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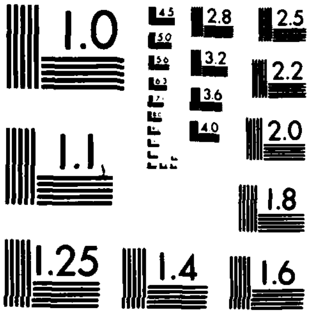

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FINAL CONTRACT REPORT

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION OF HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS, WHEELER RESERVOIR, ALABAMA

NOVEMBER 1980

VOLUME 3 OF 3
APPENDICES IV-VI

PREPARED FOR:
UNITED STATES ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
CONTRACT NO. DACW01-79-C-0224

SUBMITTED BY:
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DDT contamination in northeast Alabama near Triana, in the Tennessee River system including Wilson, Wheeler, and Guntersville Reservoirs has occurred because wastes containing DDT residues (DDTR) have migrated to receiving streams. In the area DDTR levels in fish exceed the 5 ppm limit set by the FDA for edible portions of fish. Evidence of human DDT contamination has been found in persons routinely consuming the fish.

In the spring of 1979 an engineering and environmental study began to determine whether or not corrective action is required, and if so, the technical

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE approach to such corrective action. The nature and extent of contamination have been defined, and engineering, economic, and environmental feasibility of alternative solutions have been evaluated. Study included extensive field and laboratory work. Data were gathered on fish, sediment, water, macroinvertebrates, plankton, aquatic plants, mammals, birds, and reptiles in the area. Additionally, efforts were made to secure all prior existing data.

Analysis of data provided quantification of pollutant transport by biological (food chain) and physical (mostly hydrologic) processes. Data collected during the current study have been compared to historical data to determine extent of sediment contamination and rate of movement downstream. Groundwater transport has been evaluated.

Principal study findings include:

1. An extensive amount of DDTR exists in reservoir sediments.
2. DDTR is being moved slowly downstream.
3. Fish, particularly channel catfish, are contaminated with DDTR throughout Wheeler Reservoir.
4. Contamination of aquatic organisms, results from low levels of DDTR that now exist in water and/or sediment.
5. Contamination of aquatic organisms also appears to be caused by migration of contaminated fish to relatively uncontaminated areas.

Remedial alternatives for mitigation were compared to the Natural Restoration Alternative, which is to allow clean-up by natural processes. Alternatives are based on various means of isolating DDTR from the environment and include: (1) dredging or removing the contaminated sediments and placing them in a secure landfill, (2) covering the contaminated sediments in place, and/or (3) bypassing flow around the contaminated area. For the six final alternatives, details regarding engineering and economic feasibilities and environmental and regulatory impacts are presented. Time required for remedial results is also discussed.

FINAL CONTRACT REPORT

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION OF HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS, WHEELER RESERVOIR, ALABAMA

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VOLUME 3 OF 3
APPENDICES IV-VI

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ERRATA SHEET FOR
QUALITY ASSURANCE DOCUMENTS FOR DDT STUDY
TVA - SEPTEMBER 30, 1980

Document Description	Page	Section	Change
QA Document	2	3.3	Add at end of section "were analyzed by TVA"
QA Document	2	3.5	"Microinvertebrates" to "macroinvertebrates"
QA Document	9	4.4.3.1	Change "50 gram" to "25 gram"
QA Document	12	5.1.1.1	Change "auto sampler" to "autosampler"
QA Document	14	5.1.2.1	Change "(see section 5.1.3.4)" to "(see section 5.1.3.5)"
QA Document	23	5.3.2.1	Change "Stewart" to "SLI"
Attachment 1		Table 39	On Lab ID Number IM-10, the sample analyzed by SLI having a total DDTR of 0.849 µg/g should be listed under TVA Lab ID IM-27

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION OF HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS, WHEELER RESERVOIR, ALABAMA

QUALITY ASSURANCE DOCUMENT

Tennessee Valley Authority
Office of Natural Resources

August 1980

PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

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QUALITY ASSURANCE PROGRAM

1.0 OBJECTIVE

The objective of this quality assurance program was to utilize procedures which would ensure that final analytical data were truly valid and representative of the concentration profile for the media analyzed. Data from this program were used to assess and measure the precision and accuracy of analytical results obtained throughout the study and to identify any segment of the total effort which may have been invalid.

2.0 SCOPE

The scope of this program covered the intralaboratory quality control procedures used in Stewart Laboratories, Inc. (SLI), Environmental Protection Agency (EPA), and in the Tennessee Valley Authority's Laboratory Branch (TVA). It also covered the interlaboratory quality control procedures for the data generated by SLI and the EPA Region IV Laboratory Services Branch.

3.0 PROCEDURES AND RESPONSIBILITIES

3.1 Samples and field data sheets were received by TVA from various field crews as detailed in the seven individual task workplans. The samples were inventoried, irregularities noted, laboratory worksheets prepared, and TVA analysts instructed on the preliminary sample preparation procedures.

3.2 Special studies were designed by TVA to ensure that samples were prepared properly and that their analyses would yield usable results. These studies were discussed with the Corps of Engineers (CORP) and Water and Air Research, Inc. (WAR) to get general concurrence before they were conducted.

3.6 On approximately 10 percent of the samples analyzed, a second aliquot was removed by SLI and used as a "blind sample" for the analysis of all six isomers of DDTR.

3.7 With some batches of sediment, water, and fish samples, a "pooled" sample having an established concentration was submitted for long-term quality control purposes.

3.8 Data on laboratory worksheets were received by TVA from the various laboratories and the data consolidated onto a master laboratory worksheet. After these tabulated data were reviewed for completeness and reasonableness, copies were sent to the CORP, WAR, and appropriate task leaders within the Tennessee Valley Authority. If irregularities in the data were observed, the responsible laboratory was asked to either assist in resolving the discrepancies or reanalyze the samples in question.

3.9 The tabulated data were coded and stored in a computer by TVA. Final computer printouts were proofed against the raw data.

3.10 All quality control charts were reviewed by TVA to ensure that the analytical procedure was "in control" during the analysis. TVA made a preliminary review of split sample data and attempted to resolve any discrepancies before these data were statistically evaluated.

3.11 A statistical evaluation of the split sample data was performed by WAR. Conclusions regarding significant differences between STEWART and EPA data were made based on the results of these evaluations along with the intralaboratory quality control data and the results from the "pooled" samples.

4.0 QUALITY CONTROL METHODS

4.1 Intralaboratory Control Charts

4.1.1 SLI Quality Control Procedures--A mid-range standard was analyzed throughout the analysis run as every tenth determination (in some projects every seventh determination). Results of these analyses were plotted on control charts with control limits generated through past analysis of samples or standard reference material. The upper and lower control limits (UCL and LCL) were defined as ± 15percent bias, while upper and lower warning limits (UWL and LWL) were set at ± 10percent bias. The results were plotted daily on the control charts. It was a standard policy to reanalyze all samples determined during a period shown to be "out-of-control."

4.1.2 TVA Quality Control Procedures

4.1.2.1 Evaluation of Accuracy

4.1.2.1.1 The data for accuracy quality control charts were generated by analyzing actual samples spiked with a known amount of analyte. The percent recovery was determined, and 100 percent was subtracted from it to obtain percent bias. This value was plotted on a control chart indicating upper and lower warning and control limits.

4.1.2.1.2 The limits for accuracy control charts were calculated from actual recovery data for large batches of samples (nominally, at least 20). From the individual values of percent bias (x_i), the mean ($\bar{x}$) and standard deviation (SD) are calculated. The warning limits (UWL and LWL) and control limits (UCL and LCL) are $\bar{x} \pm 1$ SD and $\bar{x} \pm 2$ SD, respectively.

4.1.2.1.3 Two consecutive points or repeated points outside the warning limits (±1 SD) required a close examination of the system to prevent it from going out of control. The analysis was "out of control" when any point fell outside the control limits (±2 SD). It was a standard policy to reanalyze all samples determined during a period shown to be out-of-control.

4.1.2.2 Evaluation of Precision

4.1.2.2.1 The data for precision quality control charts were generated by analyzing actual samples in duplicate. The difference between the two values (x_i) was multiplied by 0.89 to obtain the standard deviation (SD). The standard deviation times 100 divided by the mean of the duplicate values yielded the relative standard deviation in percent (% RSD), the unit used in plotting precision control charts.

4.1.2.2.2 The limits for precision control charts were calculated from actual precision data for large batches of samples (nominally, at least 20). From the individual values of relative standard deviation (x_i), the mean ($\bar{x}_i$) and standard deviation (SD) were calculated. The upper warning and control limits (UWL and UCL) were $\bar{x}$ + 1 SD and $\bar{x}$ + 2 SD, respectively.

4.1.2.2.3 Two consecutive points or repeated points outside the warning limit required corrective action. The analysis was out-of-control when any point fell outside the control limits. It was a standard policy to reanalyze all samples determined during a period shown to be out-of-control.

4.1.3 EPA Quality Control Procedures

4.1.3.1 Evaluation of Accuracy

4.1.3.1.1 A reagent blank was analyzed with each set of samples (12 samples or less) to determine if any contamination problems existed.

4.1.3.1.2 A reagent blank, spiked with the DDTR compounds, was analyzed with each set of samples. The percent recoveries are listed in Table 1.

4.1.3.1.3 Analytical standards of all DDTR compounds were analyzed on the GC/EC after every fifth sample.

4.1.3.2 Evaluation of Precision

One sample was analyzed in duplicate with each set of samples. The difference between the two values (x_i) was multiplied by 0.89 to obtain the estimated standard deviation (SD). The standard deviation times 100, divided by the mean of the duplicate values, yielded the relative standard deviation in percent (% RSD). This precision data is listed in Table 1.

4.2 Intralaboratory Blind Reference Samples

4.2.1 Standard aqueous reference samples (SRM) supplied by Environmental Resource Associates (ERA) having a certified concentration of one of the DDT isomers were analyzed as blind samples by SLI with each analysis batch containing 20 or more samples. These results were used to provide a measure of the accuracy with each batch of samples analyzed.

4.3 Intralaboratory Blind Split Samples

4.3.1 Laboratory Procedure

The SLI project director or QC coordinator prepared a second aliquot from the original sample and assigned new numbers to all the samples in the batch, and the samples inserted into the analytical stream. Ten percent of the samples were analyzed as blind replicates. These blind split data were subjected by SLI to a specialized statistical treatment which determined if significant differences existed between the set of original samples and the corresponding set of splits.

4.3.2 Statistical Evaluation of Blind Split Data

In addition to the analysis noted above, blind split results were analyzed by using the concept of percent relative error which is defined as the difference between two replicate samples divided by the mean of the samples expressed as percent. It is calculated as follows:

$$\%\ \text{Relative error} = \frac{\{\text{sample 1} - \text{sample 2}\}}{\{\text{sample 1} + \text{sample 2}\}}\ 200$$

Percent relative error can vary only between -200 and +200. A helpful way of conceptualizing relative error is to consider its relationship to the ratio of the samples. This relationship can be calculated as follows:

$$\text{Ratio}\ \frac{\text{sample 1}}{\text{sample 2}} = \frac{\{200 + \%\ \text{relative error}\}}{\{200 - \%\ \text{relative error}\}}$$

Representative values are as follows:

Ratio $\frac{\text{sample 1}}{\text{sample 2}}$	% Relative Error	Ratio $\frac{\text{sample 1}}{\text{sample 2}}$	% Relative Error
0	-200	∞	200
0.01	-196	100	196
0.10	-164	10	164
0.20	-138	5	133
0.33	-100	3	100
0.50	- 67	2	67
0.67	- 40	1.5	40
0.83	- 18	1.2	18

In the calculation of percent relative error it was necessary to adopt some convention regarding the evaluation of "less than detection limit" values for some isomers in calculating DDTR values. It was decided that average DDTR values would be used, i.e., that "less than" values would be assumed to be one-half the detection limit. In some cases the range of possible results that could be obtained, based on how "less than" values were considered, made it impossible to conclude which sample was larger. This occurred most often where concentrations were very low. It was decided that these sample pairs yielded no valid information regarding relative results and such pairs were not considered in average relative error calculations. In evaluating blind split samples, the order of the samples was assumed to be immaterial. Thus the absolute value of the relative error was utilized.

4.4 Interlaboratory "Pooled" Sample

4.4.1 "Pooled" Water Sample--A "pooled" water sample was prepared by spiking 19 liters of deionized water with all isomers of DDTR (except p,p', DDD) to obtain a calculated DDTR concentration of 25 μg/L. A total of 38 aliquots containing 500 mL each were removed and stored at 4°C. Samples were submitted with some batches of water samples for long-term quality control purposes.

4.4.2 "Pooled" Sediment Samples--A "pooled" sediment sample was prepared by compositing eight quarts of sediment collected from Indian Creek mile 2.5. The sample was mixed by intermittently stirring by hand for three days. The sample was then mixed for thirty minutes with a hand mixer. The sample was then quartered and the first and third quarter removed and mixed. The same was repeated with the second and fourth quarter. The quartering process was repeated several times. After the mixing was complete, 50-gram aliquots were removed and frozen in aluminum pans. Samples were submitted with some batches of sediment samples for long-term quality control purposes.

4.4.3 "Pooled" Fish Sample

4.4.3.1 Several channel catfish which were collected from Tennessee River mile 283 were fileted, skinned, and shipped to TVA. The fish filets were allowed to partially thaw and then passed through a Hobart meat grinder (1/8" porosity). The blended fish was caught in a stainless steel pan, quartered, and reground taking in order the first, third, second, and then the fourth quarters. This procedure was repeated five times. Approximately 50-gram aliquots were weighed into aluminum pans and frozen. These were used for the low concentration "pooled" fish sample.

4.4.3.2 The procedure used above was repeated using channel catfish from Indian Creek mile 0.5-6.0 to obtain a control sample with a high concentration of DDTR.

4.4.3.3 Both high and low "pooled" fish samples were submitted with some batches of fish samples for long-term quality control purposes.

4.5 Interlaboratory Split Samples

4.5.1 Procedure

4.5.1.1 Water

On approximately 10 percent of the samples received by TVA, aliquots were sent to EPA and SLI for DDTR analysis to determine interlaboratory precision. These samples were prepared by compositing using a churn splitter (see section 5.1.3.1) and removing two aliquots for analysis.

4.5.1.2 Sediment

Sediment samples were composited and thoroughly mixed to assure a homogeneous sample (see section 5.2.3.1). On approximately 10 percent of the samples, after the sample had been uniformly mixed, two aliquots were removed. These two aliquots were sent for analysis to EPA and SLI to determine interlaboratory precision.

4.5.1.3 Fish and Vertebrates

Each fish or vertebrate sample was homogenized by either dicing or blending. On 10 percent of the samples, two aliquots of the well-mixed fish were removed and sent to EPA and SLI for interlaboratory precision.

4.5.1.4 Plankton, Benthos, and Aufwuchs

The sample size for all the plankton samples and the majority of the benthos and aufwuchs samples collected were too small to allow splitting for interlaboratory precision. On all the benthos and aufwuchs samples that were large enough to split, the samples were first homogenized, then divided into two aliquots and sent to EPA and SLI for analysis.

4.5.1.5 Plants

Since it would have been difficult to split the plant samples, it was decided that all the plant samples would be sent to SLI for preparation and analysis. After the initial step in the procedure where the samples were blended in the solvent, 10 percent of the sample extracts were split and returned to TVA. These extracts were in turn sent to EPA for interlaboratory quality control.

4.5.2 Statistical Evaluation of Interlaboratory Split Data

Interlaboratory split data were analyzed using percent relative error to determine if bias existed between SLI and EPA. This procedure is explained in Section 4.3.2.

5.0 RESULTS AND DISCUSSION

5.1 Water Samples

5.1.1 Intralaboratory Data

5.1.1.1 Quality Control Charts--Intralaboratory control charts for DDTR analyses were performed by SLI as described in section 4.1.1. During one analytical run on August 27, 1979, while analyzing Task 3 sediment and water, the control chart data points fell beyond the warning limits on the control charts as a result of an antecedent power outage due to road construction near the laboratory. As soon as the instrumentation systems were allowed to equilibrate, stable conditions returned. In another case, one "out-of-control" period occurred on September 14, 1979, while analyzing Task 4 sediments and Task 6 water samples. Many of the samples from these tasks contained high concentrations of DDTR and had contaminated the auto sampler. The system was shut down and cleaned extensively. When normal operating conditions were again established, all samples which had been analyzed on September 14, 1979, were reanalyzed. There were no other "out-of-control" situations either in SLI or TVA that occurred during the analysis of water samples. The completed control charts were placed in TVA files and are available for future inspections.

5.1.1.2 Reference Samples--Blind aqueous reference samples supplied by Environmental Resource Associates were inserted into the analytical stream by Stewart as described in section 4.2. They were analyzed with each batch of samples to assure the consistency of the data. These data are tabulated in Table 2, along with the TVA project number with which the reference samples were analyzed. A list of the TVA project numbers and the type and task number of the samples analyzed on that project is given in Table 3.

Since several types of samples were analyzed during one project, along with the reference material, it was impossible to separate the results from the reference material by the type of samples analyzed for the purpose of determining the intralaboratory accuracy for each type of material analyzed. The average recovery for all the reference material analyzed during the DDT project was 93 ±14 percent. The recoveries ranged from a low of 69.2 percent and a high of 126 percent. A statistical summary of the reference data is given in Table 4.

5.1.1.3 Blind Split Samples--Intralaboratory blind split samples were analyzed as described in section 4.3.1. DDTR analyses were performed on three types of water samples. The entire water sample was analyzed as is (total water), the solids in the water were analyzed (suspended solids), and filtered water samples (dissolved water) were analyzed. Blind split samples within SLI were analyzed for total and filtered water samples. The results are shown in Tables 5 and 6. Many samples had concentrations at or below detection limits making it impossible to determine which of the pair of values was higher. Mean absolute relative error was determined using only sample pairs where one value could be determined to be different from the other. With this procedure, mean absolute relative error was determined to be 12 percent for total water samples and 16 percent for filtered water samples. These relative error values correspond to mean sample ratios of 1.13 and 1.17, respectively.

5.1.1.4 "Pooled" Water Samples--A "pooled" water sample was prepared as directed in section 4.4.1. Replicate water samples were not submitted to either EPA or SLI to determine intralaboratory precision.

5.1.2 Interlaboratory Data

5.1.2.1 "Pooled" Water Samples

A total of fifteen "pooled" water samples were analyzed by SLI and eight by EPA. These results are tabulated in Table 7. Part of these samples were analyzed after the analytical methodology for the analysis of water had been modified to include the addition of salt before extraction (see section 5.1.3.4). SLI obtained a mean concentration of 15.4 ±2.7 μg/L before the methodology change on eight "pooled" samples and 19.7 ±1.5 on seven "pooled" samples after the procedural change. This is a significant increase in DDTR recovery (significance level is <0.01) using the modified analytical procedure. EPA obtained a mean concentration of 15.3 ±2.7 μg/L on six "pooled" water samples before the methodology change. On two "pooled" samples analyzed by EPA after the methodology change, a mean concentration of 21.3 was obtained.

5.1.2.2 Split Samples

Total water, suspended solids, and filtered water samples were split between SLI and EPA. The results are shown in Tables 8-10. Mean percent relative error was calculated using only sample pairs where one result was definitely different from the other. The values were 0 percent, 7 percent, and 6 percent, respectively, for the three sample types. Relative errors greater than 1.0 denote SLI results higher than EPA.

5.1.3 Special Studies

5.1.3.1 Use of the Churn Splitter

5.1.3.1.1 Objective--During the preparation of the workplans, it was pointed out that a churn splitter should be used to composite the water samples. The churn splitter designed by the U.S. Geological Survey (USGS) to enable the preparation of a homogeneous mixture of water and sediment was selected as the equipment for preparing composite water samples containing various amounts of suspended solids. The objective of this study was to ensure that the plastic material of which the churn splitter was made would not contaminate the sample, nor would adsorb DDTR. A secondary objective of this study was to verify that the splitter could be used to obtain replicate aliquots.

5.1.3.1.2 Experimental Design and Results- A water standard containing 0.1 µg/L of DDTR was placed into two clean plastic churn splitters and aliquots withdrawn from each after 3 minutes and 4 hours. Each aliquot was analyzed for DDTR by the analytical procedure referenced in Attachment 3. Each chromatogram was inspected to see if extraneous peaks were present. None were detected. The concentrations of DDTR measured gave average DDTR recoveries of 67 percent after 3 minutes and 75 percent after 4 hours. These recoveries were unacceptable, so a new churn splitter was fabricated from aluminum and stainless steel. DDTR recovery studies were performed on two different days using the metal churn splitter and recoveries of 90 percent immediately after mixing, 84 percent after 2 hours, and 78 percent after 4 hours were obtained. These data were acceptable since samples would be in contact with the container for less than 30 minutes. A sample collected from the first rain event was added to the splitter and, after mixing according to USGS directions, seven aliquots were withdrawn for non-filterable residue and total DDTR analysis. The results from this study are shown in Table 11. The seven replicates gave a mean concentration of suspended solids of 51 mg/L with a standard deviation of 1.07. The mean for the total DDTR concentration was 14.8 µg/L with a standard deviation of 0.90. This was a percent relative standard deviation of 2.1 for the non-filterable residue and 6.1 for the total DDTR.

5.1.3.1.3 Conclusion--A sample containing DDTR can be added to a metal churn splitter and homogeneous samples removed without significant losses of DDTR.

5.1.3.2 Use of Cellulose Membrane Filters

5.1.3.2.1 Objective--The elutriate test procedure specifies that cellulose membrane filters are to be used to obtain the filterable portion of a sample. The objective of this study was to determine if suspended particulates could be removed by filtering samples through a cellulose membrane filter without contaminating the filtrate or removing DDTR from the sample.

5.1.3.2.2 Experimental Design and Results--A deionized water sample was spiked with five DDTR isomers and shipped to SLI. The sample was filtered through the cellulose membrane and the filtrate analyzed for DDTR. The data are shown in Table 12. Only 25.0 percent of the original DDTR was recovered in the filtrate. This study indicated that DDTR was readily adsorbed by membrane filters.

5.1.3.2.3 Conclusion--It was agreed by the Corps of Engineers that glass fiber filters had to be used when samples were filtered for the elutriate tests and analysis of the priority pollutants, and that membrane filters could not be used for determining the concentration of dissolved DDTR in water samples. Portions of the filtrate obtained using glass fiber filters were refiltered using 0.45 μ membrane filters to determine the suspended solids passing the glass fiber filters.

5.1.3.3 Extraction Efficiency of DDTR from Suspended Solids

5.1.3.3.1 Objective--The objective of this study was to determine the effectiveness of the water analytical procedure for extracting DDTR from samples containing different concentrations of suspended solids.

5.1.3.3.2 Experimental Design and Results--Six water samples (three deionized and three native water) containing 73 mg/L, 370 mg/L, and 3,700 mg/L of suspended solids was made from the "pooled" sediment sample which had a total DDTR concentration of 21.6 μg/g. Recoveries of the DDTR from the sediment in deionized water were 43.7, 45.9, and 47.4 percent, respectively, for the above three suspended solids concentrations. The recoveries from the native water matrix were 25.8, 43.4, and 49.7 percent, respectively, at the same suspended solids concentration. A tabulation of this data is listed in Table 13.

5.1.3.3.3 Conclusion--From this limited data, it was determined that water and suspended solids might have to be analyzed separately to increase extraction efficiencies. To determine this, a mass balance study was conducted on the water by analyzing for total, dissolved, and suspended DDTR. This special study is described in 5.1.3.4. Also, the procedure for analyses of water for dissolved DDTR was modified to include a "salting out" step. This is described in 5.1.3.5.

5.1.3.4 Comparison of DDTR Analysis on Total Water by Both Calculation and Direct Analysis

5.1.3.4.1 Objective--Apparent problems of recovering DDTR from suspended particulates in water led to a suggested modification of the water analytical procedure. The sediment analytical procedure appeared to be more efficient in removing DDTR from sediment particles. On the fifth rainfall event, whole water samples were analyzed along with the dissolved and suspended fractions. The objective of this study was to compare the sum of suspended DDTR and dissolved DDTR to the value when a whole water sample was analyzed for DDTR to estimate extraction efficiencies.

5.1.3.4.2 Experimental Design and Results--Ten one-liter samples from rain event No. 5 of Task 6 were filtered and the residue on the pad analyzed as a sediment sample. The filtrate and an unfiltered sample were also analyzed for DDTR. The results (Table 14) showed that slightly higher values are obtained for total DDTR by analyzing the filterable and suspended portions separately rather than analyzing the whole water sample.

5.1.3.4.3 Conclusion--From these data, it appears that there is no *significant problem* in extracting DDTR from suspended particles in unfiltered samples at these suspended solids concentrations. These data do not agree with those of the extraction experiment (5.1.3.3.3) and differences cannot be explained except for differences in the suspended solids particle sizes in the two experiments. However, the data in this study should be more valid since the analysis was performed on real samples.

5.1.3.5 Modification of Analytical Procedure

5.1.3.5.1 Objective--This study was suggested as a result of questions that arose about the preliminary data. The objective of this special study was to determine if the addition of salt would increase the extraction efficiency for DDTR on particles that pass through a glass fiber filter and is included in the filterable phase.

5.1.3.5.2 Experimental Design and Results--Four samples were split and analyzed both with and without the addition of salt. Sodium chloride was added prior to extraction to half of the split samples. The other half of the split samples were analyzed without the addition of salt. The results (Table 15) showed only a marginal increase in extraction efficiency with the addition of salt prior to the extraction. However, the salt enhanced the phase separation between the water and the solvent, thus making the extraction step easier.

5.1.3.5.3 Conclusion--It was a mutual agreement between the CORP, TVA, EPA, and SLI that salt would be added for the DDTR analysis on the filterable samples associated with rains 5, 6, and 7 of task 6.

5.2 Sediment

5.2.1 Intralaboratory Data

5.2.1.1 Quality Control Charts

Intralaboratory control charts were plotted for DDTR analyses by SLI as described in section 4.1. There were two occasions when "out-of-control" conditions existed while analyzing sediment samples. For a discussion of these incidents see section 5.1.1.1.

5.2.1.2 Reference Samples

During the analysis of sediment samples, blind aqueous reference samples supplied by Environmental Resource Associates were inserted into the analytical stream by SLI as described in section 4.2. Since several types of samples were analyzed during one project along with the reference material, it was impossible to separate the results from the reference samples by the types of samples analyzed. A discussion on the results of the reference material is found in section 5.1.1.2.

5.2.1.3 Blind Split Samples

Intralaboratory blind split samples were analyzed as described in section 4.3. The results from these blind split samples are shown in Table 16. Mean absolute relative error for sample pairs where one sample is definitely different from the other was 14 percent. This corresponds to a mean ratio of 1.15 for sample pairs.

A second set of blind split analyses resulted from a request for selected individual sediment core analyses. Samples were prepared from the original cores by TVA and resubmitted to SLI. Inadvertently, seven of the requested analyses had been performed previously. The mean absolute relative error for this sample group was 84 percent (mean sample ratio of 2.45). The results are shown in Table 17. The higher relative error probably was due to lack of homogeneity in the sediment core.

5.2.2 Interlaboratory Data

5.2.2.1 "Pooled" Sediment Samples

A "pooled" sediment sample was prepared as directed in section 4.1.4.2. Five replicates of the homogenized mass of sediment were sent to SLI and EPA. Data analysis of their results (shown in Table 18) for total residual DDTR indicates a tendency for concentrations from EPA to be about 14 percent higher than SLI. This result is statistically significant at $p = .037$, based on a two-sample t-test of equality of mean laboratory determinations. It applies to sediment with DDTR concentrations in the range of 25 to 30 μg/g.

Summary Statistics

	Stewart	EPA
Mean	25.61	29.52
Standard Deviation	1.60	3.10
Coefficient of Variation	6.2%	10.5%

Difference (STEWART - EPA)	-3.91 μg/g
Relative Difference	-14.2%

Eight additional "pooled" sediment samples were submitted with the routine samples as long-term QC samples. These results are also shown in Table 18. Six samples were analyzed by SLI giving a mean concentration of 22.6 μg/g with a standard deviation of 4.8 μg/g. On the two samples analyzed by EPA, a mean concentration of 28 μg/g was obtained. These results compare favorably with the results obtained on the replicate samples. The pooled sample data indicates that there may be a slight negative bias on SLI's sediment analysis when compared to EPA results.

The "pooled" sediment was also analyzed in replicate for trace metals and particle size to determine intralaboratory precision. These results are shown in Table 19.

5.2.2.2 Split Samples

Interlaboratory split sediment samples were analyzed as directed in section 4.5. The results from these samples are shown in Table 20. The mean relative error for samples where one value is definitely different from the other is 21 percent (SLI 1.23 times EPA values).

5.2.3 Special Studies

5.2.3.1 Sediment Compositing Verification

5.2.3.1.1 Objective--Sediment samples contain gravels, shells, leaves, sticks, and etc.; therefore, it is very difficult to homogenize the sample so that a representative aliquot can be withdrawn for analysis. The objective of this study was to determine the effectiveness of the compositing procedure.

5.2.3.1.2 Experimental Design and Results--A sediment sample from Huntsville Spring Branch mile 5.4 was composited and eight aliquots were shipped and analyzed for DDTR. The results gave a relative standard deviation of 23 percent at a mean DDTR concentration of 180 µg/g. These results are shown in Table 21.

5.2.3.1.3 Conclusion--The compositing and mixing procedure was judged to be acceptable because replicate aliquots can be withdrawn from composited sediment samples.

5.3 <u>Fish Samples</u>

5.3.1 Intralaboratory Data

5.3.1.1 Quality Control Charts

Intralaboratory Control Charts were plotted for DDTR analysis by SLI as described in section 4.1. There were no "out-of-control" conditions that existed while analyzing fish samples.

5.3.1.2 Reference Samples

During the analysis of fish samples, blind aqueous reference samples supplied by Environmental Resource Associates were inserted into the analytical stream by SLI as described in section 4.2. Since several types of samples were analyzed during one project, along with the reference material, it was impossible to separate the results from the reference material by the types of samples analyzed. A discussion on the results of the reference material is found in section 5.1.1.2.

5.3.1.3 Blind Split Samples

Intralaboratory blind split samples were analyzed as described in section 4.3. In the initial fish analyses by SLI, 40 blind split analyses were performed. The results are shown in Table 22. Twenty-nine sample pairs yielded valid* relative error results. The average absolute relative error was 61 percent, which is equivalent to an average ratio of 1.88.

As discussed in section 5.3.2.2, it was suspected that for certain days the SLI results may have been significantly biased low. After grouping blind split data into "good day" and "bad day" groups, the average absolute relative errors were 71 and 43 percent respectively. The lower relative error for "bad day" data may have been due to a low bias on these samples which reduced the range of possible variation.

5.3.2 Interlaboratory Data

5.3.2.1 "Pooled" Fish Samples

Two "pooled" fish samples were prepared as directed in section 4.1.4.3. Five aliquots from each "pooled" sample were submitted to both EPA and SLI for analysis. The initial results showed good agreement between EPA and SLI, EPA being about 17 percent higher than STEWART for low DDTR concentration fish, and about 10 percent higher for samples with a higher concentration of DDTR. This data is summarized below:

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*Valid relative error results could not be obtained for some sample pairs due to "less than" values (see 4.3.2).

Summary Statistics

	Low Concentration		High Concentration	
	Stewart	EPA	Stewart	EPA
Mean	2.95 ppm	3.48 ppm	317. ppm	350. ppm
Standard Deviation	0.28 ppm	0.38 ppm	24. ppm	39. ppm
Coefficient of Variation	9.4%	10.9%	7.6%	11.2%
Difference (STEWART-EPA)	-0.53 ppm		-33. µg/g	
Relative Difference	-16.6%		-9.8%	

Twenty-three additional high and low concentration "pooled" fish samples were submitted with the routine fish samples as long-term QC samples. These results are shown in Tables 23 through 26 and are plotted in Figures 1 and 2 of Attachment 2. From this data, it appeared that an analytical problem existed during the days of November 29 and December 5, 6, and 7. Data for December 4 and 13 also appeared somewhat questionable. It was first suspected that sample non-homogeneity may have been a problem. A special study was performed to evaluate this (see 5.3.7.2) and it was found that non-homogeneity could not have accounted for the low results observed.

5.3.2.2 Split Samples

Interlaboratory split fish samples were analyzed as directed in section 4.5. The results from 26 split samples are shown in Table 27. Twenty-three sample pairs yielded valid relative error results and showed a mean of -53 percent (EPA 1.72 times SLI). However, data from the "pooled" fish analyses suggested that problems with SLI data may have occurred on certain dates. The data were divided according to dates processed by SLI and it was found that data from November 29 and 30, and December 5 and 6, had an average relative error of -86 percent, whereas the remaining data had an average relative error of -35 percent. The values are equivalent to EPA/SLI ratios of 2.51 and 1.42. For the suspect data, 7 of 8 samples showed EPA higher than SLI results. For the remaining data, 10 of 15 samples showed EPA results higher than SLI. Based largely on these results, a decision was made to have SLI reanalyze some samples prepared on November 29, and 30, and December 4, 5, 6, and 7 to determine if a more complete reanalysis should be performed.

5.3.3 Initial Fish Reanalysis

Initially 40 samples were selected from fish processed on November 29 and 30 and December 4, 5, 6, and 7 (and inadvertently, one sample from December 12) for reanalysis by SLI. Fifteen of these fish were also analyzed by EPA.

5.3.3.1 Intralaboratory Data

Of the 40 samples, SLI successfully reanalyzed 38. Nine samples from December 4 and the one from December 12 were grouped together and compared to the original SLI values. Average relative error was -4 percent (rerun results slightly higher than original values). These results are shown in Table 28. Based on these results, the December 4 data were accepted and considered "good day" data. Of the remaining samples, 21 yielded results valid for determining differences (see Table 29). Average relative error was -48 percent (rerun values higher), which is equivalent to a rerun/original value ratio of 1.63. Of the 21 samples, 14 increased compared to original values. Based on these results, the original data for November 29 and 30 and December 5, 6, and 7 were not accepted.

During this reanalysis of fish, two blind split samples were analyzed within SLI (Table 30). The mean absolute relative error was 15 percent (average ratio of 1.16).

Of the fish analyzed by EPA, 5 had been analyzed previously. The results of these analyses yielded 4 valid comparisons with an average relative error of 38 percent (original values higher). Three of the 4 samples were lower than original results. The results are shown in Table 31.

5.3.3.2 Interlaboratory Data

Of the 15 samples split with EPA during this initial rerun phase, 11 yielded results valid for determining differences. Average relative error was -20 percent (EPA 1.22 times higher than SLI). For 8 of the 11 samples, EPA was higher. The results are shown in Table 32.

5.3.4 Main Fish Reanalysis

Based on the results of the partial reanalysis discussed above, it was decided to have SLI reanalyze all fish processed on November 29 and 30, and December 5, 6, and 7.

5.3.4.1 Intralaboratory Data

5.3.4.1.1 Quality Control Charts--Intralaboratory Quality Control Charts were plotted for DDTR analysis by SLI as described in section 4.1. This was done for the reanalysis of the fish samples. There were no out-of-control conditions that existed.

5.3.4.1.2 Reference Samples--During the reanalysis of the fish samples, two blind aqueous reference samples supplied by Environmental Resource Associates were inserted into the analytical stream by SLI, as described in section 4.2. A concentration of

0.25 μg/l was obtained on a certified sample of o,p' DDT, which contained 0.26 μg/l for a percent recovery of 96 percent. A certified sample containing 0.50 μg/l of p,p' DDE was also analyzed and gave a concentration of 0.53 μg/l for a percent recovery of 106 percent.

5.3.4.1.3 "Pooled" Fish Samples--During this reanalysis phase of the work, EPA analyzed 3 additional replicates each of the high and low "pooled" fish samples. The results are shown in Table 33.

5.3.4.1.4 Blind Split Samples--Intralaboratory blind split samples were analyzed as directed in section 4.3. The results from these blind split samples are shown in Table 34. The average absolute relative error is 61 percent which is equivalent to an average ratio of 1.88.

5.3.4.2 Interlaboratory Data

5.3.4.2.1 Split Samples--Interlaboratory split fish samples were analyzed as directed in section 4.5. The results from these split samples are shown in Table 35. The average relative error is -32 percent (EPA 1.38 times higher than SLI). For 7 of 9 samples, EPA was higher than SLI.

5.3.5 Additional Fish Reanalysis

Subsequently, a review of the data showed that little information existed validating the results for samples processed by SLI on December 12. Further, "pooled" fish samples processed by SLI one day later (December 13) showed questionable results. Hence, a group of fish from December 12 was resubmitted for analysis, along with some vertebrate samples processed during that general time period, plus some individual fish samples not previously analyzed. Some samples were split with EPA.

5.3.5.1 Interlaboratory Data

Four fish and 5 vertebrate (nonfish) samples were split between SLI and EPA. Eight valid comparisons resulted with an average relative error of -147 percent (EPA 6.55 times higher than SLI). In all 8 cases, EPA was higher than SLI. The data are shown in Table 36. Based on these results all SLI results for this group of analyses were rejected.

Subsequently, all remaining fish from samples processed by SLI on December 12 were submitted to EPA for analysis. A summary of all comparisons between EPA and SLI data from December 12 samples is shown in Table 37. For 9 samples the average relative error was -102 percent (EPA 3.08 times higher than SLI). For all 9 samples, SLI results were less than EPA. Insufficient fish tissue remained for any further reanalysis.

A decision was made to retain all the December 12 analyzed data in the data set. These data have been identified so that interpretations utilizing this information can be made with the full understanding that it appears to have a significant low bias.

5.3.6 Summary of Fish Data

5.3.6.1 Intralaboratory Data

5.3.6.1.1 *Blind Split Samples*--All blind split data are shown in Table 38. The original blind split values for samples considered invalid have been dropped. The absolute relative error was 60 percent (average ratio of values was 1.86).

Blind split samples are a good measure of analytical reproducibility. Of particular interest in this case is the range of values that could be expected from a fish sample having a true DDTR concentration of 5 ppm, the FDA standard. This range can be calculated if the variance of the analytical procedure can be determined. Unfortunately, relative error does not produce a variance estimate. Hence, analysis of variance techniques were utilized.

A complicating factor is the selection of a proper data base to use for estimating the variance. For instance, should very low or very high concentration sample pairs be included in the data set? Further, should whole body samples be considered since it appears that within-lab variance for these samples was greater than for filet or composite filet samples? Finally, how should the data be transformed in an effort to counteract the obvious variance increase with concentration?

The transform that appears to be best suited for this data is the natural log of DDTR. To show the effect of data set makeup, several situations were considered. First, all 38 valid blind splits were considered. Second, a culled data set containing only sample pairs with mean DDTR values greater than one and less than fifty was considered. Finally, this same culled data set with further elimination of all whole body samples was evaluated. The results, along with the 95 percent confidence bound around 5 μg/g, are shown below:

Data Set	Data Pairs in Set	Variance	95% Confidence Bound Around A True Mean of 5 μg/g DDTR
All valid pairs	38	0.394	1.4 to 17.6 μg/g
Only pairs with mean values >1 and <50	17	0.325	1.6 to 15.6 μg/g
Only pairs with mean values >1 and <50 and excluding all whole body splits	13	0.105	2.6 to 9.6 μg/g

5.3.6.2 Interlaboratory Data

5.3.6.2.1 Split Samples--All split samples utilizing acceptable SLI and EPA data are shown in Table 39. The average relative error was -39 percent (EPA 1.48 times higher than SLI). Of 46 samples, 36 showed EPA values higher than SLI.

With the data for samples analyzed by SLI on December 12 excluded, the average relative error was -24 percent (EPA 1.27 times higher than SLI). Of 37 samples, 27 showed EPA values above SLI. The bias between laboratories was statistically significant at the 95 percent level.

5.3.7 Special Studies

5.3.7.1 DDT Concentration Gradient in Fish Filets

5.3.7.1.1 Objective--It was hypothesized that a DDTR concentration gradient existed in fish tissue. The objective of this study was to determine which portion of fish tissue to select for analysis in order to get a representative sample.

5.3.7.1.2 Experimental Design and Results--A whole filet from a catfish, bass, and buffalo was taken from the fish after it had been skinned. Each filet was measured and cut into four equal sections based on length. Each of the four sections of muscle was diced and blended to ensure homogeneity, and the DDTR concentration was determined on each section. These data are shown in Table 40.

5.3.7.1.3 Conclusion--These data show that the DDTR concentration could vary from the head end to the tail of a fish; therefore, whole filets from each fish were taken as the sample for the analysis. TVA diced the filet into small pieces and aliquots taken from each diced filet were then blended for the composite sample which was to be analyzed for DDTR concentration. The remainder of the diced filet was used for individual sample analysis.

5.3.7.2 Migration of Lipids Within the "Pooled" Fish Sample

5.3.7.2.1 Objective--During certain periods, extremely low values were obtained for the "pooled" fish samples (see Figures 1 and 2). One explanation for these low values was that since the time of preparation of the "pooled" fish sample, visual changes had occurred within each sample during the packaging and storage of these samples. From the appearance, it looked as if the lipids in the fish had migrated to the periphery of the samples. Because losses of the material from the container was evident as well as the fact that the "pooled" material was not quantitatively transferred from the container, it was proposed that these losses could be significant.

5.3.7.2.2 Experimental Design and Results--To test this hypothesis, both high and low "pooled" fish samples were dissected (see Figure 3) and DDTR analyses performed on each part. This was to determine if the lipids containing the DDTR had migrated to the periphery of the samples. In addition, "pooled" samples were also analyzed exactly as the original analysis except the DDTR was extracted from the empty containers. The results shown in Table 41 indicate that some migration of lipids had taken place but this migration did not greatly affect the concentration of the DDTR in the "pooled" sample. On five samples, EPA extracted the "empty" containers and analyzed this extract as well as the "pooled" sample. Although they did obtain some high DDTR concentrations (1200 μg/g) on the extraction of the "empty" containers, the weight of this material was very small (~0.05 g) compared to the sample weight of the "pooled" fish (~25 g) and was therefore negligible.

5.3.7.2.3 Conclusion--It is evident both from visual comparison as well as the data from the migration experiment that some migration of lipid material had taken place. These data do not, however, indicate that this migration has rendered the samples useless as a reference material. From the data in this experiment, it was concluded that the "pooled" material was valid and should remain in the quality assurance program report.

5.4 Vertebrate (Excluding Fish) Samples

5.4.1 Intralaboratory Data

5.4.1.1 Quality Control Charts

Intralaboratory control charts were plotted for DDTR analysis by SLI as described in section 4.1. There were no "out-of-control" conditions that existed while analyzing vertebrate samples.

5.4.1.2 Reference Samples

During the analysis of vertebrate samples, blind aqueous reference samples supplied by Environmental Resource Associates were inserted into the analytical stream by SLI as described in section 4.2. Since several types of samples were analyzed during one project, along with the reference material, it was impossible to separate the results from the reference material by the types of samples analyzed. A discussion on the results of the reference material is found in section 5.1.1.2.

5.4.1.3 Blind Split Samples

Intralaboratory blind split samples were analyzed as described in section 4.3. The results from these blind split samples are shown in Table 42. Five of the split samples yielded valid relative error data. The mean absolute relative error was 100 percent (average ratio of 3.0).

5.4.2 Interlaboratory Data

5.4.2.1 Split Samples

Interlaboratory split vertebrate samples were analyzed as directed in section 4.5. The results from these split samples are shown in Table 43. Ten of the split samples yielded valid relative error data. The mean relative error was -120 percent (EPA 4.0 times SLI). For 9 of the 10 sample pairs, EPA values were higher than SLI.

5.5 Aquatic Organisms and Plants

5.5.1 Intralaboratory Data

5.5.1.1 Quality Control Charts

Intralaboratory control charts were plotted for DDTR analysis by SLI as described in section 4.1. There were no "out-of-control" conditions that existed while analyzing aquatic organism samples.

5.5.1.2 Reference Samples

During the analysis of aquatic organism samples, blind aqueous reference samples supplied by Environmental Resource Associates were inserted into the analytical stream by SLI as described in section 4.2. Since several types of samples were analyzed during one project, along with the reference material, it was impossible to separate the results from the reference material by the types of samples analyzed. A discussion on the results of the reference material is found in section 5.1.1.2.

5.5.1.3 Intralaboratory blind split samples were analyzed as described in section 4.3. Included in this sample group were zooplankton, phytoplankton, aufwuchs, macroinvertebrates, and plants. Phytoplankton DDTR analytical procedures were the same as for water samples and all split sample results were included in section 5.1. Split sample data were available only for macroinvertebrates and plants and are shown in Tables 44 and 45. The mean absolute relative error for macroinvertebrates was 22 percent and for plants, 47 percent. This corresponds to mean sample ratios of 1.25 and 1.61, respectively.

5.5.2 Interlaboratory Data

5.5.2.1 Split Samples

Interlaboratory split samples were analyzed as directed in section 4.5. Included in this sample group were zooplankton, phytoplankton, aufwuchs, macroinvertebrates, and plants. Phytoplankton DDTR analytical procedures were the same as for water samples and all split sample results were included in

6.0 CONCLUSIONS

6.1 Water Samples

The analytical reproducibility of this data appears to be good and is within the interpretative requirements of this study. The agreement between SLI and EPA is acceptable also.

