<u>Reason</u>
All	total congeners	J	Assumed Resp. Factors/ Cal. Stds not available for all congeners
005	1234678 HpCDD	J	1

TEQ's : The Toxic Equivalent (TEQ) represents a summation of values from the individual equivalents that are calculated for each of the 2,3,7,8 containing isomers. If 10% or greater of the TEQ value was from data considered to be estimated, then the TEQ is reported as estimated (J flag).

Abbreviation Key:

TCDD = Tetrachlorodibenzodioxin	TCDF = Tetrachlorodibenzofuran
PeCDD = Pentachlorodibenzodioxin	PeCDF = Pentachlorodibenzofuran
HxCDD = Hexachlorodibenzodioxin	HxCDF = Hexachlorodibenzofuran
HpCDD = Heptachlorodibenzodioxin	HpCDF = Heptachlorodibenzofuran
OCDD = Octachlorodibenzodioxin	OCDF = Octachlorodibenzofuran
IS = Internal Standard	

Reason Codes

- 1. Results lower than the minimum quantitation limit
- 2. Results higher than the maximum calibration limit

**C-1. Extractable Organic Compounds in Blue Crab Tissue.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station				
		001	002	003	004	005
BIS(2-CHLOROETHYL) ETHER	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
HEXACHLOROETHANE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
BIS(2-CHLOROISOPROPYL) ETHER	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
N-NITROSODI-N-PROPYLAMINE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
NITROBENZENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
HEXACHLOROBUTADIENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2-METHYLNAPHTHALENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
1,2,4-TRICHLOROBENZENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
NAPHTHALENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
4-CHLOROANILINE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
BIS(2-CHLOROETHOXY)METHANE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
ISOPHORONE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
HEXACHLOROCYCLOPENTADIENE (HCCP)	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2-CHLORONAPHTHALENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2-NITROANILINE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
ACENAPHTHYLENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
ACENAPHTHENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
DIMETHYL PHTHALATE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
DIBENZOFURAN	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2,4-DINITROTOLUENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2,6-DINITROTOLUENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
3-NITROANILINE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
4-CHLOROPHENYL PHENYL ETHER	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
NITROANILINE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
FLUORENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
DIETHYL PHTHALATE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
N-NITROSODIPHENYLAMINE/DIPHENYLAMINE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
HEXACHLOROBENZENE (HCB)	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
P-BROMOPHENYL PHENYL ETHER	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
PERMANENTHRENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
ANTHRACENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
DI-N-BUTYLPHTHALATE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
FLUORANTHENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
PYRENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
BENZYL BUTYL PHTHALATE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
BIS(2-ETHYLHEXYL) PHTHALATE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
BENZO(A)ANTHRACENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
CHRYSENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
1,3-DICHLOROBENZIDINE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2-N-OCTYLPHTHALATE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
BENZO(B AND/OR K)FLUORANTHENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
BENZO-A-PYRENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
BENZO(1,2,3-CD) PYRENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
BENZO(A,H)ANTHRACENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
BENZO(GHI)PERYLENE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2-CHLOROPHENOL	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
4-METHYLPHENOL	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2,4-DI-METHYLPHENOL	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
3-NITROPHENOL	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U

**C-1 (cont). Extractable Organic Compounds in Blue Crab Tissue.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station				
		001	002	003	004	005
PHENOL	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2,4-DIMETHYLPHENOL	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2,4-DICHLOROPHENOL	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2,4,6-TRICHLOROPHENOL	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2,4,5-TRICHLOROPHENOL	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
4-CHLORO-3-METHYLPHENOL	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
2,4-DINITROPHENOL	MG/KG	3.7 U	3.2 U	3.2 U	3.3 U	2.6 U
2-METHYL-4,6-DINITROPHENOL	MG/KG	3.7 U	3.2 U	3.2 U	3.3 U	2.6 U
PENTACHLOROPHENOL	MG/KG	3.7 U	3.2 U	3.2 U	3.3 U	2.6 U
4-NITROPHENOL	MG/KG	3.7 U	3.2 U	3.2 U	1.7 U	1.3 U
2,3,4,6-TETRACHLOROPHENOL	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U
CARBAZOLE	MG/KG	1.9 U	1.6 U	1.6 U	1.7 U	1.3 U

Miscellaneous Extractable Organic Compounds in Blue Crab Tissue.

Analyte	Units	Station				
		001	002	003	004	005
UNIDENTIFIED COMPOUND				10 J	10 J	
UNIDENTIFIED COMPOUNDS			10 J			
EXADECANOIC ACID			20 JN	20 JN	20 JN	30 JN
EXADECENOIC ACID			7 JN	10 JN	10 JN	10 JN
ETHYLEICOSAPENTAENOATE						40 JN
IACINAMIDE						
CTADECANOIC ACID			3 JN	30 JN	8 JN	10 JN
ILEIC ACID			20 JN	10 JN	30 JN	40 JN
ETRADECANOIC ACID			2 JN	3 JN		3 JN
ETRADECANOOIC ACID					2 JN	
TAMIN E			8 JN	9 JN	10 JN	10 JN

**C-2. Pesticides / PCB's in Blue Crab Tissue.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station				
		001	002	003	004	005
ALDRIN	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
HEPTACHLOR	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
HEPTACHLOR EPOXIDE	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
ALPHA-BHC	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
BETA-BHC	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
GAMMA-BHC (LINDANE)	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
DELTA-BHC	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
ENDOSULFAN I (ALPHA)	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
DIELDRIN	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
4,4'-DDT (P,P'-DDT)	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
4,4'-DDE (P,P'-DDE)	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
4,4'-DDD (P,P'-DDD)	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
ENDRIN	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
ENDOSULFAN II (BETA)	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
ENDOSULFAN SULFATE	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U
CHLORDANE (TECH. MIXTURE) /1	MG/KG	0.024 UJ	0.019 U	0.02 U	0.021 U	0.016 U
PCB-1242 (AROCLOR 1242)	MG/KG	0.048 UJ	0.039 U	0.04 U	0.041 U	0.032 U
PCB-1254 (AROCLOR 1254)	MG/KG	0.048 UJ	0.039 U	0.04 U	0.041 U	0.032 U
PCB-1221 (AROCLOR 1221)	MG/KG	0.048 UJ	0.039 U	0.04 U	0.041 U	0.032 U
PCB-1232 (AROCLOR 1232)	MG/KG	0.048 UJ	0.039 U	0.04 U	0.041 U	0.032 U
PCB-1248 (AROCLOR 1248)	MG/KG	0.048 UJ	0.039 U	0.04 U	0.041 U	0.032 U
PCB-1260 (AROCLOR 1260)	MG/KG	0.048 UJ	0.039 U	0.04 U	0.041 U	0.032 U
PCB-1016 (AROCLOR 1016)	MG/KG	0.048 UJ	0.039 U	0.04 U	0.041 U	0.032 U
PCB-1268 (AROCLOR 1268)	MG/KG	0.048 UJ	0.039 U	0.04 U	0.041 U	0.032 U
TOXAPHENE	MG/KG	0.39 UJ	0.31 U	0.32 U	0.33 U	0.26 U
METHOXYCHLOR	MG/KG	0.019 UJ	0.016 U	0.016 U	0.017 U	0.013 U
ENDRIN KETONE	MG/KG	0.01 UJ	0.008 U	0.008 U	0.008 U	0.006 U

**C-3. Metals in Blue Crab Tissue.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station				
		001	002	003	004	005
SILVER	MG/KG	0.18 U	0.19 U	0.2 U	0.19 U	0.19 U
ARSENIC	MG/KG	2.9	3.6	3.1	2	0.95
BARIUM	MG/KG	0.18 U	0.19 U	0.2 U	0.19 U	0.19 U
BERYLLIUM	MG/KG	0.09 U	0.09 U	0.1 U	0.09 U	0.1 U
CADMIUM	MG/KG	0.09 U	0.09 U	0.1 U	0.09 U	0.1 U
COBALT	MG/KG	0.18 U	0.19 U	0.2 U	0.19 U	0.19 U
CHROMIUM	MG/KG	0.18 U	0.19 U	0.21	0.24	0.19 U
COPPER	MG/KG	11	9.7	12	6.5	9
MOLYBDENUM	MG/KG	0.18 U	0.19 U	0.2 U	0.19 U	0.19 U
NICKEL	MG/KG	0.35 U	0.37 U	0.39 U	0.38 U	0.38 U
LEAD	MG/KG	0.7 U	0.75 U	0.78 U	0.75 U	0.76 U
ANTIMONY	MG/KG	0.53 U	0.56 U	0.59 U	0.56 U	0.57 U
SELENIUM	MG/KG	0.09 U	0.09 U	0.1 U	0.09 U	0.1 U
TIN	MG/KG	0.62 U	0.66 U	0.68 U	0.66 U	0.67 U
STRONTIUM	MG/KG	7.1	7	7.6	11	9.1
TELLURIUM	MG/KG	0.88 U	0.94 U	0.98 U	0.94 U	0.96 U
TITANIUM	MG/KG	0.18 U	0.19 U	0.2 U	0.19 U	0.19 U
THALLIUM	MG/KG	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
VANADIUM	MG/KG	0.18 U	0.19 U	0.2 U	0.19 U	0.19 U
YTTRIUM	MG/KG	0.18 U	0.19 U	0.2 U	0.19 U	0.19 U
ZINC	MG/KG	34	29	36	41	32
TOTAL MERCURY	MG/KG	0.18	0.27	0.16	0.17	0.09
ALUMINUM	MG/KG	3.5	3.9	4.8	4.2	2.9
MANGANESE	MG/KG	1.2	2.3	0.82	1.5	1.5
CALCIUM	MG/KG	600	570	600	930	750
MAGNESIUM	MG/KG	290	280	300	340	320
IRON	MG/KG	4.4	6	6.3	6.4	4.9
SODIUM	MG/KG	1800	1800	2300	2500	2300
POTASSIUM	MG/KG	3000	3400	3400	3300	3300