6.2 Sediment Samples

The analytical reproducibility within SLI on the initial samples was excellent, particularly for sediment samples. However, when completely independent samples were removed from the sediment cores, as was done in the "by request" samples, the relative error increased dramatically. This increased variability probably was related to (1) the difficulty in achieving a completely mixed uniform core sample and (2) the time separating the two samplings and analyses. A conservative assumption would be to consider the "by request" sample splits as representative of combined sampling and analytical variability.

Due primarily to the fact that the DDTR concentrations in sediment measured during this study varied over about 5 orders of magnitude, the data are sufficiently reliable for the interpretative requirements of this study.

There may be a slight bias between SLI and EPA but it is not significant as related to the interpretative requirements of this study.

6.3 Fish Samples

The determination of the degree of DDTR contamination of fish in Indian Creek and the Tennessee River was a major goal of section 5.1. SLI-EPA split sample data were available for macroinvertebrates, aufwuchs, and plants and are shown in Tables 46-48. For macroinvertebrates, three samples had a mean relative error of -51 percent (EPA 1.68 times SLI). For aufwuchs, one sample had a relative error of -34 percent (EPA 1.41 times SLI). For plants, six samples had a mean relative error of -32 percent (EPA 1.38 times SLI).

5.5.3 Special Studies

5.5.3.1 Use of Glass Fiber Filters

5.5.3.1.1 Objective--Because of the small sample sizes of zooplankton, it was necessary to filter the zooplankton samples to obtain sample weights which were used in the calculation of DDTR concentrations. The objective of this study was to determine if DDTR could be measured in zooplankton which had been retained on glass fiber filters.

5.5.3.2 Experimental Design and Results

A spiked water sample was filtered through a glass fiber filter. After filtering, the filter was disintegrated in the filtrate with a polytron blender. The blended filtrate was then analyzed for DDTR, and 82 percent of the original DDTR was recovered without significant interferences.

5.5.3.3 Conclusion

It was agreed by the Corps of Engineers (Diane Finley) on October 31, 1979, that the zooplankton samples from Task 5 could be prepared for DDTR analysis using tared glass fiber filters.

this study. Of particular interest was to determine whether the filet DDTR concentration exceeded 5 μg/g. The analytical precision, as measured by blind split samples, indicates that for a single analytical determination on a fish filet having 5 ppm DDTR, one can expect a 95 percent confidence bound of 2.6 to 9.6 ppm. Thus, for filet sample results that fall into this range, one cannot say (with 95 percent confidence) if the true value is above or below 5 ppm.

Analytical results for whole body samples seemed to have an even wider confidence bound.

The split samples between EPA and SLI showed that the SLI results were biased low compared to EPA. On the average, EPA results are about 1.27 times higher than SLI results. This excludes one group of data generated by SLI where EPA results averaged about 3 times higher than SLI results. All data from this group have been marked in the data tables.

When interpreted in light of the noted limitations, these data provide useful information regarding the degree of DDTR contamination of fish in the study area.

6.4 Vertebrate (Excluding Fish) Samples

The vertebrate sample blind splits indicate significant variability within SLI. Further, the EPA-SLI splits showed the SLI data to be lower on average by about a factor of four as compared to EPA data. Reruns by SLI of some of these samples showed an even more pronounced low bias as compared to EPA. The variability and significantly low bias compromise the usefulness of this data. However, lack of sufficient sample to allow for complete reanalysis and higher priorities for other samples led to the decision to retain the original results.

6.5 Aquatic Organisms and Plants

The relatively small data base only provides limited information concerning intralaboratory variability. Samples split between SLI and EPA indicate a low bias for SLI as compared to EPA. These factors are not expected to significantly affect the interpretative aspects of this work.

ATTACHMENT 1

TABLES

TABLES

TABLES (continued)

Table 1. EPA Intralaboratory Accuracy and Precision Data

	DDT		DDD		DDE	
Sample type	O,P'	P,P	O,P'	P,P	O,P'	P,P
Fish						
Average % recovery[a]	76	80	55	71	52	61
Average % RSD[b]	37	30	35	26	25	14
Sediment						
Average % recovery	ND[c]	ND	ND	ND	ND	ND
Average % RSD	ND	36	25	37	7.7	37
Water						
Average % recovery	100	110	94	110	100	110
Average % RSD	ND	ND	6.7	8.2	7.2	5.3

[a] Percent recovery based on spiked reagent blank analyzed with sample types noted.

[b] RSD - Relative standard deviation.

[c] RD - No data.

Table 2. Tabulation of SLI Intralaboratory Blind Aqueous Reference Sample Data

Analyzed with SLI project number	Parameter	ERA Certified value (µg/l)	SLI Observed value (µg/l)	% Recovery
TVA 09586	O,P' DDE	0.60	0.64	107
	P,P' DDD	0.63	0.58	92.1
TVA 09695	P,P' DDT	0.31	0.28	90.3
	O,P' DDD	0.19	0.19	100
TVA 09746	O,P' DDT	0.26	0.22	84.6
	P,P' DDE	0.50	0.41	82.0
TVA 09784	P,P' DDT	0.31	0.26	84.6
	O,P' DDD	0.19	0.15	78.9
TVA 09853	P,P' DDD	1.3	1.1	84.6
TVA 09833	P,P' DDD	1.3	1.1	84.6
TVA 09746	O,P' DDT	0.31	0.26	83.9
	P,P' DDE	0.19	0.15	78.9
TVA 09993	O,P' DDT	0.26	0.18	69.2
	P,P' DDE	0.50	0.43	86.0
TVA 10021	O,P' DDT	0.55	0.47	85.5
	P,P' DDE	0.42	0.33	78.6
TVA 10054	O,P' DDE	0.60	0.57	95.0
	P,P' DDD	0.63	0.55	87.3
TVA 10055	P,P' DDD	1.3	1.2	92.3
TVA 10067	P,P' DDT	0.31	0.24	77.4
	O,P' DDT	0.19	0.24	126
TVA 10069	O,P' DDE	0.60	0.70	106
	P,P' DDD	0.63	0.71	113
TVA 10102	O,P' DDE	0.60	0.46	76.7
	P,P' DDD	0.63	0.50	79.4
TVA 10103	O,P' DDT	0.26	0.19	73.1
	P,P' DDE	0.50	0.37	74.0
TVA 10105	P,P' DDT	0.31	0.28	90.3
	O,P' DDD	0.19	0.19	100
TVA 10107	P,P' DDD	1.3	1.0	76.9
TVA 10119	P,P' DDT	0.31	0.37	119
	O,P' DDD	0.19	0.17	89.5
TVA 10173	O,P' DDE	0.60	0.52	86.7
	O,P' DDE	0.63	0.51	81.0
TVA 10278	O,P' DDE	0.60	0.55	91.7
	P,P' DDD	0.63	0.70	111
TVA 10383	O,P' DDT	0.26	0.25	96.2
	P,P' DDE	0.50	0.61	122

Table 2 (continued)

Analyzed with SLI project number	Parameter	ERA Certified value (μg/1)	SLI Observed value (μg/1)	% Recovery
TVA 10384	P,P' DDT	0.31	0.28	90.3
	O,P' DDD	0.19	0.15	78.9
TVA 10393	O,P' DDT	0.26	0.27	104
	P,P' DDE	0.50	0.54	108
TVA 10467	P,P' DDD	1.3	1.4	108
TVA 10633	O,P' DDT	0.26	0.25	96.2
	P,P' DDE	0.50	0.53	106
TVA 10679	P,P' DDT	0.31	0.33	106
and TVA 10680	O,P' DDD	0.19	0.23	121

Table 3. Summary of TVA Project ID's

	Matrix Tasks*				
SLI Project	Sediment	Water	Fish	Zooplankton Benthos Plants Aufwuch	Vertebrates
TVA 09586	3, 4	3	1		
TVA 09646	4	6			
TVA 09695	4, 6	6			
TVA 09719			1S-12S		
TVA 09733			1A-1E		
TVA 09746	4, 6	4, 6			
TVA 09784		5			
TVA 09821		S1-S7			
TVA 09833		6			
TVA 09853	3, 6	6	1		
TVA 09867		5			
TVA 09993	5	5		5	7
TVA 10021			1		
TVA 10054			1		
TVA 10055	4				
TVA 10066	4				
TVA 10067			1, 1M		
TVA 10068		6			
TVA 10069					7
TVA 10102			1		
TVA 10103					7
TVA 10104		4M			
TVA 10105		4M			
TVA 10106	3	3M, 4			

Table 3 (continued)

	Matrix Tasks*				
SLI Project	Sediment	Water	Fish	Zooplankton Benthos Plants Aufwuch	Vertebrates
TVA 10107			1M, 2M		
TVA 10117			1		
TVA 10118	6				
TVA 10119		3M			
TVA 10133			1		
TVA 10141	4M				
TVA 10142	6				
TVA 10143			1		
TVA 10171			1		
TVA 10172					7
TVA 10173			1		
TVA 10218	4				
TVA 10277			1		
TVA 10278				5	
TVA 10329			1		
TVA 10383	6	6			
TVA 10384			1, 1M (Reanalyzed)		
TVA 10393		6			
TVA 10467	6				
TVA 10633			1, 1M (Reanalyzed)		
TVA 10679		6			
TVA 10680	6				

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[*] Numbers within the table indicate the samples from the various tasks that were analyzed for each SLI project number.

Table 4. Statistical Summary of SLI Blind Aqueous Reference Sample Data

Isomer	Number of observation	Mean recovery (%)	Standard deviation
O,P' DDT	10	91.5	16.3
P,P' DDT	7	94.0	14.0
O,P' DDD	6	94.7	16.0
P,P' DDD	10	92.9	12.5
O,P' DDE	7	92.0	11.6
P,P' DDE	9	93.5	17.1
Total DDTR	49	93.0	14.0

Table 5. Blind Split Total Water Data

TVA LAB ID	Type sample*	DDT (μg/l) O,P'	DDT (μg/l) P,P'	DDD (μg/l) O,P'	DDD (μg/l) P,P'	DDE (μg/l) O,P'	DDE (μg/l) P,P'	Total DDTR (μg/l) Minimum	Total DDTR (μg/l) Average	Total DDTR (μg/l) Maximum
3-027	BLI	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.100	0.200
	ORI	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.100	0.200
3-031	BLI	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.100	0.200
	ORI	<0.040	<0.040	<0.040	<0.040	<0.020	0.020	0.000	0.100	0.200
4-036	BLI	<0.080	0.250	0.580	1.350	0.080	0.100	2.26	2.30	2.34
	ORI	<0.080	0.330	0.630	1.42	0.100	0.120	2.60	2.64	2.68
4-116	BLI	0.320	0.210	2.32	2.26	0.170	0.240	5.52	5.52	5.52
	ORI	0.320	0.220	2.10	2.05	0.180	0.240	5.11	5.11	5.11
4-124	BLI	3.93	215	85.4	60.7	10.1	15.7	391	391	391
	ORI	3.88	208	79.7	59.0	10.1	14.6	375	375	375
6M-03	BLI	0.300	3.80	1.76	3.42	0.310	0.740	10.3	10.3	10.3
	ORI	0.370	4.11	1.99	3.80	0.430	0.980	11.7	11.7	11.7
6M-09	BLI	0.160	1.37	1.20	2.32	0.280	0.580	5.91	5.91	5.91
	ORI	0.200	1.72	1.70	2.65	0.350	0.840	7.46	7.46	7.46

*BLI - Blind sample.
ORI - Regular original sample.

Table 6. Blind Split Filtered Water Data

TVA	Type *	DDT (μg/1)		DDD (μg/1)		DDE (μg/1)		Total DDTR (μg/1)		
LAB ID	sample	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Minimum	Average	Maximum
3M-06	BLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
	ORI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
6-011	BLI	<0.080	<0.080	<0.440	0.760	0.090	0.090	1.380	1.460	1.540
	ORI	<0.080	<0.080	<0.510	0.850	0.100	0.100	1.560	1.640	1.720
6-025	BLI	<0.080	<0.080	0.790	1.780	0.130	0.130	2.830	2.870	2.990
	ORI	<0.080	<0.080	0.820	1.820	0.140	0.130	2.910	2.990	3.070
6-074	BLI	0.110	<0.080	1.920	2.790	0.230	0.360	5.410	5.450	5.490
	ORI	0.140	<0.080	2.110	3.370	0.250	0.370	6.240	6.280	6.320
6-078	BLI	<0.080	<0.080	<0.080	0.090	<0.040	<0.040	0.090	0.250	0.410
	ORI	<0.080	<0.080	<0.080	0.080	<0.040	<0.040	0.080	0.240	0.400
6-082	BLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
	ORI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
6-088	BLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
	ORI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
6-111	BLI	<0.080	<0.080	0.630	1.020	0.130	0.220	2.000	2.080	2.160
	ORI	<0.080	<0.080	0.540	0.900	0.110	0.200	1.750	1.830	1.910
6-127	BLI	<0.080	<0.080	0.890	1.660	0.120	0.190	2.860	2.940	3.020
	ORI	<0.080	<0.080	0.820	1.660	0.120	0.180	2.780	2.860	2.940
6-137	BLI	<0.080	<0.080	0.640	1.030	0.050	0.100	1.820	1.900	1.980
	ORI	<0.080	<0.080	0.620	1.020	0.070	0.090	1.800	1.880	1.960
6-158	BLI	<0.080	<0.080	0.870	1.180	0.110	0.210	2.370	2.450	2.530
	ORI	<0.080	<0.080	0.890	1.140	0.110	0.220	2.360	2.44	2.52
6-170	BLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
	ORI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
6-182	BLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
	ORI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
6-214	BLI	<0.080	<0.080	0.350	0.640	0.070	0.130	1.190	1.270	1.350
	ORI	<0.080	<0.080	0.420	0.760	0.080	0.140	1.400	1.480	1.560
6-222	BLI	<0.080	<0.080	0.580	1.080	0.070	0.100	1.830	1.910	1.990
	ORI	<0.080	<0.080	0.630	2.730	0.080	0.110	3.550	3.630	3.710
6-269	BLI	<0.080	<0.080	0.290	0.520	0.040	0.060	0.910	0.990	1.070
	ORI	<0.080	<0.080	0.360	0.640	0.040	0.080	1.120	1.200	1.280

Table 6 (continued)

TVA LAB ID	Type * Sample	DDT (µg/1)		DDD (µg/1)		DDE (µg/1)		Total DDTR (µg/1)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Minimum	Average	Maximum
6-279	BLI	<0.080	<0.080	0.450	0.680	0.090	0.100	1.320	1.400	1.480
	ORI	<0.080	<0.080	0.450	0.890	0.060	0.080	1.480	1.560	1.640
6-289	BLI	<0.080	<0.080	0.850	1.650	0.140	0.210	2.850	2.930	3.010
	ORI	<0.080	<0.080	0.820	1.000	0.150	0.210	2.180	2.260	2.340
6-404	BLI	<0.100	<0.100	0.700	1.250	0.460	0.320	2.730	2.830	2.930
	ORI	<0.100	<0.100	0.920	1.390	0.500	0.370	3.180	3.280	3.380
6-414	BLI	<0.100	<0.100	0.620	0.820	<0.100	0.100	1.540	1.690	1.840
	ORI	<0.100	<0.100	0.420	0.820	<0.100	<0.100	1.240	1.440	1.640
6-428	BLI	<0.100	<0.100	0.370	0.590	<0.100	<0.100	0.960	1.160	1.360
	ORI	<0.100	<0.100	0.440	0.990	<0.100	<0.100	1.430	1.630	1.830
6-438	BLI	<0.100	<0.100	0.650	0.960	<0.100	<0.100	1.610	1.810	2.010
	ORI	<0.100	<0.100	0.630	0.750	<0.100	<0.100	1.380	1.580	1.780
6-448	BLI	0.100	<0.100	<0.670	0.890	0.100	0.100	1.560	1.760	1.960
	ORI	<0.100	<0.100	0.510	0.820	<0.100	<0.100	1.330	1.530	1.730
6-456	BLI	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.000	0.300	0.600
	ORI	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.000	0.300	0.600
6-466	BLI	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.000	0.300	0.600
	ORI	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.000	0.300	0.600
6M-06	BLI	0.060	0.070	0.930	1.500	0.170	0.290	3.020	3.020	3.020
	ORI	0.050	0.040	0.850	1.310	0.150	0.200	2.600	2.600	2.600
6M-13	BLI	0.070	0.250	0.950	1.250	0.110	0.160	2.790	2.790	2.790
	ORI	0.080	0.310	1.080	1.410	0.150	0.210	3.240	3.240	3.240

Table 6 (continued)

TVA LAB ID	Type sample*	DDT (μg/1)		DDD (μg/1)		DDE (μg/1)		Total DDTR (μg/1)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Minimum	Average	Maximum
6M-30	BLI	<0.020	<0.030	0.190	0.320	0.030	0.050	0.590	0.615	0.640
	ORI	<0.020	<0.030	0.210	0.360	0.030	0.050	0.650	0.675	0.700
6M-46	BLI	0.050	0.100	0.480	0.810	0 090	0.140	1.670	1.670	1.670
	ORI	0.030	0.040	0.490	0.760	0.080	0.160	1.560	1.560	1.560
6M-56	BLI	<0.020	0.050	0.250	0.430	0.040	0.070	0.840	0.850	0.860
	ORI	0.030	0.070	0.290	0.430	0.040	0.070	0.930	0.930	0.930
6M-78	BLI	<0.020	<0.030	<0.010	0.030	<0.010	<0.010	0.030	0.070	0.110
	ORI	<0.020	<0.030	<0.010	0.030	<0.010	<0.010	0.030	0.070	0.110
7-028	BLI	<0.020	0.040	0.251	0.494	0.060	0.101	0.946	0.956	0.966
	ORI	<0.030	0.040	0.285	0.481	0.060	0.117	0.983	0.998	1.013
7-052	BLI	<0.030	0.070	0.257	0.451	0.060	0.100	0.938	0.953	0.968
	ORI	<0.030	0.050	0.301	0.508	0.060	0.108	1.027	1.042	1.057
7-072	BLI	<0.020	<0.030	<0.010	0.010	<0.010	<0.010	0.010	0.050	0.090
	ORI	<0.020	<0.030	<0.010	0.010	<0.010	<0.010	0.010	0.050	0.090
7-090	BLI	0.020	0.030	0.199	0.478	0.050	0.070	0.847	0.847	0.847
	ORI	<0.020	0.030	0.221	0.420	0.050	0.105	0.826	0.836	0.846
7-116	BLI	<0.020	<0.030	0.187	0.426	0.050	0.060	0.723	0.748	0.773
	ORI	<0.020	<0.030	0.185	0.365	0.050	0.070	0.670	0.695	0.720
7-146	BLI	<0.040	<0.050	0.100	0.227	0.030	0.060	0.417	0.462	0.507
	ORI	<0.020	0.030	0.122	0.256	0.040	0.050	0.498	0.508	0.518
7-166	BLI	<0.040	<0.050	0.122	0.238	0.030	<0.020	0.390	0.445	0.500
	ORI	<0.040	<0.050	0.137	0.249	0.030	0.050	0.466	0.511	0.556

*BLI - Blind sample.
ORI - Regular original sample.

Table 7. Tabulation of Interlaboratory "Pooled" Water Sample Data

TVA		DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Total DDTR (min)
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	(µg/l)
S-1RR	SLI	5.00	5.44	<0.2	3.98	3.13	3.41	21.0
S-6RR	SLI	3.80	3.70	0.09	3.70	2.70	3.20	17.2
S-7RR	SLI	2.74	3.63	<0.2	3.17	2.86	2.58	15.0
S-8RR	SLI	2.58	3.12	<0.2	2.80	2.04	2.26	12.8
S-9RR	SLI	3.10	3.70	<0.2	3.40	2.25	2.65	15.1
S-10RR	EPA	2.60	2.50	<0.6	2.70	2.50	2.10	12.4
S-11RR	EPA	2.40	2.40	<0.6	2.90	2.40	2.00	12.1
S-12RR	EPA	2.90	3.30	<0.1	3.30	2.80	2.50	14.8
S-13RR	EPA	3.70	3.90	<0.7	4.10	3.50	3.30	18.5
S-14RR	SLI	3.12	3.59	<0.2	3.36	2.54	2.81	15.4
S-15RR	SLI	2.41	2.93	<0.2	2.72	1.98	2.13	12.2
S-16RR	SLI	2.93	3.27	<0.2	3.18	2.16	2.96	14.5
S-17RR	SLI*	3.83	4.23	<0.2	3.91	2.79	3.28	18.0
S-18RR	SLI*	4.38	4.81	<0.2	4.30	3.16	3.51	20.2
S-19RR	SLI*	3.91	4.23	<0.2	3.72	2.79	3.15	17.8
S-20RR	SLI*	4.58	4.99	<0.2	4.49	3.34	4.01	21.4
S-21RR	EPA	3.30	3.60	<0.3	3.80	3.10	2.90	16.7
S-22RR	EPA	3.50	3.70	<0.3	3.80	3.30	3.10	17.4
S-23RR	EPA*	4.40	4.70	0.077	5.00	4.30	3.80	22.3
S-24RR	EPA*	4.00	4.30	0.042	4.40	4.00	3.60	20.3
S-25RR	SLI*	4.45	4.65	0.110	4.31	3.24	3.77	20.5
S-26RR	SLI*	4.66	4.80	0.11	4.55	3.37	3.90	21.4
S-27RR	SLI*	4.06	4.24	0.13	4.17	2.90	3.36	18.9

*Analytical procedure changed to include the addition of salt before extraction.

Table 8. SLI-EPA Split Water (Total) Data

TVA		DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Total DDTR (µg/l)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
3-002	EPA	<0.080	<0.080	<0.030	<0.030	<0.020	<0.020	0.000	0.130	0.260
	SLI	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.100	0.200
3-004	EPA	<0.008	<0.008	<0.003	<0.003	<0.002	<0.002	0.000	0.013	0.026
	SLI	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.100	0.200
3M-02	EPA	<0.050	0.180	<0.100	<0.400	<0.050	<0.100	0.180	0.530	0.880
	SLI	<0.080	0.280	<0.080	0.097	<0.040	<0.040	0.377	0.499	0.617
3M-04	EPA	<0.030	0.021	<0.100	<0.400	<0.050	0.100	0.021	0.361	0.701
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	0.040	0.000	0.200	0.400
3M-06	EPA	<0.050	0.071	<0.100	<0.400	<0.050	<0.100	0.071	0.421	0.771
	SLI	<0.080	0.230	<0.080	0.053	<0.040	<0.040	0.283	0.403	0.523
3M-09	EPA	<0.020	0.076	<0.100	<0.400	<0.050	<0.100	0.076	0.411	0.746
	SLI	<0.080	0.120	<0.080	<0.080	<0.040	<0.040	0.120	0.280	0.440
5-170	EPA	<0.050	0.200	<0.100	<0.400	<0.050	<0.100	0.200	0.550	0.900
	SLI	0.051	0.20	0.041	0.041	0.041	0.020	0.394	0.394	0.394
6-011	EPA	0.170	1.70	2.40	7.30	0.890	1.30	13.8	13.8	13.8
	SLI	<0.080	0.960	1.120	3.66	0.490	0.88	7.11	7.15	7.19
6-013	EPA	0.160	1.20	2.30	6.80	0.920	1.30	12.78	12.78	12.78
	SLI	<0.080	0.900	1.940	3.42	0.500	0.88	7.64	7.68	7.72
6-017	EPA	0.150	0.220	2.40	6.40	0.720	0.890	10.8	10.8	10.8
	SLI	0.090	0.250	1.58	2.84	0.340	0.470	5.57	5.57	5.57
6-033	EPA	<0.040	<0.500	0.044	0.067	0.009	0.019	0.139	0.409	0.679
	SLI	0.370	1.62	4.66	6.47	0.730	1.45	15.3	15.3	15.3
6-078	EPA	0.021	<0.050	0.024	0.097	<0.030	0.011	0.153	0.193	0.233
	SLI	<0.080	<0.080	<0.080	0.080	<0.040	<0.040	0.080	0.240	0.400
6-103	EPA	<0.400	2.20	2.50	5.70	1.20	1.60	13.2	13.4	13.6
	SLI	0.170	4.03	4.64	8.79	1.16	2.09	20.9	20.9	20.9
6-125	EPA	<0.300	2.30	2.30	4.40	0.680	1.30	11.0	11.2	11.3
	SLI	<0.090	1.47	2.44	4.61	0.430	1.14	10.1	10.2	10.2
6-139	EPA	<0.600	4.00	3.60	6.90	1.30	1.80	17.6	17.9	18.2
	SLI	0.430	5.10	3.11	5.30	0.550	1.22	15.7	15.7	15.7
6-156	EPA	<0.300	1.10	1.10	2.10	0.300	0.500	5.10	5.25	5.40
	SLI	0.100	1.30	1.24	1.79	0.180	0.430	5.04	5.04	5.04
6-172	EPA	<0.010	<0.010	<0.009	<0.009	<0.008	<0.008	0.000	0.027	0.054
	SLI	<0.080	<0.080	<0.080	<0.040	<0.040	0.040	0.000	0.200	0.400
6-212	EPA	<0.300	0.280	1.10	2.30	0.420	0.600	4.70	4.85	5.00
	SLI	<0.080	0.400	1.03	1.96	0.280	0.480	4.15	4.19	4.23
6-222	EPA	0.300	2.80	2.20	5.90	0.720	1.10	12.7	12.9	13.0
	SLI	0.100	1.29	1.12	3.13	0.380	0.500	6.52	6.52	6.52
6-230	EPA	0.360	1.80	4.40	7.10	0.980	2.00	16.6	16.6	16.6
	SLI	0.440	2.86	3.19	6.7	0.900	1.36	15.4	15.4	15.4

Table 8 (continued)

TVA LAB ID	Lab	DDT (µg/l) O,P'	DDT (µg/l) P,P'	DDD (µg/l) O,P'	DDD (µg/l) P,P'	DDE (µg/l) O,P'	DDE (µg/l) P,P'	Total DDTR (µg/l) Min	Total DDTR (µg/l) Avg	Total DDTR (µg/l) Max
6-251	EPA	<0.300	<0.300	<0.200	<0.200	<0.100	<0.100	0.000	0.600	1.20
	SLI	<0.080	<0.080	<0.080	<0.080	<0.40	<0.040	0.000	0.200	0.400
6-259	EPA	<0.300	<0.300	<0.200	<0.200	<0.100	<0.100	0.000	0.600	1.20
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
6-267	EPA	<0.300	0.300	1.50	3.40	0.560	1.00	6.76	6.81	7.06
	SLI	<0.080	1.36	1.630	2.330	0.560	0.810	5.69	6.73	6.77
6-277	EPA	<0.300	6.30	2.00	5.20	0.690	1.30	15.5	15.6	15.8
	SLI	0.190	3.52	1.89	2.81	0.410	1.00	9.82	9.82	9.82
6-287	EPA	<0.300	1.30	1.70	3.40	0.380	0.740	7.52	7.67	7.82
	SLI	0.250	0.930	2.04	2.77	0.300	0.490	6.78	6.78	6.78
6-412	EPA	<0.100	0.130	0.640	1.20	0.160	0.210	2.34	2.39	2.44
	SLI	<0.100	0.330	0.700	1.20	0.190	0.290	2.71	2.76	2.81
6-434	EPA	0.061	0.460	0.560	1.10	0.140	0.220	2.54	2.54	2.54
	SLI	<0.100	0.830	0.700	1.31	0.280	0.300	3.42	3.47	3.52
6-442	EPA	0.180	1.20	1.00	1.90	0.240	0.460	4.98	4.98	4.98
	SLI	<0.100	0.41	0.890	1.43	0.740	0.320	3.89	3.94	3.99
6-466	EPA	<0.050	<0.050	<0.100	<0.400	<0.050	<0.200	0.000	0.425	0.850
	SLI	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.000	0.300	0.600
6M-01	EPA	<0.300	<0.600	0.880	1.60	0.240	0.350	3.07	3.52	3.97
	SLI	0.200	0.260	1.30	2.11	0.270	0.540	4.68	4.68	4.68
6M-02	EPA	<0.400	1.400	1.700	3.20	0.470	0.720	7.49	7.49	7.49
	SLI	0.200	2.99	2.26	4.28	0.450	1.01	11.2	11.2	11.2
6M-03	EPA	0.220	2.40	1.30	2.70	0.360	0.600	7.58	7.58	7.58
	SLI	0.360	4.10	1.98	3.80	0.430	0.980	11.6	11.6	11.6
6M-04	EPA	<0.200	<0.400	<0.100	<0.100	<0.100	<0.100	0.000	0.500	1.00
	SLI	<0.060	<0.060	0.100	0.180	0.030	0.020	0.330	0.390	0.450
5-001A	EPA	<0.300	<0.300	1.30	2.80	0.310	0.520	4.93	5.23	5.53
	SLI	<0.080	0.090	1.12	2.26	0.220	0.360	4.05	4.09	4.13
5-002A	EPA	<0.400	<0.400	0.750	1.50	0.190	0.270	2.71	3.11	3.51
	SLI	<0.080	<0.080	0.710	1.10	0.130	0.210	2.15	2.23	2.31
5-015A	EPA	<0.300	<0.300	<0.200	<0.200	<0.100	<0.100	0.000	0.600	1.20
	SLI	<0.080	<0.080	<0.080	0.090	<0.040	<0.040	0.090	0.250	0.410
5-018A	EPA	<0.200	0.270	3.50	5.10	0.710	1.40	11.0	11.1	11.2
	SLI	0.470	0.210	3.46	6.44	0.500	1.60	12.7	12.7	12.7
5-032A	EPA	<0.400	<0.400	<0.200	<0.200	<0.100	<0.100	0.00	0.700	1.40
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
5-033A	EPA	<0.400	<0.400	<0.200	<0.200	<0.100	<0.100	0.000	0.700	1.40
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
5-034B	EPA	<0.400	<0.400	<0.200	<0.200	<0.100	<0.100	0.000	0.700	1.40
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400

Table 9. SLI-EPA Split Water (Suspended Solids) Data

TVA		DDT (μg/l)		DDD (μg/l)		DDE (μg/l)		Total DDTR (μg/l)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
6M-01	EPA	<0.233	<0.350	0.360	0.700	0.157	0.262	1.48	1.37	2.06
	SLI	<0.094	0.196	0.456	0.788	0.131	0.326	1.90	1.94	1.99
6M-02	EPA	<0.248	1.69	0.930	2.19	0.390	0.761	5.97	6.09	6.22
	SLI	0.198	2.74	1.20	2.95	0.379	0.926	8.33	8.33	8.33
6M-03	EPA	<0.212	2.26	0.680	1.91	0.262	0.552	5.6	5.77	5.88
	SLI	0.172	2.50	0.965	2.49	0.292	0.767	7.18	7.18	7.18
6M-04	EPA	<0.227	<0.378	<0.150	<0.150	0.113	0.076	0.000	0.547	1.09
	SLI	<0.090	<0.126	<0.054	<0.036	0.036	0.036	0.000	0.189	0.378
6M-22	EPA	<0.051	0.085	0.160	0.310	0.072	0.133	0.760	0.785	0.811
	SLI	0.024	0.159	0.241	0.327	0.072	0.170	0.993	0.993	0.993
6M-38	EPA	<0.054	0.094	0.160	0.300	0.067	0.124	0.745	0.772	0.799
	SLI	<0.015	0.367	0.274	0.355	0.090	0.190	1.28	1.28	1.29
6M-42	EPA	0.048	0.332	0.230	0.530	0.097	0.198	1.64	1.64	1.64
	SLI	0.063	0.638	0.426	0.627	0.143	0.315	2.21	2.21	2.21
6M-60	EPA	0.072	1.00	0.300	0.670	0.124	0.258	2.43	2.43	2.43
	SLI	0.100	0.910	0.492	0.852	0.166	0.357	2.88	2.88	2.88
6M-66	EPA	0.046	0.083	0.110	0.220	0.044	0.090	0.593	0.593	0.593
	SLI	0.022	0.408	0.175	0.276	0.053	0.125	1.06	1.06	1.06
6M-74	EPA	0.035	0.040	0.020	0.040	0.016	0.010	0.161	0.161	0.161
	SLI	<0.050	<0.060	<0.040	0.060	<0.040	0.030	0.090	0.185	0.280
6M-82	EPA	<0.049	<0.081	<0.032	<0.032	<0.016	<0.016	0.000	0.113	0.226
	SLI	<0.016	<0.018	<0.020	<0.020	<0.011	<0.011	0.000	0.040	0.080
67-38	EPA	0.14	1.80	0.34	1.1	0.150	0.450	3.98	3.98	3.98
	SLI	<0.05	1.33	0.41	1.06	0.13	0.37	3.30	3.32	3.35
67-40	EPA	0.078	0.630	0.200	0.650	0.100	0.230	1.89	2.89	2.89
	SLI	<0.05	0.77	0.24	0.71	0.08	0.25	2.06	2.08	2.11
67-42	EPA	0.084	1.30	0.210	0.690	0.110	0.250	2.64	2.64	2.64
	SLI	<0.05	1.02	0.22	0.48	0.10	0.25	2.07	2.10	2.12

Table 9 (continued)

TVA		DDT (μg/1)		DDD (μg/1)		DDE (μg/1)		Total DDTR (μg/1)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
67-44	EPA	0.061	0.980	0.200	0.570	0.110	0.240	2.16	2.16	2.16
	SLI	<0.05	0.50	0.23	0.60	0.07	0.23	1.62	1.65	1.68
67-46	EPA	0.090	1.60	0.250	0.690	0.120	0.290	3.04	3.04	3.04
	SLI	<0.05	1.52	0.24	0.70	0.08	0.27	2.81	2.84	2.86
67-48	EPA	0.061	1.20	0.210	0.930	0.110	0.260	2.77	2.77	2.77
	SLI	<0.05	1.34	0.21	0.76	0.07	0.24	2.62	2.64	2.67
67-50	EPA	0.050	0.810	0.180	0.650	0.100	0.220	2.01	2.01	2.01
	SLI	<0.05	0.97	0.20	0.57	0.08	0.26	2.09	2.12	2.14
67-52	EPA	0.047	0.620	0.180	0.760	0.100	0.230	1.94	1.94	1.94
	SLI	<0.06	0.62	0.20	0.68	0.06	0.21	1.77	1.80	1.83
67-54	EPA	0.039	0.710	0.150	0.730	0.089	0.180	1.90	1.90	1.90
	SLI	<0.05	0.022	0.18	0.31	0.05	0.20	0.97	0.99	1.01
67-56	EPA	0.033	0.390	0.130	0.370	0.073	0.150	1.15	1.15	1.15
	SLI	<0.06	0.42	0.14	0.32	0.05	0.16	1.08	1.11	1.14

Table 10. SLI-EPA Split Water (Filtered) Data

TVA		DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Total DDTR (µg/l)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
3M-02	EPA	<0.005	0.057	<0.100	<0.400	<0.050	<0.100	0.057	0.384	0.712
	SLI	<0.080	<0.080	<0.080	0.086	<0.040	<0.040	0.086	0.246	0.406
3M-04	EPA	<0.020	0.013	<0.100	0.400	<0.050	<0.100	0.013	0.348	0.683
	SLI	<0.080	<0.080	<0.080	0.80	<0.040	<0.040	0.000	0.200	0.400
3M-06	EPA	<0.020	<0.020	<0.100	<0.400	<0.050	<0.100	0.000	0.345	0.690
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
3M-09	EPA	<0.020	0.028	<0.100	0.400	<0.050	<0.100	0.028	0.363	0.698
	SLI	<0.080	<0.080	<0.080	0.080	<0.040	<0.040	0.000	0.200	0.400
5-016A	EPA	<0.300	<0.300	<0.200	0.220	<0.100	<0.100	0.220	0.720	1.22
	SLI	<0.080	<0.080	0.120	0.220	0.040	0.040	0.380	0.480	0.580
5-017A	EPA	<0.300	<0.300	0.990	2.00	0.140	0.130	3.26	3.56	3.86
	SLI	<0.080	<0.080	0.900	1.58	<0.090	0.110	2.59	2.72	2.84
6M-01	EPA	<0.200	<0.400	0.450	<0.800	<0.080	0.084	0.534	1.27	2.01
	SLI	0.150	0.070	0.730	1.37	0.170	0.130	2.62	2.62	2.62
6M-02	EPA	<0.200	<0.400	0.780	1.30	0.150	0.170	2.40	2.70	3.00
	SLI	0.140	0.080	1.27	2.41	0.170	0.240	4.31	4.31	4.31
6M-03	EPA	<0.200	<0.400	0.790	1.30	<0.200	0.220	2.31	2.71	3.11
	SLI	0.140	0.080	1.03	1.84	0.160	0.240	3.49	3.49	3.49
6M-04	EPA	<0.200	<0.400	<0.100	<0.100	<0.100	<0.100	0.000	0.500	1.00
	SLI	<0.060	<0.060	0.060	0.180	<0.020	<0.020	0.240	0.320	0.400
6M-22	EPA	<0.040	<0.080	0.470	0.840	0.093	0.087	1.49	1.55	1.61
	SLI	0.040	0.090	0.570	0.850	0.090	0.130	1.77	1.77	1.77
6M-38	EPA	<0.030	<0.080	0.360	0.630	0.071	0.074	1.14	1.24	1.24
	SLI	0.020	<0.030	0.480	0.740	0.070	0.110	1.42	1.44	1.45
6M-42	EPA	<0.050	0.079	0.470	0.790	0.100	0.120	1.56	1.58	1.61
	SLI	0.030	0.050	0.510	0.770	0.080	0.130	1.57	1.57	1.57
6M-60	EPA	<0.110	<0.200	0.370	0.600	0.085	0.089	1.14	1.30	1.45
	SLI	0.020	0.040	0.340	0.510	0.050	0.090	1.05	1.05	1.05
6M-66	EPA	<0.050	<0.080	0.210	0.320	0.050	0.051	0.631	0.696	0.761
	SLI	<0.020	<0.030	0.110	0.170	0.020	0.020	0.320	0.345	0.370
6M-74	EPA	<0.050	<0.080	<0.030	<0.030	<0.020	0.020	0.000	0.115	0.230
	SLI	<0.020	<0.030	0.030	0.090	<0.010	0.010	0.120	0.147	0.190
6M-82	EPA	<0.050	<0.080	<0.030	<0.030	<0.020	<0.020	0.000	0.115	0.230
	SLI	<0.020	<0.030	<0.010	0.040	<0.010	<0.010	0.040	0.080	0.120
67-38	EPA	0.047	0.120	0.390	0.580	0.071	0.120	1.33	1.33	1.33
	SLI	0.030	0.090	0.380	0.690	0.070	0.110	1.37	1.37	1.37
67-40	EPA	0.064	0.060	0.280	0.450	0.053	0.073	0.980	0.980	0.980
	SLI	0.020	0.060	0.280	0.480	0.050	0.080	0.970	0.970	0.970
67-42	EPA	0.047	0.051	0.300	0.450	0.060	0.100	1.01	1.01	1.01
	SLI	0.020	0.050	0.290	0.500	0.060	0.090	1.01	1.01	1.01
67-44	EPA	0.028	0.058	0.250	0.380	0.053	0.070	0.839	0.839	0.839
	SLI	0.020	0.070	0.260	0.460	0.050	0.090	0.950	0.950	0.950

Table 10 (continued)

TVA LAB ID	Lab	DDT (μg/l) O,P'	DDT (μg/l) P,P'	DDD (μg/l) O,P'	DDD (μg/l) P,P'	DDE (μg/l) O,P'	DDE (μg/l) P,P'	Total DDTR (μg/l) Min	Total DDTR (μg/l) Avg	Total DDTR (μg/l) Max
67-46	EPA	0.028	0.110	0.220	0.340	0.047	0.062	0.807	0.807	0.807
	SLI	0.020	0.080	0.230	0.400	0.050	0.080	0.860	0.860	0.860
67-48	EPA	0.027	0.081	0.250	0.380	0.050	0.070	0.858	0.858	0.858
	SLI	0.020	0.060	0.280	0.490	0.060	0.100	1.01	1.01	1.01
67-50	EPA	0.023	0.068	0.250	0.380	0.053	0.058	0.832	0.832	0.832
	SLI	0.010	0.100	0.230	0.450	0.050	0.080	0.920	0.920	0.920
67-52	EPA	0.028	0.043	0.280	0.420	0.055	0.062	0.888	0.888	0.888
	SLI	<0.020	0.050	0.300	0.510	0.060	0.110	1.03	1.04	1.05
67-54	EPA	0.023	0.033	0.240	0.420	0.053	0.070	0.839	0.839	0.839
	SLI	<0.020	0.030	0.220	0.350	0.050	0.070	0.720	0.730	0.740
67-56	EPA	0.021	<0.030	0.200	0.290	0.044	0.048	0.603	0.618	0.633
	SLI	<0.020	<0.030	0.220	0.340	0.050	0.070	0.680	0.705	0.730
5-001A	EPA	<0.700	<0.700	0.560	1.00	<0.200	<0.200	1.56	2.46	3.36
	SLI	<0.080	<0.080	0.579	1.07	0.070	0.090	1.80	1.88	1.96
5-002A	EPA	<0.400	<0.400	0.470	0.840	<0.100	<0.100	1.31	1.81	2.31
	SLI	<0.080	<0.080	0.420	0.780	0.040	0.060	1.30	1.39	1.46
5-015A	EPA	<0.300	<0.300	<0.200	<0.200	<0.100	0.100	0.000	0.600	1.20
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
5-018A	EPA	<0.030	<0.030	1.50	3.20	0.220	0.370	5.29	5.32	5.35
	SLI	0.120	<0.080	1.53	2.74	0.160	0.280	4.83	4.87	4.91
5-033B	EPA	<0.700	<0.700	<0.400	<0.400	<0.200	<0.200	0.000	1.30	2.60
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400

Table 11. Special Study: Use of the Churn Splitter

TVA	Nonfilterable	DDT (μg/l)		DDD (μg/l)		DDE (μg/l)		Total DDTR[b]
LAB ID	residue[a] (μg/l)	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	(μg/l)
DDT 6-58	53	0.28	2.52	4.04	6.59	0.68	1.26	15.4
DDT 6-59	50	0.28	3.15	4.12	6.80	0.65	1.42	16.4
DDT 6-60	50	0.28	1.71	3.68	5.83	0.62	1.33	13.5
DDT 6-61	51	0.31	2.83	3.62	5.78	0.63	1.20	14.4
DDT 6-62	51	0.29	2.64	3.71	6.05	0.64	1.27	14.6
DDT 6-63	50	0.32	2.20	3.96	6.44	0.69	1.29	14.9
DDT 6-64	51	0.28	2.54	3.70	6.18	0.59	1.19	14.5
Mean	50.9	0.29	2.51	3.83	6.24	0.64	1.28	14.8
Standard deviation	1.07	0.02	0.46	0.20	0.39	0.03	0.08	0.90
% RSD[c]	2.1	5.8	18.3	5.3	6.2	5.4	6.2	6.1

[a] Analysis performed by TVA Laboratory Branch.

[b] Analysis performed by SLI.

[c] RSD - Relative standard deviation.

Table 12. Special Study: Use of Cellulose Membrane Filters

Isomer	Concentration before filtration (μg/l)	Concentration after filtration (μg/l)	% Recovery[a]
O,P' DDT	5.00	1.10	22.0
P,P' DDT	5.44	1.00	18.4
O,P' DDD	ND[b]	ND	-
P,P' DDD	3.98	2.23	56.0
O,P' DDE	3.13	0.65	20.8
P,P' DDE	3.41	0.28	8.2
Total DDTR	21.0	5.26	25.0

[a] All analysis performe. by SLI.

[b] ND - not detected.

Table 13. Special Study: Extraction Efficiencies of DDTR from Suspended Solids

		% Recovery						
	Suspended	DDT		DDD		DDE		
Matrix	Solids (mg/L)	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Total DDTR**
Deionized water	73	*	33.7	54.4	59.3	42.5	31.1	43.7
	370	*	70.0	50.4	54.1	32.7	28.6	45.9
	3700	57.1	72.1	51.5	57.1	31.1	28.2	47.4
Native water	73	*	35.1	13.8	37.0	23.5	16.5	25.3
	370	*	69.3	46.3	51.7	29.7	25.9	43.4
	3700	44.1	67.9	56.5	60.5	35.0	31.7	49.7

*Below detection limit.