**D-1 (cont). Extractable Organic Compounds in Forage Fish Tissue.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station								
		2	3	3	4	4	5	5	5	9
		03/07/97	03/06/97	03/06/97	03/05/97	03/07/97	03/05/97	03/05/97	03/07/97	03/07/97
PYRENE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
BENZYL BUTYL PHTHALATE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
BIS(2-ETHYLHEXYL) PHTHALATE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
BENZO(A)ANTHRACENE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
CHRYSENE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
3,3'-DICHLOROBENZIDINE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
DI-N-OCTYLPHTHALATE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
BENZO(B AND/OR K)FLUORANTHENE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
BENZO-A-PYRENE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
INDENO (1,2,3-CD) PYRENE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
DIBENZO(A,H)ANTHRACENE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
BENZO(GHI)PERYLENE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
2-CHLOROPHENOL	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
2-METHYLPHENOL	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
(3-AND/OR 4-)METHYLPHENOL	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
2-NITROPHENOL	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
PHENOL	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	1.7 J	7 U
2,4-DIMETHYLPHENOL	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
2,4-DICHLOROPHENOL	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
2,4,6-TRICHLOROPHENOL	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
2,4,5-TRICHLOROPHENOL	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
4-CHLORO-3-METHYLPHENOL	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
2,4-DINITROPHENOL	MG/KG	14 U	29 U	15 U	28 U	16 U	26 U	27 U	16 U	14 U
2-METHYL-4,6-DINITROPHENOL	MG/KG	14 U	29 U	15 U	28 U	16 U	26 U	27 U	16 U	14 U
PENTACHLOROPHENOL	MG/KG	14 U	29 U	15 U	28 U	16 U	26 U	27 U	16 U	14 U
4-NITROPHENOL	MG/KG	14 U	29 U	15 U	28 U	16 U	26 U	27 U	16 U	14 U
2,3,4,6-TETRACHLOROPHENOL	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U
CARBAZOLE	MG/KG	6.8 U	14 U	7.4 U	14 U	8 U	13 U	13 U	8.2 U	7 U

**D-2. Pesticides / PCB's in Forage Fish Tissue.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station			
		3 03/05/97	4 03/05/97	5 03/05/97	5 03/05/97
ALDRIN	MG/KG	0 02 U	0 025 U	0 028 U	0.018 U
HEPTACHLOR	MG/KG	0 011 U	0 025 U	0 028 U	0.018 U
HEPTACHLOR EPOXIDE	MG/KG	0 029 U	0 032 U	0 028 U	0.018 U
ALPHA-BHC	MG/KG	0 01 U	0 025 U	0 028 U	0.018 U
BETA-BHC	MG/KG	0 019 U	0 025 U	0 028 U	0.018 U
GAMMA-BHC (LINDANE)	MG/KG	0 012 U	0 025 U	0 028 U	0.018 U
DELTA-BHC	MG/KG	0 024 U	0 025 U	0 028 U	0.018 U
ENDOSULFAN I (ALPHA)	MG/KG	0 028 U	0 065 U	0 028 U	0.018 U
DIELDRIN	MG/KG	0 18 U	0 23 U	0 13 U	0 059 U
4,4'-DDT (P,P'-DDT)	MG/KG	0 037 U	0 05 U	0 045 U	0.034 U
4,4'-DDE (P,P'-DDE)	MG/KG	0 042 U	0 05 U	0 045 U	0.034 U
4,4'-DDD (P,P'-DDD)	MG/KG	0 038 U	0 05 U	0 045 U	0.034 U
ENDRIN	MG/KG	0 036 U	0 1 U	0 045 U	0.034 U
ENDOSULFAN II (BETA)	MG/KG	0 037 U	0 05 U	0 045 U	0.034 U
ENDOSULFAN SULFATE	MG/KG	0 037 U	0 05 U	0 045 U	0.034 U
CHLORDANE (TECH. MIXTURE) /	MG/KG	0 18 U	0 12 U	0 094 U	0 091 U
PCB-1242 (AROCLOR 1242)	MG/KG	0 22 U	0 18 U	0 21 U	0 2 U
PCB-1254 (AROCLOR 1254)	MG/KG	0 22 U	0 32 U	0 21 U	0 2 U
PCB-1221 (AROCLOR 1221)	MG/KG	0 22 U	0 18 U	0 21 U	0 2 U
PCB-1232 (AROCLOR 1232)	MG/KG	0 22 U	0 18 U	0 21 U	0 2 U
PCB-1248 (AROCLOR 1248)	MG/KG	0 22 U	0 18 U	0 21 U	0 2 U
PCB-1260 (AROCLOR 1260)	MG/KG	0 22 U	0 32 U	0 21 U	0 2 U
PCB-1016 (AROCLOR 1016)	MG/KG	0 22 U	0 18 U	0 21 U	0 2 U
PCB-1268 (AROCLOR 1268)	MG/KG	0 18 U	0 18 U	0 16 U	0 17 U
TOXAPHENE	MG/KG	6 6 JN	14 JN	5.3 JN	2 3 JN
METHOXYCHLOR	MG/KG	0.072 U	0 07 U	0 065 U	0.066 U
ENDRIN KETONE	MG/KG	0.04 U	0.048 U	0 045 U	0.039 U

**D-2 (cont). Forage Fish Tissue Analyzed for Toxaphene and PCB-1268 Only.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station						
		2	3	4	5	7	8	9
		03/07/97	03/06/97	03/07/97	03/07/97	03/07/97	03/07/97	03/07/97
PCB-1268 (AROCOR 1268)	MG/KG	0.22 U	0.39 U	0.41 U	0.2 U	0.32 U	0.18 U	0.18 U
TOXAPHENE	MG/KG	4.8 JN	5.1 JN	27 JN	5.6 JN	1.9 JN	2.7 JN	2.3 JN

**D-3. Metals In Forage Fish Tissue.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station							
		2	3	3	4	4	5	5	9
		03/07/97	03/05/97	03/06/97	03/05/97	03/07/97	03/05/97	03/05/97	03/07/97
SILVER	MG/KG	0.19 U	0.8 U	0.2 U	0.8 U	0.2 U	0.8 U	1 U	0.19 U
ARSENIC	MG/KG	0.95 U	0.5 U	0.48	0.5 U	0.28	0.5 U	0.5 U	0.52
BARIUM	MG/KG	1.2	0.97	1.1	1.5	1.5	0.8 U	0.98	0.94
BERYLLIUM	MG/KG	0.095 U	0.4 U	0.098 U	0.4 U	0.1 U	0.4 U	0.5 U	0.095 U
CADMIUM	MG/KG	0.095 U	0.4 U	0.098 U	0.4 U	0.1 U	0.4 U	0.5 U	0.095 U
COBALT	MG/KG	0.19 U	0.8 U	0.2 U	0.8 U	0.2 U	0.8 U	1 U	0.19 U
CHROMIUM	MG/KG	0.6	0.8 U	0.35	0.8 U	0.31	0.8 U	3 U	0.36
COPPER	MG/KG	2.5	1.4	1.6	1.2	1.3	1.5	2	2.7
MOLYBDENUM	MG/KG	0.19 U	0.8 U	0.2 U	0.8 U	0.2 U	0.8 U	1 U	0.19 U
NICKEL	MG/KG	0.38 U	1.6 U	0.39 U	1.6 U	0.4 U	2.7	2.5 U	0.38 U
LEAD	MG/KG	0.76 U	0.1 U	0.78 U	0.1 U	0.8 U	0.42 U	0.1 U	0.76 U
ANTIMONY	MG/KG	0.57 U	0.1 U	0.59 U	0.1 U	0.6 U	0.1 U	0.1 U	0.57 U
SELENIUM	MG/KG	0.95 U	0.14	0.52 J	0.14	0.58 J	0.1	0.1	0.48 J
TIN	MG/KG	0.65 U	2 U	0.75 U	2 U	0.7 U	2 U	2.5 U	0.65 U
STRONTIUM	MG/KG	63	56	67	46	44	63	72	71
TELLURIUM	MG/KG	0.95 U	4 U	0.98 U	4 U	1 U	4 U	5 U	0.95 U
TITANIUM	MG/KG	3	0.95 U	1 U	0.8 U	1 U	0.8 U	1 U	0.95 U
THALLIUM	MG/KG	0.05 U	0.04 U	0.05 U	0.04 U	0.05 U	0.04 U	0.04 U	0.05 U
VANADIUM	MG/KG	0.79	0.8 U	0.82	0.8 U	0.31	0.8 U	1 U	0.38
YTTRIUM	MG/KG	0.19 U	0.8 U	0.2 U	0.8 U	0.2 U	0.8 U	1 U	0.19 U
ZINC	MG/KG	37	32	32	31	32	42	32	30
TOTAL MERCURY	MG/KG		0.02 U		0.02 U		0.022	0.02 U	
ALUMINUM	MG/KG	260	90	84	15	15	31	82	24
MANGANESE	MG/KG	7.4	10	10	4.9	3.8	8.4	29	8.8
CALCIUM	MG/KG	12000	11000	11000	12000	12000	12000	14000	12000
MAGNESIUM	MG/KG	480	470	480	460	460	470	460	480
IRON	MG/KG	160	63	54	17	18	26	81	24
SODIUM	MG/KG	1400	1500	1600	1500	1600	1400	1400	1400
POTASSIUM	MG/KG	3000	2900	3100	2700	2900	3200	2900	3000