**All analysis performed by SLI.

Table 14. Special Study: Comparison of DDTR Analysis on Total Water by Both Calculation and Direct Analysis

TVA LAB ID	Location	Date collected	Nonfilterable* residue (μg/l)	Filt. DDTR (μg/l) (with salt)	Suspended DDTR (μg/l)	Total DDTR calc. (μg/l)	Total DDTR** analyzed (μg/l) (without salt)	Ratio (total calc.) total analyzed
6M-1	ICM 0.9	1/18/80	57	2.62	1.90	4.52	4.68	0.97
6M-2	IC at Centerline Rd.	1/18/80	84	4.31	8.33	12.64	11.2	1.13
6M-3	HSB at Dodd Rd.	1/18/80	80	3.49	7.18	10.67	11.6	0.92
6M-4	HSB at Patton Rd.	1/18/80	42	0.24	<0.04	-	0.33	-
6M-5	ICM 0.9	1/18/80	54	1.52	1.44	2.96	3.04	0.97
6M-6	ICM 0.9	1/18/80	44	2.60	1.05	3.65	3.36	1.09
6M-7	ICM 0.9	1/19/80	63	2.39	2.11	4.50	3.58	1.26
6M-8	ICM 0.9	1/19/80	54	1.58	1.62	3.20	2.15	1.49
6M-9	IC at Centerline Rd.	1/18/80	110	3.01	4.78	7.79	7.46	1.04
6M-10	IC at Centerline Rd.	1/18/80	100	3.99	8.34	12.33	8.44	1.46
							Average	1.15

*Analysis performed by Laboratory Branch (TVA).

**All analysis performed by SLI.

Table 15. Special Study: Filterable DDTR Both With and Without the Addition of Salt Before Extraction

TVA LAB ID	Sample location	Date collected	With or without salt addition	Filterable DDTR (µg/l)						
				DDT		DDD		DDF		
				O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Total*
6M-1	Indian Creek Mile 0.9	1/18/80	With	0.15	0.07	0.73	1.37	0.17	0.13	2.62
			Without	0.15	0.07	0.78	1.47	0.16	0.14	2.77
6M-2	Indian Creek at Centerline Road	1/18/80	With	0.14	0.08	1.27	2.41	0.17	0.24	4.31
			Without	0.12	0.10	0.92	1.83	0.19	0.19	3.35
6M-3	Huntsville Spring Branch at Dodd Road	1/18/80	With	0.14	0.08	1.03	1.84	0.16	0.24	3.49
			Without	0.11	0.08	0.84	1.58	0.14	0.19	2.94
6M-4	Huntsville Spring Branch at Patton Road	1/18/80	With	<0.06	<0.06	0.06	0.18	<0.02	<0.02	0.24
			Without	<0.06	<0.06	0.09	0.14	<0.02	<0.02	0.23

*All analyses performed by SLI.

Table 16. Blind Split Sediment Data

TVA	Type	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	sample*	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
3-006	BLI	<0.010	<0.020	0.020	0.030	<0.050	0.030	0.080	0.125	0.170
	ORI	<0.020	<0.020	0.020	0.030	<0.050	0.030	0.080	0.125	0.170
3-034	BLI	<0.010	<0.020	<0.020	0.020	<0.050	0.030	0.050	0.050	0.160
	ORI	<0.020	<0.020	<0.020	0.020	<0.050	0.030	0.050	0.110	0.160
4-005	BLI	<0.010	<0.020	0.030	0.030	<0.050	0.020	0.080	0.120	0.160
	ORI	<0.020	<0.020	0.040	0.050	<0.050	0.020	0.110	0.155	0.200
4-021	BLI	0.14	2.58	1.77	3.85	1.87	2.70	12.9	12.9	12.9
	ORI	0.160	2.65	1.95	4.42	2.08	3.07	14.3	14.3	14.3
4-025	BLI	<0.020	0.15	0.050	0.130	0.230	0.230	0.790	0.800	0.810
	ORI	<0.020	0.11	0.050	0.120	0.230	0.210	0.720	0.730	0.740
4-038	BLI	2.27	62.3	9.27	37.1	7.72	10.8	129	129	129
	ORI	2.73	63.0	11.5	36.5	7.81	10.4	132	132	132
4-053	BLI	3.640	80.0	27.4	48.6	5.51	14.2	179	179	179
	ORI	3.94	85.0	27.3	50.6	5.56	14.2	187	187	187
4-075	BLI	70.0	743.	55.6	65.2	10.3	42.7	987	987	987
	ORI	66.8	796.	54.5	65.2	10.1	42.7	1040	1040	1040
4-082	BLI	0.040	0.830	0.590	0.940	0.630	1.59	4.62	4.62	4.62
	ORI	0.040	0.820	0.600	0.970	0.620	1.54	4.59	4.59	4.59
4-090	BLI	<0.020	0.030	0.070	0.080	0.030	0.050	0.260	0.270	0.280
	ORI	<0.020	0.040	0.070	0.080	0.030	0.050	0.270	0.280	0.290
4-097	BLI	0.040	0.210	0.040	0.050	<0.010	0.020	0.360	0.365	0.370
	ORI	0.040	0.210	0.040	0.050	<0.010	0.020	0.360	0.365	0.370
4-100	BLI	0.030	0.310	0.020	0.050	0.050	0.050	0.510	0.510	0.510
	ORI	0.020	0.110	0.020	9.040	0.010	0.050	0.250	0.250	0.250
4-109	BLI	0.060	0.150	0.050	0.080	0.050	0.200	0.590	0.590	0.590
	ORI	0.060	0.180	0.040	0.080	0.060	0.090	0.510	0.510	0.510
4-114	BLI	45.3	238	203	830	35.3	70.7	1420	1420	1420
	ORI	46.7	248	214	750	36.0	75.1	1370	1370	1370
4-118D	BLI	15.4	122	3.50	7.00	2.20	6.00	156	156	156
	ORI	17.6	135	3.81	7.80	2.32	7.48	174	174	174
4-126	BLI	1040	10100	157	463	115	405	12300	12300	12300
	ORI	1163	10200	147	458	114	448	12600	12600	12600

Table 16 (continued)

TVA LAB ID	Type sample[*]	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
4-131	BLI	232	1564	94.3	108	54.3	217	2270	2270	2270
	ORI	279	2050	106	112	62.1	217	2880	2880	2880
4-156	BLI	0.020	0.100	<0.050	0.050	<0.040	0.055	0.225	0.270	0.315
	ORI	<0.070	0.100	<0.050	0.053	<0.040	<0.040	0.153	0.253	0.353
4-160	BLI	0.022	0.160	0.039	0.130	0.022	0.034	0.407	0.470	0.470
	ORI	<0.02	0.170	0.043	0.140	0.021	0.036	0.410	0.420	0.430
4-183	BLI	0.033	1.59	0.370	1.06	0.140	0.270	3.46	3.46	3.46
	ORI	0.029	1.61	0.320	0.910	0.110	0.220	3.20	3.20	3.20
4-196	BLI	0.019	0.033	0.070	0.061	0.033	0.093	0.309	0.309	0.309
	ORI	<0.024	<0.038	0.076	0.052	0.048	0.095	0.271	0.271	0.271
4-200	BLI	103	780	45.0	43.7	22.9	91.6	1090	1090	1090
	ORI	105	860	46.2	39.9	23.1	90.3	1160	1160	1160
4-213	BLI	0.015	0.16	0.024	0.082	0.009	0.027	0.317	0.317	0.317
	ORI	<0.017	0.17	0.022	0.09	0.007	0.023	0.312	0.320	0.329
4-222	BLI	3.67	20.3	8.00	8.00	3.39	6.68	50.0	50.0	50.0
	ORI	4.76	36.7	12.2	12.2	4.08	15.6	85.5	85.5	85.5
4-234	BLI	30.4	114	11.8	21.9	6.00	17.3	201	201	201
	ORI	19.7	97.8	10.7	18.8	3.57	16.0	167	167	167
4-240	BLI	1.15	3.06	<0.57	0.83	<0.44	0.76	5.80	6.30	6.81
	ORI	1.17	2.57	<0.52	1.03	0.39	0.70	5.86	6.12	6.38
5-165	BLI	<0.007	0.020	<0.005	0.008	<0.003	0.020	0.048	0.056	0.063
	ORI	<0.007	0.020	<0.005	0.008	<0.003	0.020	0.048	0.056	0.063
6-475	BLI	2.73	57.1	14.4	33.3	5.8	17.5	132	132	132
	ORI	4.84	53.8	11.3	34.8	5.55	14.4	125	125	125

[*] BLI - Blind sample.
ORI - Regular original sample.

Table 17. Blind Split Sediment Data (by Request)

TVA	Type	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
LAB ID	sample*	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
4-184	RR	<0.013	0.25	0.098	0.21	0.065	0.090	0.713	0.718	0.726
4-41	OV	<0.02	0.53	0.19	0.41	0.12	0.11	1.36	1.37	1.38
4-157	RR	<0.09	0.30	<0.06	0.081	<0.05	0.53	0.434	0.534	0.634
4-47	OV	<0.02	0.14	<0.02	0.10	<0.01	0.01	0.25	0.28	0.30
4-161	RR	0.010	0.19	0.051	0.12	0.030	0.077	0.478	0.478	0.478
4-63	OV	<0.02	0.57	0.11	0.45	0.04	0.08	1.25	1.26	1.27
4-174	RR	0.28	3.10	0.30	0.89	<0.20	0.52	5.09	5.19	5.29
4-55	OV	0.07	2.21	0.89	1.97	0.24	0.44	5.82	5.82	5.82
4-180	RR	0.13	3.00	0.48	0.85	0.13	0.30	4.89	4.89	4.89
4-59	OV	0.20	3.00	1.56	2.18	0.29	0.68	7.91	7.91	7.91
4-219	RR	1550	8630	369	1050	44.5	226	11900	11900	11900
4-96	OV	0.50	38.4	2.9	3.3	0.38	1.9	54.4	54.4	54.4
4-210	RR	0.29	1.82	1.56	3.84	0.82	1.56	9.89	9.89	9.89
4-71	OV	0.03	0.54	0.39	0.94	0.19	0.35	2.44	2.44	2.44

*RR - Reanalyzed value obtained by SLI.
OV - Original value obtained by SLI.

Table 18. Tabulation of Results from "Pooled" Sediment Samples for DDTR Analysis

TVA LAB ID	Lab	DDT (µg/g) O,P'	DDT (µg/g) P,P'	DDD (µg/g) O,P'	DDD (µg/g) P,P'	DDE (µg/g) O,P'	DDE (µg/g) P,P'	Total DDTR (min) (µg/g)
SD-11*	SLI	0.20	5.06	3.53	8.49	2.43	5.66	25.6
SD-12*	SLI	0.09	5.21	3.77	8.53	2.44	5.87	25.9
SD-13*	SLI	0.15	5.16	3.82	8.20	2.36	5.61	25.3
SD-14*	SLI	0.56	5.37	4.25	8.95	2.46	6.27	27.9
SD-15*	SLI	0.13	5.20	3.80	6.85	2.21	5.20	23.4
SD-6*	EPA	<0.85	4.50	4.60	9.30	3.30	6.10	28.4
SD-7*	EPA	<0.85	4.10	4.10	14.00	3.00	7.90	33.1
SD-8*	EPA	<0.79	4.13	4.10	9.10	3.00	8.30	28.6
SD-9*	EPA	<0.82	4.40	4.60	9.90	3.40	9.80	32.1
SD-10*	EPA	<0.69	3.50	4.10	10.00	1.90	5.80	25.3
SD-23	SLI	<0.2	2.57	2.63	5.06	2.23	6.01	18.5
SD-24	SLI	0.19	3.05	3.14	5.06	2.24	6.05	19.7
SD-25	SLI	0.37	5.47	5.11	9.76	3.32	7.95	32.0
SD-26	SLI	0.16	2.85	3.28	5.89	2.88	7.12	22.2
SD-27	EPA	<1.5	3.8	4.6	11.0	3.5	6.7	29.0
SD-28	EPA	<0.6	4.0	4.2	9.9	3.3	5.9	27.0
E-7	SLI	0.23	4.04	3.35	5.71	2.77	6.17	22.3
E-8	SLI	0.19	3.52	3.19	5.38	2.72	5.96	21.0

*Submitted initially to establish concentration of "pooled" sample.

Table 19. Tabulation of Results from "Pooled" Sediment Samples for Trace Metals and Particle Size

Constituent (units)	Replicate number[a] 1	2	3	4	5	6	7	Mean	S.D.[b]	% RSD[c]
Iron, μg/g	33,000	31,000	27,000	26,000	23,000	-	-	28,000	4,000	14.3
Manganese, μg/g	2,400	2,200	2,300	2,100	1,500	-	-	2,100	353	16.8
Copper, μg/g	61	55	62	60	56	-	-	58.8	3.1	5.3
Zinc, μg/g	370	330	410	400	340	-	-	370	35.3	9.5
Nickel, μg/g	30	32	39	38	35	-	-	34.8	3.8	10.9
Silver, μg/g	7	7	6	7	6	-	-	6.6	0.54	8.1
Cadmium, μg/g	2	2	2	3	2	-	-	2.2	0.44	20.0
Lead, μg/g	69	63	74	67	70	-	-	68.6	4.0	5.8
Chromium, μg/g	82	73	77	85	70	-	-	77.4	6.1	7.9
Cobalt, μg/g	10	9	<5[d]	9	7	-	-	8	2	25.0
Aluminum, μg/g	52,000	62,000	72,000	65,000	59,000	-	-	62,000	7,380	11.9
Barium, μg/g	170	200	210	180	190	-	-	190	15.8	8.3
Beryllium, μg/g	<1	<1	<1	<1	<1	-	-	-	-	-
Thallium, μg/g	<5	<5	<5	<5	<5	-	-	-	-	-
Mercury, μg/g	0.52	0.45	0.68	0.67	0.55	-	-	0.57	0.09	15.8
Arsenic, μg/g	11	10	12	10	11	-	-	10.8	0.83	7.7
Selenium, μg/g	<0.8	<0.8	<0.8	<0.8	<0.8	-	-	-	-	-
% Moisture	60.93	61.52	60.59	59.87	59.86	59.89	58.56	60.17	0.95	1.6
% Vol. Solids	8.98	9.02	11.79	8.99	9.09	9.08	9.20	9.45	1.0	10.6
% Solids Finer Than										
2.0 mm	100	100	100	99.87	100	99.75	99.87	99.92	0.09	0.09
0.5 mm	99.87	99.74	99.74	99.74	99.87	99.62	97.74	99.47	0.76	0.76
0.125 mm	98.45	98.33	98.21	98.20	98.35	98.10	98.10	98.26	0.11	0.11
0.063 mm	97.42	97.56	97.19	97.31	97.60	97.34	97.41	97.40	0.14	0.14
% Solids in <63μ Fraction (From Sedigraph)										
0.010 mm	87	87	90	89	86	87	86	87.4	1.5	1.7
0.002 mm	61	59	62	61	59	59	61	60.2	1.2	2.0
0.0005 mm	43	40	44	44	41	40	43	42.1	1.7	4.0

[a] All analyses performed by Laboratory Branch (TVA).

[b] SD - Standard deviation.

[c] RSD -Relative standard deviation.

[d] Less than value used in calculations.

Table 20. SLI-EPA Split Sediment Data

TVA LAB ID	Lab	DDT (μg/g) O,P'	DDT (μg/g) P,P'	DDD (μg/g) O,P'	DDD (μg/g) P,P'	DDE (μg/g) O,P'	DDE (μg/g) P,P'	Total DDTR (μg/g) Min	Total DDTR (μg/g) Avg	Total DDTR (μg/g) Max
3-001	EPA	<0.020	<0.020	<0.014	<0.014	<0.011	0.017	0.017	0.056	0.096
	SLI	<0.020	<0.020	<0.020	0.020	<0.050	0.010	0.030	0.085	0.140
3-003	EPA	<0.110	<0.110	<0.084	<0.038	<0.073	0.051	0.051	0.258	0.466
	SLI	0.030	0.030	0.030	0.050	<0.050	0.030	0.170	0.195	0.220
3-005	EPA	<0.059	<0.059	<0.060	<0.024	<0.055	0.042	0.042	0.170	0.299
	SLI	<0.020	<0.020	0.020	0.030	<0.050	0.030	0.080	0.125	0.170
3-006	EPA	<0.025	<0.030	0.023	0.042	0.026	0.039	0.130	0.157	0.185
	SLI	<0.020	<0.020	0.020	0.030	<0.050	0.030	0.080	0.125	0.170
3M-07	EPA	<0.013	<0.013	<0.006	<0.006	<0.003	0.003	0.000	0.022	0.044
	SLI	<0.020	<0.020	<0.020	<0.020	<0.010	0.010	0.000	0.050	0.100
4-001	EPA	<0.061	<0.061	0.340	0.420	0.140	0.150	1.05	1.11	1.17
	SLI	<0.020	0.030	0.170	0.450	0.110	0.140	0.900	0.910	0.920
4-002	EPA	<0.180	1.10	1.70	3.80	2.00	2.60	11.2	11.3	11.4
	SLI	0.040	2.20	3.40	3.10	2.00	3.00	13.7	13.7	13.7
4-003	EPA	<0.098	0.690	0.620	1.40	1.80	1.50	6.01	6.06	6.11
	SLI	0.030	0.550	0.620	0.980	1.80	1.20	5.18	5.18	5.18
4-004	EPA	<0.070	0.130	0.350	0.650	0.630	0.490	2.25	2.28	2.32
	SLI	0.040	0.170	0.280	0.720	0.600	0.570	2.38	2.38	2.38
4-006	EPA	<0.070	0.450	0.900	0.400	0.400	1.10	3.25	3.28	3.32
	SLI	0.030	0.220	1.20	0.730	0.550	1.40	4.13	4.13	4.13
4-032	EPA	<0.110	1.30	0.740	2.30	0.900	0.010	5.85	5.90	5.90
	SLI	0.100	3.05	1.22	3.68	1.08	1.11	10.2	10.2	10.2
4-033	EPA	<0.040	0.120	0.056	0.160	0.049	0.044	0.429	0.449	0.469
	SLI	<0.020	0.170	0.100	0.220	0.070	0.060	0.620	0.630	0.640
4-034	EPA	<0.068	1.00	0.350	1.10	0.500	0.270	3.22	3.25	3.29
	SLI	0.110	2.35	0.510	1.11	0.440	0.430	4.95	4.95	4.95
4-038	EPA	<2.00	48.0	8.20	34.0	6.80	6.10	103	104	105
	SLI	2.73	63.0	11.5	36.5	7.81	10.4	132	132	132
4-039	EPA	<1.90	42.0	11.0	36.0	12.0	8.10	109	110	111
	SLI	0.680	34.4	10.3	34.4	10.3	9.75	99.8	99.8	99.8
4-040	EPA	<0.069	0.460	0.360	0.650	0.640	0.350	2.46	2.52	2.59
	SLI	0.020	0.810	0.480	1.100	0.660	0.570	3.64	3.640	3.64
4-041	EPA	<0.030	0.440	0.190	0.340	0.120	0.110	1.20	1.22	1.23
	SLI	<0.020	0.530	0.190	0.410	0.120	0.110	1.36	1.37	1.38
4-044	EPA	<2.00	46.0	7.20	36.0	4.80	5.40	99.4	100	101
	SLI	1.14	52.5	11.0	35.0	6.50	9.00	115	115	115
4-045	EPA	<0.830	0.220	0.160	0.320	0.120	0.120	0.940	0.981	1.02
	SLI	0.02	1.28	0.660	1.20	0.380	0.480	4.02	4.02	4.02
4-170	EPA	0.190	1.20	2.50	1.20	0.630	2.50	8.42	8.42	8.42
	SLI	<0.130	1.68	3.28	1.45	0.850	3.13	10.4	10.6	10.5
4-171	EPA	0.350	0.750	3.40	1.50	1.80	3.50	11.3	11.3	11.3
	SLI	<0.410	0.910	2.94	1.74	1.24	4.26	11.1	11.3	11.5
4-172	EPA	9.20	190	71.0	142	27.0	32.0	471	471	471
	SLI	7.00	78.8	56.3	68.8	17.3	38.8	267	267	267
4-176	EPA	0.014	0.170	0.030	0.061	0.013	0.021	0.309	0.309	0.309
	SLI	<0.530	6.38	2.58	5.88	1.05	2.80	18.7	19.2	19.2

Table 20 (continued)

TVA		DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
4-194	EPA	<0.800	3.20	4.50	8.00	2.80	4.80	23.3	23.7	24.1
	SLI	0.340	4.36	3.61	6.21	2.01	5.03	21.6	21.6	21.6
4-195	EPA	2.40	7.90	4.40	5.70	2.70	3.30	26.4	26.4	26.4
	SLI	0.046	0.350	1.44	1.38	0.830	1.50	5.55	5.55	5.55
4-212	EPA	0.140	0.660	0.088	0.120	0.040	0.110	1.16	1.16	1.16
	SLI	0.066	0.350	0.052	0.100	0.028	0.110	0.706	0.706	0.706
4-215	EPA	<0.030	<0.040	0.140	0.160	0.054	0.110	0.464	0.499	0.534
	SLI	0.008	0.008	0.056	0.048	0.034	0.090	0.244	0.244	0.244
4-220	EPA	480	1500	440	520	110	240	3290	3290	3290
	SLI	740	6100	640	850	148	435	8910	8910	8910
4-221	EPA	1400	3300	620	740	160	320	6540	6540	6540
	SLI	2300	12,700	1000	1300	150	650	18,100	18,100	18,100
4-223	EPA	<5.00	18.0	48.0	46.0	11.0	24.0	147	150	152
	SLI	1.56	12.2	22.6	21.1	7.02	20.8	85.3	85.3	85.3
4-228	EPA	<350	2400	770	1300	230	410	5110	5460	5460
	SLI	170	3100	960	2400	275	800	7700	7700	7700
4-236	EPA	220	1100	170	270	77.0	130	1970	1970	1970
	SLI	184	1050	127	260	835	130	2590	2590	2590

Table 21. Results from Special Study to Determine Sediment Compositing Variability

Replicate number	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR[a] (μg/g)
	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	
1	17.4	130	4.20	8.41	2.19	7.40	170
2	13.8	170	5.29	8.70	3.10	6.31	207
3	16.0	106	4.40	8.41	2.19	7.10	144
4	25.1	154	4.49	9.41	2.20	5.89	201
5	17.6	135	3.81	7.80	2.32	7.48	174
6	20.5	135	4.40	8.40	2.88	9.71	181
7	18.7	220	4.19	9.80	2.39	8.28	263
8	15.0	89.7	3.81	7.61	2.00	6.61	125
Mean	18.0	142	4.32	8.57	2.40	7.35	183
S.D.[b]	3.55	40.1	0.47	0.74	0.38	1.21	42.2
RSD (%)[c]	19.7	28.3	10.8	8.6	15.9	16.5	23.0

[a] All analyses performed by SLI.

[b] Standard deviation.

[c] Relative standard deviation.

Table 22. Original SLI Blind Split Fish Data

TVA	Type	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	sample*	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-008	BLI	0.020	0.030	<0.030	0.150	0.040	0.150	0.390	0.405	0.420
	ORI	0.050	0.040	0.030	0.280	0.070	0.290	0.760	0.760	0.760
1-012	BLI	<0.020	<0.200	<0.020	<0.020	0.310	0.070	0.380	0.420	0.460
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.020	0.020	0.065	0.110
1-017B	BLI	<0.020	<0.020	<0.020	0.230	0.057	0.280	0.567	0.597	0.627
	ORI	0.034	0.032	0.024	0.290	0.067	0.300	0.747	0.747	0.747
1-031A	BLI	<0.020	<0.020	0.042	0.160	0.076	0.160	0.438	0.458	0.478
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.020	0.020	0.065	0.110
1-052C	BLI	0.057	0.036	<0.020	0.048	0.064	0.067	0.272	0.282	0.292
	ORI	0.220	0.170	<0.010	0.140	0.340	0.410	1.28	1.28	1.29
1-056D	BLI	0.130	0.300	0.100	0.340	0.140	0.280	1.29	1.29	1.29
	ORI	0.070	0.160	0.060	0.100	0.100	0.190	0.680	0.680	0.680
1-067	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.080	0.080	0.145	0.210
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	0.060	0.060	0.125	0.190
1-070	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
1-078	BLI	<0.030	0.010	0.380	0.810	0.089	0.540	1.92	1.93	1.95
	ORI	<0.030	0.092	0.290	0.900	0.099	0.450	1.83	1.85	1.86
1-080D	BLI	0.024	0.051	0.093	0.780	0.400	0.610	1.96	1.96	1.96
	ORI	0.042	0.030	0.084	0.086	0.380	0.640	2.04	2.04	2.04
1-086F	BLI	<0.020	0.290	1.86	11.9	1.48	7.61	23.1	23.2	23.2
	ORI	0.240	0.330	2.150	9.11	1.14	5.83	18.8	18.8	18.8
1-089D	BLI	1.48	0.340	20.1	52.9	9.10	32.9	117	117	117
	ORI	2.61	0.180	38.8	101	17.2	58.0	218	218	218
1-095	BLI	<0.030	0.051	<0.030	0.220	0.150	0.380	0.801	0.831	0.861
	ORI	<0.030	0.066	<0.030	0.130	0.039	0.110	0.345	0.375	0.405
1-103A	BLI	0.290	0.300	2.08	5.85	1.23	4.24	14.0	14.0	14.0
	ORI	0.066	0.095	1.31	3.19	0.750	2.43	7.84	7.84	7.84
1-107E	BLI	<0.020	0.043	0.020	0.089	0.037	0.340	0.529	0.539	0.549
	ORI	0.028	0.045	0.036	0.280	0.057	0.400	0.846	0.846	0.846

Table 22 (continued)

TVA LAB ID	Type Sample*	DDT (µg/g) O,P'	DDT (µg/g) P,P'	DDD (µg/g) O,P'	DDD (µg/g) P,P'	DDE (µg/g) O,P'	DDE (µg/g) P,P'	Total DDTR (µg/g) Min	Total DDTR (µg/g) Avg	Total DDTR (µg/g) Max
1-116	BLI	<0.030	<0.030	<0.030	0.190	<0.020	0.140	0.330	0.385	0.440
	ORI	0.077	0.051	0.120	0.400	0.130	0.350	1.13	1.13	1.13
1-124D	BLI	0.022	0.029	0.140	0.330	0.110	0.330	0.961	0.961	0.961
	ORI	0.038	0.026	0.023	0.230	0.072	0.220	0.609	0.609	0.609
1-132E	BLI	<0.020	<0.020	<0.020	0.041	<0.010	0.050	0.091	0.126	0.161
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.010	0.010	0.055	0.100
1-163D	BLI	0.067	0.095	0.970	2.79	0.580	1.93	6.43	6.43	6.43
	ORI	0.390	0.170	2.03	5.61	1.25	4.09	13.5	13.5	13.5
1-166B	BLI	0.075	0.047	0.440	1.11	0.410	1.06	3.14	3.14	3.14
	ORI	0.043	0.061	0.370	1.02	0.380	0.930	2.80	2.80	2.80
1M-51	BLI	0.530	0.410	6.10	28.3	3.42	11.5	50.3	50.3	50.3
	ORI	0.076	0.030	0.970	4.05	0.520	1.61	7.26	7.26	7.26
2M-01	BRI	0.090	<0.020	<0.030	<0.020	<0.020	0.240	0.330	0.372	0.420
	ORI	0.063	<0.020	<0.020	0.180	0.035	0.140	0.418	0.438	0.458
2M-15	BRI	1.02	0.810	16.3	63.6	5.46	18.0	105	105	105
	ORI	0.190	0.130	3.40	11.6	1.15	3.37	19.8	19.8	19.8
1-001F**	BLI	<0.100	<0.100	<0.100	0.170	<0.100	0.150	0.320	0.520	0.720
	ORI	<0.100	<0.100	<0.090	0.180	<0.060	0.160	0.340	0.515	0.690
1-018**	BLI	0.051	0.078	0.033	0.270	0.120	0.430	0.982	0.982	0.982
	ORI	0.057	0.072	0.098	0.220	0.120	0.340	0.907	0.907	0.907
1-026**	BLI	0.050	<0.030	0.020	0.090	0.060	0.110	0.330	0.345	0.360
	ORI	0.030	<0.030	0.030	0.100	0.030	0.110	0.300	0.315	0.330
1-035**	BLI	<0.030	<0.030	0.047	0.25	0.062	0.21	0.569	0.599	0.629
	ORI	<0.030	<0.030	<0.030	0.15	0.037	0.14	0.327	0.372	0.417
1-050**	BLI	0.055	0.063	0.110	0.450	0.130	0.420	1.228	1.228	1.228
	ORI	<0.030	0.080	0.160	0.520	0.150	0.440	1.35	1.36	1.38
1-051**	BLI	<0.030	0.041	0.103	0.15	0.084	0.18	0.558	0.573	0.588
	ORI	<0.030	0.058	0.099	0.11	0.061	0.24	0.568	0.583	0.598
1-054**	BLI	0.410	0.170	0.090	0.310	0.100	0.370	1.360	1.405	1.450
	ORI	0.370	0.300	0.130	0.450	0.250	0.510	2.010	2.010	2.010
1-081**	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.180	0.180	0.245	0.310
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	0.120	0.120	0.185	0.250

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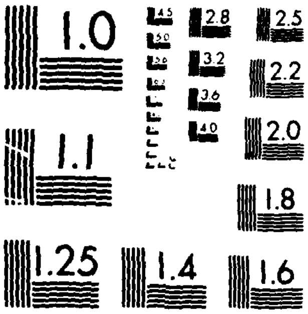

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Table 22 (continued)

TVA LAB ID	Type* Sample	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-116	BLI	<0.030	<0.030	<0.030	0.190	<0.020	0.140	0.330	0.385	0.440
	ORI	0.077	0.051	0.120	0.400	0.130	0.350	1.13	1.13	1.13
1-124D	BLI	0.022	0.029	0.140	0.330	0.110	0.330	0.961	0.961	0.961
	ORI	0.038	0.026	0.023	0.230	0.072	0.220	0.609	0.609	0.609
1-132E	BLI	<0.020	<0.020	<0.020	0.041	<0.010	0.050	0.091	0.126	0.161
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.010	0.010	0.055	0.100
1-163D	BLI	0.067	0.095	0.970	2.79	0.580	1.93	6.43	6.43	6.43
	ORI	0.390	0.170	2.03	5.61	1.25	4.09	13.5	13.5	13.5
1-166B	BLI	0.075	0.047	0.440	1.11	0.410	1.06	3.14	3.14	3.14
	ORI	0.043	0.061	0.370	1.02	0.380	0.930	2.80	2.80	2.80
1M-51	BLI	0.530	0.410	6.10	28.3	3.42	11.5	50.3	50.3	50.3
	ORI	0.076	0.030	0.970	4.05	0.520	1.61	7.26	7.26	7.26
2M-01	BRI	0.090	<0.020	<0.030	<0.020	<0.020	0.240	0.330	0.372	0.420
	ORI	0.063	<0.020	<0.020	0.180	0.035	0.140	0.418	0.438	0.458
2M-15	BRI	1.02	0.810	16.3	63.6	5.46	18.0	105	105	105
	ORI	0.190	0.130	3.40	11.6	1.15	3.37	19.8	19.8	19.8
1-001F**	BLI	<0.100	<0.100	<0.100	0.170	<0.100	0.150	0.320	0.520	0.720
	ORI	<0.100	<0.100	<0.090	0.180	<0.060	0.160	0.340	0.515	0.690
1-018**	BLI	0.051	0.078	0.033	0.270	0.120	0.430	0.982	0.982	0.982
	ORI	0.057	0.072	0.098	0.220	0.120	0.340	0.907	0.907	0.907
1-026**	BLI	0.050	<0.030	0.020	0.090	0.060	0.110	0.330	0.345	0.360
	ORI	0.030	<0.030	0.030	0.100	0.030	0.110	0.300	0.315	0.330
1-035**	BLI	<0.030	<0.030	0.047	0.25	0.062	0.21	0.569	0.599	0.629
	ORI	<0.030	<0.030	<0.030	0.15	0.037	0.14	0.327	0.372	0.417
1-050**	BLI	0.055	0.063	0.110	0.450	0.130	0.420	1.228	1.228	1.228
	ORI	<0.030	0.080	0.160	0.520	0.150	0.440	1.35	1.36	1.38
1-051**	BLI	<0.030	0.041	0.103	0.15	0.084	0.18	0.558	0.573	0.588
	ORI	<0.030	0.058	0.099	0.11	0.061	0.24	0.568	0.583	0.598
1-054**	BLI	0.410	0.170	0.090	0.310	0.100	0.370	1.360	1.405	1.450
	ORI	0.370	0.300	0.130	0.450	0.250	0.510	2.010	2.010	2.010
1-081**	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.180	0.180	0.245	0.310
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	0.120	0.120	0.185	0.250

Table 22 (continued)

TVA LAB ID	Type sample*	DDT (µg/g) O,P'	DDT (µg/g) P,P'	DDD (µg/g) O,P'	DDD (µg/g) P,P'	DDE (µg/g) O,P'	DDE (µg/g) P,P'	Total DDTR (µg/g) Min	Total DDTR (µg/g) Avg	Total DDTR (µg/g) Max
1-112**	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
1-138**	BLI	<0.03	0.03	0.41	0.81	0.12	0.39	1.76	1.78	1.79
	ORI	<0.03	0.14	0.51	0.95	0.15	0.56	2.31	2.32	2.34
1-154**	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.180	0.180	0.245	0.310
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	0.130	0.130	0.195	0.260
1M-07**	BLI	0.83	1.24	6.05	16.0	2.82	13.5	40.4	40.4	40.4
	ORI	1.00	1.07	5.63	16.9	3.26	14.2	42.1	42.1	42.1
1M-17**	BLI	5.85	11.2	35.5	73.7	10.5	34.9	172	172	172
	ORI	4.50	5.12	19.3	37.3	5.16	18.8	90.2	90.2	90.2
1M-23**	BLI	0.440	0.230	<0.020	0.280	0.260	0.600	1.81	1.82	1.83
	ORI	0.430	0.260	<0.040	0.260	0.370	0.810	2.13	2.15	2.17
1M-37**	BLI	3.48	5.67	29.9	91.8	14.8	44.5	190	190	190
	ORI	13.7	18.0	90.2	291	47.2	141	601	601	601
1M-52**	BLI	0.110	<0.500	2.10	5.91	0.950	1.92	11.0	11.0	11.0
	ORI	0.260	0.096	4.61	11.3	1.89	4.03	22.2	22.2	22.2
1-165**	BLI	<0.03	<0.03	0.15	0.58	0.18	0.40	1.31	1.34	1.37
	ORI	<0.03	<0.03	<0.03	0.25	<0.02	0.18	0.43	0.48	0.54

*BLI - Blind sample.
ORI - Regular original sample.

**Bad day data.

Table 23. Results of Low Concentration of "Pooled" Fish Sample Analyzed by SLI

TVA LAB ID	SLI project No.	Date prepared by SLI	% Lipids	DDT (µg/g) O,P'	DDT (µg/g) P,P'	DDD (µg/g) O,P'	DDD (µg/g) P,P'	DDE (µg/g) O,P'	DDE (µg/g) P,P'	Total DDTR (mininum) (µg/g)
1-A*	9733	09/25/79	3.95	0.28	0.19	0.18	0.82	0.25	0.74	2.46
1-B*	9733	09/25/79	4.62	0.33	0.23	0.22	1.01	0.30	0.90	2.99
1-C*	9733	09/25/79	5.03	0.33	0.22	0.22	1.11	0.30	0.97	3.15
1-D*	9733	09/25/79	4.90	0.32	0.23	0.22	1.07	0.31	0.92	3.07
1-E*	9733	09/25/79	5.12	0.31	0.21	0.22	1.03	0.30	0.94	3.06
1-F	10021	11/29/79	5.83	0.30	0.12	0.24	1.26	0.41	1.27	3.60
1-G	10021	11/29/79	4.96	0.25	0.23	0.34	1.01	0.30	0.90	3.03
1-H	10021	11/29/79	2.15	0.17	0.15	0.18	0.89	0.61	1.06	3.06
1-I	10054	12/04/79	2.48	0.16	0.27	0.43	0.88	0.30	1.38	3.42
1-J	10054	12/04/79	4.68	0.17	0.20	0.40	1.31	0.34	1.10	3.52
1-K	10054	12/04/79	2.57	0.15	0.11	0.42	1.42	0.38	1.50	3.98
1-L	10067	12/5-6/79	1.17	<0.03	0.035	<0.03	0.18	0.046	0.16	0.42
1-M	10067	12/5-6/79	3.63	1.04	<0.04	0.12	0.53	0.24	0.57	2.50
1-N	10067	12/5-6/79	0.58	<0.04	<0.04	<0.04	0.093	<0.04	0.083	0.18
1-Q	10102	12/07/79	1.30	<0.02	<0.02	<0.02	0.22	0.062	0.21	0.49
1-R	10102	12/07/79	0.27	<0.02	<0.02	<0.02	0.042	<0.01	<0.01	0.04
1-S	10102	12/07/79	0.51	<0.02	<0.02	<0.02	0.060	<0.01	0.064	0.12
1-T	10133	12/13/79	1.97	0.095	0.047	0.10	0.33	0.12	0.35	1.04
1-U	10133	12/13/79	2.13	0.087	0.060	0.12	0.37	0.13	0.39	1.16
1-V	10133	12/13/79	1.73	0.085	0.060	0.12	0.28	0.11	0.34	1.00
1-W	10173	12/27-28/79	5.66	0.19	0.045	0.34	0.94	0.36	0.98	2.86
1-X	10173	12/27-28/79	5.34	0.016	0.080	0.37	1.05	0.37	1.00	3.03
1-Y	10173	12/27-28/79	5.87	0.27	0.18	0.32	1.09	0.38	1.15	3.39

*Replicates from the blended mass of fish submitted initially.

Table 24. Results of Low Concentration "Pooled" Fish Sample Analyzed by EPA

TVA LAB ID	Date prepared by EPA	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (minimum) (μg/g)
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	
1-A*	09/25/79	0.31	0.18	0.21	0.99	0.34	1.0	3.03
1-B*	09/25/79	0.34	0.17	0.22	1.0	0.35	1.1	3.18
1-C*	09/25/79	0.38	0.22	0.21	1.2	0.35	1.2	3.56
1-D*	09/25/79	0.45	0.28	0.26	1.3	0.39	1.3	3.98
1-E*	09/25/79	0.42	0.16	0.26	1.2	0.40	1.2	3.64
1-P	12/13/79	0.62	0.38	0.45	1.5	0.44	1.5	4.9
1-O	12/13/79	0.58	0.28	0.31	1.0	0.43	1.1	3.7
1-AA	12/27/79	0.15	<0.3	0.23	1.0	0.24	1.1	2.7
1-BB	12/27/79	0.09	<0.4	0.23	0.81	0.17	0.83	2.1
1-CC	12/27/79	0.32	<0.34	<0.26	1.1	0.27	1.2	3.2

*Replicates from the blended mass of fish submitted initially.

Table 25. Results of High Concentration of "Pooled" Fish Sample Analyzed by SLI

TVA LAB ID	SLI project No.	Date prepared by SLI	% Lipids	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (minimum) (μg/g)
				O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	
1-HA*	9853	10/31/79	2.03	3.44	4.48	50.8	149	20.8	81.6	310
1-HB*	9853	10/31/79	1.99	3.34	4.88	38.4	158	22.2	83.2	310
1-HC*	9853	10/31/79	1.84	3.14	4.46	36.6	142	21.2	77.0	284
1-HD*	9853	10/31/79	2.12	3.64	5.02	52.8	164	26.4	90.6	342
1-HE*	9853	10/31/79	2.15	3.68	4.94	41.0	172	24.6	92.4	339
1-HF	10021	11/29/79	0.86	13.2	1.25	13.3	42.3	7.05	26.2	103
1-HG	10021	11/29/79	0.81	3.40	1.75	13.9	33.0	7.17	22.8	82.0
1-HH	10021	11/29/79	0.22	0.46	0.51	3.27	11.2	2.30	7.04	24.8
1-HI	10054	12/04/79	0.85	2.26	2.27	17.9	59.1	8.94	35.8	126
1-HJ	10054	12/04/79	0.94	1.93	1.83	16.2	48.5	7.70	32.1	108
1-HK	10054	12/04/79	1.31	3.19	3.88	26.5	86.7	13.3	53.6	187
1-HL	10067	12/5-6/79	0.36	0.61	0.11	5.30	1.43	4.38	1.06	12.9
1-HM	10067	12/5-6/79	0.08	0.11	0.10	1.06	3.25	0.54	1.80	6.86
1-HN	10067	12/5-6/79	0.36	0.55	0.48	6.85	19.6	3.59	13.3	44.4
1-HQ	10102	12/07/79	1.54	3.17	4.12	28.0	102	1.30	58.1	197
1-HR	10102	12/07/79	0.69	1.24	1.96	10.9	52.3	9.59	23.5	99.5
1-HS	10102	12/07/79	0.55	<0.02	<0.02	6.10	21.7	3.35	12.0	43.2
1-HT	10133	12/13/79	2.01	3.44	4.40	40.3	125	20.1	74.2	267
1-HU	10133	12/13/79	0.95	1.96	2.54	20.0	59.1	10.7	33.0	127
1-HV	10133	12/13/79	1.32	3.23	3.44	30.6	85.2	15.6	45.2	183
1-HW	10173	12/27/79	2.31	3.80	5.50	44.6	137	22.7	78.7	292
1-HX	10173	12/27/79	2.40	4.40	5.50	55.3	160	32.5	113	371
1-HY	10173	12/27/79	2.11	4.20	5.50	53.1	160	34.3	89.7	347

*Replicates from the blended mass of fish submitted initially.

Table 26. Results of High Concentration of "Pooled" Fish Sample Analyzed by EPA

TVA LAB ID	Date prepared by EPA	DDT (μg/g) O,P'	DDT (μg/g) P,P'	DDD (μg/g) O,P'	DDD (μg/g) P,P'	DDE (μg/g) O,P'	DDE (μg/g) P,P'	Total DDTR (minimum) (μg/g)
1-HA*	10/31/79	6.1	5.9	35	160	28	92	330
1-HB*	10/31/79	5.8	5.7	31	160	24	95	320
1-HC*	10/31/79	6.0	6.1	30	160	25	94	320
1-HD*	10/31/79	7.7	7.5	40	200	31	120	410
1-HE*	10/31/79	6.9	6.8	35	180	27	110	370
1-HP	12/13/79	2.4	2.1	18	59	11	34	130
1-HO	12/13/79	4.5	3.9	31	110	19	65	230
1-HAA	12/27/79	<5.0	4.1	27	120	21	65	240
1-HBB	12/27/79	3.9	3.3	22	95	18	50	190
1-HCC	12/27/79	5.7	5.0	34	120	27	66	260

*Replicates from the blended mass of fish submitted initially.