**E-1. Extractable Organic Compounds in Consumer Fish.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station			
		ZONE A	ZONE B	ZONE C	ZONE D
BIS(2-CHLOROETHYL) ETHER	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
HEXACHLOROETHANE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
BIS(2-CHLOROISOPROPYL) ETHER	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
N-NITROSODI-N-PROPYLAMINE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
NITROBENZENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
HEXACHLOROBUTADIENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2-METHYLNAPHTHALENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
1,2,4-TRICHLOROBENZENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
NAPHTHALENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
4-CHLOROANILINE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
BIS(2-CHLOROETHOXY)METHANE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
ISOPHORONE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
HEXACHLOROCYCLOPENTADIENE (HCCP)	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2-CHLORONAPHTHALENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2-NITROANILINE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
ACENAPHTHYLENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
ACENAPHTHENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
DIMETHYL PHTHALATE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
DIBENZOFURAN	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2,4-DINITROTOLUENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2,6-DINITROTOLUENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
3-NITROANILINE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
4-CHLOROPHENYL PHENYL ETHER	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
4-NITROANILINE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
FLUORENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
DIETHYL PHTHALATE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
N-NITROSODIPHENYLAMINE/DIPHENYLAMIN	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
HEXACHLOROBENZENE (HCB)	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
4-BROMOPHENYL PHENYL ETHER	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
PHENANTHRENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
ANTHRACENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
DI-N-BUTYLPHthalate	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
FLUORANTHENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U

**E-1 (cont). Extractable Organic Compounds in Consumer Fish.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station			
		ZONE A	ZONE B	ZONE C	ZONE D
PYRENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
BENZYL BUTYL PHTHALATE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
BIS(2-ETHYLHEXYL) PHTHALATE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
BENZO(A)ANTHRACENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
CHRYSENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
3,3'-DICHLOROBENZIDINE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
DI-N-OCTYLPHTHALATE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
BENZO(B AND/OR K)FLUORANTHENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
BENZO-A-PYRENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
INDENO (1,2,3-CD) PYRENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
DIBENZO(A,H)ANTHRACENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
BENZO(GHI)PERYLENE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2-CHLOROPHENOL	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2-METHYLPHENOL	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
(3-AND/OR 4-)METHYLPHENOL	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2-NITROPHENOL	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
PHENOL	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2,4-DIMETHYLPHENOL	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2,4-DICHLOROPHENOL	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2,4,6-TRICHLOROPHENOL	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2,4,5-TRICHLOROPHENOL	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
4-CHLORO-3-METHYLPHENOL	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
2,4-DINITROPHENOL	MG/KG	13 U	12 U	14 U	13 U
2-METHYL-4,6-DINITROPHENOL	MG/KG	13 U	12 U	14 U	13 U
PENTACHLOROPHENOL	MG/KG	13 U	12 U	14 U	13 U
4-NITROPHENOL	MG/KG	13 U	12 U	14 U	13 U
2,3,4,6-TETRACHLOROPHENOL	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U
CARBAZOLE	MG/KG	6.4 U	6.2 U	6.8 U	6.4 U