Table 27. Original EPA-SLI Split Fish Data

TVA		DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-017D	EPA	0.22	0.17	0.40	0.95	0.25	0.76	2.75	2.75	2.75
	SLI	0.14	0.13	0.37	0.81	0.19	0.66	2.30	2.30	2.30
1-017F	EPA	0.050	<0.20	0.12	1.80	0.34	1.4	3.71	3.81	3.91
	SLI	0.035	0.087	0.076	1.02	0.21	0.81	2.24	2.24	2.24
1-052B	EPA	0.46	<0.35	<0.10	0.31	0.087	0.44	1.30	1.52	1.75
	SLI	0.10	0.052	<0.02	0.10	0.099	0.18	0.531	0.541	0.551
1-056D	EPA	0.19	<0.30	0.21	0.48	0.12	0.36	1.36	1.51	1.66
	SLI	0.07	0.16	0.06	0.26	0.10	0.19	0.84	0.84	0.84
1-088D	EPA	<0.50	0.53	9.9	27	4.8	8.8	51.0	51.3	51.5
	SLI	0.35	0.25	10.3	20.1	4.19	8.81	44.0	44.0	44.0
1-089D	EPA	<5	<5	30	97	20	46	193	198	203
	SLI	2.05	0.260	29.5	77.0	13.2	45.5	168	168	168
1-130B	EPA	<0.020	<0.020	0.080	0.34	0.06	0.32	0.80	0.82	0.84
	SLI	<0.020	<0.02	0.031	0.15	0.015	0.14	0.336	0.336	0.336
1-132C	EPA	<1.0	<2.0	0.79	9.6	1.0	7.0	18.4	19.9	21.4
	SLI	0.41	0.54	0.82	6.81	0.68	5.08	14.3	14.3	14.3
1-138A	EPA	<0.08	0.12	0.30	0.68	0.14	0.24	1.48	1.52	1.56
	SLI	0.091	0.490	3.02	5.20	0.86	2.20	11.9	11.9	11.9
1-026	EPA	0.92	0.32	0.57	1.8	0.64	1.6	5.85	5.85	5.85
	SLI*	<0.03	0.03	0.03	0.10	0.03	0.11	0.30	0.32	0.33
1-086	EPA	0.29	0.22	0.80	2.8	0.60	1.8	6.51	6.51	6.51
	SLI	0.58	0.70	1.17	5.66	0.98	3.70	12.8	12.8	12.8
1-050	EPA	0.088	0.045	0.052	0.19	0.12	0.22	0.715	0.715	0.715
	SLI*	<0.03	0.080	0.16	0.52	0.15	0.44	1.35	1.36	1.38
1-113	EPA	0.31	0.36	0.30	0.75	0.37	1.2	3.29	3.29	3.29
	SLI	0.27	0.16	0.45	0.96	0.37	1.26	3.47	3.47	3.47
1-036	EPA	0.30	1.70	0.39	0.67	0.38	0.50	3.94	3.94	3.94
	SLI*	<0.02	0.035	0.077	0.20	0.077	0.21	0.599	0.609	0.619

Table 27 (continued)

TVA		DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-109	EPA	<0.03	<0.04	<0.03	0.033	0.012	0.078	0.123	0.153	0.223
	SLI	<0.020	<0.020	<0.020	0.02	0.010	0.069	0.089	0.124	0.159
1-088	EPA	1.1	1.0	7.6	29	4.0	9.2	51.9	51.9	51.9
	SLI	0.20	0.13	3.00	8.44	1.20	3.28	16.2	16.2	16.2
1-053	EPA	0.040	0.042	0.027	0.099	0.053	0.26	0.521	0.521	0.521
	SLI*	0.049	0.036	0.045	0.11	0.029	0.25	0.519	0.519	0.519
1-151	EPA	<0.03	<0.05	<0.02	0.026	0.025	0.054	0.105	0.155	0.205
	SLI*	0.10	<0.02	<0.02	<0.02	<0.01	<0.01	0.10	0.14	0.18
1-098	EPA	0.25	1.0	1.9	3.9	0.75	1.6	9.40	9.40	9.40
	SLI	<0.02	0.12	<0.02	0.190	0.063	0.43	0.803	0.823	0.843
1-078	EPA	<0.07	0.045	0.38	0.40	0.14	0.27	1.2	1.27	1.30
	SLI	<0.03	0.092	0.29	0.90	0.099	0.45	1.83	1.84	1.86
1-144	EPA	<0.03	<0.05	<0.02	0.019	<0.02	0.054	0.073	0.133	0.193
	SLI*	<0.02	<0.02	<0.02	<0.02	<0.010	<0.010	0.00	0.05	0.10
1M-14	EPA	0.32	0.39	1.0	3.5	0.98	3.1	9.29	9.29	9.29
	SLI*	<0.03	<0.03	0.14	0.48	0.089	0.45	1.16	1.19	1.22
1M-08	EPA	3.1	2.3	8.3	56	9.4	43	122	122	122
	SLI*	<0.2	0.70	3.30	19.4	2.65	13.8	39.8	39.9	40.0
1M-10	EPA	8.4	9.5	18	83	16	65	200	200	200
	SLI*	0.51	0.81	5.41	19.8	3.15	14.1	43.8	43.8	43.8
1M-07	EPA	2.2	2.2	7.4	26	5.2	18	61	61	61
	SLI*	1.00	1.07	5.63	16.9	3.26	14.2	42.1	42.1	42.1
1M-34	EPA	0.22	0.14	0.10	0.06	0.13	0.20	0.756	0.806	0.856
	SLI	<0.05	<0.05	<0.04	<0.03	<0.03	<0.03	0.000	0.12	0.23

*These SLI values were later determined to be inaccurate.

Table 28. Initial Fish Reruns Within SLI of "Good Day" Samples

TVA	Type *	%	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
LAB ID	sample	Lipids	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1M-27	RR	0.19	0.05	0.05	0.03	0.09	0.03	0.13	0.38	0.38	0.38
	OV	0.54	0.13	0.12	0.046	0.16	0.073	0.32	0.849	0.849	0.849
1-072	RR	0.06	0.04	0.08	0.33	0.82	0.10	0.40	1.77	1.77	1.77
	OV	0.12	0.055	0.040	0.52	1.30	0.16	0.67	2.74	2.74	2.74
1-078	RR	0.07	0.03	0.03	0.18	0.48	0.06	0.26	1.04	1.04	1.04
	OV	0.16	<0.03	0.092	0.29	0.90	0.099	0.45	1.83	1.85	1.86
1-083	RR	3.30	0.05	0.10	0.16	0.65	0.15	1.12	2.23	2.23	2.23
	OV	1.34	<0.02	0.076	0.054	0.24	0.087	0.42	0.877	0.887	0.897
1-089	RR	1.27	3.17	2.61	41.0	115	18.2	60.4	240	240	240
	OV	2.42	2.00	2.81	17.2	66.0	8.75	33.7	130	130	130
1-109	RR	0.28	<0.02	<0.03	<0.01	0.05	<0.01	0.07	0.12	0.155	0.19
	OV	0.18	<0.02	<0.02	<0.02	0.02	<0.01	0.069	0.089	0.124	0.159
1-111	RR	3.81	0.53	0.83	6.51	31.9	3.94	21.0	64.7	64.7	64.7
	OV	2.24	1.08	1.23	5.73	21.1	2.97	15.2	47.3	47.3	47.3
1-113	RR	2.65	0.18	0.22	0.56	1.28	0.40	1.59	4.23	4.23	4.23
	OV	0.78	0.27	0.16	0.45	0.96	0.37	1.26	3.47	3.47	3.47
1-120	RR	0.81	0.05	0.05	0.14	0.52	0.10	0.49	1.35	1.35	1.35
	OV	0.57	<0.02	<0.02	0.14	0.49	0.079	0.28	0.99	1.01	1.03
1-132	RR	0.86	0.10	0.26	0.60	3.87	0.24	2.62	7.69	7.69	7.69
	OV	0.94	0.17	0.35	0.59	3.89	0.26	3.21	8.47	8.47	8.47

*RR - Reanalyzed SLI value.
OV - Original SLI value.

Table 29. Initial Fish Reruns Within SLI of "Bad Day" Samples

TVA	Type *	%	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	sample	Lipids	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-052	RR	1.00	0.06	0.03	<0.01	0.05	0.03	0.05	0.22	0.225	0.23
	OV	1.77	0.53	0.45	0.12	0.42	0.32	0.47	2.31	2.31	2.31
1-025	RR	0.07	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	0.0	0.04	0.08
	OV	0.23	<0.02	0.022	<0.02	0.015	<0.01	0.015	0.052	0.725	0.093
1-026	RR	2.20	0.23	0.26	0.31	1.56	0.35	1.19	3.9	3.9	3.9
	OV	0.36	<0.03	0.03	0.03	0.10	0.03	0.11	0.30	0.315	0.33
1-027	RR	0.81	0.02	0.05	0.08	0.22	0.07	0.29	0.73	0.73	0.73
	OV	0.78	<0.02	0.055	0.064	0.23	0.068	0.26	0.677	0.787	0.697
1-029	RR	<0.05	<0.02	<0.03	<0.01	<0.01	<0.01	<0.01	0.0	0.045	0.09
	OV	0.08	<0.02	<0.02	<0.02	0.025	<0.01	0.016	0.04	0.075	0.11
1-030	RR	2.66	0.15	0.06	0.09	0.81	0.22	0.63	1.960	1.960	1.960
	OV	1.57	0.079	0.039	0.088	0.39	0.11	0.35	1.056	1.056	1.056
1-031	RR	0.05	0.33	0.67	0.67	1.30	0.44	1.73	5.14	5.14	5.14
	OV	4.88	0.40	0.57	0.49	1.47	0.65	2.32	5.9	5.9	5.9
1-034	RR	<0.05	<0.02	<0.03	<0.01	<0.01	<0.01	0.01	0.01	0.05	0.09
	OV	0.14	<0.02	<0.02	<0.02	0.018	<0.01	0.055	0.073	0.108	0.143
1-036	RR	2.79	0.09	0.17	0.29	0.72	0.21	0.66	2.14	2.14	2.14
	OV	1.43	<0.02	0.035	0.077	0.20	0.077	0.21	0.599	0.609	0.619
1-038	RR	<0.05	<0.02	<0.03	<0.01	<0.01	<0.01	0.01	0.01	0.05	0.09
	OV	0.01	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.0	0.05	0.10
1-050	RR	1.27	0.09	0.03	0.12	0.51	0.10	0.35	1.2	1.2	1.2
	OV	2.00	0.03	0.07	0.14	0.49	0.14	0.43	1.3	1.3	1.3
1-064	RR	1.41	0.12	0.18	0.04	0.05	0.06	0.12	0.570	0.570	0.520
	OV	0.63	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.0	0.05	0.1
1-081	RR	0.71	<0.02	<0.03	<0.01	0.04	0.01	0.15	0.20	0.23	0.26
	OV	1.08	<0.03	<0.03	<0.03	<0.02	0.02	0.12	0.12	0.19	0.25
1-144	RR	0.06	<0.02	<0.02	<0.01	0.01	0.01	0.01	0.04	0.06	0.08
	OV	0.12	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.0	0.05	0.1
1-151	RR	0.11	<0.05	<0.06	<0.03	0.05	<0.02	0.07	0.12	0.20	0.280
	OV	0.10	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.0	0.05	0.10
1-158	RR	0.71	0.11	0.15	0.04	0.12	0.07	0.37	0.86	0.86	0.86
	OV	0.89	<0.02	<0.02	<0.02	0.090	0.084	0.30	0.474	0.504	0.534
1-159	RR	<0.05	<0.01	<0.01	<0.01	0.04	<0.01	0.05	0.09	0.11	0.130
	OV	0.076	<0.02	<0.02	<0.02	<0.02	<0.01	0.057	0.057	0.102	0.147
1-160	RR	0.77	0.02	0.03	<0.01	0.05	0.02	0.11	0.230	0.235	0.240
	OV	0.11	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.0	0.05	0.10
1-163	RR	1.53	0.08	0.07	0.20	0.71	0.15	0.55	1.76	1.76	1.76
	OV	3.48	0.31	0.33	0.46	1.24	0.36	1.00	3.70	3.70	3.70
1-165	RR	0.70	0.03	<0.03	0.03	0.16	0.03	0.09	0.340	0.355	0.370
	OV	2.11	<0.03	<0.03	<0.03	0.25	<0.02	0.18	0.670	0.725	0.78
1-166	RR	1.78	0.20	0.35	1.03	6.24	0.73	3.91	12.5	12.5	12.5
	OV	4.30	0.40	0.64	1.77	9.84	1.32	6.64	20.6	20.6	20.6

Table 29 (continued)

TVA	Type *	%	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	sample	Lipids	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-168	RR	0.69	0.05	<0.06	<0.02	0.62	0.06	0.75	1.48	1.52	1.56
	OV	0.24	<0.02	<0.02	<0.02	0.096	<0.01	0.14	0.236	0.271	0.306
1M-09	RR	7.84	0.68	0.46	2.09	8.52	1.91	8.1	21.8	21.8	21.8
	OV	6.13	0.31	0.35	1.15	4.36	1.34	4.81	12.3	12.3	12.3
1M-10	RR	10.4	1.49	1.64	12.6	52.3	7.57	33.7	109	109	109
	OV	6.54	0.51	0.81	5.41	19.8	3.15	14.1	43.8	43.8	43.8
1M-37	RR	6.02	5.75	7.56	56.4	210	27.9	95.9	403	403	403
	OV	7.46	13.7	18.0	90.2	291	47.2	141	601	601	601
1M-38	RR	8.22	4.69	6.22	83.7	256	32.0	123	506	506	506
	OV	3.68	4.14	2.14	39.5	151	17.9	62.3	277	277	277
1M-43	RR	1.77	0.87	0.50	12.5	40.1	5.92	20.0	79.9	79.9	79.9
	OV	1.01	0.85	0.15	5.51	17.9	2.46	9.02	35.9	35.9	35.9
1M-45	RR	0.85	0.39	<0.20	4.67	16.5	2.34	8.42	32.5	32.5	32.5
	OV	0.15	0.046	<0.02	0.76	1.99	0.36	1.12	4.29	4.29	4.30

*RR - Reanalyzed SLI value.
OV - Original SLI value.

Table 30. SLI Blind Split Fish Data During Initial Rerun Phase

TVA	Type	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	sample*	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
IM-37	OV	5.75	7.56	56.4	210	27.9	95.9	404	404	404
	BS	5.15	7.00	52.6	196	25.7	876	374	374	374
1M-43	OV	0.87	0.50	12.5	40.1	5.92	20.0	80	80	80
	BS	1.04	0.67	16.1	50.1	7.59	25.2	101	101	101

*OV - Original SLI value.
BS - Blind split.

Table 31. Fish Reruns Within EPA at Beginning of Rerun Phase

TVA LAB ID	Type sample*	DDT (μg/g) O,P'	DDT (μg/g) P,P'	DDD (μg/g) O,P'	DDD (μg/g) P,P'	DDE (μg/g) O,P'	DDE (μg/g) P,P'	Total DDTR (μg/g) Min	Total DDTR (μg/g) Avg	Total DDTR (μg/g) Max
1-036	RR	0.062	0.066	0.12	0.34	0.14	0.37	1.10	1.10	1.10
	OV	0.30	1.7	0.39	0.67	0.38	0.50	3.94	3.94	3.94
1-151	RR	<0.03	<0.05	<0.03	0.050	0.032	0.056	0.138	0.193	0.248
	OV	<0.03	<0.05	<0.02	0.026	0.025	0.054	0.105	0.155	0.205
1M-07	RR	0.87	0.57	5.8	21	4.0	14	46.2	46.2	46.2
	OV	2.2	2.2	7.4	26	5.2	18	61.0	61.0	61.0
1M-08	RR	<2	<4	10	89	8.2	57	164	167	170
	OV	3.1	2.3	8.3	56	9.4	43	122	122	122
1M-10	RR	2.1	<3	14	60	12	41	130	131	132
	OV	8.4	9.5	18	83	16	65	200	200	200

*RR - Reanalyzed EPA value.
OV - Original EPA value.

Table 32. SLI-EPA Fish Split Data at Beginning of Rerun Phase

TVA	Type	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	sample*	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-029	SLI	<0.02	<0.03	<0.01	<0.01	<0.01	<0.01	0.0	0.045	0.09
	EPA	<0.02	<0.02	<0.01	<0.01	<0.01	<0.007	0.0	0.0385	0.077
1-034	SLI	<0.02	<0.03	<0.01	<0.01	<0.01	<0.01	0.0	0.045	0.09
	EPA	<0.6	<0.5	<1	<1	<1	<1	0.0	2.55	5.1
1-036	SLI	0.09	0.17	0.29	0.72	0.21	0.66	2.14	2.14	2.14
	EPA	0.62	0.066	0.12	0.34	0.14	0.37	1.10	1.10	1.10
1-038	SLI	<0.02	<0.03	<0.01	<0.01	<0.01	0.01	0.01	0.05	0.09
	EPA	<0.02	<0.02	<0.01	<0.01	<0.01	<0.006	0.0	0.038	0.076
1-064	SLI	0.12	0.18	0.04	0.05	0.06	0.12	0.57	0.57	0.57
	EPA	<0.01	<0.07	<0.04	0.056	0.057	0.11	0.223	0.283	0.343
1-111	SLI	0.53	0.83	6.51	31.9	3.94	21.0	64.7	64.7	64.7
	EPA	<1	<3	5.2	26	2.4	16	49.6	51.6	53.6
1-151	SLI	<0.05	<0.06	<0.03	0.05	<0.02	0.07	0.12	0.2	0.28
	EPA	<0.03	<0.05	<0.03	0.050	0.032	0.056	0.138	0.193	0.248
1-165	SLI	0.03	<0.03	0.03	0.16	0.03	0.09	0.34	0.355	0.37
	EPA	0.040	<0.3	0.24	0.69	0.094	0.33	1.39	1.54	1.69
1-168	SLI	0.05	<0.06	<0.02	0.62	0.06	0.75	1.48	1.52	1.56
	EPA	<0.05	0.064	0.031	0.88	0.17	1.3	2.50	2.52	2.50
1M-7	SLI*	1.00	1.18	4.11	11.0	2.45	10.1	29.8	29.8	29.8
	EPA	0.87	0.57	5.8	21	4.0	14	46.2	46.2	46.2
1M-8	SLI*	<1.7	3.33	5.86	38.4	5.36	30.1	83.0	83.9	84.0
	EPA	<2	<4	10	89	8.2	57	164	167	170
1M-10	SLI	1.49	1.64	12.6	52.3	7.57	33.7	109	109	109
	EPA	2.1	<3	14	60	12	41	129	131	132
1M-27	SLI	0.05	0.05	0.03	0.09	0.03	0.13	0.38	0.38	0.38
	EPA	0.14	<0.2	0.048	0.14	0.080	0.028	0.436	0.536	0.636
1M-38	SLI	4.69	6.22	83.7	256	32.0	123	506	506	506
	EPA	14	10	100	310	66	150	650	650	650
1M-43	SLI	0.87	0.50	12.5	40.1	5.92	20.0	79.9	79.9	79.9
	EPA	1.7	<2	15	48	10	20	94.7	95.7	96.7

*Samples lost in analysis during initial rerun phase and resubmitted during main rerun phase.

Table 33. Additional "Pooled" Fish Samples Analyzed During Rerun Period by EPA

EPA LAB ID	Type pooled sample	Date analyzed	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
			O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
889	high	4/03/80	7.3	6.7	37	150	33	89	323	323	323
890	high	4/03/80	5.4	5.7	32	130	28	70	271	271	271
891	high	4/03/80	6.2	5.5	33	130	28	79	282	282	282
892	low	4/03/80	0.36	0.25	0.36	1.1	0.43	0.81	3.31	3.31	3.31
893	low	4/03/80	0.33	0.23	0.33	0.96	0.39	0.72	2.96	2.96	2.96
894	low	4/03/80	0.67	<0.7	0.34	1.5	0.56	1.4	4.47	4.83	5.17

Table 34. SLI Blind Split Fish Data During Rerun Phase

TVA LAB ID	Type sample*	% Lipids	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
			O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-021	OV	2.88	<0.02	<0.02	<0.02	0.06	0.09	0.23	0.38	0.41	0.44
	BS	3.49	<0.02	0.12	<0.02	0.11	0.15	0.33	0.71	0.73	0.75
1-037	OV	0.24	<0.02	0.12	0.08	0.26	0.06	0.35	0.87	0.88	0.89
	BS	0.23	<0.02	<0.02	0.06	0.26	0.06	0.35	0.71	0.73	0.75
1-138	OV	0.32	0.33	0.45	1.93	3.87	0.62	2.07	9.27	9.27	9.27
	BS	0.20	0.25	0.45	0.97	1.95	0.33	1.44	5.39	5.39	5.39
1-157	OV	0.26	0.07	0.14	0.06	0.15	0.04	0.19	0.65	0.65	0.65
	BS	0.61	0.08	0.11	0.07	0.23	0.10	0.48	1.07	1.07	1.07
1-143	OV	0.50	0.05	<0.02	0.64	2.30	0.34	1.00	4.33	4.34	4.35
	BS	0.04	0.05	<0.02	0.59	2.16	0.33	0.92	4.05	4.06	4.07
1-156	OV	0.05	<0.02	<0.02	<0.02	0.05	0.01	0.04	0.10	0.13	0.16
	BS	0.03	<0.02	<0.02	<0.02	0.04	<0.01	0.03	0.07	0.10	0.14
1-051	OV	2.65	0.04	0.12	0.12	0.22	0.14	0.45	1.09	1.09	1.09
	BS	0.82	<0.02	0.04	0.03	0.08	0.05	0.14	0.34	0.35	0.36
1M-07	OV	6.56	1.00	1.18	4.11	11.0	2.45	10.1	29.8	29.8	29.8
	BS	4.00	<0.04	0.55	2.49	7.22	1.41	6.40	18	18	18.1
1M-24	OV	2.68	<0.02	<0.02	<0.02	0.26	0.20	0.64	19.2	19.2	19.2
	BS	5.40	0.09	0.11	0.17	0.59	0.42	1.04	2.42	2.42	2.42

*OV - Original SLI value.
BS - Blind split.

Table 35. SLI-EPA Fish Splits During Main Rerun Phase

TVA		DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1M-12	SLI	0.48	0.46	0.66	2.29	0.90	2.64	7.43	7.43	7.43
	EPA	1.10	0.61	1.00	4.80	1.50	4.60	13.6	13.6	13.6
1M-19	SLI	0.77	0.62	0.33	0.90	0.41	1.01	4.04	4.04	4.04
	EPA	2.00	0.65	0.77	2.00	0.81	1.50	7.73	7.73	7.73
1M-21	SLI	0.54	0.27	1.10	4.50	0.92	3.47	10.8	10.8	10.8
	EPA	1.20	0.58	1.90	8.30	2.30	5.20	19.5	19.5	19.5
1M-22	SLI	0.50	0.44	0.30	0.96	0.70	1.11	4.01	4.01	4.01
	EPA	0.76	0.19	0.47	2.3	0.90	1.6	6.22	6.22	6.22
1-23	SLI	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.0	0.05	0.10
	EPA	<0.02	<0.03	<0.01	<0.01	<0.008	<0.007	0.0	0.042	0.085
1-61	SLI	<0.02	<0.02	<0.02	0.08	0.13	0.25	0.46	0.49	0.52
	EPA	0.090	0.074	0.040	0.11	0.071	0.18	0.565	0.565	0.565
1-103	SLI	<0.02	<0.02	1.21	3.84	0.73	3.25	9.03	9.05	9.07
	EPA	1.2	1.1	2.5	10.0	3.2	7.4	25.4	25.4	25.4
1-142	SLI	0.05	0.04	0.61	1.65	0.25	0.89	3.49	3.49	3.49
	EPA	<0.1	<0.2	0.45	1.4	0.29	0.73	2.87	3.02	3.17
1-146	SLI	<0.02	<0.02	<0.02	0.04	<0.01	0.12	0.16	0.195	0.23
	EPA	<0.02	<0.03	<0.008	0.009	<0.005	0.046	0.055	0.086	0.118
1M-20	SLI	0.28	0.40	0.30	2.50	0.54	1.93	5.95	5.95	5.95
	EPA	1.6	0.20	0.64	3.5	1.1	2.8	9.84	9.84	9.84

Table 36. SLI-EPA Split Data for Last Rerun of Fish and Vertebrates by SLI

TVA		Type*	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
LAB ID	Lab	sample	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1M-25	SLI*	Whole	1.33	1.96	14.4	37.8	6.17	24.9	86.6	86.6	86.6
	EPA	body	5.3	6.6	29	68	14	30	153	153	153
1M-30	SLI*	Whole	0.08	0.04	0.09	0.36	0.17	0.43	1.17	1.17	1.17
	EPA	body	0.47	0.46	1.0	7.0	1.1	3.4	13.4	13.4	13.4
1-140A	SLI*	Fish	0.02	0.05	0.19	0.42	0.06	0.23	0.97	0.97	0.97
	EPA	fillet	0.26	0.45	1.4	2.7	0.71	1.6	7.12	7.12	7.12
1-140B	SLI*	Fish	0.08	0.10	0.57	1.16	0.17	0.56	2.64	2.64	2.64
	EPA	fillet	1.3	2.2	5.4	9.3	2.6	4.8	25.6	25.6	25.6
7-60	SLI*	Vertebrate	<0.01	<0.01	0.01	0.04	<0.01	0.27	0.32	0.335	0.35
	EPA		0.04	<0.06	0.13	0.31	0.087	3.2	3.7	3.8	3.8
7-106	SLI*	Vertebrate	<0.01	0.02	<0.01	0.05	0.02	0.05	0.14	0.15	0.16
	EPA		0.035	0.069	0.03	0.32	0.063	0.78	1.30	1.30	1.30
7-146	SLI*	Vertebrate	<0.01	0.01	<0.01	0.02	<0.01	0.10	0.13	0.145	0.16
	EPA		<0.03	<0.04	<0.02	<0.02	<0.01	0.11	0.11	0.17	0.23
7-57	SLI*	Vertebrate	0.01	0.01	0.01	0.03	<0.01	0.02	0.08	0.085	0.09
	EPA		0.029	0.46	0.046	0.18	0.022	0.088	0.825	0.825	0.825
7-148	SLI*	Vertebrate	<0.01	0.02	0.01	0.03	<0.01	0.04	0.10	0.11	0.12
	EPA		<0.05	0.37	0.031	0.11	0.020	0.18	0.711	0.736	0.761

*Reanalyzed SLI values.

Table 37. SLI-EPA Split Data for Fish Samples Processed
December 12, 1979, by SLI

TVA		DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1M-25	EPA	5.3	6.6	29	68	14	30	153	153	153
	SLI*	1.80	2.28	17.3	45.0	6.59	20.2	93.2	93.2	93.2
1M-30	EPA	0.47	0.46	1.0	7.0	1.1	3.4	13.4	13.4	13.4
	SLI*	<0.03	0.071	0.19	1.38	0.11	0.81	2.56	2.58	2.59
1-108	EPA	<0.02	<0.03	0.025	0.10	0.023	0.11	0.258	0.283	0.308
	SLI*	<0.02	<0.02	<0.02	0.050	<0.01	0.059	0.109	0.144	0.179
1-171	EPA	0.25	0.30	2.0	3.7	0.84	1.9	8.99	8.99	8.99
	SLI*	<0.02	<0.02	0.23	0.61	0.14	0.40	1.38	1.40	1.42
1-172	EPA	<0.02	<0.03	0.014	0.054	0.024	0.083	0.175	0.1775	0.180
	SLI*	<0.02	<0.02	<0.02	0.020	<0.01	<0.01	0.00	0.05	0.10
1-115	EPA	<0.02	<0.03	0.019	0.087	0.026	0.097	0.229	0.254	0.279
	SLI	<0.03	<0.03	<0.03	<0.02	<0.02	<0.02	0.00	0.075	0.15
1M-34	EPA	0.22	<0.14	<0.10	0.066	0.13	0.20	0.750	0.804	0.856
	SLI*	<0.05	<0.05	<0.04	<0.03	<0.03	<0.03	0.000	0.12	0.23
1M-27	EPA	0.14	<0.2	0.048	0.14	0.080	0.028	0.436	0.536	0.636
	SLI*	0.09	0.09	0.04	0.13	0.05	0.23	0.63	0.63	0.63
2M-12	EPA	2.9	1.8	63	130	14	45	260	260	260
	SLI*	0.89	0.48	11.2	23.4	2.9	8.37	47.2	47.2	47.2
2M-15	EPA	<0.4	0.62	16	43	3.3	12	74.9	75.1	75.3
	SLI*	0.60	0.47	9.85	37.6	3.31	10.7	62.5	62.5	62.5

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*Original data generated by SLI.

Table 38. Consolidated Valid SLI Blind Split Fish Data

TVA	Type *	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
LAB ID	sample	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-008	BLI	0.020	0.030	<0.030	0.150	0.040	0.150	0.390	0.405	0.420
	ORI	0.050	0.040	0.030	0.280	0.070	0.290	0.760	0.760	0.760
1-012	BLI	<0.020	<0.020	<0.020	<0.020	0.310	0.070	0.380	0.420	0.460
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.020	0.020	0.065	0.110
1-017B	BLI	<0.020	<0.020	<0.020	0.230	0.057	0.280	0.567	0.597	0.627
	ORI	0.034	0.032	0.024	0.290	0.067	0.300	0.746	0.747	0.746
1-031A	BLI	<0.020	<0.020	0.042	0.160	0.076	0.160	0.438	0.458	0.478
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.020	0.020	0.065	0.110
1-052C	BLI	0.057	0.036	<0.020	0.048	0.064	0.067	0.272	0.282	0.292
	ORI	0.220	0.170	<0.010	0.140	0.340	0.410	1.280	1.28	1.290
1-056D	BLI	0.130	0.300	0.100	0.340	0.140	0.280	1.29	1.29	1.29
	ORI	0.070	0.160	0.060	0.100	0.100	0.190	0.680	0.680	0.680
1-067	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.080	0.080	0.145	0.210
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	0.060	0.060	0.125	0.190
1-070	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
1-078	BLI	<0.030	0.010	0.380	0.810	0.089	0.540	1.92	1.93	1.95
	ORI	<0.030	0.092	0.290	0.900	0.099	0.450	1.83	1.85	1.86
1-080D	BLI	0.024	0.051	0.093	0.780	0.400	0.610	1.96	1.96	1.96
	ORI	0.042	0.030	0.084	0.086	0.380	0.640	2.04	2.04	2.04
1-086F	BLI	<0.020	0.290	1.86	11.9	1.48	7.61	23.1	23.2	23.2
	ORI	0.240	0.330	2.15	9.11	1.14	5.83	18.8	18.8	18.8
1-089D	BLI	1.48	0.340	20.1	52.9	9.10	32.9	117	117	117
	ORI	2.61	0.180	38.8	101	17.2	58.0	218	218	218
1-095	BLI	<0.030	0.051	<0.030	0.220	0.150	0.380	0.801	0.831	0.861
	ORI	<0.030	0.066	<0.030	0.130	0.039	0.110	0.345	0.375	0.405
1-103A	BLI	0.290	0.300	2.08	5.85	1.23	4.24	14.0	14.0	14.0
	ORI	0.066	0.095	1.31	3.19	0.750	2.43	7.84	7.84	7.84
1-107E	BLI	<0.020	0.043	0.020	0.089	0.037	0.340	0.529	0.539	0.549
	ORI	0.028	0.045	0.036	0.280	0.057	0.400	0.846	0.846	0.846
1-116	BLI	<0.030	<0.030	<0.030	0.190	<0.020	0.140	0.330	0.385	0.400
	ORI	0.077	0.051	0.120	0.400	0.130	0.350	1.13	1.13	1.13
1-124D	BLI	0.022	0.029	0.140	0.330	0.110	0.330	0.961	0.961	0.961
	ORI	0.038	0.026	0.023	0.230	0.072	0.220	0.609	0.609	0.609
1-132E	BLI	<0.020	<0.020	<0.020	0.041	<0.010	0.050	0.091	0.126	0.161
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.010	0.010	0.055	0.100
1-163D	BLI	0.067	0.095	0.970	2.79	0.580	1.93	6.43	6.43	6.43
	ORI	0.390	0.170	2.03	5.61	1.25	4.09	13.5	13.5	13.5
1-166B	BLI	0.075	0.047	0.440	1.110	0.410	1.06	3.14	3.14	3.14
	ORI	0.043	0.061	0.370	1.02	0.380	0.930	2.80	2.80	2.80
1M-51	BLI	0.530	0.410	6.10	28.3	3.42	11.5	50.3	50.3	50.3
	ORI	0.076	0.030	0.970	4.05	0.520	1.61	7.26	7.26	7.26

Table 38 (continued)

TVA	Type *	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
LAB ID	sample	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
2M-01	BLI	0.090	<0.020	<0.030	<0.020	<0.020	0.240	0.330	0.372	0.420
	ORI	0.063	<0.020	<0.020	0.180	0.035	0.140	0.418	0.438	0.458
2M-15	BLI	1.02	0.810	16.3	63.6	5.46	18.0	105	105	105
	ORI	0.190	0.130	3.40	11.6	1.15	3.37	19.8	19.8	19.8
1M-27	RR	0.05	0.05	0.03	0.09	0.03	0.13	0.38	0.38	0.38
	OV	0.13	0.12	0.046	0.16	0.073	0.32	0.849	0.849	0.849
1-072	RR	0.04	0.08	0.33	0.82	0.10	0.40	1.77	1.77	1.77
	OV	0.055	0.040	0.52	1.30	0.16	0.67	2.74	2.74	2.74
1-078	RR	0.03	0.03	0.18	0.48	0.06	0.26	1.04	1.04	1.04
	OV	<0.03	0.092	0.29	0.90	0.099	0.45	1.83	1.85	1.86
1-083	RR	0.05	0.10	0.16	0.65	0.15	1.12	2.23	2.23	2.23
	OV	<0.02	0.076	0.054	0.24	0.087	0.42	0.877	0.887	0.897
1-089	RR	3.17	2.61	41.0	115	18.2	60.4	240	240	240
	OV	2.00	2.81	17.2	66.0	8.75	33.7	130	130	130
1-109	RR	<0.02	<0.03	<0.01	0.05	<0.01	0.07	0.12	0.155	0.19
	OV	<0.02	<0.02	<0.02	0.02	<0.01	0.069	0.089	0.124	0.159
1-111	RR	0.53	0.83	6.51	31.9	3.94	21.0	64.7	64.7	64.7
	OV	1.08	1.23	5.73	21.1	2.97	15.2	47.3	47.3	47.3
1-113	RR	0.18	0.22	0.56	1.28	0.40	1.59	4.23	4.23	4.23
	OV	0.27	0.16	0.45	0.96	0.37	1.26	3.47	3.47	3.47
1-120	RR	0.05	0.05	0.14	0.52	0.10	0.49	1.35	1.35	1.35
	OV	<0.02	<0.02	0.14	0.49	0.079	0.28	0.99	1.01	1.03
1-132	RR	0.10	0.26	0.60	3.87	0.24	2.62	7.69	7.69	7.69
	OV	0.17	0.35	0.59	3.89	0.26	3.21	8.47	8.47	8.47
1-021	OV	<0.02	<0.02	<0.02	0.06	0.09	0.23	0.38	0.41	0.44
	BS	<0.02	0.12	<0.02	0.11	0.15	0.33	0.71	0.73	0.75
1-037	OV	<0.02	0.12	0.08	0.26	0.06	0.35	0.87	0.88	0.89
	BS	<0.02	<0.02	0.06	0.26	0.06	0.35	0.71	0.73	0.75
1-138	OV	0.33	0.45	1.93	3.87	0.62	2.07	9.27	9.27	9.27
	BS	0.25	0.45	0.97	1.95	0.33	1.44	5.39	5.39	5.39
1-157	OV	0.07	0.14	0.06	0.15	0.04	0.19	0.65	0.65	0.65
	BS	0.08	0.11	0.07	0.23	0.10	0.48	1.07	1.07	1.07
1-143	OV	0.05	<0.02	0.64	2.30	0.34	1.00	4.33	4.34	4.35
	BS	0.05	<0.02	0.59	2.16	0.33	0.92	4.05	4.06	4.07
1-156	OV	<0.02	<0.02	<0.02	0.05	0.01	0.04	0.11	0.14	0.16
	BS	<0.02	<0.02	<0.02	0.04	<0.01	0.03	0.07	0.10	0.14
1-051	OV	0.04	0.12	0.12	0.22	0.14	0.45	1.09	1.09	1.09
	BS	<0.02	0.04	0.03	0.08	0.05	0.14	0.34	0.35	0.36
1M-07	OV	1.00	1.18	4.11	11.0	2.45	10.1	29.8	29.8	29.8
	BS	<0.04	0.55	2.49	7.22	1.41	6.40	18	18	18.1
1M-24	OV	<0.02	<0.02	<0.02	0.26	0.20	0.64	19.2	19.2	19.2
	BS	0.09	0.11	0.17	0.59	0.42	1.04	2.42	2.42	2.42
1M-37	OV	5.75	7.56	56.4	210	27.9	95.9	404	404	404
	BS	5.15	7.00	52.6	196	25.7	87.6	374	374	374
1M-43	OV	0.87	0.50	12.5	40.1	5.92	20.0	80	80	80
	BS	1.04	0.67	16.1	50.1	7.59	25.2	101	101	101

*BLI - Blind sample.
ORI - Regular original sample.
RR - Reanalyzed SLI value.
OV - Original SLI value.
BS - Blind split.

Table 39. Complete Listing of All SLI-EPA Fish Split Data

TVA		DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-017D	EPA	0.22	0.17	0.40	0.95	0.25	0.76	2.75	2.75	2.75
	SLI	0.14	0.13	0.37	0.81	0.19	0.66	2.30	2.30	2.30
1-017F	EPA	0.050	<0.20	0.12	1.80	0.34	1.4	3.71	3.81	3.91
	SLI	0.035	0.087	0.076	1.02	0.21	0.81	2.34	2.24	2.24
1-052B	EPA	0.46	<0.35	<0.10	0.31	0.087	0.44	1.30	1.52	1.75
	SLI	0.10	0.052	<0.02	0.10	0.099	0.18	0.531	0.541	0.551
1-056D	EPA	0.19	<0.030	0.21	0.48	0.12	0.36	1.36	1.51	1.66
	SLI	0.13	0.30	0.10	0.34	0.14	0.28	1.29	1.29	1.29
	SLI	0.070	0.16	0.060	0.10	0.10	0.19	0.68	0.68	0.68
1-08D	EPA	<0.50	0.53	9.9	27	4.8	8.8	51.0	51.3	51.5
	SLI	0.35	0.25	10.3	20.1	4.19	8.81	44.0	44.0	44.0
1-089D	EPA	<5	<5	30	97	20	46	193	198	203
	SLI	1.48	0.34	20.1	52.9	9.1	32.9	117	117	117
	SLI	2.61	0.18	38.8	101	17.2	58.0	218	218	218
1-130B	EPA	<0.020	<0.020	0.080	0.34	0.06	0.32	0.80	0.82	0.84
	SLI	<0.020	<0.02	0.031	0.15	0.015	0.14	0.336	0.336	0.336
1-132C	EPA	<1.0	<2.0	0.79	9.6	1.0	7.0	18.4	19.9	21.4
	SLI	0.41	0.54	0.82	6.81	0.68	5.08	14.3	14.3	14.3
1-138A	EPA	<0.08	0.12	0.30	0.68	0.14	0.24	1.48	1.52	1.56
	SLI	0.091	0.490	3.02	5.20	0.86	2.20	11.9	11.9	11.9
1-086	EPA	0.29	0.22	0.80	2.8	0.60	1.8	6.51	6.51	6.51
	SLI	0.58	0.70	1.17	5.66	0.98	3.70	12.8	12.8	12.8
1-113	EPA	0.31	0.36	0.30	0.75	0.37	1.2	3.29	3.29	3.29
	SLI	0.27	0.16	0.45	0.96	0.37	1.26	3.47	3.47	3.47
	SLI	0.18	0.22	0.56	1.28	0.40	1.59	4.23	4.23	4.23
1-109	EPA	<0.03	<0.04	<0.03	0.33	0.12	0.078	0.123	0.153	0.223
	SLI	<0.020	<0.020	<0.020	0.02	<0.010	0.069	0.089	0.124	0.159
	SLI	<0.02	<0.03	<0.01	0.05	<0.01	0.07	0.12	0.115	0.19

Table 39 (continued)

TVA		DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-098	EPA	0.25	1.0	1.9	3.9	0.75	1.6	9.40	9.40	9.40
	SLI	<0.02	0.12	<0.02	0.19	0.063	0.43	0.803	0.823	0.843
1-078	EPA	<0.07	0.045	0.38	0.40	0.14	0.27	1.24	1.27	1.30
	SLI	<0.03	0.010	0.38	0.81	0.089	0.54	1.92	1.93	1.95
	SLI	<0.03	0.092	0.29	0.90	0.099	0.45	1.83	1.85	1.86
1M-34	EPA	0.22	0.14	<0.10	0.066	0.13	0.20	0.756	0.806	0.856
	SLI	<0.05	<0.05	<0.04	<0.03	<0.03	<0.03	0.000	0.12	0.23
1-029	SLI	<0.02	<0.03	<0.01	<0.01	<0.01	<0.01	0.0	0.045	0.09
	EPA	<0.02	<0.02	<0.01	<0.01	<0.01	<0.007	0.0	0.0385	0.077
1-034	SLI	<0.02	<0.03	<0.01	<0.01	<0.01	0.01	0.0	0.045	0.09
	EPA	<0.6	<0.5	<1	<1	<1	<1	0.0	2.55	5.1
1-036	SLI	0.09	0.17	0.29	0.72	0.21	0.66	2.14	2.14	2.14
	EPA	0.062	0.066	0.12	0.34	0.14	0.37	1.10	1.10	1.10
	EPA	0.30	1.7	0.39	0.67	0.38	0.50	3.94	3.94	3.94
1-038	SLI	<0.02	<0.03	<0.01	<0.01	<0.01	0.01	0.01	0.05	0.09
	EPA	<0.02	<0.02	<0.01	<0.01	<0.01	<0.006	0.0	0.038	0.076
1-064	SLI	0.12	0.18	0.04	0.05	0.06	0.12	0.57	0.57	0.57
	EPA	<0.01	<0.07	<0.04	0.056	0.057	0.11	0.223	0.283	0.343
	SLI	1.08	1.23	5.73	21.1	2.97	15.2	47.3	47.3	47.3
1-111	SLI	0.53	0.83	6.51	31.9	3.94	21.0	64.7	64.7	64.7
	EPA	<1	<3	5.2	26	2.4	16	49.6	51.6	53.6
1-151	SLI	<0.05	<0.06	<0.03	0.05	<0.02	0.07	0.12	0.2	0.28
	EPA	<0.03	<0.05	<0.03	0.050	0.032	0.056	0.138	0.193	0.248
	EPA	0.03	0.05	0.02	0.026	0.025	0.054	0.105	0.155	0.205
1-165	SLI	0.03	<0.03	0.03	0.16	0.03	0.09	0.34	0.355	0.37
	EPA	0.040	<0.3	0.24	0.69	0.094	0.33	1.39	1.54	1.69
1-168	SLI	0.05	<0.06	<0.02	0.62	0.06	0.75	1.48	1.52	1.56
	EPA	<0.05	0.064	0.031	0.88	0.17	1.3	2.45	2.47	2.50
1M-7	SLI	1.00	1.18	4.11	11.0	2.45	10.1	29.8	29.8	29.8
	SLI	1.00	1.07	5.63	16.9	3.26	14.2	42.1	42.1	42.1
	EPA	0.87	0.57	5.8	21	4.0	14	46.2	46.2	46.2
	EPA	2.2	2.2	7.4	26	5.2	18	61	61	61

Table 39 (continued)

TVA		DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1M-8	SLI	<1.7	3.33	5.86	38.4	5.36	30.1	83.0	83.9	84.0
	EPA	3.1	2.3	8.3	56	9.4	43	122	122	122
	EPA	<2	<4	10	89	8.2	57	162	165	168
1M-10	SLI	1.49	1.64	12.6	52.3	7.57	33.7	109	109	109
	EPA	8.4	9.5	18	83	16	65	200	200	200
	EPA	2.1	<3	14	60	12	41	129	131	132
	SLI	0.13	0.12	0.046	0.16	0.073	0.32	0.849	0.849	0.849
1M-27	SLI	0.05	0.05	0.03	0.09	0.03	0.13	0.38	0.38	0.38
	EPA	0.14	0.2	0.048	0.14	0.080	0.028	0.436	0.536	0.636
1M-38	SLI	4.69	6.22	83.7	256	32.0	123	506	506	506
	EPA	14	10	100	310	66	150	650	650	650
1M-43	SLI	0.87	0.50	12.5	40.1	5.92	20.0	79.4	79.4	79.4
	EPA	1.7	<2	15	48	10	20	94.7	95.7	96.7
1M-12	SLI	0.48	0.46	0.66	2.29	0.90	2.64	7.43	7.43	7.43
	EPA	1.10	0.61	1.00	4.80	1.50	4.60	13.6	13.6	13.6
1M-19	SLI	0.77	0.62	0.33	0.90	0.41	1.01	4.04	4.04	4.04
	EPA	2.00	0.65	0.77	2.00	0.81	1.50	7.73	7.73	7.73
1M-21	SLI	0.54	0.27	1.10	4.50	0.92	3.47	10.8	10.8	10.8
	EPA	1.20	0.58	1.90	8.30	2.30	5.20	19.5	19.5	19.5
1M-22	SLI	0.50	0.44	0.30	0.96	0.70	1.11	4.01	4.01	4.01
	EPA	0.76	0.19	0.47	2.3	0.90	1.6	6.22	6.22	6.22
1-23	SLI	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.00	0.05	0.10
	EPA	<0.02	<0.03	<0.01	<0.01	<0.008	<0.007	0.0	0.042	0.085
1-61	SLI	<0.02	<0.02	<0.02	0.08	0.13	0.25	0.46	0.49	0.52
	EPA	0.090	0.074	0.040	0.11	0.071	0.18	0.565	0.565	0.565
1-103	SLI	<0.02	<0.02	1.21	3.84	0.73	3.25	9.03	9.05	9.07
	EPA	1.2	1.1	2.5	10.0	3.2	7.4	25.4	25.4	25.4

Table 39 (continued)

TVA		DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-142	SLI	0.05	0.04	0.61	1.65	0.25	0.89	3.49	3.49	3.49
	EPA	<0.1	<0.2	0.45	1.4	0.29	0.73	2.87	3.02	3.17
1-146	SLI	<0.02	<0.02	<0.02	0.04	<0.01	0.12	0.16	0.195	0.23
	EPA	<0.02	<0.03	<0.008	0.009	<0.005	0.046	0.055	0.086	0.118
1M-20	SLI	0.28	0.40	0.30	2.50	0.54	1.93	5.95	5.95	5.95
	EPA	1.6	0.20	0.64	3.5	1.1	2.8	9.84	9.84	9.84
1M-25	EPA	5.3	6.6	29	68	14	30	153	153	153
	SLI	1.80	2.28	17.3	45.0	6.59	20.2	93.2	93.2	93.2
1M-30	EPA	0.47	0.46	1.0	7.0	1.1	3.4	13.4	13.4	13.4
	SLI	<0.03	0.071	0.19	1.38	0.11	0.81	2.56	2.58	2.59
1-108	EPA	<0.02	<0.03	0.025	0.10	0.023	0.11	0.258	0.283	0.308
	SLI	<0.02	<0.02	<0.02	0.050	0.01	0.059	0.109	0.144	0.179
1-171	EPA	0.25	0.30	2.0	3.7	0.84	1.9	8.99	8.99	8.99
	SLI	<0.02	<0.02	0.23	0.61	0.14	0.40	1.38	1.40	1.42
1-172	EPA	<0.02	<0.03	0.014	0.054	0.024	0.083	0.175	0.1775	0.180
	SLI	<0.02	<0.02	<0.02	0.020	<0.01	<0.01	0.00	0.05	0.10
1-115	EPA	<0.02	<0.03	0.019	0.087	0.026	0.097	0.229	0.254	0.279
	SLI	<0.03	<0.03	<0.03	<0.02	<0.02	<0.02	0.00	0.075	0.15
1-58	EPA	<0.03	<0.04	<0.02	<0.1	0.22	0.065	0.285	0.38	0.475
	SLI	0.05	0.05	0.06	0.20	0.07	0.16	0.59	0.59	0.59
2M-12	EPA	2.9	1.8	63	130	14	45	260	260	260
	SLI	0.89	0.48	11.2	23.4	2.90	8.37	47.2	47.2	47.2
2M-15	EPA	<0.4	0.62	16	43	3.3	12	74.9	75.1	75.3
	SLI	0.19	0.13	3.40	11.6	1.15	3.37	19.8	19.8	19.8
	SLI	1.02	0.81	16.3	63.6	5.46	18.0	105	105	105
1-26	EPA	0.92	0.32	0.57	1.8	0.64	1.60	5.85	5.85	5.85
	SLI	0.23	0.26	0.31	1.56	0.35	1.19	3.90	3.90	3.90
1-50	EPA	0.088	0.045	0.052	0.19	0.12	0.22	0.715	0.715	0.715
	SLI	0.09	0.03	0.12	0.51	0.10	0.35	1.20	1.20	1.20
1-53	EPA	0.04	0.042	0.027	0.099	0.053	0.26	0.521	0.521	0.521
	SLI	0.02	0.08	0.02	0.06	0.03	0.18	0.39	0.39	0.39
1-144	EPA	<0.02	<0.05	<0.02	0.019	<0.02	0.054	0.073	0.133	0.193
	SLI	<0.02	<0.02	<0.01	0.01	<0.01	0.01	0.020	0.050	0.180

Table 40. Special Study - DDT Concentration Gradients in Fish Fillets

I. Sample Description: Channel catfish (472 mm long, 790 g total weight, 140 g fillet weight) from Indian Creek mile 1.0 on 9/12/79.

Fillet Quarter

No.	Length (mm)	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		DDTR[a] (µg/g)	Lipids (%)
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		
1[b]	65	1.31	1.75	20.6	62.5	7.39	27.4	121	0.60
2	65	4.50	5.38	66.9	189	22.5	70.0	358	1.55
3	65	4.28	3.65	49.7	139	16.0	53.1	266	1.29
4	65	7.28	8.52	120	321	40.8	124	622	3.32

II. Sample Description: Smallmouth buffalo (380 mm long, 970 g total weight, 150 g fillet weight) from Indian Creek mile 1.0 on 9/12/79.

Fillet Quarter

No.	Length (mm)	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		DDTR[a] (µg/g)	Lipids (%)
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		
1[b]	62	0.21	<0.06[c]	19.1	41.8	5.70	16.6	83.4	7.08
2	62	0.81	0.76	25.0	52.2	6.52	20.7	106	8.91
3	62	0.64	0.53	11.5	53.1	3.39	7.95	77.1	4.24
4	62	0.92	1.07	22.7	50.3	8.39	16.2	99.6	8.27

III. Sample Description: Largemouth bass (390 mm long, 970 g total weight, 160 g fillet weight) from Indian Creek mile 1.0 on 9/12/79.

Fillet Quarter

No.	Length (mm)	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		DDTR[a] (µg/g)	Lipids (%)
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		
1[b]	57	0.61	<0.6[c]	2.78	5.44	0.87	2.61	12.3	0.27
2	57	0.11	0.18	1.58	3.63	0.49	1.83	7.62	0.17
3	57	0.43	0.67	3.36	6.58	0.96	3.07	15.1	0.36
4	57	<0.9[c]	0.91	2.05	3.86	0.53	1.89	9.2	0.18

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[a] All analyses performed by SLI.

[b] Head end.

[c] Higher detection limit was used because of interferences.

Table 41. Special Study - Migration of Lipids Within the "Pooled" Fish Samples

Sample identification or appearance	Type sample*	% Lipids EPA	% Lipids SLI	Total DDTR (µg/g) EPA	Total DDTR (µg/g) SLI
Outside ring only**	Low QC	9.1	8.49	3.9	6.92
Outer half minus ring**	Low QC	6.3	6.15	3.5	4.21
Inner half only	Low QC	6.6	3.84	4.1	2.39
Sample contained large outside ring	Low QC	6.3	5.03	3.9	3.86
Sample contained medium outside ring	Low QC	5.9	5.16	2.6	3.23
Sample contained small outside ring	Low QC	6.5	5.02	2.8	3.32
Surface removed, and remainder of sample analyzed	Low QC	-	3.55	-	2.73
Extreme - whole surface covered	High QC	2.7	1.75	280	222
25 to 75% of surface covered	High QC	2.6	2.29	240	349
5 to 25% of surface covered	High QC	2.5	2.53	250	365
Ring only	High QC	2.4	2.52	280	347
Ring only	High QC	2.6	2.56	260	315
White only analyzed	High QC	<0.6	5.37	210	447

*Low QC - Low concentration of "pooled" fish sample.
High QC - High concentration of "pooled" fish sample.

**See Figure 3.

Table 42. SLI Blind Split Vertebrate Data

TVA LAB ID	Type sample*	DDT (μg/g) O,P'	DDT (μg/g) P,P'	DDD (μg/g) O,P'	DDD (μg/g) P,P'	DDE (μg/g) O,P'	DDE (μg/g) P,P'	Total DDTR (μg/g) Minimum	Total DDTR (μg/g) Average	Total DDTR (μg/g) Maximum
7-015	BLI	0.440	0.290	<0.030	0.360	0.091	4.77	5.95	5.97	5.98
	ORI	0.190	<0.030	<0.030	0.260	0.069	1.56	2.08	2.11	2.14
7-024	BLI	<0.030	0.093	0.130	0.680	0.210	1.37	2.50	2.52	2.53
	ORI	<0.030	<0.030	0.320	3.220	0.430	2.67	6.64	6.67	6.70
7-038	BLI	<0.030	0.140	0.570	2.180	0.660	4.10	7.65	7.66	7.68
	ORI	<0.030	<0.030	0.180	0.590	0.180	1.28	2.23	2.26	2.29
7-050	BLI	<0.030	<0.030	<0.030	0.063	<0.020	0.09	0.153	0.208	0.263
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
7-063	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
7-089	BLI	<0.040	<0.040	<0.040	<0.020	<0.030	<0.020	0.000	0.095	0.190
	ORI	<0.040	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.080	0.160
7-102	BLI	<0.040	0.036	<0.030	0.280	<0.020	1.39	1.71	1.75	1.80
	ORI	0.063	0.065	0.150	0.90	0.092	5.07	6.34	6.34	6.34
7-112	BLI	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.500	1.000
	ORI	<0.030	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.055	0.110
7-114	BLI	0.092	<0.020	<0.020	<0.020	<0.020	<0.010	0.092	0.137	0.182
	ORI	0.059	<0.030	<0.020	<0.020	<0.020	<0.010	0.059	0.084	0.159
7-132	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
	ORI	0.053	<0.030	<0.030	<0.020	<0.020	0.029	0.082	0.132	0.182
7-365	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.100	0.100	0.165	0.230
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	0.072	0.072	0.137	0.202

*BLI - Blind sample.
ORI - Regular original sample.

Table 43. SLI-EPA Split Vertebrate Data

TVA		DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Mininum	Average	Maximum
7-010	EPA	0.047	0.04	<0.030	0.045	0.038	0.510	0.687	0.702	0.717
	SLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.049	0.049	0.114	0.179
7-024	EPA	<2.000	0.590	1.40	18.0	2.70	15.0	37.7	38.7	39.7
	SLI	<0.030	<0.030	0.320	3.22	0.430	2.67	4.41	4.42	4.44
7-033	EPA	0.110	<0.200	<0.050	0.067	0.069	1.20	1.45	1.57	1.70
	SLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.170	0.170	0.235	0.300
7-036S	EPA	<0.030	<0.040	<0.020	<0.010	<0.020	0.036	0.036	0.086	0.156
	SLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.072	0.080	0.145	0.210
7-040T	EPA	<0.030	<0.040	0.015	0.051	0.015	0.480	0.560	0.596	0.631
	SLI	<0.020	<0.020	<0.020	0.093	0.022	0.400	0.515	0.545	0.575
7-044	EPA	3.60	18.0	1.40	2.10	0.320	1.10	26.5	26.5	26.5
	SLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.080	0.150	0.260	0.370
7-065	EPA	<0.030	<0.040	<0.020	<0.010	<0.020	<0.010	0.000	0.065	0.130
	SLI	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.050	0.100
7-074	EPA	0.035	0.037	<0.008	<0.010	0.004	0.018	0.084	0.093	0.102
	SLI	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.050	0.100
7-082	EPA	0.081	1.80	0.14	0.990	0.032	0.096	3.14	3.14	3.14
	SLI	<0.020	<0.020	<0.020	<0.020	<0.010	0.010	0.010	0.055	0.100
7-086	EPA	<0.008	<0.010	<0.005	<0.005	<0.003	0.007	0.007	0.022	0.038
	SLI	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.050	0.100
7-060	EPA	0.040	<0.060	0.130	0.310	0.087	3.20	3.77	3.80	3.83
	SLI	<0.020	<0.020	0.033	0.093	<0.010	0.780	0.906	0.931	0.956
7-106	EPA	0.035	0.069	0.030	0.320	0.063	0.780	1.30	1.30	1.30
	SLI	<0.020	<0.020	<0.020	0.130	<0.010	0.300	0.430	0.465	0.500
7-146	EPA	<0.030	<0.040	<0.020	<0.020	<0.010	0.110	0.110	0.170	0.230
	SLI	<0.020	0.460	0.047	0.140	0.011	0.060	0.718	0.728	0.738
7-057	EPA	0.029	0.460	0.046	0.180	0.022	0.088	0.825	0.825	0.825
	SLI	<0.020	<0.020	<0.020	<0.020	<01010	<0.130	0.000	0.110	0.220
7-148	EPA	<0.050	0.370	0.031	0.110	0.020	0.180	0.711	0.736	0.761
	SLI	<0.020	0.061	<0.020	0.036	<0.010	0.074	0.171	0.196	0.221

Table 44. Macroinvertebrate SLI Blind Split Sample Data

TVA LAB ID	Type sample*	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Minimum	Average	Maximum
5-003	BLI	0.020	0.009	0.400	0.730	0.230	0.510	1.90	1.90	1.90
	ORI	0.020	0.010	0.530	0.900	0.270	0.660	2.39	2.39	2.39
5-004	BLI	0.010	0.010	0.550	0.820	0.290	0.620	2.30	2.30	2.30
	ORI	0.010	0.020	0.570	0.950	0.320	0.740	2.61	2.61	2.61
5-047	BLI	<0.006	0.020	0.330	0.660	0.150	0.360	1.52	1.52	1.52
	ORI	<0.006	0.020	0.450	0.950	0.180	0.460	2.06	2.06	2.06

*BLI - Blind sample.
ORI - Regular original sample.

Table 45. Plant SLI Blind Split Sample Data

TVA	Type	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	sample*	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Minimum	Average	Maximum
5-125	BLI	0.002	0.002	0.020	0.047	0.003	0.013	0.087	0.087	0.087
	ORI	0.001	0.002	0.014	0.030	0.003	0.007	0.057	0.057	0.057
5-135	BLI	0.001	0.004	0.004	0.009	0.005	0.008	0.031	0.031	0.031
	ORI	0.011	0.004	0.005	0.002	0.005	0.013	0.040	0.040	0.040
5-157	BLI	<0.001	0.002	0.008	0.016	0.002	0.006	0.034	0.034	0.035
	ORI	0.001	0.008	0.016	0.034	0.004	0.011	0.074	0.074	0.074
5-162	BLI	<0.001	0.002	<0.001	0.001	0.001	0.001	0.005	0.006	0.007
	ORI	<0.001	<0.002	<0.001	<0.001	0.001	0.001	0.002	0.004	0.007
5-210	BLI	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	0.000	0.003	0.007
	ORI	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	0.000	0.003	0.007

*BLI - Blind sample.
ORI - Regular original sample.

Table 46. SLI-EPA Split Macroinvertebrate Data

TVA LAB ID	Lab	DDT (μg/g) O,P'	DDT (μg/g) P,P'	DDD (μg/g) O,P'	DDD (μg/g) P,P'	DDE (μg/g) O,P'	DDE (μg/g) P,P'	Total DDTR (μg/g) Min	Total DDTR (μg/g) Avg	Total DDTR (μg/g) Max
5-003	EPA	<0.100	<0.040	1.20	2.20	1.10	2.40	6.90	6.97	7.04
	SLI	0.020	0.010	0.530	0.900	0.270	0.660	2.39	2.39	2.39
5-004	EPA	<0.080	<0.040	0.780	1.30	0.660	1.50	4.24	4.29	4.36
	SLI	0.010	0.020	0.570	0.950	0.320	0.740	2.61	2.61	2.61
5-047	EPA	<0.080	0.033	0.430	0.880	0.300	0.500	2.14	2.18	2.22
	SLI	<0.006	0.020	0.450	0.950	0.180	0.460	2.06	2.06	2.06

Table 47. SLI-EPA Split Aufwuchs Data

TVA		DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
5-188	EPA	<0.100	0.120	0.050	0.160	0.030	0.096	0.456	0.506	0.556
	SLI	0.003	0.010	0.074	0.170	0.020	0.081	0.358	0.358	0.358

Table 48. SLI-EPA Split Plant Data

TVA		DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR (μg/g)		
LAB ID	Lab	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
5-120	EPA	0.004	<0.009	0.003	0.011	0.002	0.005	0.024	0.028	0.033
	SLI	<0.001	<0.002	0.003	0.005	0.001	0.002	0.011	0.012	0.014
5-133	EPA	<0.005	0.007	0.004	0.021	0.007	0.007	0.045	0.047	0.050
	SLI	0.002	0.004	0.005	0.013	0.008	0.007	0.039	0.039	0.039
5-139	EPA	0.005	0.017	0.015	0.022	0.012	0.016	0.087	0.087	0.087
	SLI	0.011	0.028	0.032	0.040	0.010	0.033	0.154	0.154	0.154
5-148	EPA	0.007	0.020	0.098	0.150	0.032	0.100	0.407	0.407	0.407
	SLI	0.024	0.049	0.230	0.320	0.061	0.210	0.894	0.804	0.894
5-152	EPA	0.001	0.005	0.013	0.060	0.008	0.027	0.114	0.114	0.114
	SLI	0.002	0.004	0.020	0.046	0.005	0.012	0.089	0.089	0.089
5-210	EPA	0.008	<0.006	0.019	0.052	0.006	0.012	0.097	0.100	0.103
	SLI	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	0.000	0.003	0.007

ATTACHMENT 2

FIGURES

FIGURES

FIGURE 1
LOW "POOLED" FISH DATA

(See Sections 5.3.2.1 and 5.3.7.2.1)

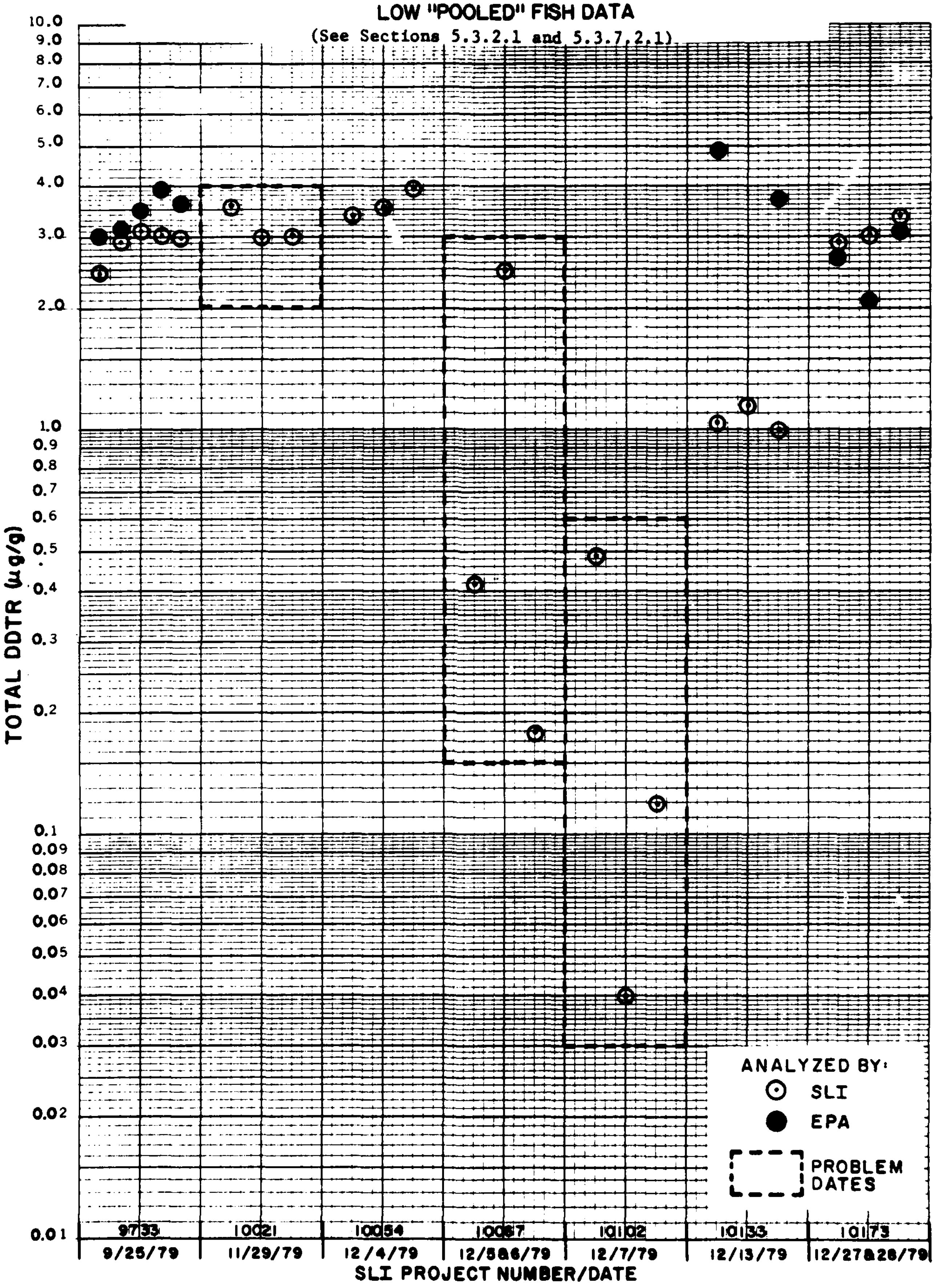


FIGURE 2
HIGH "POOLED" FISH DATA
(See Sections 5.3.2.1 and 5.3.7.2.1)

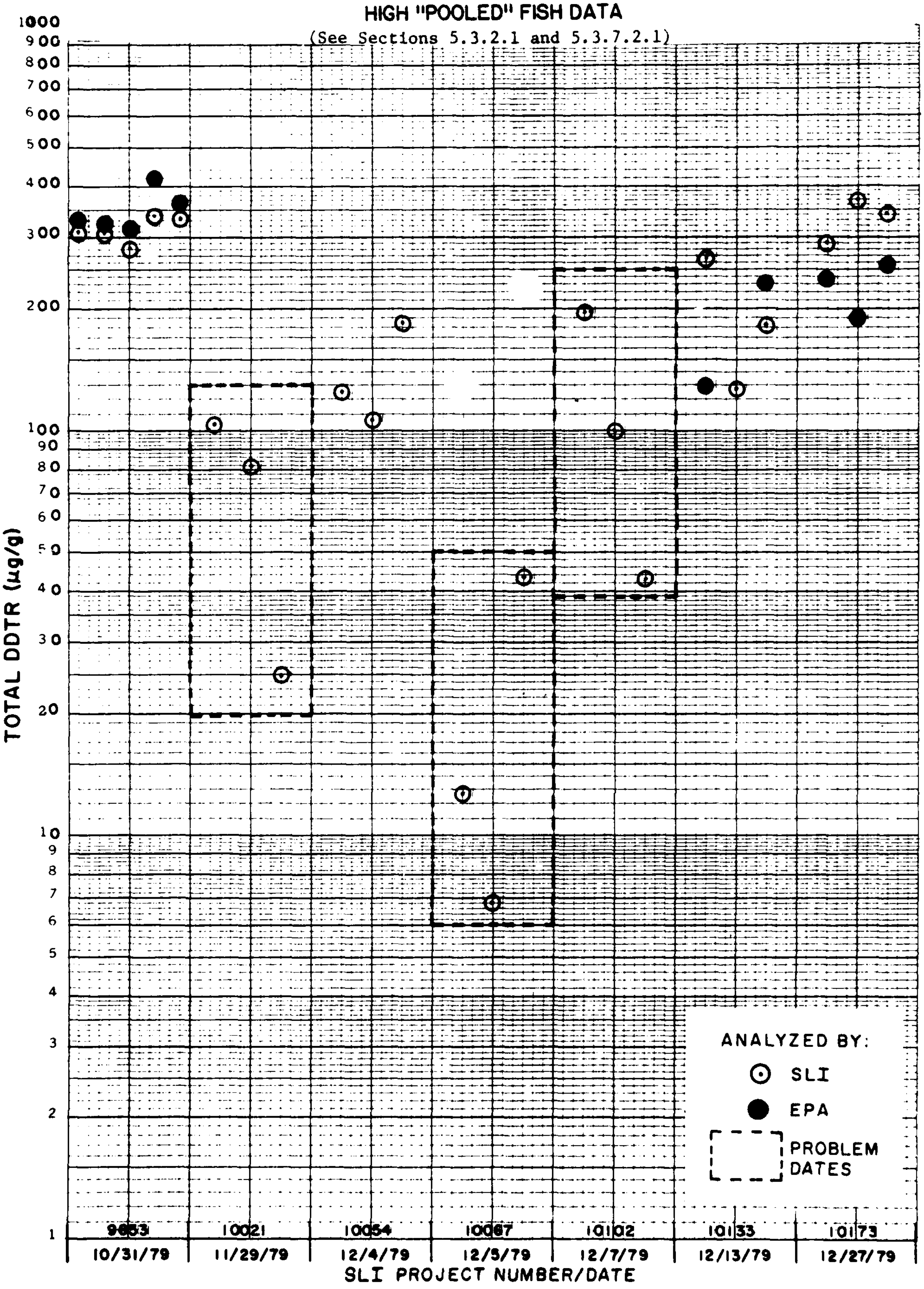
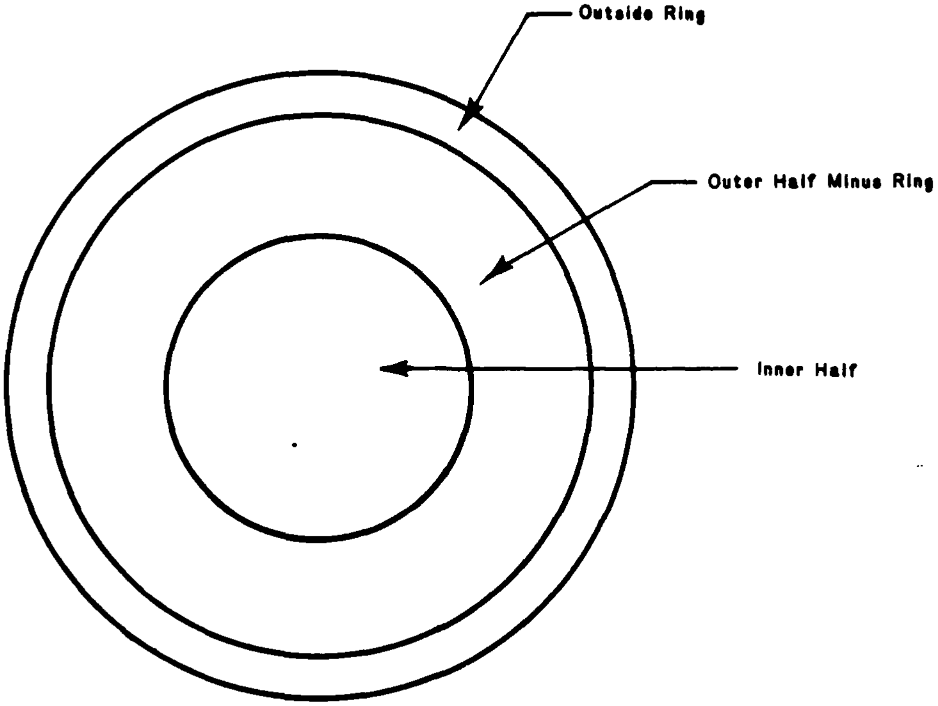


FIGURE 3

SAMPLE IDENTIFICATION DIAGRAM FOR MIGRATION OF LIPIDS EXPERIMENT

(See Section 5.3.7.2.2)



ATTACHMENT 3

ANALYTICAL METHODOLOGY

ANALYTICAL METHODOLOGY

1.0 Water

1.1 DDT

1.1.1 Applicable Documents

1.1.1.1 "Determination of Organochlorine Pesticides in Industrial Effluents," 40 CFR 136, December 1, 1976.

1.1.1.2 "Sampling and Analysis Procedures for Screening of Industrial Effluents in Priority Pollutants," (1977), U.S. Environmental Protection Agency, EMSL, Cincinnati, OH 45268.

1.1.1.3 "Methods for Organochlorine Pesticides in Drinking Water," (1978), U.S. Environmental Protection Agency, EMSL, Cincinnati, OH 45268.

1.1.2 Summary of Method (EPA and SLI)

1.1.2.1 A 1-liter sample of water is extracted with 15% methylene chloride in hexane. The extract is dried, concentrated to a volume of 10 mL and injected into a packed gas chromatographic column (1.5% SP-2250/1.95% SP 2401). Components are separated as they pass through the column and their presence is detected and measured with a Ni^{63} electron capture detector.

1.1.2.2 In the event interferences are encountered, the method provides selected general purpose cleanup procedures to aid in their elimination.

1.1.2.3 Sample Size--One liter for each measurement; 2 liters are usually collected for quality control work and a reserve.

1.1.2.4 Minimum Detectable Amount--Method sensitivity is 0.01 to 0.03 µg/L for the DDT isomers and metabolites when analyzing a 1 liter sample.

1.1.2.5 Methodology Modification--During the course of the contract a method modification, as requested by the Project Officer, was made. Twenty-five (25) mL of a saturated sodium chloride solution was added to all water samples prior to solvent extraction.

1.2 Other Parameters

1.2.1 Applicable Documents

1.2.1.1 Methods for Chemical Analysis of Water and Wastes, Environmental Protection Agency, Water Quality Office, Cincinnati, Ohio, 1974.

1.2.1.2 "Interim Methods for Metals in Drinking Water," Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, April 1978.

1.2.1.3 "Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants," Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, April 1977.

1.2.2 Summary of Methods (TVA)

Parameter	Applicable Document	Type of Analysis	Detection Limit
Alkalinity	1.2.1.1, method 310.1	Titrimetric	10 mg/L
Suspended solids	1.2.1.1, pp. 268-269	Gravimetric	1 mg/L
NO_2 + NO_3 Nitrogen	1.2.1.1, pp. 207-214	Automated cadmium reduction	0.01 mg/L
NH_3 Nitrogen	1.2.1.1, pp. 168-174	Automated phenate	0.01 mg/L
Total and soluble PO_4	1.2.1.1, pp. 249-265	Automated ascorbic acid	0.01 mg/L
Calcium	1.2.1.1, pp. 103-104	Atomic absorption, direct	0.1 mg/L
Magnesium	1.2.1.1, pp. 116-117	Atomic absorption, direct	0.1 mg/L

Parameter	Applicable Document	Type of Analysis	Detection Limit
Copper	1.2.1.1, pp. 81-83, 108	Atomic absorption, direct	0.01 mg/L
Nickel	1.2.1.1, pp. 81-83, 141-142	Atomic absorption, direct	0.01 mg/L
Mercury	1.2.1.1, pp. 118-126	Cold vapor, manual	0.0002 mg/L
Zinc	1.2.1.1, pp. 81-83, 155	Atomic absorption, direct	0.01 mg/L
Cadmium	1.2.1.2, pp. 33-34	Heated graphite atomizer	0.0001 mg/L
Arsenic	1.2.1.1, pp. 95-96	Gaseous hydride	0.002 mg/L
Beryllium	1.2.1.1, pp. 81-83, 99-100	Atomic absorption, direct	0.01 mg/L
Other priority pollutants	1.2.1.3	Gas chromatography-mass spectrometry	Various detection limits

2.0 Sediment

2.1 DDT Analysis

2.1.1 Applicable Documents

2.1.1.1 "Manual of Analytical Methods for the Analysis of Pesticide Residues in Human and Environmental Samples," U.S. Environmental Protection Agency, Pesticides and Toxic Substances Effects Laboratory, National Environmental Research Center, Research Triangle Park, North Carolina, December 1974.

2.1.1.2 "Ecological Evaluation of Proposed Discharge or Fill Material into Navigable Waters," WES Miscellaneous Paper D-76-17, Dredged Material Research Program (DMRP) publication, Appendix D, Total Sediment Analysis Procedures.

2.1.1.3 "Interim Methods for the Sampling and Analysis of Priority Pollutants in Sediments and Fish Tissue," (1978), U.S. Environmental Protection Agency, EMSL, Cincinnati, OH 45263.

2.1.2 Summary of Method

2.1.2.1 SLI Method--The compounds of interest are extracted from air-dried sediment with 15% methylene chloride in hexane (v/v). The sample/solvent mixture is agitated for 30 minutes on a mechanical shaker followed by ultrasonification for 30 minutes. The extract is subsequently analyzed for DDT isomers and metabolites using agency-approved methods.

2.1.2.2 EPA Method--EPA extracted the sediment samples using an ultrasonic probe. The samples were sonicated twice with 1:1 acetone: hexane. The extracts were water washed to remove the acetone, then cleaned up on Florisil.

2.1.3 Sample Size--20 g for each measurement; 60 g are usually collected for moisture determination, quality control work, waste, and a reserve.

2.1.4 Minimum Detectable Amount--0.01 μg of each isomer or metabolite per g (dry weight basis) if a 20-g sample is used.

2.2 Wet Sieve Analysis

2.2.1 Applicable Documents

2.2.1.1 Guy, H. P., "Laboratory Theory and Methods for Sediment Analysis" Book 5, Chapter C1, in Techniques of Water-Resources Investigations of the United States Geological Survey, U.S. Government Printing Office, Washington, DC, 1969.

2.2.2 Summary of Method (TVA)

2.2.2.1 A 25-g aliquot of a well-mixed sediment sample is blended with 100 mL of deionized water for five minutes. This slurry is then poured into a stack of four 3-inch screens (2.0, 0.500, 0.125, and 0.063 mm). Each screen is washed with deionized water onto the next size screen (e.g., the 2.0-mm screen is washed onto the 0.500 screen, etc.). The material retained on each sieve along with the sediment that passes through the 0.063 mm sieve is dried at 105°C. From these data, the percentage of solids finer than 2.0, 0.5, 0.125, and 0.063 mm is calculated.

2.2.3 Sample Size

25 g

2.2.4 Minimum Detectable Amount

The range of this procedure is for particles ranging from greater than 2.0 mm to less than 0.063 mm.

2.3 Particle Size

2.3.1 Applicable Documents

2.3.1.1 Welch, N. H., P. B. Allen, and D. J. Galindo, "Particle-Size Analysis by Pipette and SediGraph," prepublication manuscript.

2.3.1.2 Instruction Manual, SediGraph 5000D Particle Size Analyzer, Micromeritics Instrument Corporation, MIC P/N 500/42801/00, Norcross, Georgia, 1978.

2.3.2 Summary of Method (TVA)

2.3.2.1 A sample previously wet-sieved through a 63 μm sieve is dispersed in a 0.05% sodium hexametaphosphate solution. The particle size distribution is determined using a SediGraph Model 5000D Particle Size Analyzer. This is determined by means of a finely collimated beam of X-rays whose transmittance indicates the concentration of particles remaining in suspension at various sedimentation depths as a function of time. The results are plotted on an X-Y recorder showing the particle size distribution in terms of "cumulative mass percent finer" versus "equivalent spherical diameter." Reference 2 presents the theory and principles upon which the method is based.

2.3.3 Sample Size

25 g (if wet sieve analysis is performed, the particles passing through the 63 μm sieve are retained for particle size analysis).

2.3.4 Minimum Detectable Amount

The optimum range of this procedure is from 62 μm down to an equivalent sperical diameter of 0.25 μm. The range can be extended to 0.1 μm, but this requires an additional five hours of analysis time.

2.4 Elutriate Test

2.4.1 Applicable Documents

2.4.1.1 "Ecological Evaluation of Proposed Discharge of Dredged or Fill Material into Navigable Waters." pp. A1-A7, miscellaneous paper D-76-17, Office Chief of Engineers, U.S. Army, Washington, DC, May 1976.

2.4.2 Summary of Method (TVA)

2.4.2.1 The elutriate test is a simplified simulation of the dredging and disposal process wherein predetermined amounts of dredging site water and sediment are mixed together to approximate a dredged material slurry. The elutriate is the supernatant resulting from the vigorous 30-min shaking of one part bottom sediment from the dredging site with four parts water (vol/vol) collected from the dredging site followed by a 1-hour settling time and appropriate centrifugation and 0.45 μ filtration.

2.4.3 Sample Size

A 1000-g sediment sample is needed along with a 2-gallon representative water sample at the dredging site.

2.4.4 Minimum Detectable Amount

Not applicable

3.0 Fish and Vertebrates

3.1 Applicable Documents

3.1.1 Pesticide Analytical Manual, Volume 1, Methods Which Detect Multiple Residues, Section 211.13f, U.S. Department of Health, Education, and Welfare, Food and Drug Administration, September 1972.

3.1.2 "Interim Methods for the Sampling and Analysis of Priority Pollutants in Sediments and Fish Tissues," (1978), U.S. Environmental Protection Agency, EMSL, Cincinnati, OH 45263.

3.2 Summary of Method

3.2.1 SLI

3.2.1.1 The sample is homogenized, dried with Na_2SO_4, and extracted three times with petroleum ether using a high-speed blender. The combined petroleum ether extract is concentrated, transferred to a tared container and dried for lipid determination. Residue is dissolved in hexane and subjected to florisil cleanup when necessary. The extract is subsequently analyzed for DDT isomers and metabolites using agency-approved methods (1.1.1).

3.2.2 EPA

3.2.2.1 EPA used a sonic probe technique which involved two sonications of solvent and fish, for most of this study. The first few samples analyzed by EPA were also extracted by the FDA method which utilizes a high-speed blender. EPA used acetonitrile partitioning and Florisil chromatography in place of sulfuric acid cleanup.

3.3 Sample Size--25 g for each measurement; at least 50 g are usually collected for the quality control work and for a reserve.

3.4 Minimum Detectable Amount--0.01 µg of each isomer or metabolite per g if a 25-g sample is used.

APPENDIX V

WORKTASK DESCRIPTIONS AND RESULTS FOR 7 TVA WORKTASKS

TASK 1: DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

TASK 2: FISH POPULATION ESTIMATES AND DDT CONCENTRATIONS IN YOUNG-OF-YEAR FISHES FROM INDIAN CREEK AND HUNTSVILLE SPRING BRANCH EMBAYMENTS OF WHEELER RESERVOIR

TASK 3: ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

TASK 4: ASSESSMENT OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

TASK 5: AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

TASK 6: VOLUME 1. HYDROLOGIC AND SEDIMENT DATA

TASK 7: ASSESSMENT OF DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS (SPATIAL EXTENT OF CONTAMINATION)

ERRATA SHEET FOR TASKS 1-7 FOR DDT STUDY

TVA - SEPTEMBER 30, 1980

Document Description	Page	Section	Change
Tasks 1-6	ii	Preface	"Envineering" to "Engineering"
1	2	3.42	"the composite dry ice blended" to "for most samples the frozen composite samples were wet blended"
6 Vol. 1	35 (3rd paragraph)	4.0	Insert after "dissolved" (without the addition of salt)
6 Vol. 1	35 (3rd paragraph)		Insert after "However", turbidity
7	2	3.1.2	Change "short-tailed shrew" to "shrew"
7	3	3.4.2	Insert after "Derivations in sample weights" (less than 50 grams)
7	4	4.1	Change the first sentence "A 10 gram aliquot..." to read "When a 50 g sample was available (turtles and muskrats), a 25 g aliquot was removed."
7	4	4.1	After "except for shrews" insert "snakes and herrons" change "animal was utilized" to "muscle tissue was utilized"
7	4	4.2	Omit entire section
7	4	4.3	Change "additionally, approximately 10 percent..." to "Due to the small sample sizes less than 10 percent..."

TABLE OF CONTENTS

This Appendix contains seven individual reports on work tasks performed by TVA. The reports have been reproduced as received. Some reports have their own appendices and page number sequences begin anew with each report. The Table of Contents for each of the seven reports follows:

TABLE OF CONTENTS, Continued

TABLE OF CONTENTS, Continued

ENGINEERING AND ENVIRONMENTAL STUDY
OF DDT CONTAMINATION OF HUNTSVILLE
SPRING BRANCH, INDIAN CREEK, AND
ADJACENT LANDS AND WATERS,
WHEELER RESERVOIR, ALABAMA

TASK 1

DDT LEVELS IN IMPORTANT
FISH SPECIES THROUGHOUT WILSON,
WHEELER, AND GUNTERSVILLE RESERVOIRS

Tennessee Valley Authority
Office of Natural Resources

August 1980

PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

CONTENTS

TASK 1

WORKTASK DESCRIPTION

TASK 1

WORKPLAN FOR DESCRIBING DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

1.0 Purpose

To define the level of DDTR* in important commercial and game fish species (human health implications) and to define the magnitude of DDTR bioconcentration and transfer in the fish community of Wheeler Reservoir.

2.0 Scope

Fish samples were collected from Wilson, Wheeler, and Guntersville Reservoirs, including eight tributaries of Wheeler Reservoir.

3.0 Procedures

3.1 Sample Locations - See Appendix A.

3.2 Types of Samples

3.2.1 Fish species to be sampled - 6 specimens of each species.

Commercial fish - (all stations)

	TL (mm)
Channel catfish and/or Blue catfish	350-450
Smallmouth buffalo	500-600

Game fish - (all stations)

	TL (mm)
White bass	200-300
White crappie	250-350
Largemouth bass	250-350
Bluegill	100-200

Forage fish - (TRM 260, 275, 315, 325, 345, 400, Indian Creek, and Huntsville Spring Branch).

	TL (mm)
Gizzard shad	50-150, 200-300

---

*DDTR = DDT isomers and metabolites

3.3 Field Collection

3.3.1 Six specimens of the following species: channel catfish and/or blue catfish, smallmouth buffalo, white bass, white crappie, largemouth bass, bluegill and gizzard shad were collected from the designated stations (see Appendix A). Gill nets, hoop nets, electrofishing gear, and trotlines were used to make the collections. Some specimens were also collected from Indian Creek and Huntsville Spring Branch with rotenone (see Task 2). In addition, young-of-the-year specimens were collected in conjunction with fish population studies (Task 2) for DDTR analysis.

3.4 Sample Handling

3.4.1 Each specimen collected was wrapped in paper and placed on ice in the field and then transferred to a chest freezer in the laboratory. Total length (mm) and weight (gm) was recorded and individual fish labeled and placed in the laboratory freezer. Caution was exercised to prevent contact with any plastic materials.

3.4.2 A summary of the fish sample collections is given in table 1. The samples designated by an asterisk in table 1 were handled and prepared by taking a portion of tissue from the dorsal musculature for DDTR analysis. On these samples, a 10-gram aliquot was removed from each portion of tissue and the composite dry ice blended. An aliquot was then analyzed for DDTR. On all remaining samples, a whole filet from each fish was removed, wrapped, and shipped to the laboratory. Each of the individual samples from one species was weighed and wrapped separately in aluminum foil and properly labeled. A separate polyethylene ziplock bag was used for all six samples from a given species (6 samples, 1 bag). The remaining body from each fish that had portions of flesh

Table 1. Summary of Fish Sample Collections and DDTR Analysis for Task 1

Location		Large-mouth Bass	Small-mouth Buffalo	Blue-gill	White Crappie	White Bass	Gizzard Shad	
Stream	Mile	DDT#	DDT#	DDT#	DDT#	DDT#	50-150	200-300
TRM	260	*	X	*	X	X	X	129
TRM	265	*	X	*	X	X	-	-
TRM	270	√	-	*	*	X	-	-
TRM	275	√	√	√	√	X	X	155
TRM	280	√	√	√	X	X	-	-
TRM	285	*	*	*	X	√	-	-
TRM	290	*	*	*	*	X	-	-
TRM	295	*	*	*	*	*	-	-
TRM	300	√	√	*	*	X	-	-
TRM	305	*	√	*	X	X	-	-
TRM	310	√	√	√	√	X	-	-
TRM	315	†	√	†	X	X	X	130
TRM	320	√	√	√	X	X	-	-
TRM	325	√	√	√	X	X	X	132
TRM	330	√	√	√	X	X	-	-
TRM	335	√	√	√	X	X	-	-
TRM	340	√	√	√	√	X	-	-
TRM	345	†	√	†	√	X	X	168
TRM	350	√	X	√	√	√	-	-
TRM	375	√	√	√	X	X	-	-
TRM	400	√	√	√	X	X	X	67
Elk River	5	*	*	*	√	√	-	-
Elk River	10	*	*	*	*	X	-	-
Elk River	15	*	*	*	*	*	-	-
Spring Creek	1	√	√	√	X	√	-	-
Limestone Creek	3	√	√	√	√	X	-	-
Flint Creek	5	√	√	√	√	X	-	-
Cataco Creek	2	√	√	√	√	X	-	-
Indian Creek	2	†	√	†	√	X	X	131
H.S.B. ~	4	X	X	X	X	X	X	X
Flint River	1	√	X	√	√	X	-	-
Paint Rock River	1	√	√	√	√	X	-	-

X = These samples could not be collected.
* = These samples were partial filets blended with dry ice.
† = These composite samples were taken from samples used for the whole body analysis.
√ = All samples collected.
- = Sample collection not planned.

removed was weighed, properly labeled, wrapped in aluminum foil, and retained in a freezer to provide capabilities for determining total DDT residue (head, flesh, viscera).

3.5 Sample Analysis

3.5.1 On those samples listed in table 1 which are not designated by an asterisk, the samples were prepared for analysis by first dicing each whole filet into small pieces and mixed well. A 10-gram aliquot was then removed from each fish and composited by blending. The composited samples were then analyzed for DDTR. If the total DDTR in the composite sample was greater than 2.0 µg/g, each of the six filets of that species were analyzed individually for all six forms of DDT residues. On composite samples which had been prepared by using only a partial filet, the individual samples were analyzed if the composite was greater than 1.0 µg/g.

3.5.2 Each of the six gizzard shad from a single station were blended separately. A composite sample was made by mixing aliquots from each of the six blended fish. The composite sample was analyzed for DDT residues. The remaining portion of each individually blended fish was retained for additional analyses as desired.

3.5.3 Whole body analyses was determined for six specimens of each of the following species: channel and/or blue catfish, largemouth bass, and bluegill, at the following sample locations: TRM 315, TRM 345, and ICM2.

The remainder of each fish (after filet analysis) was used for the whole body analysis. All samples were analyzed individually for DDTR by previously specified procedures. The individual fillet analyses and the DDT analyses on the remainder of the whole body were arithmetically combined (proportionately to weight) to determine the total whole body value.