**E-1 (cont). Miscellaneous Extractable Organic Compounds in Consumer Fish.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station			
		ZONE A	ZONE B	ZONE C	ZONE D
1 UNIDENTIFIED COMPOUND	MG/KG		20 J		30 J
2 UNIDENTIFIED COMPOUNDS	MG/KG	40 J		60 J	
3 UNIDENTIFIED COMPOUNDS	MG/KG				
4 UNIDENTIFIED COMPOUNDS	MG/KG				
5 UNIDENTIFIED COMPOUNDS	MG/KG				
HEPTADECANOIC ACID	MG/KG				
HEXADECANOIC ACID	MG/KG	100 JN	60 JN	100 JN	90 JN
HEXADECANOIC ACID, METHYL ESTER-	MG/KG				
HEXADECANOIC ACID, METHYL ESTER-	MG/KG				
HEXADECENOIC ACID	MG/KG	80 JN	40 JN	100 JN	70 JN
HEXADECENOIC ACID, METHYL ESTER-	MG/KG				
NIACINAMIDE	MG/KG		7 JN		
OCTADECANOIC ACID	MG/KG	20 JN		20 JN	9 JN
OLEIC ACID	MG/KG	100 JN	20 JN	60 JN	50 JN
PENTADECANOIC ACID	MG/KG				
TETRADECANOIC ACID	MG/KG				

**E-2. Pesticides / PCB's in Consumer Fish.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station			
		ZONE A	ZONE B	ZONE C	ZONE D
PCB-1268 (AROCLOR 1268	MG/KG	0.18 U	0.18 U	0.2 U	0.35 U
TOXAPHENE	MG/KG	1.6 JN	1.7 JN	2.6 JN	3.9 JN

**E-3. Metals in Consumer Fish.
Terry Creek, Brunswick, Georgia. 1997.**

Analyte	Units	Station			
		ZONE A	ZONE B	ZONE C	ZONE D
SILVER	MG/KG	0.2 U	0.2 U	0.2 U	0.2 U
ARSENIC	MG/KG	0.33	0.34	0.57	0.29
BARIUM	MG/KG	0.2 U	0.2 U	0.2 U	0.2 U
BERYLLIUM	MG/KG	0.1 U	0.1 U	0.1 U	0.099 U
CADMIUM	MG/KG	0.1 U	0.1 U	0.1 U	0.099 U
COBALT	MG/KG	0.2 U	0.2 U	0.2 U	0.2 U
CHROMIUM	MG/KG	0.2 U	0.2 U	0.2 U	0.2 U
COPPER	MG/KG	0.26	0.21	0.22	0.22
MOLYBDENUM	MG/KG	0.2 U	0.2 U	0.2 U	0.2 U
NICKEL	MG/KG	0.4 U	0.4 U	0.4 U	0.4 U
LEAD	MG/KG	0.8 U	0.8 U	0.8 U	0.8 U
ANTIMONY	MG/KG	0.6 U	0.6 U	0.6 U	0.6 U
SELENIUM	MG/KG	0.41 J	0.38 J	0.47 J	0.47 J
TIN	MG/KG	0.65 U	0.7 U	0.65 U	0.75 U
STRONTIUM	MG/KG	0.46	0.75	0.5	0.8
TELLURIUM	MG/KG	1 U	1 U	1 U	0.99 U
TITANIUM	MG/KG	0.2 U	0.2 U	0.2 U	0.2 U
THALLIUM	MG/KG	0.05 U	0.05 U	0.05 U	0.05 U
VANADIUM	MG/KG	0.2 U	0.2 U	0.2 U	0.2 U
YTTRIUM	MG/KG	0.2 U	0.2 U	0.2 U	0.2 U
ZINC	MG/KG	6.5	7.3	6.7	7.2
ALUMINUM	MG/KG	2 U	2 U	2 U	2 U
MANGANESE	MG/KG	0.2 U	0.2 U	0.2 U	0.2 U
CALCIUM	MG/KG	150	220	160	250
MAGNESIUM	MG/KG	290	300	290	300
IRON	MG/KG	2.8	3.4	2	2.7
SODIUM	MG/KG	430	400	370	410
POTASSIUM	MG/KG	4300	4500	4300	4300