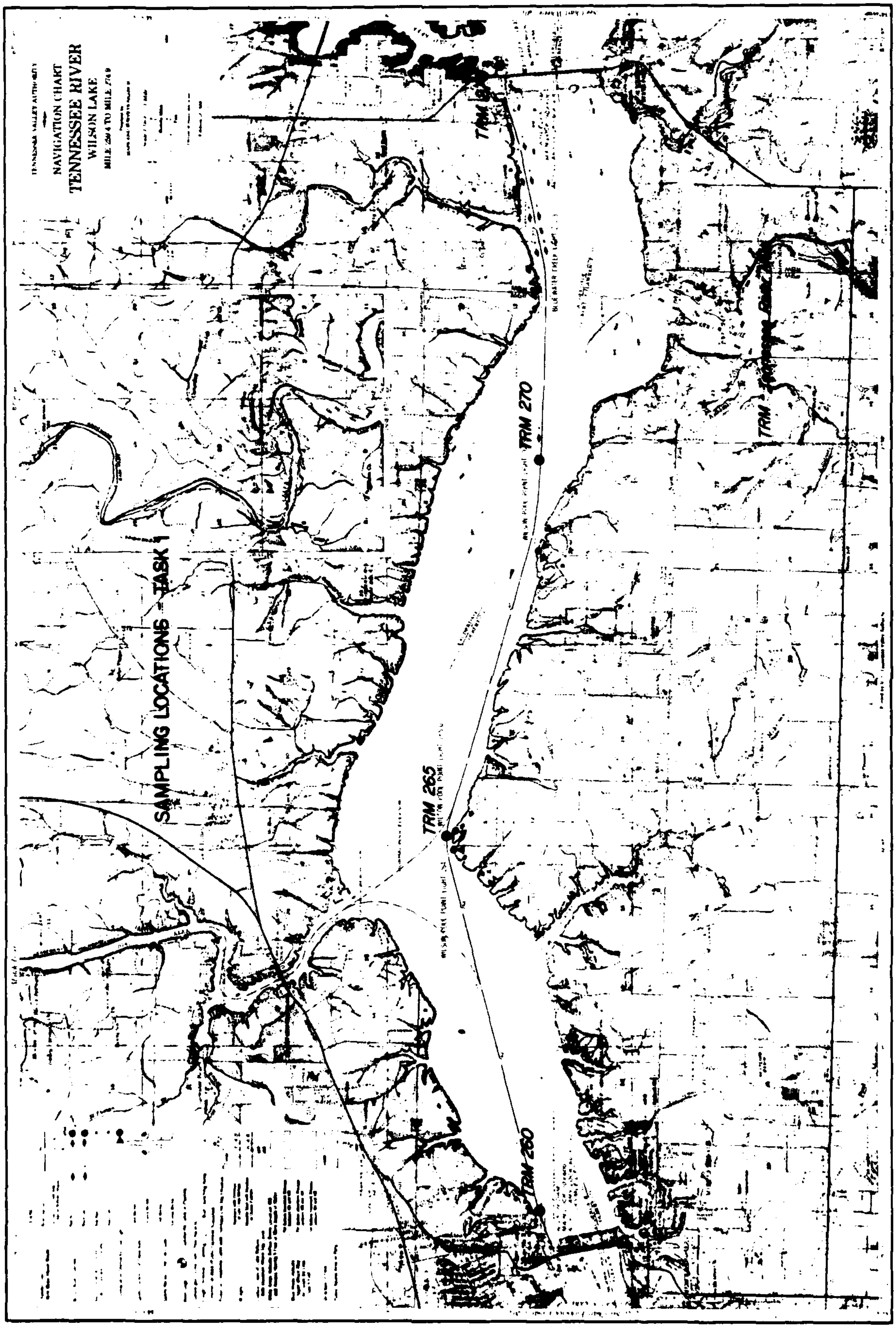
3.5.4 The DDT analysis was performed by an approved or acceptable procedure (see Quality Assurance document). Approximately 10 percent of all analyses were replicated. Additionally, approximately 10 percent of all samples to be analyzed were split and analyzed by a second laboratory.

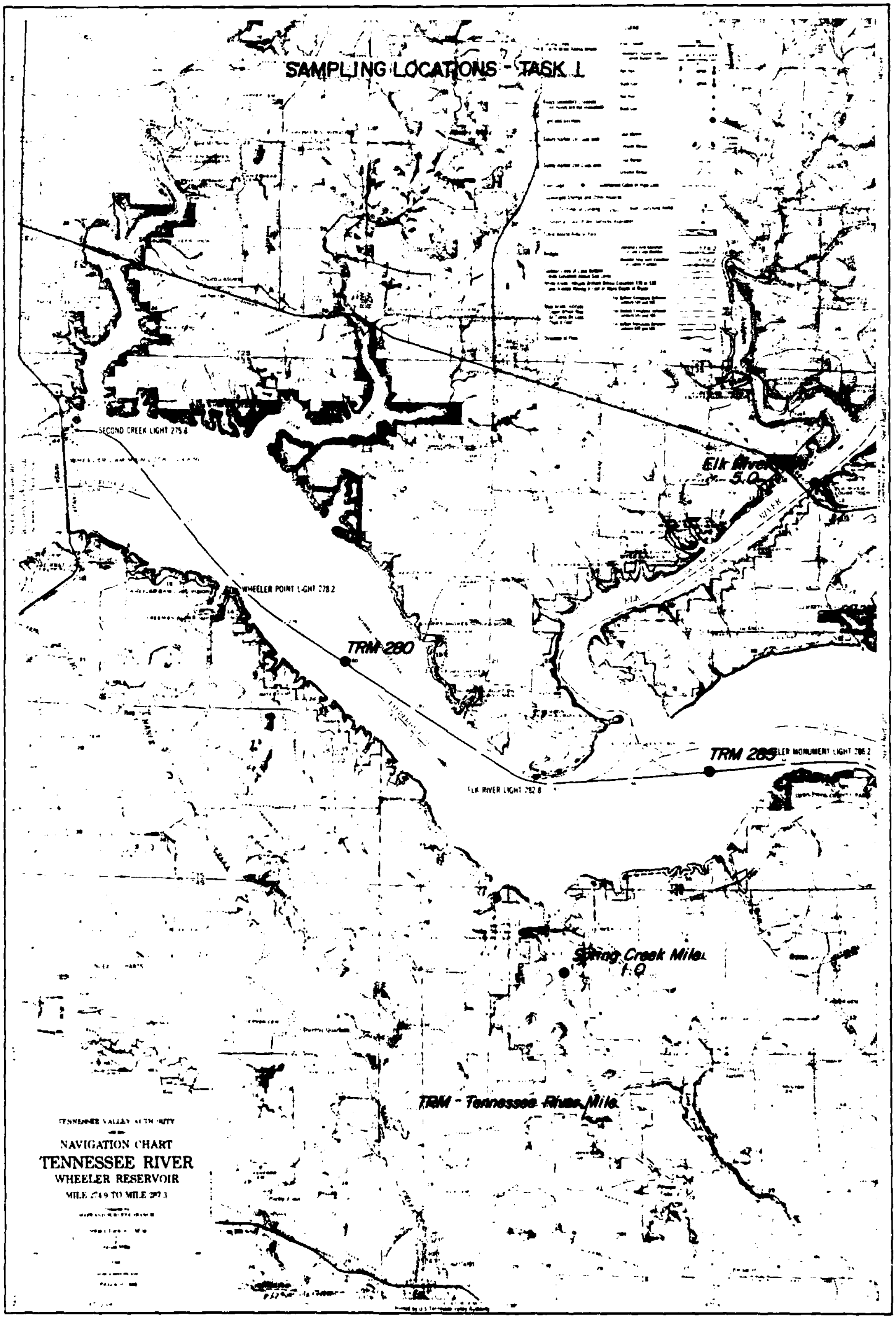
3.6 Data Handling and Reporting

3.6.1 All data are summarized in tabular form and presented in Appendix B. This table includes: Sample identification number, location, date collected, species, length, weight, sex, and DDTR concentration.

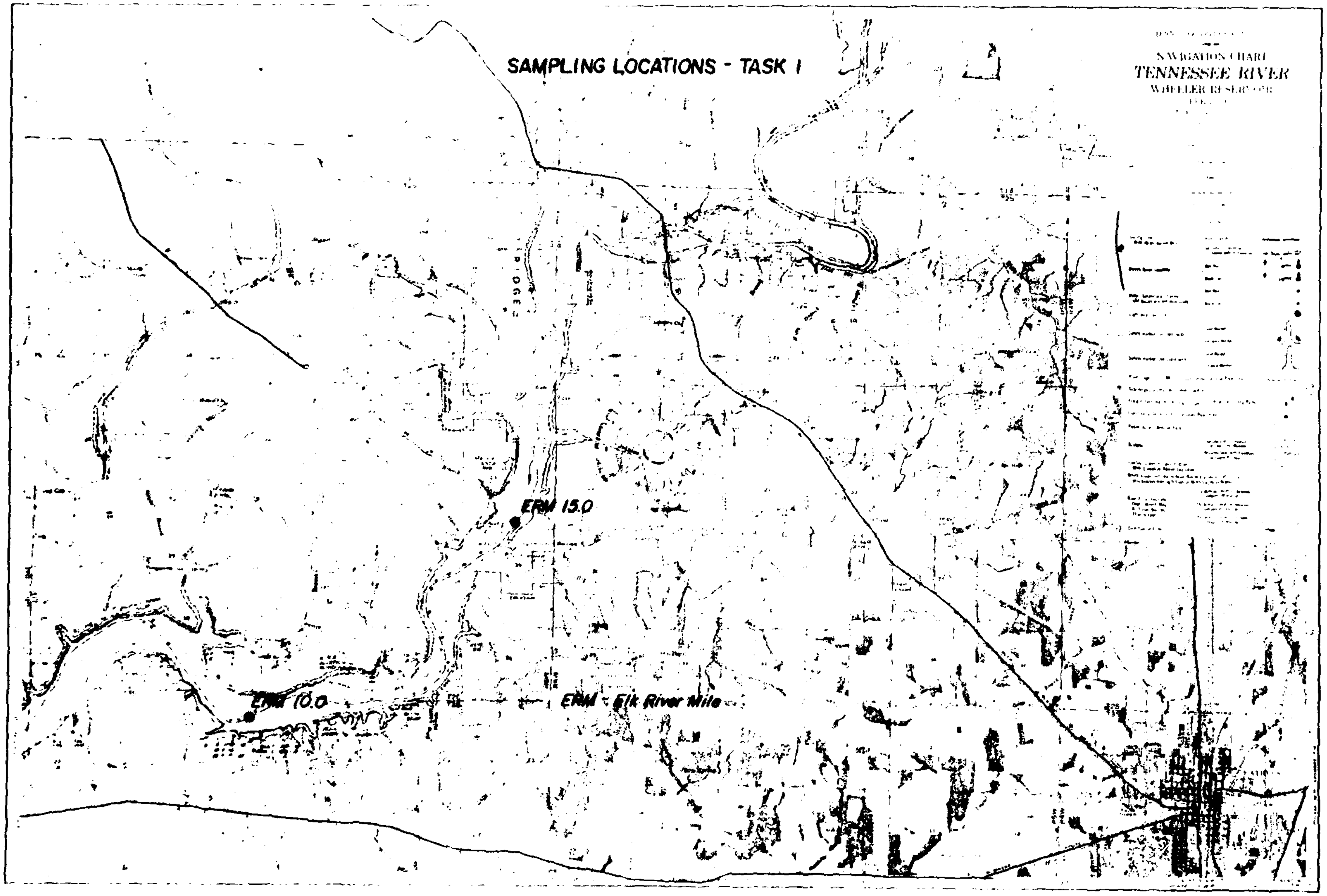
APPENDIX A

SAMPLE LOCATION MAPS


TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
WILSON LAKE
MILE 259.4 TO MILE 274.9
SAMPLING LOCATIONS - TASK 1
TRM 260
TRM 265
TRM 270
TRM
TRM

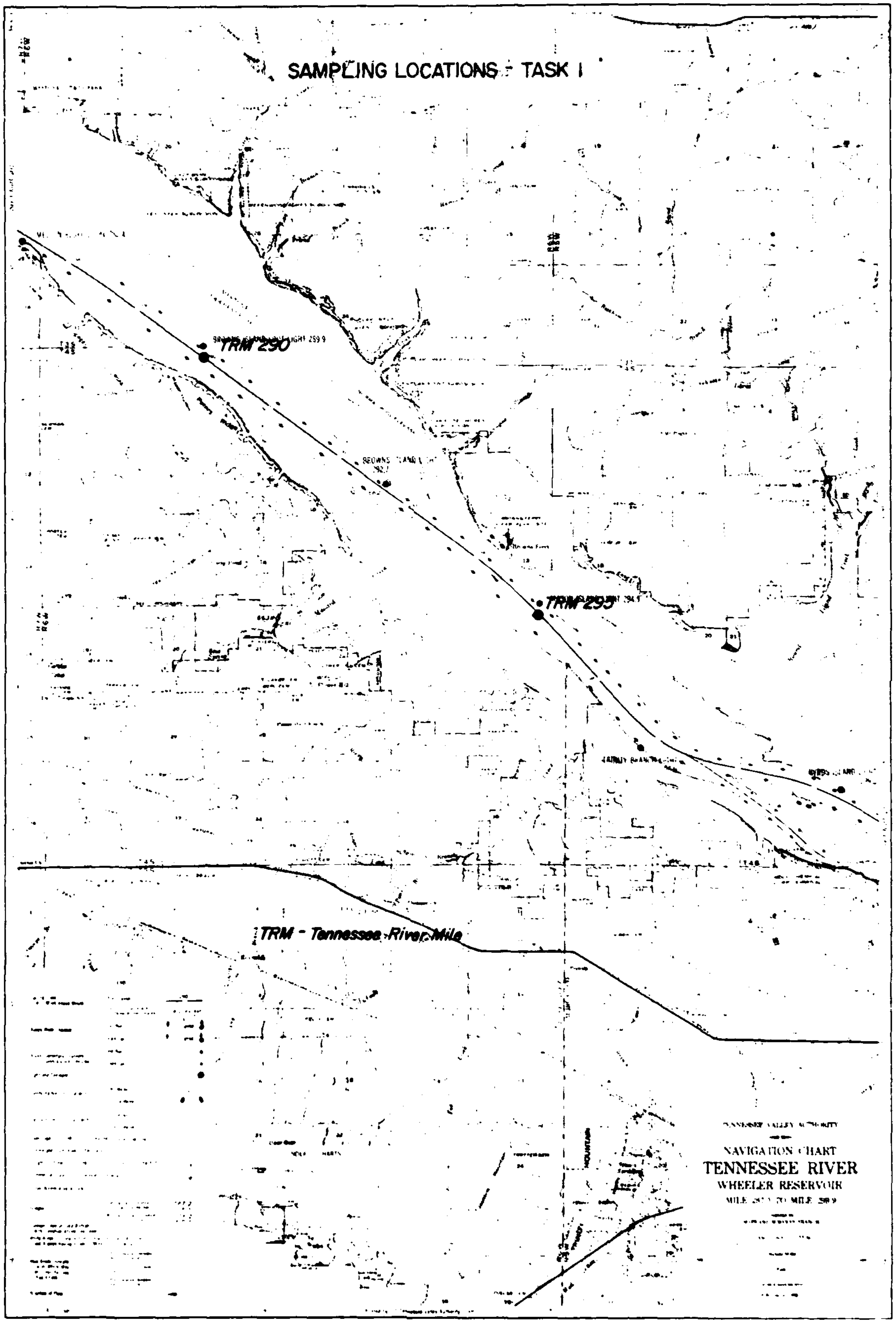


SAMPLING LOCATIONS - TASK 1

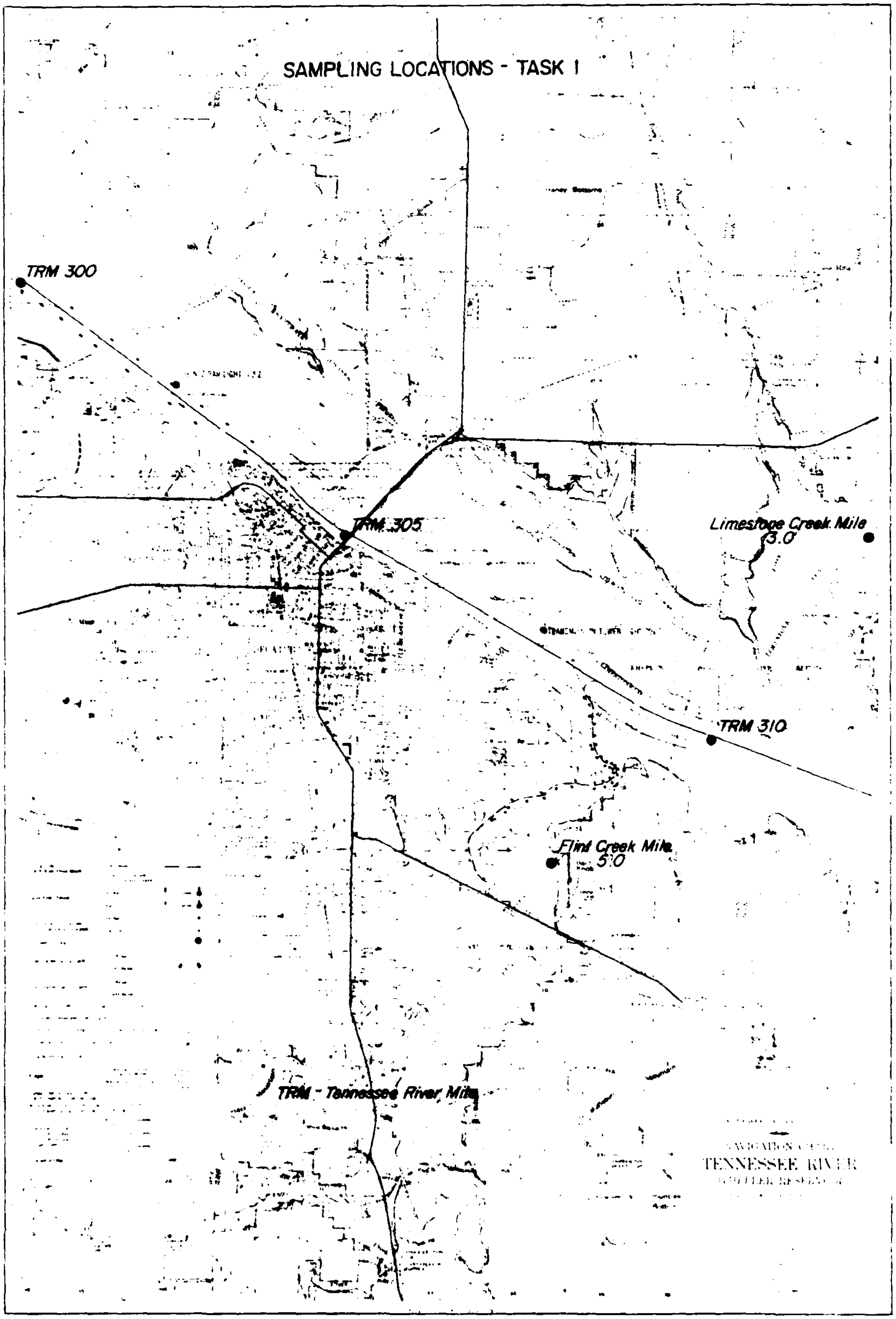


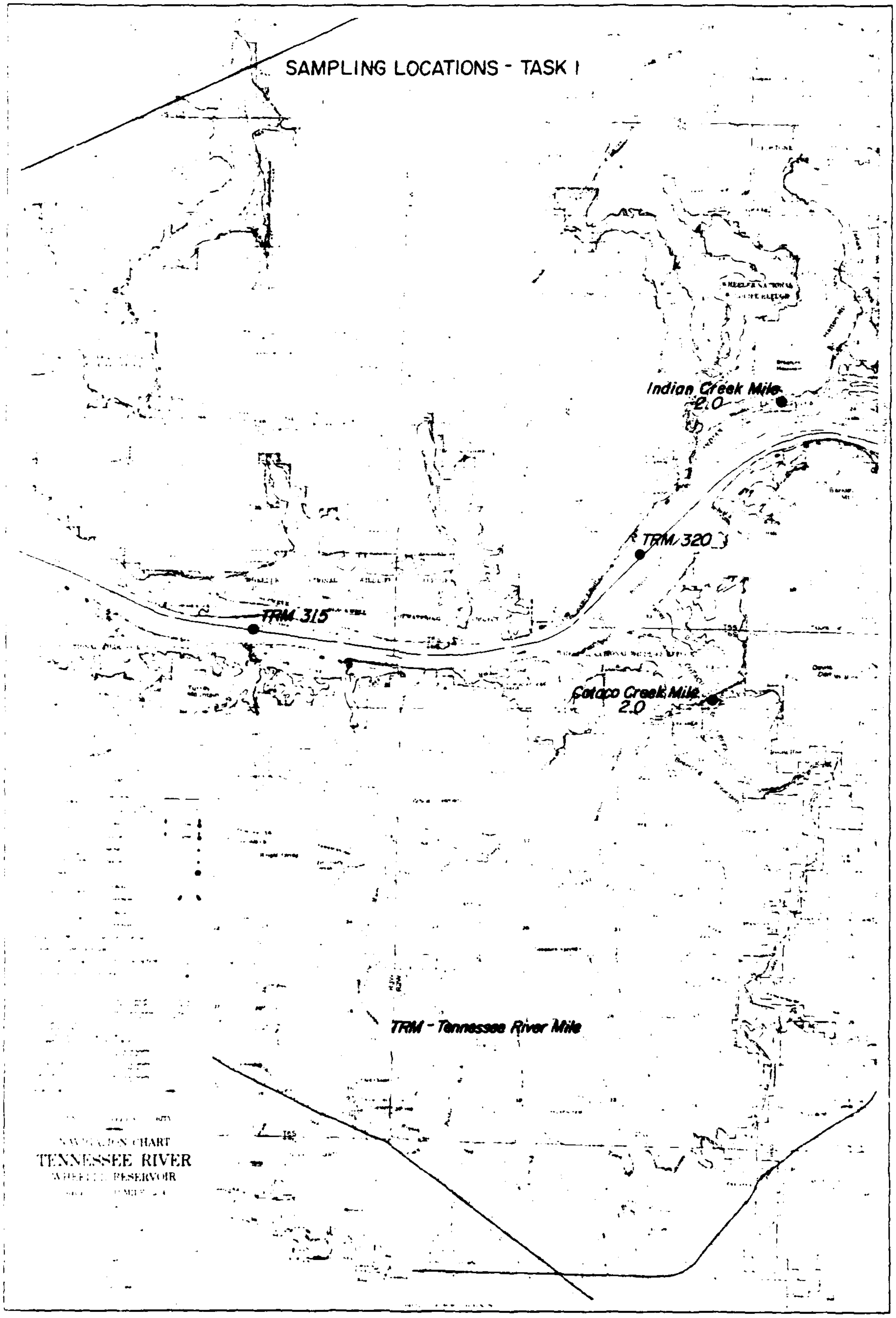
SAMPLING LOCATIONS - TASK I
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR
RIDGE
ERM 15.0
ERM 10.0
ERM - Elk River Mile

SAMPLING LOCATIONS - TASK I

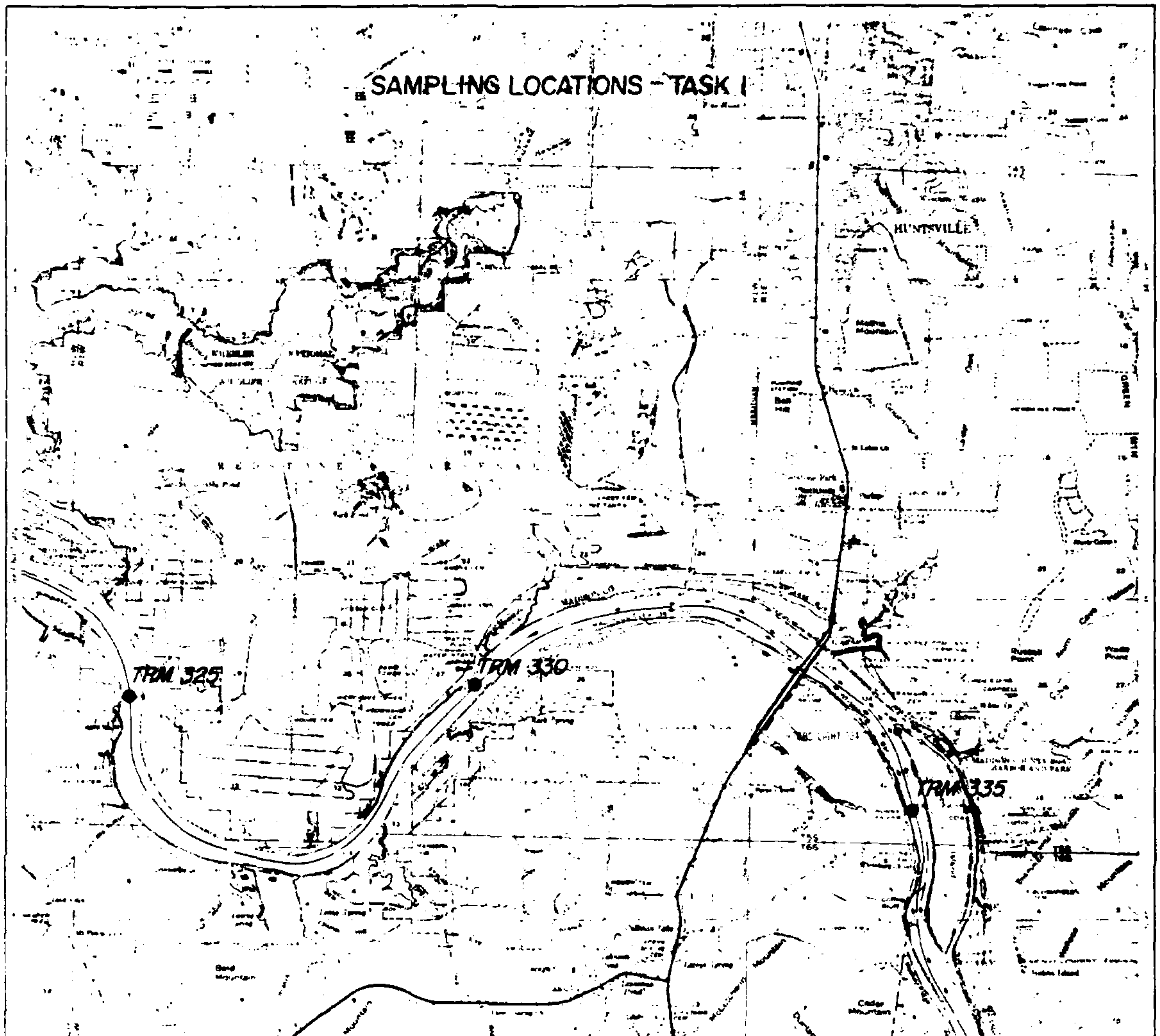


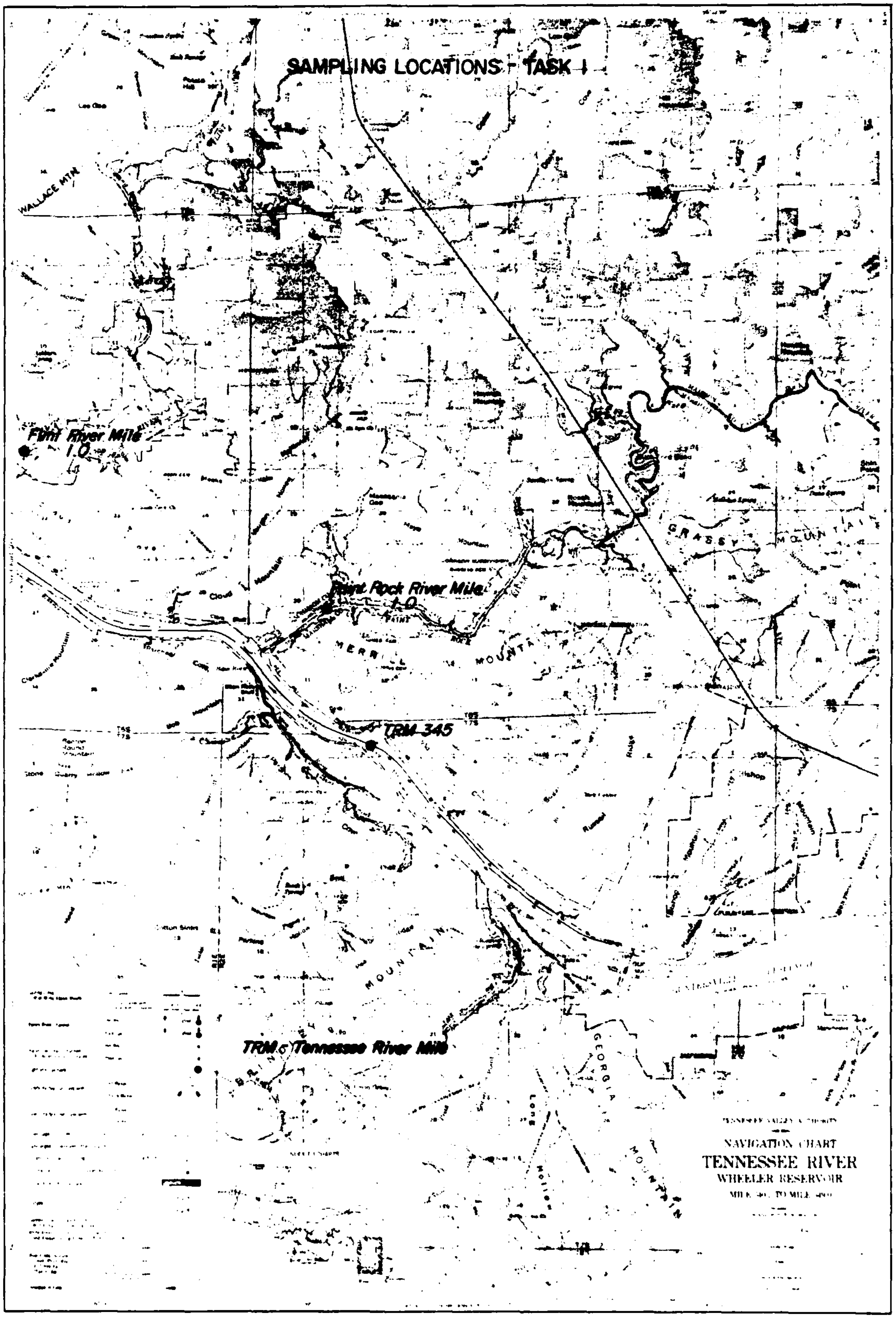
SAMPLING LOCATIONS - TASK I

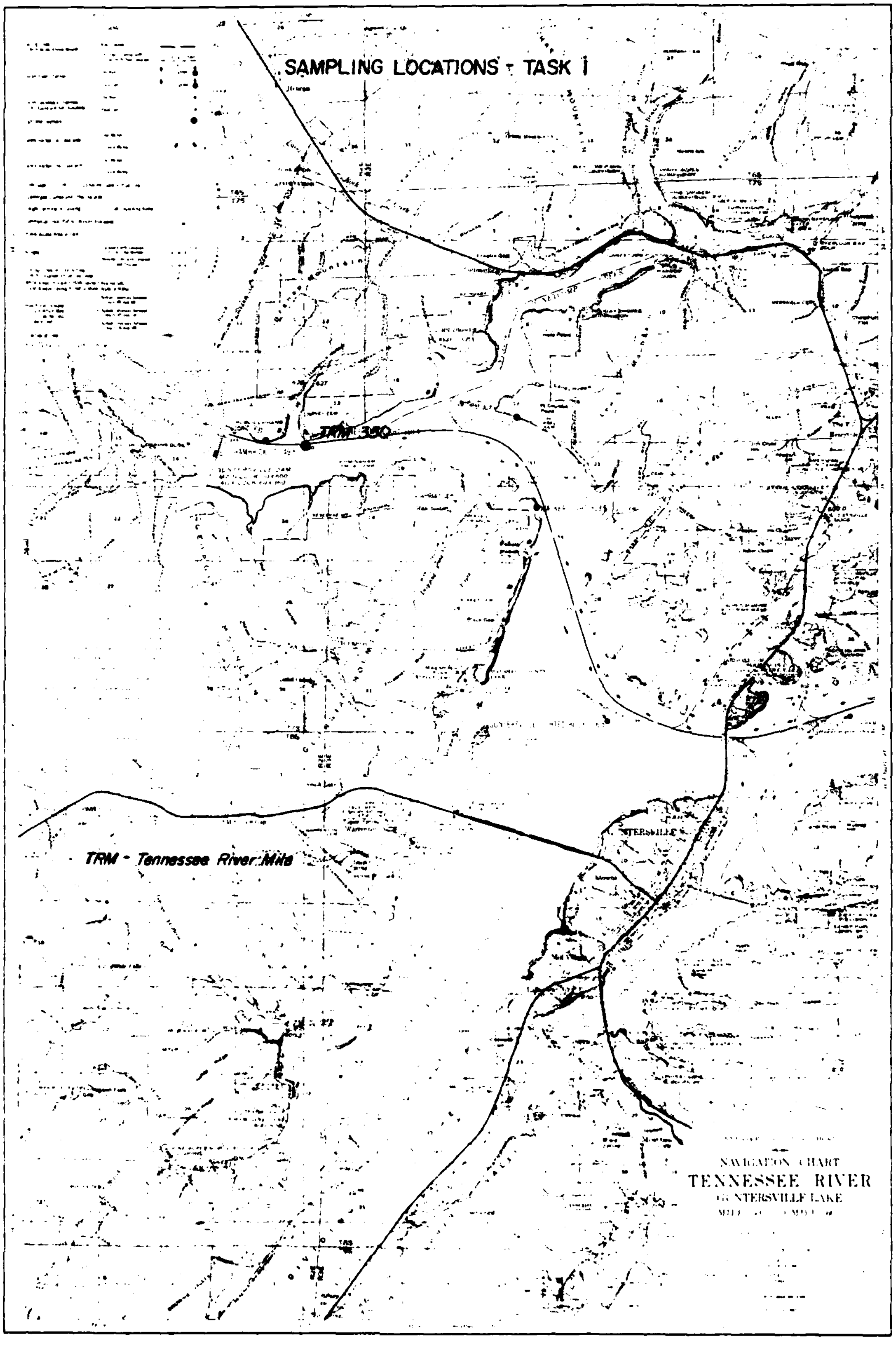


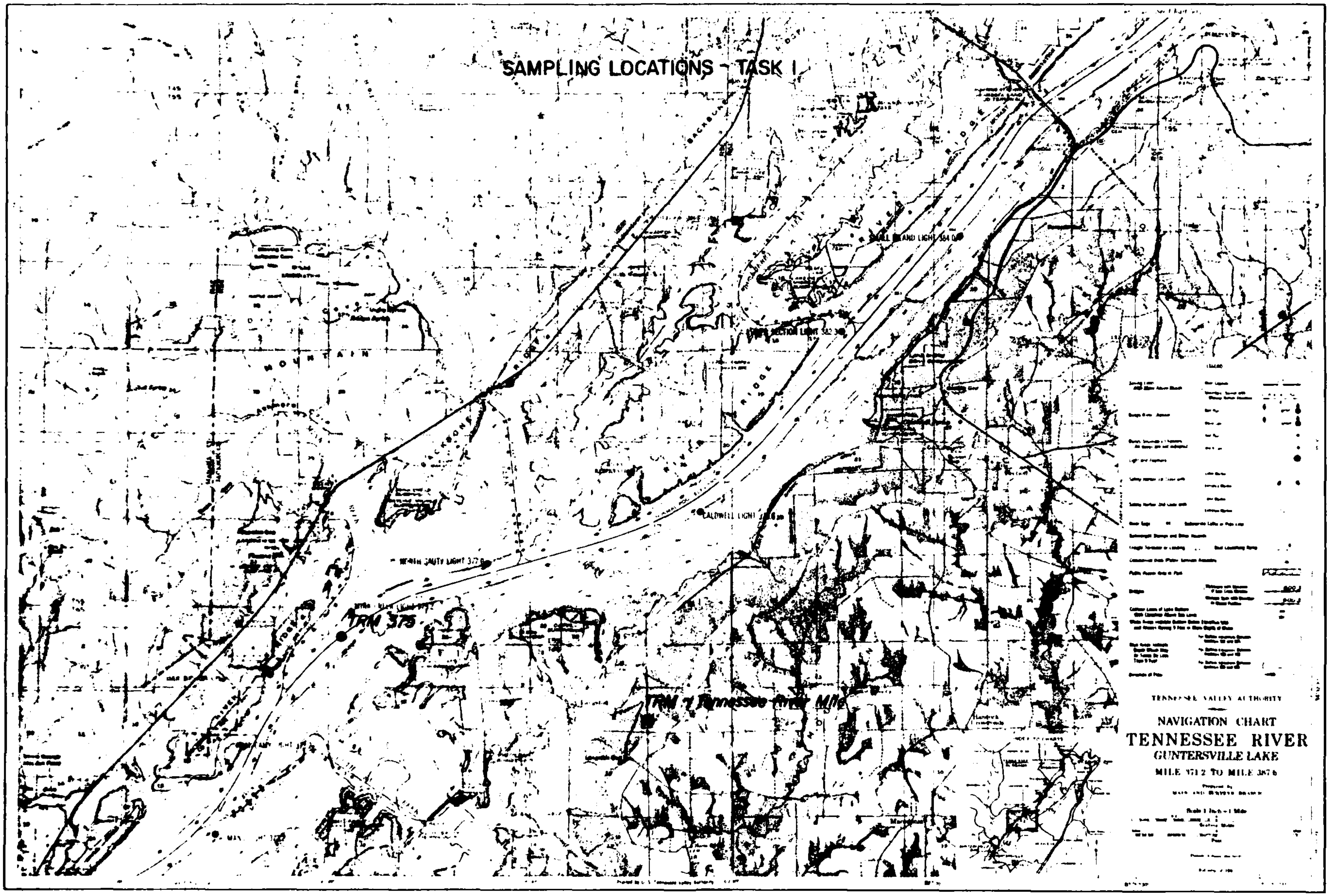


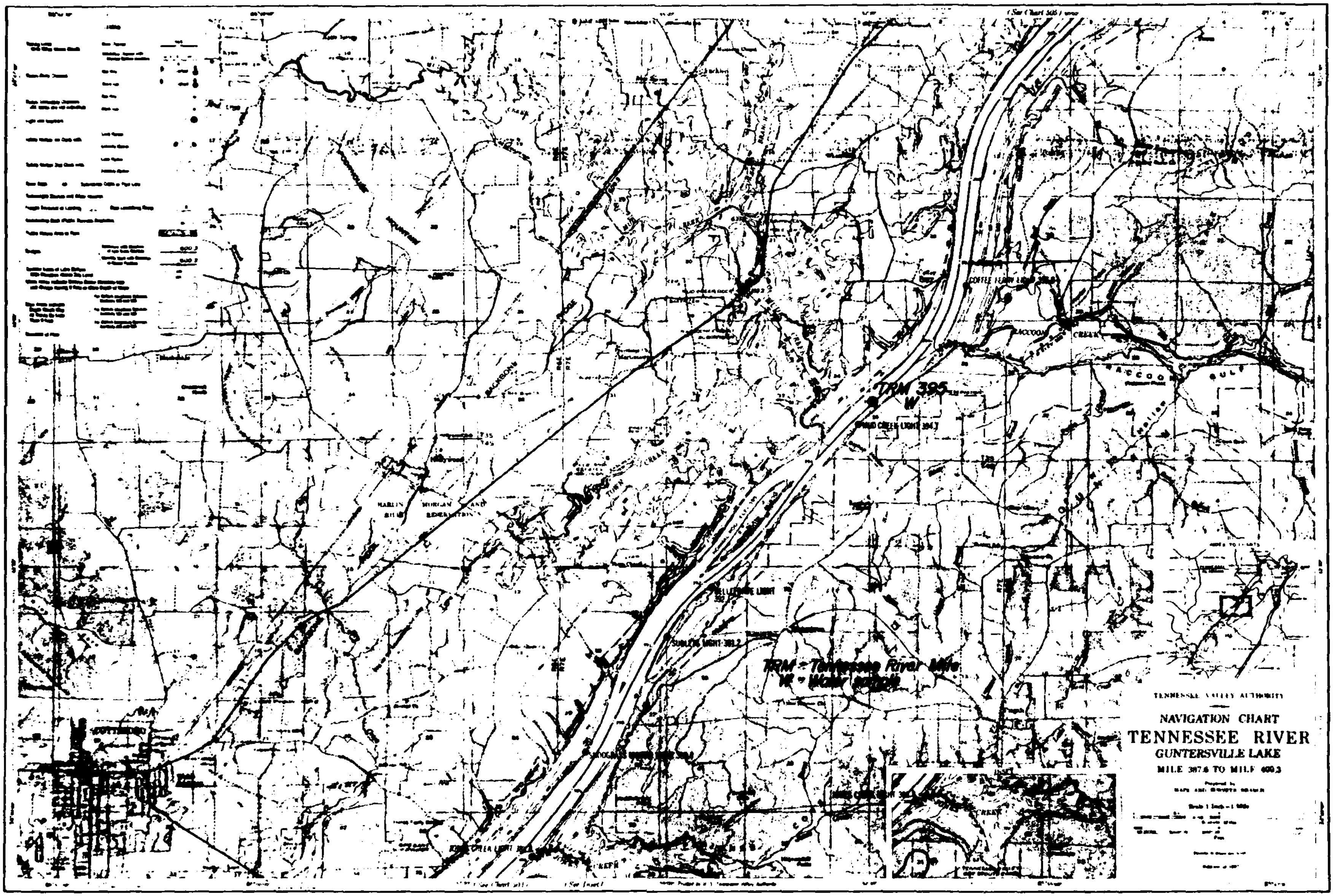
SAMPLING LOCATIONS - TASK I

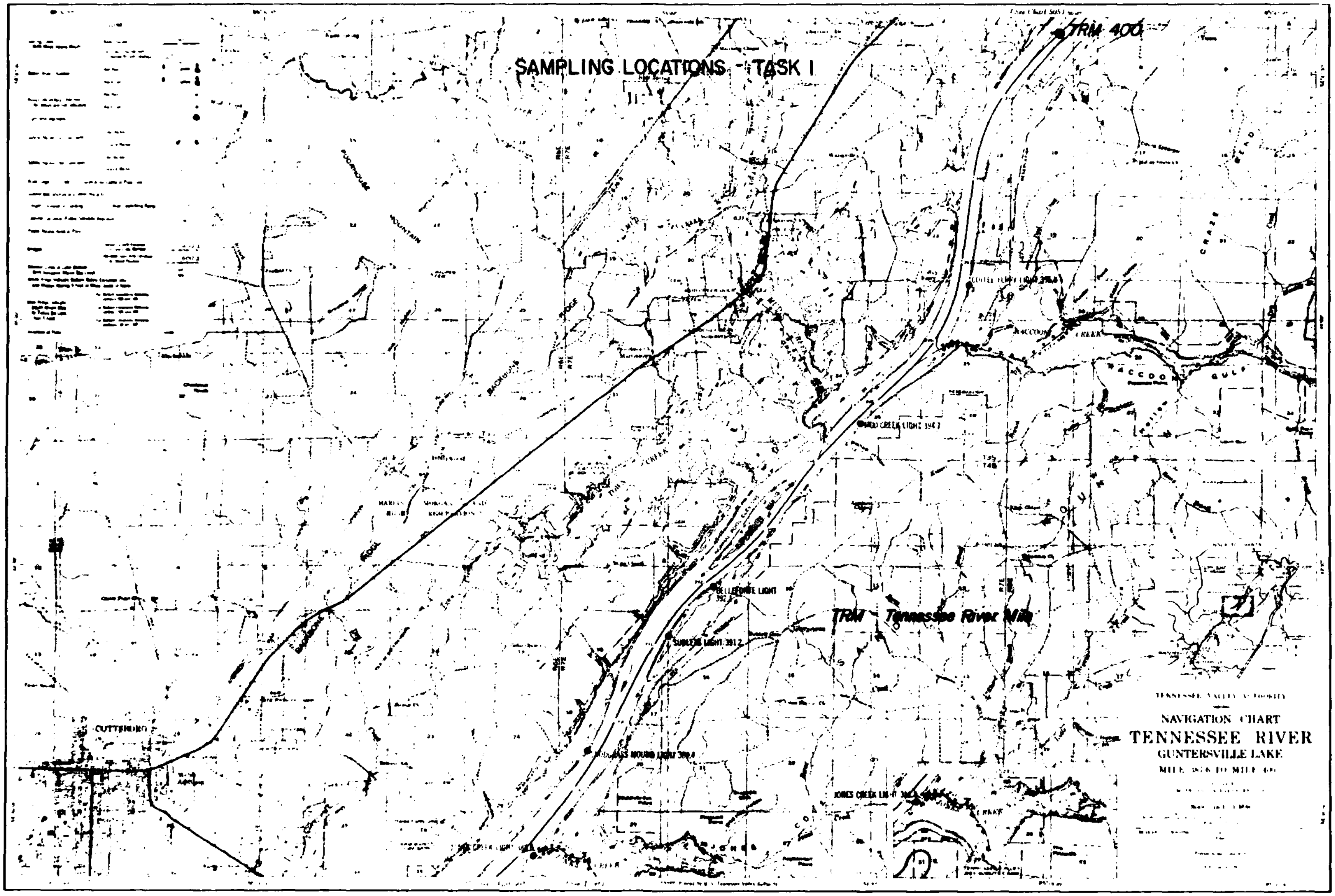

SAMPLING LOCATIONS - TASK I
HUNTSVILLE
TRM 325
TRM 330
TRM 335
TRM 340
TRM - Tennessee River Mile
TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR
MILE [illegible] TO MILE [illegible]


SAMPLING LOCATIONS - TASK I
WALLACE MTN
Flint River Mile
1.0
Paint Rock River Mile
1.0
GRASSY MOUNTAIN
MERRILL MOUNTAIN
TRM 345
MOUNTAIN
GEORGIA
TRM = Tennessee River Mile
TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR


SAMPLING LOCATIONS - TASK I
TRM 350
TRM - Tennessee River Mile
NAVIGATION CHART
TENNESSEE RIVER
GUNTERSVILLE LAKE


SAMPLING LOCATIONS - TASK I
TRM 375
TRM = Tennessee River Mile
CALDWELL LIGHT
MOUNTAIN
RIDGE
TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
GUNTERSVILLE LAKE
MILE 371.2 TO MILE 387.6


TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
GUNTERSVILLE LAKE
MILE 387.6 TO MILE 400.3
TRM 395
W
TRM - Tennessee River Mile
RACCOON CREEK
COFFEE FERRY LIGHT
SUBLETTS LIGHT 391.2
MARLIN BLUFF
MORGAN LAND RESERVATION
SCOTTSBORO


SAMPLING LOCATIONS - TASK I
TRM 400
TRM - Tennessee River Mile
RACCOON CREEK
RACCOON
GULF
CRAZE
CREEK
SUBLETS LIGHT 391.2
BELLEFONTE LIGHT 392.
MUD CREEK LIGHT 394.7
COFFEE TOWN LIGHT 396.8
JONES CREEK LIGHT
CREEK
JONES
CUTTERBURG
POORHOUSE
MOUNTAIN
BACKBONE
RIDGE
HARDIN
MORGAN
TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
GUNTERSVILLE LAKE
MILE 38.6 TO MILE 40.

APPENDIX B

RAW DATA TABULATIONS

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G--

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS (%)	--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		--TOTAL DDTR--		REMARK
										O,P	P,P	O,P	P,P	O,P	P,P	MIN (UG/G)	MAX (UG/G)	
-----CATACO CREEK -----																		
2.0	28AUG79	1-1	SLI	1-111A	C. CATFISH	530	1490	180.0	6.08	1.02	1.38	8.03	33.80	4.77	22.00	71.0	71.0	
2.0	28AUG79	1-2	SLI	1-111B	C. CATFISH	570	1440	177.0	3.19	1.67	2.84	11.50	67.60	10.50	45.10	139.2	139.2	
2.0	28AUG79	1-3	SLI	1-111C	C. CATFISH	560	1750	153.0	6.34	1.10	1.53	12.10	53.70	4.39	25.80	98.6	98.6	
2.0	28AUG79	1-4	SLI	1-111D	C. CATFISH	466	1860	78.0	2.69	0.25	0.20	2.93	14.50	1.77	8.13	27.8	27.8	
2.0	28AUG79	1-5	SLI	1-111F	C. CATFISH	560	1390	120.0	0.11	0.32	0.55	0.18	6.14	1.39	12.50	21.1	21.1	
2.0	28AUG79	1-6	SLI	1-111F	C. CATFISH	584	440	39.0	0.37	0.07	0.09	0.08	0.43	0.09	1.57	2.3	2.3	
2.0	28AUG79	COM	SLI	1-111	C. CATFISH	.	.	.	2.24	0.80	1.03	6.12	26.50	3.46	18.10	56.0	56.0	M.D.
2.0	28AUG79	2-1			S.M. BUFFALO	305	460	47.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	2-2			S.M. BUFFALO	365	800	58.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	2-3			S.M. BUFFALO	305	410	36.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	2-4			S.M. BUFFALO	380	970	54.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	2-5			S.M. BUFFALO	355	770	98.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	2-6			S.M. BUFFALO	315	510	53.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	COM	SLI	1-109	S.M. BUFFALO	.	.	.	0.23	< 0.02	< 0.02	< 0.02	0.03	< 0.01	0.07	0.1	0.2	M.D.
2.0	28AUG79	4-1			WHITE CRAPPIE	340	600	68.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-2			WHITE CRAPPIE	305	440	58.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-3			WHITE CRAPPIE	280	280	39.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-4			WHITE CRAPPIE	285	330	46.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-5			WHITE CRAPPIE	270	300	39.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-6			WHITE CRAPPIE	275	300	41.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	COM	SLI	1-110	WHITE CRAPPIE	.	.	.	0.05	< 0.02	< 0.02	< 0.02	0.04	< 0.01	0.03	0.1	0.1	
2.0	28AUG79	5-1			L.M. BASS	430	1320	125.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-2			L.M. BASS	280	360	48.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-3			L.M. BASS	320	450	34.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-4			L.M. BASS	360	790	78.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-5			L.M. BASS	225	140	28.1	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-6			L.M. BASS	370	860	90.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	COM	SLI	1-090	L.M. BASS	.	.	.	0.09	< 0.02	< 0.02	0.08	0.15	< 0.01	0.10	0.3	0.4	1
2.0	28AUG79	6-1			BLUEGILL	165	90	18.7	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	6-2			BLUEGILL	180	130	22.4	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	6-3			BLUEGILL	180	110	20.3	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	6-4			BLUEGILL	180	120	20.5	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	6-5			BLUEGILL	145	80	16.5	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	6-6			BLUEGILL	160	70	11.7	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	COM	SLI	1-137	BLUEGILL	.	.	.	0.16	< 0.02	< 0.02	< 0.02	0.06	0.01	0.13	0.2	0.3	
-----ELK RIVER -----																		
5.0	7AUG79	1-1	SLI	1-017A	C. CATFISH	500	1530	36.5	7.89	0.05	0.08	0.03	0.79	0.18	0.81	1.9	1.9	
5.0	7AUG79	1-2	SLI	1-017B	C. CATFISH	460	880	35.0	2.41	0.02	0.02	0.01	0.26	0.06	0.29	0.7	0.7	M.D.
5.0	7AUG79	1-3	SLI	1-017C	C. CATFISH	360	460	31.5	3.48	< 0.02	< 0.02	< 0.02	0.11	0.05	0.23	0.4	0.4	
5.0	7AUG79	1-4	SLI	1-017D	C. CATFISH	495	1540	38.0	4.33	0.14	0.13	0.37	0.81	0.19	0.66	2.3	2.3	
5.0	7AUG79	1-5	SLI	1-017E	C. CATFISH	510	1650	40.5	1.35	0.02	0.04	0.02	0.23	0.06	0.20	0.6	0.6	
5.0	7AUG79	1-6	SLI	1-017F	C. CATFISH	570	1900	40.0	4.03	0.03	0.09	0.08	1.02	0.21	0.81	2.2	2.2	
5.0	7AUG79	COM	SLI	1-017	C. CATFISH	.	.	.	2.08	0.05	0.06	0.07	0.46	0.11	0.49	1.2	1.2	*

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

										—CONCENTRATIONS OF DDT MEASURED IN FISH, UG/G—								
								FILET								—TOTAL DDTR—		
						LENGTH	T.WT	WT.	LIPIDS	—DDT(UG/G)—		—DDD(UG/G)—		—DDE(UG/G)—		MIN	MAX	
MILE	DATE	FID	LAB	LABID	SPECIES	(MM)	(GM)	(GM)	(%)	O,P	P,P	O,P	P,P	O,P	P,P	(UG/G)	(UG/G)	REMARK
5.0	7AUG79	2-1			S.M. BUFFALO	575	3210	33.0	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	2-2			S.M. BUFFALO	330	740	33.5	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	2-3			S.M. BUFFALO	425	1450	33.0	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	2-4			S.M. BUFFALO	470	1670	35.5	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	2-5			S.M. BUFFALO	530	2430	32.5	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	2-6			S.M. BUFFALO	570	2830	34.0	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	COM	SLI	1-016	S.M. BUFFALO	.	.	.	3.24	0.05	< 0.02	0.15	0.29	0.31	0.55	1.3	1.4	
5.0	7AUG79	5-1			L.M. BASS	330	420	33.0	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	5-2			L.M. BASS	340	560	34.5	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	5-3			L.M. BASS	330	610	38.5	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	5-4			L.M. BASS	250	240	35.0	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	5-5			L.M. BASS	315	490	34.0	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	5-6			L.M. BASS	290	380	34.0	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	COM	SLI	1-019	L.M. BASS	.	.	.	0.12	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.02	0.0	0.1	*
5.0	7AUG79	6-1			BLUEGILL	160	90	10.0	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	6-2			BLUEGILL	175	90	13.0	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	6-3			BLUEGILL	180	90	16.0	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	6-4			BLUEGILL	165	90	16.5	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	5-5			BLUEGILL	160	110	12.5	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	6-6			BLUEGILL	165	90	11.0	.	.	.	.	.	.	.	.	.	
5.0	7AUG79	COM	SLI	1-02[illegible]	BLUEGILL	.	.	.	0.05	< 0.02	< 0.02	< 0.02	< 0.07	< 0.01	< 0.01	0.0	0.1	*
5.0	8AUG79	3-1			WHITE BASS	351	610	43.0	.	.	.	.	.	.	.	.	.	
5.0	8AUG79	3-2			WHITE BASS	305	355	35.0	.	.	.	.	.	.	.	.	.	
5.0	8AUG79	3-3			WHITE BASS	266	242	61.0	.	.	.	.	.	.	.	.	.	
5.0	8AUG79	3-4			WHITE BASS	265	272	35.0	.	.	.	.	.	.	.	.	.	
5.0	8AUG79	3-5			WHITE BASS	310	362	42.0	.	.	.	.	.	.	.	.	.	
5.0	8AUG79	3-6			WHITE BASS	270	260	35.0	.	.	.	.	.	.	.	.	.	
5.0	8AUG79	COM	SLI	1-069	WHITE BASS	.	.	.	1.28	< 0.02	< 0.02	< 0.02	0.31	0.09	0.46	0.9	0.9	
5.0	8AUG79	4-1			WHITE CRAPPIE	245	220	29.5	.	.	.	.	.	.	.	.	.	
5.0	8AUG79	4-2			WHITE CRAPPIE	247	210	34.0	.	.	.	.	.	.	.	.	.	
5.0	8AUG79	4-3			WHITE CRAPPIE	250	215	31.5	.	.	.	.	.	.	.	.	.	
5.0	8AUG79	4-4			WHITE CRAPPIE	231	180	34.5	.	.	.	.	.	.	.	.	.	
5.0	8AUG79	4-5			WHITE CRAPPIE	270	260	35.5	.	.	.	.	.	.	.	.	.	
5.0	8AUG79	COM	SLI	1-169	WHITE CRAPPIE	.	.	.	0.08	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1	
10.0	8AUG79	1-1			C. CATFISH	440	1150	37.0	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	1-2			C. CATFISH	490	1200	36.5	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	1-3			C. CATFISH	440	970	37.5	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	1-4			C. CATFISH	470	1120	39.5	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	1-5			C. CATFISH	500	1300	40.0	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	1-6			C. CATFISH	450	1040	38.0	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	COM	SLI	1-021	C. CATFISH	.	.	.	3.20	< 0.02	0.06	< 0.02	0.09	0.12	0.28	0.5	0.6	N.D. *
10.0	8AUG79	2-1			S.M. BUFFALO	445	1720	33.5	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	2-2			S.M. BUFFALO	470	1590	32.5	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	2-3			S.M. BUFFALO	550	2680	37.5	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	2-4			S.M. BUFFALO	525	2450	34.0	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	2-5			S.M. BUFFALO	650	5000	34.5	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	2-6			S.M. BUFFALO	610	4000	36.5	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	COM	SLI	1-02[illegible]	S.M. BUFFALO	.	.	.	5.97	0.06	0.14	0.07	0.22	0.13	0.50	1.1	1.1	*
10.0	8AUG79	4-1			WHITE CRAPPIE	280	360	34.5	.	.	.	.	.	.	.	.	.	
10.0	8AUG79	4-2			WHITE CRAPPIE	270	230	29.0	.	.	.	.	.	.	.	.	.	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

										--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G--									
										--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		--TOTAL DDTR--			
MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS (%)	O,P	P,P	O,P	P,P	O,P	P,P	MIN (UG/G)	MAX (UG/G)	REMARK	
10.0	8AUG79	4-3			WHITE CRAPPIE	190	100	26.5	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	4-4			WHITE CRAPPIE	200	110	30.0	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	4-5			WHITE CRAPPIE	190	90	21.5	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	4-6			WHITE CRAPPIE	195	110	26.0	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	COM	SLI	1-023	WHITE CRAPPIE	.	.	.	0.05	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1		*
10.0	8AUG79	5-1			L.M. BASS	330	530	36.0	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	5-2			L.M. BASS	325	560	37.5	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	5-3			L.M. BASS	330	520	33.0	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	5-4			L.M. BASS	325	560	37.5	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	5-5			L.M. BASS	360	710	38.5	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	5-6			L.M. BASS	345	720	34.5	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	COM	SLI	1-024	L.M. BASS	.	.	.	0.23	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.03	0.0	0.1		*
10.0	8AUG79	6-1			BLUEGILL	180	80	20.0	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	6-2			BLUEGILL	180	120	21.5	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	6-3			BLUEGILL	190	150	30.0	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	6-4			BLUEGILL	160	100	19.0	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	6-5			BLUEGILL	170	110	23.0	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	6-6			BLUEGILL	170	110	22.5	.	.	.	.	.	.	.	.	.		
10.0	8AUG79	COM	SLI	1-025	BLUEGILL	.	.	.	0.07	< 0.02	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	0.0	0.1		*
15.0	9AUG79	1-1			C. CATFISH	225	100	17.0	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	1-2			C. CATFISH	330	300	32.5	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	1-3			C. CATFISH	480	1220	37.5	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	1-4			C. CATFISH	460	1100	29.5	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	1-5			C. CATFISH	300	240	38.5	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	1-6			C. CATFISH	435	720	38.0	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	COM	SLI	1-011	C. CATFISH	.	.	.	1.03	0.02	0.03	0.02	0.11	0.05	0.14	0.4	0.4		*
15.0	9AUG79	2-1			S.M. BUFFALO	480	1990	34.0	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	2-2			S.M. BUFFALO	440	1450	39.5	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	2-3			S.M. BUFFALO	580	3090	40.5	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	2-4			S.M. BUFFALO	430	1300	33.5	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	2-5			S.M. BUFFALO	385	940	33.5	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	2-6			S.M. BUFFALO	360	760	37.0	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	COM	SLI	1-012	S.M. BUFFALO	.	.	.	0.52	< 0.02	< 0.02	< 0.02	< 0.02	0.16	0.05	0.2	0.3	M.D.	*
15.0	9AUG79	3-1			WHITE BASS	325	510	38.5	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	3-2			WHITE BASS	305	410	38.0	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	3-3			WHITE BASS	330	490	37.0	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	3-4			WHITE BASS	300	340	33.5	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	3-5			WHITE BASS	.	.	.	.	.	.	.	.	.	.	.	.	N.S.	
15.0	9AUG79	3-6			WHITE BASS	.	.	.	.	.	.	.	.	.	.	.	.	N.S.	
15.0	9AUG79	COM	SLI	1-013	WHITE BASS	.	.	.	0.54	< 0.02	< 0.02	< 0.02	0.16	0.05	0.18	0.4	0.4		*
15.0	9AUG79	4-1			WHITE CRAPPIE	330	460	35.0	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	4-2			WHITE CRAPPIE	285	310	37.0	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	4-3			WHITE CRAPPIE	245	200	36.0	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	4-4			WHITE CRAPPIE	265	240	33.0	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	4-5			WHITE CRAPPIE	210	130	31.0	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	4-6			WHITE CRAPPIE	210	120	28.5	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	COM	SLI	1-014	WHITE CRAPPIE	.	.	.	0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1		*
15.0	9AUG79	5-1			L.M. BASS	330	570	39.5	.	.	.	.	.	.	.	.	.		
15.0	9AUG79	5-2			L.M. BASS	300	400	37.5	.	.	.	.	.	.	.	.	.		
15.C	9AUG79	5-3			L.M. BASS	310	390	31.0	.	.	.	.	.	.	.	.	.		

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

									--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G--									
								FILET		--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		--TOTAL DDTR--		
MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	WT. (GM)	LIPIDS (%)	O,P	P,P	O,P	P,P	O,P	P,P	MIN (UG/G)	MAX (UG/G)	REMARK
15.0	9AUG79	5-4			L.M. BASS	265	270	30.0	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	5-5			L.M. BASS	355	740	37.0	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	5-6			L.M. BASS	300	390	36.0	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	COM	SLI	1-015	L.M. BASS	.	.	.	0.10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.01	0.0	0.1	*
15.0	9AUG79	6-1			BLUEGILL	150	110	26.0	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	6-2			BLUEGILL	170	120	24.5	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	6-3			BLUEGILL	175	140	31.0	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	6-4			BLUEGILL	175	130	22.2	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	6-5			BLUEGILL	180	120	20.0	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	6-6			BLUEGILL	165	100	24.0	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	COM	SLI	1-016	BLUEGILL	.	.	.	0.10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.01	0.0	0.1	*
-----FLINT CREEK -----																		
5.0	16AUG79	5-1			L.M. BASS	320	440	33.0	.	.	.	.	.	.	.	.	.	
5.0	16AUG79	5-2			L.M. BASS	285	340	51.0	.	.	.	.	.	.	.	.	.	
5.0	16AUG79	5-3			L.M. BASS	315	390	54.0	.	.	.	.	.	.	.	.	.	
5.0	16AUG79	5-4			L.M. BASS	335	570	70.0	.	.	.	.	.	.	.	.	.	
5.0	16AUG79	5-5			L.M. BASS	295	310	47.0	.	.	.	.	.	.	.	.	.	
5.0	16AUG79	5-6			L.M. BASS	315	380	49.0	.	.	.	.	.	.	.	.	.	
5.0	16AUG79	COM	SLI	1-099	L.M. BASS	.	.	.	0.06	< 0.02	< 0.02	< 0.02	0.07	< 0.01	0.03	0.1	0.2	
5.0	28AUG79	1-1	SLI	1-080A	C. CATFISH	410	610	53.0	1.04	< 0.02	0.11	0.17	1.60	0.31	2.10	4.3	4.3	
5.0	28AUG79	1-2	SLI	1-080B	C. CATFISH	365	460	67.0	1.17	0.05	0.12	0.40	2.84	0.47	2.52	6.4	6.4	
5.0	28AUG79	1-3	SLI	1-080C	C. CATFISH	390	470	49.0	2.28	0.03	0.16	0.53	3.27	0.59	3.50	8.1	8.1	
5.0	28AUG79	1-4	SLI	1-080D	C. CATFISH	490	1050	114.0	0.98	0.03	0.04	0.09	0.82	0.39	0.63	2.0	2.0	M.D.
5.0	28AUG79	1-5	SLI	1-080E	C. CATFISH	420	640	73.0	1.02	0.12	0.49	0.86	6.94	1.13	9.52	19.1	19.1	
5.0	28AUG79	1-6	SLI	1-080F	C. CATFISH	380	500	50.0	1.10	< 0.02	< 0.02	0.04	0.22	0.04	0.23	0.5	0.6	
5.0	28AUG79	COM	SLI	1-080	C. CATFISH	.	.	.	0.75	< 0.02	0.07	0.15	1.54	0.30	1.68	3.7	3.8	
5.0	28AUG79	2-1			S.M. BUFFALO	430	1260	111.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	2-2			S.M. BUFFALO	360	680	87.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	2-3			S.M. BUFFALO	340	650	67.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	2-4			S.M. BUFFALO	430	1240	140.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	2-5			S.M. BUFFALO	440	1200	163.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	2-6			S.M. BUFFALO	450	1380	81.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	COM	SLI	1-081	S.M. BUFFALO	.	.	.	0.71	< 0.02	< 0.03	< 0.01	0.04	0.01	0.15	0.2	0.3	
5.0	28AUG79	4-1			WHITE CRAPPIE	220	140	37.5	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	4-2			WHITE CRAPPIE	225	150	35.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	4-3			WHITE CRAPPIE	230	190	38.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	4-4			WHITE CRAPPIE	230	180	31.5	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	4-5			WHITE CRAPPIE	240	190	36.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	4-6			WHITE CRAPPIE	215	150	30.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	COM	SLI	1-151	WHITE CRAPPIE	.	.	.	0.06	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.02	0.0	0.1	
5.0	28AUG79	6-1			BLUEGILL	180	130	27.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	6-2			BLUEGILL	165	110	20.5	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	6-3			BLUEGILL	175	100	12.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	6-4			BLUEGILL	180	130	27.5	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	6-5			BLUEGILL	170	90	15.5	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	6-6			BLUEGILL	165	90	17.0	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	COM	SLI	1-146	BLUEGILL	.	.	.	0.11	< 0.02	< 0.02	< 0.02	0.04	< 0.01	0.12	0.2	0.2	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

										—CONCENTRATIONS OF DDT MEASURED IN FISH, UG/G—								
								FILET		--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		--TOTAL DDTR--		
MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	WT. (GM)	LIPIDS (%)	O,P	P,P	O,P	P,P	O,P	P,P	MIN (UG/G)	MAX (UG/G)	REMARK
-----FLINT RIVER -----																		
1.0	25SEP79	1-1	SLI	1-054A	C. CATFISH	360	470	70.0	1.52	0.07	0.02	< 0.02	0.08	0.04	0.11	0.3	0.3	
1.0	25SEP79	1-2	SLI	1-054B	C. CATFISH	484	630	75.0	10.10	0.09	0.05	< 0.02	0.07	0.07	0.14	0.4	0.5	
1.0	25SEP79	1-3	SLI	1-054C	C. CATFISH	330	265	40.0	2.93	0.19	0.14	< 0.02	0.12	0.19	0.53	1.2	1.2	
1.0	25SEP79	1-4	SLI	1-054D	C. CATFISH	360	460	55.0	2.06	0.11	0.04	< 0.02	< 0.02	0.06	0.06	0.3	0.3	
1.0	25SEP79	1-5	SLI	1-054E	C. CATFISH	366	410	60.0	1.75	0.26	0.07	0.43	1.03	0.22	0.59	2.6	2.6	
1.0	25SEP79	1-6	SLI	1-054F	C. CATFISH	400	655	110.0	8.45	0.03	< 0.02	< 0.02	< 0.02	0.01	0.03	0.1	0.1	
1.0	25SEP79	COM	SLI	1-054	C. CATFISH	.	.	.	1.94	0.03	0.04	0.03	0.15	0.07	0.17	0.5	0.5	
1.0	25SEP79	2-1			S.M. BUFFALO	595	2870	300.0	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	2-2			S.M. BUFFALO	630	3700	380.0	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	2-3			S.M. BUFFALO	.	.	.	.	.	.	.	.	.	.	.	.	N.S.
1.0	25SEP79	2-4			S.M. BUFFALO	.	.	.	.	.	.	.	.	.	.	.	.	N.S.
1.0	25SEP79	2-5			S.M. BUFFALO	.	.	.	.	.	.	.	.	.	.	.	.	N.S.
1.0	25SEP79	2-6			S.M. BUFFALO	.	.	.	.	.	.	.	.	.	.	.	.	N.S.
1.0	25SEP79	COM			S.M. BUFFALO	.	.	.	.	.	.	.	.	.	.	.	.	N.S.
1.0	25SEP79	4-1			WHITE CRAPPIE	301	405	58.0	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	4-2			WHITE CRAPPIE	320	455	71.0	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	4-3			WHITE CRAPPIE	221	140	35.0	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	4-4			WHITE CRAPPIE	215	110	38.0	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	4-5			WHITE CRAPPIE	252	180	36.7	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	4-6			WHITE CRAPPIE	200	115	34.0	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	COM	SLI	1-159	WHITE CRAPPIE	.	.	.	0.05	< 0.01	< 0.01	< 0.01	0.04	< 0.01	0.05	0.1	0.1	
1.0	25SEP79	5-1			L.M. BASS	201	110	30.5	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	5-2			L.M. BASS	177	100	16.4	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	5-3			L.M. BASS	200	100	32.0	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	5-4			L.M. BASS	198	100	32.8	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	5-5			L.M. BASS	180	80	19.0	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	5-6			L.M. BASS	.	.	.	.	.	.	.	.	.	.	.	.	N.S.
1.0	25SEP79	COM	SLI	1-055	L.M. BASS	.	.	.	0.05	< 0.02	< 0.02	< 0.02	0.02	< 0.01	0.02	0.0	0.1	
1.0	25SEP79	6-1			BLUEGILL	163	90	26.4	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	6-2			BLUEGILL	156	80	21.6	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	6-3			BLUEGILL	125	30	11.0	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	6-4			BLUEGILL	141	55	20.0	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	6-5			BLUEGILL	160	80	31.0	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	6-6			BLUEGILL	140	50	18.8	.	.	.	.	.	.	.	.	.	
1.0	25SEP79	COM	SLI	1-134	BLUEGILL	.	.	.	0.38	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.05	0.0	0.1	
-----INDIAN CREEK -----																		
2.0	2AUG79	7-1	SLI	1-131A	GIZZARD SHAD	260	180	.	2.15	1.94	4.58	36.00	82.40	13.60	40.30	178.8	178.8	
2.0	2AUG79	7-2	SLI	1-131B	GIZZARD SHAD	255	130	.	1.52	0.69	0.71	10.10	24.70	4.31	14.10	54.6	54.6	
2.0	2AUG79	7-3	SLI	1-131C	GIZZARD SHAD	240	120	.	1.02	0.14	< 0.10	7.63	18.20	2.80	10.80	39.6	39.7	
2.0	2AUG79	7-4	SLI	1-131D	GIZZARD SHAD	230	120	.	1.52	0.72	0.68	11.30	23.90	4.62	13.70	54.9	54.9	
2.0	2AUG79	7-5	SLI	1-131E	GIZZARD SHAD	235	120	.	0.69	0.57	0.97	8.53	19.60	3.05	8.94	41.7	41.7	
2.0	2AUG79	7-6	SLI	1-131F	GIZZARD SHAD	235	110	.	1.26	0.42	0.32	7.68	20.20	2.81	10.40	41.8	41.8	
2.0	2AUG79	COM	SLI	1-131	GIZZARD SHAD	.	.	.	2.13	1.24	1.90	19.70	46.90	7.39	23.10	100.2	100.2	

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS (%)	--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G-- --DDT(UG/G)-- O,P	P,P	--DDD(UG/G)-- O,P	P,P	--DDE(UG/G)-- O,P	P,P	--TOTAL DDTR-- MIN (UG/G)	MAX (UG/G)	REMARK
2.0	28AUG79	1-1	SLI	1-089A	C. CATFISH	608	1270	364.0	5.72	12.30	13.00	69.00	226	31.60	104	455.9	455.9	
2.0	28AUG79	1-2	SLI	1-089B	C. CATFISH	585	1030	119.0	10.50	8.69	11.20	110	288	52.50	157	627.4	627.4	
2.0	28AUG79	1-3	SLI	1-089C	C. CATFISH	350	370	45.0	2.60	0.18	0.18	2.63	6.95	1.32	4.24	15.5	15.5	
2.0	28AUG79	1-4	SLI	1-089D	C. CATFISH	425	680	90.0	4.77	2.05	0.26	29.50	77.00	13.20	45.50	167.5	167.5	M.D.
2.0	28AUG79	1-5	SLI	1-089E	C. CATFISH	551	975	109.0	7.21	9.22	8.67	104	289	50.20	156	617.1	617.1	
2.0	28AUG79	1-6	SLI	1-089F	C. CATFISH	320	300	40.0	1.83	1.70	1.70	3.80	10.40	1.96	5.87	25.4	25.4	
2.0	28AUG79	COM	SLI	1-099	C. CATFISH	.	.	.	1.85	2.59	2.71	29.10	90.50	13.50	47.10	185.5	185.5	M.D.
2.0	28AUG79	2-1	SLI	1-088A	S.M. BUFFALO	355	710	59.0	0.76	0.08	0.05	1.61	2.94	0.63	1.48	6.8	6.8	
2.0	28AUG79	2-2	SLI	1-088B	S.M. BUFFALO	350	730	63.0	0.98	0.14	0.05	3.26	5.59	1.23	2.36	12.6	12.6	
2.0	28AUG79	2-3	SLI	1-088C	S.M. BUFFALO	305	460	39.0	0.26	< 0.02	< 0.02	0.49	1.02	0.18	0.45	2.1	2.2	
2.0	28AUG79	2-4	SLI	1-088D	S.M. BUFFALO	330	740	96.0	4.38	0.35	0.25	10.30	20.10	4.19	8.81	44.0	44.0	
2.0	28AUG79	2-5	SLI	1-088E	S.M. BUFFALO	360	850	98.0	2.65	0.32	0.16	6.32	12.80	2.99	6.56	29.1	29.1	
2.0	28AUG79	2-6	SLI	1-088F	S.M. BUFFALO	380	1000	94.0	1.47	0.12	< 0.02	3.80	8.13	1.81	4.42	18.3	18.3	
2.0	28AUG79	COM	SLI	1-098	S.M. BUFFALO	.	.	.	1.63	0.20	0.13	3.00	8.44	1.20	3.28	16.2	16.2	
2.0	28AUG79	4-1			WHITE CRAPPIE	260	270	35.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-2			WHITE CRAPPIE	250	230	31.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-3			WHITE CRAPPIE	305	540	76.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-4			WHITE CRAPPIE	250	320	52.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-5			WHITE CRAPPIE	205	110	30.5	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-6			WHITE CRAPPIE	260	260	34.5	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	COM	SLI	1-142	WHITE CRAPPIE	.	.	.	0.22	0.05	0.04	0.61	1.65	0.25	0.89	3.5	3.5	
2.0	28AUG79	5-1			L.M. BASS	250	240	32.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-2			L.M. BASS	280	310	30.0	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-3			L.M. BASS	215	140	33.5	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-4			L.M. BASS	205	100	22.3	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-5			L.M. BASS	235	190	33.2	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-6			L.M. BASS	235	190	30.7	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	COM	SLI	1-171	L.M. BASS	.	.	.	0.06	< 0.02	< 0.02	0.23	0.61	0.14	0.40	1.4	1.4	
2.0	28AUG79	6-1	SLI	1-143A	BLUEGILL	170	110	26.0	0.16	< 0.02	< 0.02	0.29	1.14	0.18	0.46	2.1	2.1	
2.0	28AUG79	6-2	SLI	1-143B	BLUEGILL	165	110	25.5	0.87	< 0.02	< 0.02	0.68	2.74	0.52	1.23	5.2	5.2	
2.0	28AUG79	6-3	SLI	1-143C	BLUEGILL	155	90	20.5	0.63	< 0.02	< 0.02	0.57	2.33	0.36	1.06	4.3	4.4	
2.0	28AUG79	6-4	SLI	1-143D	BLUEGILL	165	130	25.5	1.25	0.05	< 0.02	1.38	3.36	0.58	1.18	6.6	6.6	
2.0	28AUG79	6-5	SLI	1-143E	BLUEGILL	160	90	21.5	0.20	< 0.02	< 0.02	0.34	1.12	0.18	0.40	2.0	2.1	
2.0	28AUG79	6-6	SLI	1-143F	BLUEGILL	150	70	18.0	0.26	< 0.02	< 0.02	0.33	1.29	0.19	0.52	2.3	2.4	
2.0	28AUG79	COM	SLI	1-143	BLUEGILL	.	.	.	0.45	0.05	< 0.02	0.62	2.23	0.34	0.96	4.2	4.2	M.D.
-----LIMESTONE CREEK -----																		
3.0	28AUG79	1-1			C. CATFISH	315	320	35.3	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	1-2			C. CATFISH	420	800	97.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	1-3			C. CATFISH	395	500	40.1	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	1-4			C. CATFISH	390	500	82.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	1-5			C. CATFISH	320	333	35.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	1-6			C. CATFISH	360	460	39.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	COM	SLI	1-16[illegible]	C. CATFISH	.	.	.	1.55	0.09	0.12	0.24	1.76	0.30	1.82	4.3	4.3	
3.0	28AUG79	2-1	SLI	1-107A	S.M. BUFFALO	445	1480	150.0	1.10	< 0.02	0.08	< 0.02	0.17	0.07	0.70	1.0	1.1	
3.0	28AUG79	2-2	SLI	1-107B	S.M. BUFFALO	430	1260	158.0	1.60	< 0.02	< 0.02	0.04	0.15	0.05	0.23	0.5	0.5	
3.0	28AUG79	2-3	SLI	1-107C	S.M. BUFFALO	430	1340	142.0	0.35	< 0.02	< 0.02	< 0.02	0.06	0.02	0.17	0.3	0.3	
3.0	28AUG79	2-4	SLI	1-107D	S.M. BUFFALO	480	1770	143.0	0.78	< 0.02	0.03	< 0.02	0.08	0.02	0.28	0.4	0.5	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	--CONCENTRATIONS OF DDT MEASURED IN FISH, UG/G-- LIPIDS (%)	--DDT (UG/G)-- O,P	P,P	--DDD (UG/G)-- O,P	P,P	--DDE (UG/G)-- O,P	P,P	--TOTAL DDTR-- MIN (UG/G)	MAX (UG/G)	REMARK
3.0	28AUG79	2-5	SLI	1-107S	S.M. BUFFALO	440	1250	147.0	0.82	0.02	0.04	0.03	0.20	0.05	0.38	0.7	0.7	M.D.
3.0	28AUG79	2-6	SLI	1-107F	S.M. BUFFALO	510	2060	230.0	0.71	< 0.02	< 0.02	< 0.02	0.09	0.03	0.12	0.2	0.3	
3.0	28AUG79	COM	SLI	1-107	S.M. BUFFALO	.	.	.	1.12	< 0.02	0.22	1.24	2.35	0.34	1.20	5.3	5.4	
3.0	28AUG79	4-1			WHITE CRAPPIE	285	370	34.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	4-2			WHITE CRAPPIE	280	300	35.5	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	4-3			WHITE CRAPPIE	325	550	38.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	4-4			WHITE CRAPPIE	260	260	33.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	4-5			WHITE CRAPPIE	250	210	31.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	4-6			WHITE CRAPPIE	250	230	31.5	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	COM	SLI	1-156	WHITE CRAPPIE	.	.	.	0.04	< 0.02	< 0.02	< 0.02	0.05	0.01	0.04	0.1	0.2	M.D.
3.0	28AUG79	5-1			L.M. BASS	330	490	68.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	5-2			L.M. BASS	275	260	41.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	5-3			L.M. BASS	275	260	41.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	5-4			L.M. BASS	250	210	32.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	5-5			L.M. BASS	305	460	46.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	5-6			L.M. BASS	410	1310	132.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	COM	SLI	1-106	L.M. BASS	.	.	.	0.06	< 0.02	< 0.02	< 0.02	0.05	< 0.01	0.06	0.1	0.2	1
3.0	28AUG79	6-1			BLUEGILL	125	40	8.6	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	6-2			BLUEGILL	135	50	10.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	6-3			BLUEGILL	160	60	12.6	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	6-4			BLUEGILL	145	60	12.0	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	6-5			BLUEGILL	140	60	11.3	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	6-6			BLUEGILL	165	90	14.5	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	COM	SLI	1-147	BLUEGILL	.	.	.	0.13	< 0.02	< 0.02	< 0.02	0.02	< 0.01	0.07	0.1	0.2	
-----PAINT ROCK RIVER -----																		
1.0	. .	4-1			WHITE CRAPPIE	254	198	33.0	.	.	.	.	.	.	.	.	.	
1.0	. .	4-2			WHITE CRAPPIE	201	197	28.0	.	.	.	.	.	.	.	.	.	
1.0	. .	4-3			WHITE CRAPPIE	219	145	36.0	.	.	.	.	.	.	.	.	.	
1.0	. .	4-4			WHITE CRAPPIE	273	288	43.5	.	.	.	.	.	.	.	.	.	
1.0	. .	4-5			WHITE CRAPPIE	248	224	35.0	.	.	.	.	.	.	.	.	.	
1.0	. .	4-6			WHITE CRAPPIE	285	288	38.0	.	.	.	.	.	.	.	.	.	
1.0	. .	COM	SLI	1-069	WHITE CRAPPIE	.	.	.	0.05	< 0.02	< 0.02	< 0.02	0.06	< 0.01	0.09	0.2	0.2	
1.0	. .	6-1			BLUEGILL	140	55	14.5	.	.	.	.	.	.	.	.	.	
1.0	. .	6-2			BLUEGILL	125	38	11.0	.	.	.	.	.	.	.	.	.	
1.0	. .	6-3			BLUEGILL	177	121	34.5	.	.	.	.	.	.	.	.	.	
1.0	. .	6-4			BLUEGILL	172	108	28.0	.	.	.	.	.	.	.	.	.	
1.0	. .	6-5			BLUEGILL	172	113	29.0	.	.	.	.	.	.	.	.	.	
1.0	. .	6-6			BLUEGILL	164	88	23.0	.	.	.	.	.	.	.	.	.	
1.0	. .	COM	SLI	1-070	BLUEGILL	.	.	.	0.10	< 0.03	< 0.03	< 0.03	< 0.02	< 0.02	< 0.02	0.0	0.1	M.D.
1.0	6SEP79	5-1			L.M. BASS	189	83	25.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	5-2			L.M. BASS	225	172	50.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	5-3			L.M. BASS	193	100	33.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	5-4			L.M. BASS	174	62	20.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	5-5			L.M. BASS	215	120	35.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	5-6			L.M. BASS	235	187	46.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	COM	SLI	1-091	L.M. BASS	.	.	.	0.05	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1	
1.0	26SEP79	1-1	SLI	1-052A	C. CATFISH	454	1110	150.0	10.50	0.31	0.15	0.20	0.71	0.33	0.87	2.6	2.6	

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TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

										--CONCENTRATIONS OF DDT MEASURED IN FISH, UG/G--								
								FILET		--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		--TOTAL DDTR--		
MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	WT. (GM)	LIPIDS (%)	O,P	P,P	O,P	P,P	O,P	P,P	MIN (UG/G)	MAX (UG/G)	REMARK
1.0	26SEP79	1-2	SLI	1-052B	C. CATFISH	450	1000	135.0	1.37	0.10	0.05	< 0.02	0.10	0.10	0.18	0.5	0.6	
1.0	26SEP79	1-3	SLI	1-052C	C. CATFISH	482	1150	125.0	3.26	0.14	0.10	< 0.02	0.09	0.20	0.24	0.8	0.8	M.D.
1.0	26SEP79	1-4	SLI	1-052D	C. CATFISH	511	1650	215.0	13.20	0.42	0.16	< 0.02	< 0.02	0.47	0.45	1.5	1.5	
1.0	26SEP79	1-5	SLI	1-052E	C. CATFISH	490	1330	190.0	2.85	0.18	0.04	< 0.02	< 0.02	0.06	0.14	0.4	0.5	
1.0	26SEP79	1-6	SLI	1-052F	C. CATFISH	470	1300	200.0	1.55	0.05	0.03	< 0.02	< 0.02	0.06	0.05	0.2	0.2	
1.0	26SEP79	COM	SLI	1-052	C. CATFISH	.	.	.	1.00	0.06	0.03	< 0.01	0.05	0.03	0.05	0.2	0.2	
1.0	26SEP79	2-1			S.M. BUFFALO	488	1725	185.0	.	.	.	.	.	.	.	.	.	
1.0	26SEP79	2-2			S.M. BUFFALO	421	1225	155.0	.	.	.	.	.	.	.	.	.	
1.0	26SEP79	2-3			S.M. BUFFALO	540	2185	250.0	.	.	.	.	.	.	.	.	.	
1.0	26SEP79	2-4			S.M. BUFFALO	476	1550	185.0	.	.	.	.	.	.	.	.	.	
1.0	26SEP79	2-5			S.M. BUFFALO	455	1610	290.0	.	.	.	.	.	.	.	.	.	
1.0	26SEP79	2-6			S.M. BUFFALO	421	1420	170.0	.	.	.	.	.	.	.	.	.	
1.0	26SEP79	COM	SLI	1-053	S.M. BUFFALO	.	.	.	0.43	0.02	0.08	0.02	0.06	0.03	0.18	0.4	0.4	
-----SPRING CREEK -----																		
1.0	14AUG79	1-1			C. CATFISH	390	670	36.0	.	.	.	.	.	.	.	.	.	
1.0	14AUG79	1-2			C. CATFISH	480	950	118.0	.	.	.	.	.	.	.	.	.	
1.0	14AUG79	1-3			C. CATFISH	403	535	71.0	.	.	.	.	.	.	.	.	.	
1.0	14AUG79	1-4			C. CATFISH	435	605	59.0	.	.	.	.	.	.	.	.	.	
1.0	14AUG79	1-5			C. CATFISH	465	820	89.0	.	.	.	.	.	.	.	.	.	
1.0	14AUG79	1-6			C. CATFISH	390	530	63.0	.	.	.	.	.	.	.	.	.	
1.0	14AUG79	COM	SLI	1-096	C. CATFISH	.	.	.	2.74	< 0.02	0.14	0.05	0.57	0.32	0.86	1.9	2.0	
1.0	5SEP79	2-1			S.M. BUFFALO	390	1000	93.0	.	.	.	.	.	.	.	.	.	
1.0	5SEP79	2-2			S.M. BUFFALO	450	1290	69.0	.	.	.	.	.	.	.	.	.	
1.0	5SEP79	2-3			S.M. BUFFALO	452	1310	90.0	.	.	.	.	.	.	.	.	.	
1.0	5SEP79	2-4			S.M. BUFFALO	457	1290	113.0	.	.	.	.	.	.	.	.	.	
1.0	5SEP79	2-5			S.M. BUFFALO	467	1500	158.0	.	.	.	.	.	.	.	.	.	
1.0	5SEP79	2-6			S.M. BUFFALO	462	1445	106.0	.	.	.	.	.	.	.	.	.	
1.0	5SEP79	COM	SLI	1-152	S.M. BUFFALO	.	.	.	2.86	0.04	0.06	0.10	0.30	0.10	0.53	1.1	1.1	
1.0	6SEP79	3-1			WHITE BASS	300	370	43.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	3-2			WHITE BASS	205	100	26.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	3-3			WHITE BASS	265	260	35.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	3-4			WHITE BASS	330	530	69.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	COM	SLI	1-141	WHITE BASS	.	.	.	1.96	0.08	0.11	0.11	0.46	0.16	0.72	1.6	1.6	
1.0	6SEP79	5-1			L.M. BASS	255	210	40.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	5-2			L.M. BASS	240	180	31.5	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	5-3			L.M. BASS	225	150	36.5	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	5-4			L.M. BASS	300	390	53.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	5-5			L.M. BASS	280	300	41.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	5-6			L.M. BASS	295	320	53.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	COM	SLI	1-144	L.M. BASS	.	.	.	0.06	< 0.02	< 0.02	< 0.01	0.01	< 0.01	0.01	0.0	0.1	
1.0	6SEP79	6-1			BLUEGILL	180	130	26.5	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	6-2			BLUEGILL	165	90	18.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	6-3			BLUEGILL	160	80	19.5	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	6-4			BLUEGILL	170	90	22.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	6-5			BLUEGILL	170	90	18.5	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	6-6			BLUEGILL	167	70	15.0	.	.	.	.	.	.	.	.	.	
1.0	6SEP79	COM	SLI	1-145	BLUEGILL	.	.	.	0.15	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.04	0.0	0.1	

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TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

									—CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G—									
								FILET								—TOTAL DDTR—		
						LENGTH	T.WT	WT.	LIPIDS	--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		MIN	MAX	
MILE	DATE	FID	LAB	LABID	SPECIES	(MM)	(GM)	(GM)	(%)	O,P	P,P	O,P	P,P	O,P	P,P	(UG/G)	(UG/G)	REMARK
-----TENNESSEE RIVER -----																		
260.0	31JUL79	1-1			C. CATFISH	308	220	30.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	1-2			C. CATFISH	315	250	33.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	1-3			C. CATFISH	383	430	30.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	1-4			C. CATFISH	316	230	30.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	1-5			C. CATFISH	347	330	30.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	1-6			C. CATFISH	359	380	30.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	COM	SLI	1-008	C. CATFISH	.	.	.	0.75	0.04	0.04	0.03	0.22	0.06	0.22	0.6	0.6	M.D. *
260.0	31JUL79	5-1			L.M. BASS	288	335	30.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	5-2			L.M. BASS	335	550	31.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	5-3			L.M. BASS	302	345	33.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	5-4			L.M. BASS	341	625	30.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	5-5			L.M. BASS	251	220	32.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	5-6			L.M. BASS	278	300	32.5	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	COM	SLI	1-005	L.M. BASS	.	.	.	0.12	< 0.02	< 0.02	< 0.02	0.03	0.02	0.04	0.1	0.1	*
260.0	31JUL79	6-1			BLUEGILL	135	47	28.2	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	6-2			BLUEGILL	156	60	24.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	6-3			BLUEGILL	145	45	28.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	6-4			BLUEGILL	266	85	33.5	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	6-5			BLUEGILL	279	120	34.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	6-6			BLUEGILL	156	75	22.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	COM	SLI	1-010	BLUEGILL	.	.	.	0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.01	0.0	0.1	*
260.0	31JUL79	7-1			GIZZARD SHAD	250	140	33.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	7-2			GIZZARD SHAD	233	110	26.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	7-3			GIZZARD SHAD	247	170	30.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	7-4			GIZZARD SHAD	245	120	26.5	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	7-5			GIZZARD SHAD	248	130	23.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	7-6			GIZZARD SHAD	252	150	30.0	.	.	.	.	.	.	.	.	.	
260.0	31JUL79	COM	SLI	1-129	GIZZARD SHAD	.	.	.	1.71	0.10	0.13	< 0.02	0.16	0.05	0.19	0.6	0.6	
265.0	31JUL79	1-1			BLUE CATFISH	401	550	31.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	1-2			BLUE CATFISH	376	440	31.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	1-3			BLUE CATFISH	416	600	30.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	1-4			BLUE CATFISH	315	270	30.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	1-5			BLUE CATFISH	341	350	30.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	1-6			BLUE CATFISH	324	270	30.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	COM	SLI	1-005	BLUE CATFISH	.	.	.	0.64	0.04	0.02	0.02	0.12	0.04	0.14	0.4	0.4	*
265.0	31JUL79	5-1			L.M. BASS	270	275	30.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	5-2			L.M. BASS	320	470	30.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	5-3			L.M. BASS	261	249	30.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	5-4			L.M. BASS	300	380	30.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	5-5			L.M. BASS	224	170	30.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	5-6			L.M. BASS	280	310	30.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	COM	SLI	1-006	L.M. BASS	.	.	.	0.11	< 0.02	< 0.02	< 0.02	0.02	< 0.01	0.03	0.0	0.1	*
265.0	31JUL79	6-1			BLUEGILL	159	80	23.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	6-2			BLUEGILL	149	70	23.5	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	6-3			BLUEGILL	133	50	10.4	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	6-4			BLUEGILL	150	60	12.0	.	.	.	.	.	.	.	.	.	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER,AND GUNTERSVILLE RESERVOIRS

										--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G--								
								FILET								--TOTAL DDTR--		
						LENGTH	T.WT	WT.	LIPIDS	--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		MIN	MAX	
MILE	DATE	FID	LAB	LABID	SPECIES	(MM)	(GM)	(GM)	(%)	O,P	P,P	O,P	P,P	O,P	P,P	(UG/G)	(UG/G)	REMARK
265.0	31JUL79	6-5			BLUEGILL	157	80	11.5	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	6-6			BLUEGILL	131	40	10.0	.	.	.	.	.	.	.	.	.	
265.0	31JUL79	COM	SLI	1-007	BLUEGILL	.	.	.	0.13	< 0.02	< 0.02	< 0.02	0.02	0.02	0.03	0.1	0.1	*
270.0	31JUL79	COM	SLI	1-001	C. CATFISH	.	.	.	2.65	0.12	0.06	0.07	0.43	0.16	0.46	1.3	1.3	*
270.0	31JUL79	2-1			S.M. BUFFALO	592	3970	470.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	2-2			S.M. BUFFALO	505	1880	230.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	2-3			S.M. BUFFALO	463	1570	201.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	2-4			S.M. BUFFALO	508	1920	250.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	2-5			S.M. BUFFALO	455	1780	240.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	2-6			S.M. BUFFALO	470	1750	270.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	COM	SLI	1-083	S.M. BUFFALO	.	.	.	2.32	0.03	0.09	0.11	0.44	0.12	0.77	1.6	1.6	M.D.
270.0	31JUL79	4-1			WHITE CRAPPIE	316	420	30.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	4-2			WHITE CRAPPIE	279	320	30.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	4-3			WHITE CRAPPIE	287	335	34.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	4-4			WHITE CRAPPIE	291	400	30.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	4-5			WHITE CRAPPIE	271	310	30.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	4-6			WHITE CRAPPIE	273	285	30.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	COM	SLI	1-002	WHITE CRAPPIE	.	.	.	0.17	< 0.02	< 0.02	< 0.02	0.03	0.01	0.04	0.1	0.1	*
270.0	31JUL79	5-1			L.M. BASS	311	460	30.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	5-2			L.M. BASS	275	295	30.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	5-3			L.M. BASS	273	230	30.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	5-4			L.M. BASS	248	190	30.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	5-5			L.M. BASS	226	210	30.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	5-6			L.M. BASS	350	650	36.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	COM	SLI	1-003	L.M. BASS	.	.	.	0.15	< 0.02	< 0.02	< 0.02	0.03	0.01	0.06	0.1	0.2	*
270.0	31JUL79	6-1			BLUEGILL	85	120	30.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	6-2			BLUEGILL	183	150	30.0	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	6-3			BLUEGILL	156	100	24.5	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	6-4			BLUEGILL	158	70	14.8	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	6-5			BLUEGILL	149	70	17.8	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	6-6			BLUEGILL	154	60	13.1	.	.	.	.	.	.	.	.	.	
270.0	31JUL79	COM	SLI	1-004	BLUEGILL	.	.	.	0.14	0.02	0.03	< 0.02	0.04	0.01	0.06	0.2	0.2	*
275.0	6AUG79	1-1	SLI	1-163A	C. CATFISH	379	498	70.0	3.14	0.11	0.05	0.30	0.81	0.25	0.75	2.3	2.3	
275.0	6AUG79	1-2	SLI	1-163B	C. CATFISH	431	670	104.0	3.25	0.17	0.14	0.42	1.22	0.43	1.32	3.7	3.7	
275.0	6AUG79	1-3	SLI	1-163C	C. CATFISH	530	1270	61.0	2.35	0.02	0.06	0.08	0.47	0.14	0.42	1.2	1.2	
275.0	6AUG79	1-4	SLI	1-163D	C. CATFISH	473	1085	87.0	8.28	0.23	0.13	1.51	4.24	0.92	3.04	10.1	10.1	M.D.
275.0	6AUG79	1-5	SLI	1-163E	C. CATFISH	474	1120	179.0	3.63	0.04	0.06	0.11	0.63	0.20	0.57	1.6	1.6	
275.0	6AUG79	1-6	SLI	1-163F	C. CATFISH	440	960	82.0	10.20	0.36	0.24	0.88	2.13	0.84	2.51	7.0	7.0	
275.0	6AUG79	COM	SLI	1-163	C. CATFISH	.	.	.	1.53	0.08	0.07	0.20	0.71	0.15	0.55	1.8	1.8	
275.0	6AUG79	2-1			S.M. BUFFALO	495	1990	78.0	.	.	.	.	.	.	.	.	.	
275.0	6AUG79	2-2			S.M. BUFFALO	540	2590	199.0	.	.	.	.	.	.	.	.	.	
275.0	6AUG79	2-3			S.M. BUFFALO	530	2580	198.0	.	.	.	.	.	.	.	.	.	
275.0	6AUG79	2-4			S.M. BUFFALO	525	2300	210.0	.	.	.	.	.	.	.	.	.	
275.0	6AUG79	2-5			S.M. BUFFALO	535	2480	188.0	.	.	.	.	.	.	.	.	.	
275.0	6AUG79	2-6			S.M. BUFFALO	510	194	155.0	.	.	.	.	.	.	.	.	.	
275.0	6AUG79	COM	SLI	1-113	S.M. BUFFALO	.	.	.	1.72	0.22	0.19	0.50	1.12	0.38	1.43	3.9	3.9	M.D.
275.0	6AUG79	4-1			WHITE CRAPPIE	375	840	99.0	.	.	.	.	.	.	.	.	.	
275.0	6AUG79	4-2			WHITE CRAPPIE	345	640	75.0	.	.	.	.	.	.	.	.	.	
275.0	6AUG79	4-3			WHITE CRAPPIE	230	160	33.4	.	.	.	.	.	.	.	.	.	
275.0	6AUG79	4-4			WHITE CRAPPIE	220	150	33.0	.	.	.	.	.	.	.	.	.	

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

								FILET	—CONCENTRATIONS OF DDT MEASURED IN FISH, UG/G—									
										--DDT (UG/G)--		--DDD (UG/G)--		--DDE (UG/G)--		--TOTAL DDTR--		
MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	WT. (GM)	LIPIDS (%)	O,P	P,P	O,P	P,P	O,P	P,P	MIN (UG/G)	MAX (UG/G)	REMARK
275.0	6AUG79	COM	SLI	1-112	WHITE CRAPPIE	.	.	.	0.05	< 0.02	< 0.02	< 0.02	0.03	< 0.01	0.02	0.0	0.1	
275.0	7AUG79	5-1			L.M. BASS	260	250	30.5	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	5-2			L.M. BASS	220	120	21.0	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	5-3			L.M. BASS	210	110	26.5	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	5-4			L.M. BASS	250	220	32.5	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	5-5			L.M. BASS	385	970	80.0	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	5-6			L.M. BASS	330	420	40.0	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	COM	SLI	1-172	L.M. BASS	.	.	.	0.10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1	1
275.0	7AUG79	6-1			BLUEGILL	200	160	30.5	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	6-2			BLUEGILL	185	130	21.5	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	6-3			BLUEGILL	185	100	17.0	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	6-4			BLUEGILL	175	110	25.0	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	6-5			BLUEGILL	195	190	33.0	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	6-6			BLUEGILL	180	120	25.0	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	COM	SLI	1-149	BLUEGILL	.	.	.	0.09	< 0.02	< 0.02	< 0.02	0.03	0.01	0.08	0.1	0.2	
275.0	7AUG79	7-1			GIZZARD SHAD	265	190	.	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	7-2			GIZZARD SHAD	260	210	.	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	7-3			GIZZARD SHAD	285	170	.	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	7-4			GIZZARD SHAD	260	180	.	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	7-5			GIZZARD SHAD	265	180	.	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	7-6			GIZZARD SHAD	260	190	.	.	.	.	.	.	.	.	.	.	
275.0	7AUG79	COM	SLI	1-155	GIZZARD SHAD	.	.	.	0.57	< 0.02	< 0.02	< 0.02	0.06	0.01	0.08	0.1	0.2	
280.0	. .	1-1			C. CATFISH	463	1030	111.0	.	.	.	.	.	.	.	.	.	
280.0	. .	1-2			C. CATFISH	462	980	120.0	.	.	.	.	.	.	.	.	.	
280.0	. .	1-3			C. CATFISH	465	925	104.0	.	.	.	.	.	.	.	.	.	
280.0	. .	1-4			C. CATFISH	342	400	39.0	.	.	.	.	.	.	.	.	.	
280.0	. .	1-5			C. CATFISH	362	420	45.0	.	.	.	.	.	.	.	.	.	
280.0	. .	1-6			C. CATFISH	325	325	33.0	.	.	.	.	.	.	.	.	.	
280.0	. .	COM	SLI	1-116	C. CATFISH	.	.	.	1.17	0.04	0.02	0.06	0.29	0.06	0.24	0.7	0.7	N.D.
280.0	. .	2-1			S.M. BUFFALO	485	1930	38.0	.	.	.	.	.	.	.	.	.	
280.0	. .	2-2			S.M. BUFFALO	510	2330	33.5	.	.	.	.	.	.	.	.	.	
280.0	. .	2-3			S.M. BUFFALO	460	1580	89.0	.	.	.	.	.	.	.	.	.	
280.0	. .	2-4			S.M. BUFFALO	450	1620	93.0	.	.	.	.	.	.	.	.	.	
280.0	. .	2-5			S.M. BUFFALO	455	1680	170.0	.	.	.	.	.	.	.	.	.	
280.0	. .	2-6			S.M. BUFFALO	495	1730	128.0	.	.	.	.	.	.	.	.	.	
280.0	. .	COM	SLI	1-114	S.M. BUFFALO	.	.	.	4.23	0.05	0.20	0.30	0.91	0.27	1.12	2.8	2.8	
280.0	. .	5-1			L.M. BASS	240	210	26.5	.	.	.	.	.	.	.	.	.	
280.0	. .	5-2			L.M. BASS	310	440	65.0	.	.	.	.	.	.	.	.	.	
280.0	. .	5-3			L.M. BASS	245	240	34.0	.	.	.	.	.	.	.	.	.	
280.0	. .	5-4			L.M. BASS	420	1110	94.0	.	.	.	.	.	.	.	.	.	
280.0	. .	5-5			L.M. BASS	370	760	74.0	.	.	.	.	.	.	.	.	.	
280.0	. .	5-6			L.M. BASS	330	540	52.0	.	.	.	.	.	.	.	.	.	
280.0	. .	COM	SLI	1-115	L.M. BASS	.	.	.	0.15	< 0.03	< 0.03	< 0.03	< 0.02	< 0.02	< 0.02	0.0	0.1	1
280.0	6AUG79	6-1			BLUEGILL	187	105	19.0	.	.	.	.	.	.	.	.	.	
280.0	6AUG79	6-2			BLUEGILL	174	110	29.0	.	.	.	.	.	.	.	.	.	
280.0	6AUG79	6-3			BLUEGILL	200	170	34.0	.	.	.	.	.	.	.	.	.	
280.0	6AUG79	6-4			BLUEGILL	179	130	24.0	.	.	.	.	.	.	.	.	.	
280.0	6AUG79	6-5			BLUEGILL	175	110	21.0	.	.	.	.	.	.	.	.	.	
280.0	6AUG79	6-6			BLUEGILL	185	140	24.0	.	.	.	.	.	.	.	.	.	
280.0	6AUG79	COM	SLI	1-150	BLUEGILL	.	.	.	0.05	< 0.02	< 0.02	< 0.02	< 0.02	0.02	0.05	0.1	0.1	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
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TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G--

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS (%)	--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		--TOTAL DDTR-- MIN (UG/G)	MAX (UG/G)	REMARK
										O,P	P,P	O,P	P,P	O,P	P,P			
285.0	9AUG79	1-1			BLUE CATFISH	415	720	39.0	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	1-2			BLUE CATFISH	490	1240	37.5	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	1-3			BLUE CATFISH	480	940	29.5	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	1-4			BLUE CATFISH	510	1440	35.0	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	1-5			BLUE CATFISH	470	1040	31.0	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	1-6			BLUE CATFISH	525	1350	30.5	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	COM	SLI	1-024	BLUE CATFISH	.	.	.	2.20	0.23	0.26	0.31	1.56	0.35	1.19	3.9	3.9	
285.0	9AUG79	2-1			S.M. BUFFALO	440	1500	35.0	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	2-2			S.M. BUFFALO	540	2850	35.5	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	2-3			S.M. BUFFALO	450	1310	33.5	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	2-4			S.M. BUFFALO	470	2100	38.0	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	2-5			S.M. BUFFALO	410	1330	40.5	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	2-6			S.M. BUFFALO	535	2240	31.0	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	COM	SLI	1-027	S.M. BUFFALO	.	.	.	0.81	0.02	0.05	0.08	0.22	0.07	0.29	0.7	0.7	•
285.0	9AUG79	5-1			L.M. BASS	275	260	31.5	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	5-2			L.M. BASS	305	460	34.0	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	5-3			L.M. BASS	295	390	34.0	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	5-4			L.M. BASS	335	640	34.5	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	5-5			L.M. BASS	310	470	36.5	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	5-6			L.M. BASS	395	1060	35.0	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	COM	SLI	1-025	L.M. BASS	.	.	.	0.35	< 0.02	< 0.02	0.03	0.06	0.02	0.12	0.2	0.3	•
285.0	9AUG79	6-1			BLUEGILL	155	80	16.5	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	6-2			BLUEGILL	160	90	18.0	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	6-3			BLUEGILL	145	50	15.0	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	6-4			BLUEGILL	165	100	24.5	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	6-5			BLUEGILL	140	70	13.5	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	6-6			BLUEGILL	150	80	16.0	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	COM	SLI	1-029	BLUEGILL	.	.	.	0.05	< 0.02	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	0.0	0.1	•
285.0	6SEP79	3-1			WHITE BASS	274	260	35.0	.	.	.	.	.	.	.	.	.	
285.0	6SEP79	3-2			WHITE BASS	260	240	33.0	.	.	.	.	.	.	.	.	.	
285.0	6SEP79	3-3			WHITE BASS	294	330	43.0	.	.	.	.	.	.	.	.	.	
285.0	6SEP79	COM	SLI	1-125	WHITE BASS	260	225	35.7	0.20	< 0.02	< 0.02	< 0.02	0.07	< 0.01	0.08	0.1	0.2	
290.0	9AUG79	1-1	SLI	1-030A	C. CATFISH	500	1580	33.0	2.64	0.17	0.09	0.27	0.66	0.26	0.70	2.2	2.2	
290.0	9AUG79	1-2	SLI	1-030B	C. CATFISH	450	1030	35.5	2.37	0.14	0.12	0.06	0.22	0.15	0.29	1.0	1.0	
290.0	9AUG79	1-3	SLI	1-030C	BLUE CATFISH	290	260	36.5	4.28	0.15	0.02	0.35	0.44	0.32	0.61	1.9	1.9	
290.0	9AUG79	1-4	SLI	1-030D	C. CATFISH	345	450	31.0	3.66	< 0.02	< 0.02	0.04	0.20	0.05	0.15	0.4	0.5	
290.0	9AUG79	1-5	SLI	1-030E	C. CATFISH	370	530	31.0	4.78	0.05	0.03	0.08	0.26	0.09	0.24	0.7	0.7	
290.0	9AUG79	1-6	SLI	1-030F	BLUE CATFISH	275	230	29.5	2.17	0.02	0.02	0.02	0.30	0.08	0.27	0.7	0.7	
290.0	9AUG79	COM	SLI	1-030	BLUE CATFISH	.	.	.	2.66	0.15	0.06	0.09	0.81	0.22	0.63	2.0	2.0	•
290.0	9AUG79	2-1	SLI	1-031A	S.M. BUFFALO	450	1530	33.0	5.75	< 0.02	< 0.02	0.02	0.08	0.04	0.09	0.2	0.3	N.D.
290.0	9AUG79	2-2	SLI	1-031B	S.M. BUFFALO	460	1790	34.0	6.07	0.02	0.04	0.13	0.32	0.13	0.31	0.9	0.9	
290.0	9AUG79	2-3	SLI	1-031C	S.M. BUFFALO	610	4130	36.5	3.56	0.10	0.11	0.12	0.29	0.16	0.58	1.4	1.4	
290.0	9AUG79	2-4	SLI	1-031D	S.M. BUFFALO	485	2230	34.5	3.69	0.17	0.20	0.62	0.95	0.56	1.99	4.5	4.5	
290.0	9AUG79	2-5	SLI	1-031E	S.M. BUFFALO	660	5300	36.5	6.36	0.04	0.06	0.11	0.25	0.14	0.45	1.1	1.1	
290.0	9AUG79	2-6	SLI	1-031F	S.M. BUFFALO	570	3560	33.5	4.25	0.15	0.11	0.13	0.32	0.21	0.93	1.8	1.8	
290.0	9AUG79	COM	SLI	1-031	S.M. BUFFALO	.	.	.	0.05	0.33	0.67	0.67	1.30	0.44	1.73	5.1	5.1	•
290.0	9AUG79	4-1			WHITE CRAPPIE	240	230	31.5	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	4-2			WHITE CRAPPIE	240	170	34.5	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	4-3			WHITE CRAPPIE	200	100	30.5	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	4-4			WHITE CRAPPIE	220	160	38.0	.	.	.	.	.	.	.	.	.	

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

										--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G--									
								FILET		--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		--TOTAL DDTR--		
MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	WT. (GM)	LIPIDS (%)	O,P	P,P	O,P	P,P	O,P	P,P	MIN (UG/G)	MAX (UG/G)	REMARK
290.0	9AUG79	4-5			WHITE CRAPPIE	205	100	29.0	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	4-6			WHITE CRAPPIE	230	170	36.5	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	COM	SLI	1-032	WHITE CRAPPIE	.	.	.	0.07	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1	
290.0	9AUG79	5-1			L.M. BASS	305	460	37.5	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	5-2			L.M. BASS	265	260	34.0	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	5-3			L.M. BASS	260	300	34.5	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	5-4			L.M. BASS	235	190	29.5	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	5-5			L.M. BASS	245	210	31.0	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	5-6			L.M. BASS	360	770	40.0	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	COM	SLI	1-033	L.M. BASS	.	.	.	0.14	< 0.02	0.02	< 0.02	0.03	0.01	0.09	0.1	0.2	*
290.0	9AUG79	6-1			BLUEGILL	180	130	27.5	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	6-2			BLUEGILL	175	100	23.0	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	6-3			BLUEGILL	160	110	21.0	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	6-4			BLUEGILL	170	100	19.0	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	6-5			BLUEGILL	165	80	17.0	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	6-6			BLUEGILL	165	90	17.0	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	COM	SLI	1-034	BLUEGILL	.	.	.	0.05	< 0.02	< 0.03	< 0.01	< 0.01	< 0.01	0.01	0.0	0.1	*
295.0	13AUG79	1-1			C. CATFISH	450	1300	38.5	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	1-2			C. CATFISH	430	940	40.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	1-3			C. CATFISH	490	1290	40.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	1-4			C. CATFISH	525	1570	34.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	1-5			C. CATFISH	550	1800	34.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	1-6			C. CATFISH	590	2270	32.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	COM	SLI	1-035	C. CATFISH	.	.	.	2.96	0.18	0.23	0.21	0.59	0.16	0.57	1.9	1.9	
295.0	13AUG79	2-1			S.M. BUFFALO	445	1400	35.5	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	2-2			S.M. BUFFALO	465	1740	37.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	2-3			S.M. BUFFALO	435	1370	33.5	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	2-4			S.M. BUFFALO	405	1090	35.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	2-5			S.M. BUFFALO	370	1050	31.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	2-6			S.M. BUFFALO	385	870	30.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	COM	SLI	1-036	S.M. BUFFALO	.	.	.	2.79	0.09	0.17	0.29	0.72	0.21	0.66	2.1	2.1	*
295.0	13AUG79	3-1			WHITE BASS	230	200	31.5	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	3-2			WHITE BASS	260	280	35.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	3-3			WHITE BASS	245	190	29.5	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	3-4			WHITE BASS	270	260	32.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	3-5			WHITE BASS	220	140	33.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	3-6			WHITE BASS	270	250	31.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	COM	SLI	1-037	WHITE BASS	.	.	.	0.24	< 0.02	0.06	0.07	0.26	0.06	0.35	0.8	0.8	M.D. *
295.0	13AUG79	4-1			WHITE CRAPPIE	260	250	32.5	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	4-2			WHITE CRAPPIE	230	150	30.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	4-3			WHITE CRAPPIE	200	95	24.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	4-4			WHITE CRAPPIE	190	120	31.5	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	4-5			WHITE CRAPPIE	265	190	37.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	4-6			WHITE CRAPPIE	.	.	.	.	.	.	.	.	.	.	.	.	N.S.
295.0	13AUG79	COM	SLI	1-038	WHITE CRAPPIE	.	.	.	0.05	< 0.02	< 0.03	< 0.01	< 0.01	< 0.01	0.01	0.0	0.1	*
295.0	13AUG79	5-1			L.M. BASS	255	230	30.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	5-2			L.M. BASS	235	160	30.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	5-3			L.M. BASS	290	360	35.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	5-4			L.M. BASS	275	320	37.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	5-5			L.M. BASS	270	310	39.0	.	.	.	.	.	.	.	.	.	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

								FILET		—CONCENTRATIONS OF DDT MEASURED IN FISH, UG/G—								
						LENGTH	T.WT	WT.	LIPIDS	--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		--TOTAL DDTR-- MIN	MAX	
MILE	DATE	FID	LAB	LABID	SPECIES	(MM)	(GM)	(GM)	(%)	O,P	P,P	O,P	P,P	O,P	P,P	(UG/G)	(UG/G)	REMARK
295.0	13AUG79	5-6			L.M. BASS	375	730	37.5	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	COM	SLI	1-039	L.M. BASS	.	.	.	0.05	< 0.02	< 0.02	< 0.02	0.03	< 0.01	0.03	0.1	0.1	*
295.0	13AUG79	6-1			BLUEGILL	175	120	26.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	6-2			BLUEGILL	140	50	10.5	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	6-3			BLUEGILL	175	110	25.5	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	6-4			BLUEGILL	180	80	21.5	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	6-5			BLUEGILL	140	50	11.5	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	6-6			BLUEGILL	150	70	18.0	.	.	.	.	.	.	.	.	.	
295.0	13AUG79	COM	SLI	1-040	BLUEGILL	.	.	.	0.05	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.02	0.0	0.1	*
300.0	14AUG79	1-1	SLI	1-166A	C. CATFISH	490	870	89.0	0.71	0.51	1.01	4.79	22.20	3.32	14.50	46.3	46.3	
300.0	14AUG79	1-2	SLI	1-166B	C. CATFISH	495	1160	112.0	4.83	0.06	0.05	0.41	1.07	0.40	1.00	3.0	3.0	M.D.
300.0	14AUG79	1-3	SLI	1-166C	C. CATFISH	415	670	90.0	1.95	0.11	0.07	0.23	0.57	0.22	0.54	1.7	1.7	
300.0	14AUG79	1-4	SLI	1-166D	C. CATFISH	465	920	100.0	2.55	0.09	0.09	0.50	1.58	0.47	1.63	4.4	4.4	
300.0	14AUG79	1-5	SLI	1-166E	C. CATFISH	450	670	54.0	0.19	0.08	0.05	0.03	0.37	0.16	0.68	1.4	1.4	
300.0	14AUG79	1-6	SLI	1-166F	C. CATFISH	480	1080	132.0	1.44	0.14	0.08	0.09	0.35	0.22	0.53	1.4	1.4	
300.0	14AUG79	COM	SLI	1-166	C. CATFISH	.	.	.	1.78	0.20	0.35	1.03	6.24	0.73	3.91	12.5	12.5	
300.0	14AUG79	2-1			S.M. BUFFALO	410	1200	147.0	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	2-2			S.M. BUFFALO	500	1920	160.0	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	2-3			S.M. BUFFALO	440	1650	148.0	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	2-4			S.M. BUFFALO	490	1660	151.0	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	2-5			S.M. BUFFALO	480	1580	115.0	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	2-6			S.M. BUFFALO	480	1580	174.0	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	COM	SLI	1-157	S.M. BUFFALO	.	.	.	0.44	0.08	0.13	0.07	0.19	0.07	0.34	0.9	0.9	M.D.
300.0	14AUG79	4-1			WHITE CRAPPIE	275	250	31.5	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	4-2			WHITE CRAPPIE	200	100	27.0	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	4-3			WHITE CRAPPIE	235	160	32.0	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	4-4			WHITE CRAPPIE	185	70	27.5	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	4-5			WHITE CRAPPIE	175	50	14.0	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	4-6			WHITE CRAPPIE	.	.	.	.	.	.	.	.	.	.	.	.	N.S.
300.0	14AUG79	COM	SLI	1-043	WHITE CRAPPIE	.	.	.	0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1	1 *
300.0	14AUG79	6-1			BLUEGILL	160	100	21.0	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	6-2			BLUEGILL	155	70	14.5	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	6-3			BLUEGILL	150	60	16.5	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	6-4			BLUEGILL	165	80	15.5	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	6-5			BLUEGILL	160	80	20.0	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	6-6			BLUEGILL	150	30	14.0	.	.	.	.	.	.	.	.	.	
300.0	14AUG79	COM	SLI	1-045	BLUEGILL	.	.	.	0.06	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1	1 *
300.0	15AUG79	5-1			L.M. BASS	400	850	95.0	.	.	.	.	.	.	.	.	.	
300.0	15AUG79	5-2			L.M. BASS	340	570	78.0	.	.	.	.	.	.	.	.	.	
300.0	15AUG79	5-3			L.M. BASS	305	420	53.0	.	.	.	.	.	.	.	.	.	
300.0	15AUG79	5-4			L.M. BASS	400	1000	112.0	.	.	.	.	.	.	.	.	.	
300.0	15AUG79	5-5			L.M. BASS	380	640	63.0	.	.	.	.	.	.	.	.	.	
300.0	15AUG79	5-6			L.M. BASS	365	710	91.0	.	.	.	.	.	.	.	.	.	
300.0	15AUG79	COM	SLI	1-085	L.M. BASS	.	.	.	0.06	< 0.02	0.07	0.04	0.15	< 0.01	0.15	0.4	0.4	
305.0	16AUG79	1-1	SLI	1-086A	C. CATFISH	390	440	66.0	1.73	0.08	0.07	0.23	1.64	0.34	1.64	4.0	4.0	
305.0	16AUG79	1-2	SLI	1-086B	C. CATFISH	380	520	56.0	4.54	0.18	0.12	0.51	1.30	0.42	1.36	3.9	3.9	
305.0	16AUG79	1-3	SLI	1-086C	C. CATFISH	430	700	50.0	2.73	0.14	0.11	0.36	0.99	0.22	0.62	2.4	2.4	
305.0	16AUG79	1-4	SLI	1-086D	C. CATFISH	375	450	40.0	3.25	0.05	0.13	0.50	1.57	0.44	1.68	4.4	4.4	
305.0	16AUG79	1-5	SLI	1-086E	C. CATFISH	470	1010	103.0	3.09	0.04	0.06	0.06	0.55	0.12	0.49	1.3	1.3	
305.0	16AUG79	1-6	SLI	1-086F	C. CATFISH	570	1830	124.0	1.49	0.17	0.31	2.01	10.50	1.31	6.72	21.0	21.0	M.D.

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	—CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G— LIPIDS (%)	--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		—TOTAL DDTR--		REMARK
										O,P	P,P	O,P	P,P	O,P	P,P	MIN (UG/G)	MAX (UG/G)	
305.0	16AUG79	COM	SLI	1-086	C. CATFISH	.	.	.	3.71	0.58	0.70	1.17	5.66	0.98	3.70	12.8	12.8	
305.0	16AUG79	2-1			S.M. BUFFALO	325	2430	186.0	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	2-2			S.M. BUFFALO	490	1950	114.0	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	2-3			S.M. BUFFALC	485	2190	126.0	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	2-4			S.M. BUFFALO	500	2130	121.0	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	2-5			S.M. BUFFALO	490	2290	162.0	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	2-6			S.M. BUFFALO	450	2020	148.0	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	COM	SLI	1-093	S.M. BUFFALO	.	.	.	0.73	< 0.02	< 0.02	< 0.02	0.11	0.04	0.11	0.3	0.3	
305.0	16AUG79	5-1			L.M. BASS	265	250	30.5	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	5-2			L.M. BASS	385	920	35.5	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	5-3			L.M. BASS	380	800	36.0	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	5-4			L.M. BASS	320	510	30.5	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	5-5			L.M. BASS	365	860	38.0	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	5-6			L.M. BASS	215	140	27.7	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	COM	SLI	1-04c	L.M. BASS	.	.	.	0.04	< 0.02	< 0.02	< 0.02	0.09	< 0.01	0.05	0.1	0.2	1 *
305.0	16AUG79	6-1			BLUEGILL	175	110	24.5	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	6-2			BLUEGILL	155	60	17.0	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	6-3			BLUEGILL	150	70	13.5	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	6-4			BLUEGILL	145	50	12.5	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	6-5			BLUEGILL	140	50	13.0	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	6-6			BLUEGILL	145	60	12.0	.	.	.	.	.	.	.	.	.	
305.0	16AUG79	COM	SLI	1-049	BLUEGILL	.	.	.	0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1	1 *
310.0	23AUG79	1-1			C. CATFISH	370	510	63.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	1-2			C. CATFISH	380	540	63.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	1-3			C. CATFISH	380	490	55.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	1-4			C. CATFISH	435	830	90.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	1-5			C. CATFISH	410	570	42.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	1-6			C. CATFISH	340	360	41.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	COM	SLI	1-120	C. CATFISH	.	.	.	0.69	0.03	0.03	0.14	0.50	0.09	0.38	1.2	1.2	M.D.
310.0	23AUG79	2-1			S.M. BUFFALO	450	1570	157.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	2-2			S.M. BUFFALO	425	1160	137.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	2-3			S.M. BUFFALO	460	1730	126.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	2-4			S.M. BUFFALO	470	1700	170.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	2-5			S.M. BUFFALO	450	1270	141.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	2-6			S.M. BUFFALO	500	2050	228.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	COM	SLI	1-121	S.M. BUFFALO	.	.	.	2.71	0.18	0.24	0.34	0.85	0.28	1.28	3.2	3.2	
310.0	23AUG79	4-1			WHITE CRAPPIE	216	310	43.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	4-2			WHITE CRAPPIE	225	170	28.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	4-3			WHITE CRAPPIE	223	150	42.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	4-4			WHITE CRAPPIE	212	140	39.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	4-5			WHITE CRAPPIE	207	130	38.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	4-6			WHITE CRAPPIE	201	120	32.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	COM	SLI	1-071	WHITE CRAPPIE	.	.	.	0.02	< 0.02	< 0.02	< 0.02	0.05	< 0.01	0.04	0.1	0.2	
310.0	23AUG79	5-1			L.M. BASS	295	400	50.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	5-2			L.M. BASS	315	440	63.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	5-3			L.M. BASS	375	760	100.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	5-4			L.M. BASS	245	190	38.5	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	5-5			L.M. BASS	300	440	47.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	5-6			L.M. BASS	270	280	41.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	COM	SLI	1-122	L.M. BASS	.	.	.	0.08	< 0.02	< 0.02	< 0.02	0.05	< 0.01	0.05	0.1	0.2	1

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

										—CONCENTRATIONS OF DDT MEASURED IN FISH, UG/G—								
								FILET		--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		--TOTAL DDTR--		
MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	WT. (GM)	LIPIDS (%)	O,P	P,P	O,P	P,P	O,P	P,P	MIN (UG/G)	MAX (UG/G)	REMARK
310.0	23AUG79	6-1			BLUEGILL	140	50	12.3	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	6-2			BLUEGILL	135	30	11.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	6-3			BLUEGILL	130	40	10.5	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	6-4			BLUEGILL	155	40	12.5	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	6-5			BLUEGILL	140	50	12.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	6-6			BLUEGILL	155	60	16.0	.	.	.	.	.	.	.	.	.	
310.0	23AUG79	COM	SLI	1-151	BLUEGILL	.	.	.	0.11	< 0.05	< 0.06	< 0.03	0.05	< 0.02	0.07	0.1	0.3	
315.0	28AUG79	1-1	SLI	1-103A	C. CATFISH	475	1150	96.0	2.54	0.18	0.20	1.70	4.55	1.00	3.35	11.0	11.0	M.D.
315.0	28AUG79	1-2	SLI	1-103B	C. CATFISH	470	860	110.0	1.48	0.25	0.89	2.72	15.60	2.95	11.80	34.2	34.2	
315.0	28AUG79	1-3	SLI	1-103C	C. CATFISH	295	220	30.5	1.45	0.03	0.03	0.34	1.07	0.33	1.22	3.0	3.0	
315.0	28AUG79	1-4	SLI	1-103D	C. CATFISH	430	820	81.0	4.89	0.31	0.51	6.66	16.60	3.13	12.80	40.0	40.0	
315.0	28AUG79	1-5	SLI	1-103E	C. CATFISH	310	260	30.6	2.35	0.04	0.05	0.62	2.12	0.50	1.70	5.0	5.0	
315.0	28AUG79	1-6	SLI	1-103F	C. CATFISH	485	720	81.0	5.58	0.26	0.13	0.73	1.84	0.63	1.89	5.5	5.5	
315.0	28AUG79	COM	SLI	1-103	C. CATFISH	.	.	.	1.87	< 0.02	< 0.02	1.21	3.84	0.73	3.25	9.0	9.1	
315.0	28AUG79	2-1			S.M. BUFFALO	455	1610	157.0	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	2-2			S.M. BUFFALO	460	1440	154.0	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	2-3			S.M. BUFFALO	520	2010	129.0	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	2-4			S.M. BUFFALO	460	1520	140.0	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	2-5			S.M. BUFFALO	410	1030	79.0	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	2-6			S.M. BUFFALO	490	1850	138.0	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	COM	SLI	1-167	S.M. BUFFALO	.	.	.	1.32	< 0.08	0.15	0.27	0.86	0.23	1.17	2.7	2.8	
315.0	28AUG79	5-1	SLI	1-170A	L.M. BASS	108	86	10.3	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	5-2	SLI	1-170B	L.M. BASS	220	130	20.8	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	5-3	SLI	1-170C	L.M. BASS	201	100	20.4	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	5-4	SLI	1-170D	L.M. BASS	280	260	30.5	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	5-5	SLI	1-170E	L.M. BASS	390	865	86.0	0.06	0.12	0.14	0.71	1.24	0.21	0.69	3.1	3.1	
315.0	28AUG79	5-6	SLI	1-170F	L.M. BASS	225	190	30.0	0.13	< 0.02	< 0.02	0.07	0.16	0.04	0.16	0.5	0.5	
315.0	28AUG79	COM	SLI	1-170	L.M. BASS	.	.	.	1.17	0.30	0.29	1.49	3.30	0.64	3.17	9.2	9.2	1
315.0	28AUG79	6-1			BLUEGILL	150	75	10.5	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	6-2			BLUEGILL	166	100	10.9	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	6-3			BLUEGILL	142	40	10.0	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	6-3			BLUEGILL	160	90	10.4	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	6-5			BLUEGILL	150	80	10.5	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	6-6			BLUEGILL	136	50	10.0	.	.	.	.	.	.	.	.	.	
315.0	28AUG79	COM	SLI	1-148	BLUEGILL	.	.	.	0.18	< 0.02	0.02	0.02	0.09	0.02	0.10	0.2	0.3	
315.0	28AUG79	7-1	SLI	1-130A	GIZZARD SHAD	211	65	.	0.19	< 0.02	< 0.02	< 0.02	0.03	< 0.01	0.03	0.1	0.1	
315.0	28AUG79	7-2	SLI	1-130B	GIZZARD SHAD	226	110	.	0.27	< 0.02	< 0.02	0.03	0.15	0.01	0.14	0.3	0.4	
315.0	28AUG79	7-3	SLI	1-130C	GIZZARD SHAD	256	110	.	0.19	< 0.02	< 0.02	< 0.02	0.04	< 0.01	0.04	0.1	0.1	
315.0	28AUG79	7-4	SLI	1-130D	GIZZARD SHAD	200	60	.	0.29	< 0.02	< 0.02	0.05	0.14	0.03	0.12	0.3	0.4	
315.0	28AUG79	7-5	SLI	1-130E	GIZZARD SHAD	226	100	.	1.06	< 0.02	0.04	0.10	0.94	0.09	1.58	2.8	2.8	
315.0	28AUG79	7-6	SLI	1-130F	GIZZARD SHAD	201	80	.	2.74	0.20	2.15	2.80	19.10	1.05	11.70	37.0	37.0	
315.0	28AUG79	COM	SLI	1-130	GIZZARD SHAD	.	.	.	0.50	< 0.02	0.19	0.21	1.29	0.09	1.01	2.8	2.8	
320.0	30AUG79	1-1	SLI	1-124A	C. CATFISH	399	620	71.0	7.49	0.16	0.20	0.70	4.28	0.66	2.51	8.5	8.5	
320.0	30AUG79	1-2	SLI	1-124B	C. CATFISH	369	430	51.0	1.16	0.04	0.05	0.42	2.36	0.30	1.38	4.6	4.6	
320.0	30AUG79	1-3	SLI	1-124C	C. CATFISH	323	280	33.5	2.70	0.18	0.13	0.58	1.95	0.51	1.77	5.1	5.1	
320.0	30AUG79	1-4	SLI	1-124D	C. CATFISH	295	210	30.2	1.82	0.03	0.03	0.08	0.28	0.09	0.27	0.8	0.6	M.D.
320.0	30AUG79	1-5	SLI	1-124E	C. CATFISH	401	590	68.0	5.23	< 0.02	< 0.02	3.83	11.20	1.78	5.12	21.9	22.0	
320.0	30AUG79	1-6	SLI	1-124F	C. CATFISH	364	420	52.0	3.34	0.06	0.05	0.41	0.93	0.32	0.87	2.6	2.6	
320.0	30AUG79	COM	SLI	1-124	C. CATFISH	.	.	.	3.92	< 0.02	< 0.18	1.31	4.01	0.94	3.24	9.5	9.7	
320.0	30AUG79	2-1			S.M. BUFFALO	410	930	101.0	.	.	.	.	.	.	.	.	.	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
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TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G--

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS (%)	--DDT(UG/G)-- O,P	P,P	--DDD(UG/G)-- O,P	P,P	--DDE(UG/G)-- O,P	P,P	--TOTAL DDTR-- MIN (UG/G)	MAX (UG/G)	REMARK
320.0	30AUG79	2-2			S.M. BUFFALO	308	460	48.0	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	2-3			S.M. BUFFALO	326	570	89.0	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	2-4			S.M. BUFFALO	472	700	71.0	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	2-5			S.M. BUFFALO	364	780	105.0	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	2-6			S.M. BUFFALO	348	600	70.0	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	COM	SLI	1-123	S.M. BUFFALO	.	.	.	1.51	< 0.02	< 0.02	0.13	0.35	0.13	0.59	1.2	1.2	
320.0	30AUG79	5-1			L.M. BASS	345	680	87.0	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	5-2			L.M. BASS	260	280	31.9	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	5-3			L.M. BASS	230	150	31.0	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	5-4			L.M. BASS	215	140	35.6	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	5-5			L.M. BASS	220	130	32.1	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	5-6			L.M. BASS	180	70	17.3	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	COM	SLI	1-139	L.M. BASS	.	.	.	0.21	0.07	0.11	0.46	1.18	0.19	0.79	2.8	2.8	
320.0	30AUG79	6-1			BLUEGILL	200	140	28.1	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	6-2			BLUEGILL	170	100	21.1	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	6-3			BLUEGILL	165	80	15.9	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	6-4			BLUEGILL	162	80	16.5	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	6-5			BLUEGILL	173	110	21.9	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	6-6			BLUEGILL	145	50	12.2	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	COM	SLI	1-133	BLUEGILL	.	.	.	0.14	< 0.02	0.09	0.03	0.23	0.04	0.27	0.7	0.7	
325.0	30AUG79	1-1			C. CATFISH	325	250	31.5	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	1-2			C. CATFISH	290	210	36.0	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	1-3			C. CATFISH	269	180	35.5	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	1-4			C. CATFISH	310	230	37.5	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	1-5			C. CATFISH	293	220	33.0	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	1-6			C. CATFISH	321	300	34.5	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	COM	SLI	1-154	C. CATFISH	.	.	.	1.62	< 0.02	0.03	< 0.02	0.09	0.04	0.11	0.3	0.3	
325.0	30AUG79	2-1			S.M. BUFFALO	460	1390	178.0	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	2-2			S.M. BUFFALO	475	1690	156.0	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	2-3			S.M. BUFFALO	437	1250	41.5	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	2-4			S.M. BUFFALO	421	1200	125.0	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	2-5			S.M. BUFFALO	460	1500	179.0	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	2-6			S.M. BUFFALO	281	380	67.0	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	COM	SLI	1-092	S.M. BUFFALO	.	.	.	1.17	0.13	0.18	0.10	0.27	0.12	0.47	1.3	1.3	
325.0	30AUG79	5-1			L.M. BASS	353	700	59.0	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	5-2			L.M. BASS	358	680	103.0	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	5-3			L.M. BASS	211	130	26.5	.	.	.	.	.	.	.	.	.	
325.0	30AUG7	5-4			L.M. BASS	268	250	37.5	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	5-5			L.M. BASS	222	180	31.2	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	5-6			L.M. BASS	191	80	26.5	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	COM	SLI	1-140	L.M. BASS	.	.	.	0.30	0.18	0.25	1.21	2.51	0.39	1.48	6.0	6.0	
325.0	30AUG79	6-1			BLUEGILL	165	100	20.0	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	6-2			BLUEGILL	166	100	16.5	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	6-3			BLUEGILL	167	100	16.0	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	6-4			BLUEGILL	153	70	13.1	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	6-5			BLUEGILL	163	100	19.0	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	6-6			BLUEGILL	153	70	18.9	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	COM	SLI	1-136	BLUEGILL	.	.	.	0.18	< 0.02	< 0.02	< 0.02	0.06	0.01	0.05	0.1	0.2	
325.0	30AUG79	7-1	SLI	1-132A	GIZZARD SHAD	225	85	.	0.13	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1	
325.0	30AUG79	7-2	SLI	1-132B	GIZZARD SHAD	175	45	.	0.81	< 0.02	< 0.02	0.02	0.12	0.03	0.12	0.3	0.3	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK I - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER,AND GUNTERSVILLE RESERVOIRS

--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G--

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS (%)	--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		--TOTAL DDTR-- MIN (UG/G)	MAX (UG/G)	REMARK
										O,P	P,P	O,P	P,P	O,P	P,P			
325.0	30AUG79	7-3	SLI	1-132C	GIZZARD SHAD	213	90	.	2.33	0.41	0.54	0.82	6.81	0.69	5.08	14.3	14.3	
325.0	30AUG79	7-4	SLI	1-132D	GIZZARD SHAD	212	90	.	1.79	0.60	1.09	3.45	14.00	1.67	11.30	32.1	32.1	
325.0	30AUG79	7-5	SLI	1-132E	GIZZARD SHAD	265	100	.	0.22	< 0.02	< 0.02	< 0.02	0.02	< 0.01	0.03	0.0	0.1	M.D.
325.0	30AUG79	7-6	SLI	1-132F	GIZZARD SHAD	194	70	.	2.09	0.20	0.46	1.35	8.61	0.58	5.46	16.7	16.7	
325.0	30AUG79	COM	SLI	1-132	GIZZARD SHAD	.	.	.	0.90	0.13	0.30	0.59	3.88	0.25	2.92	8.1	8.1	M.D.
330.0	30AUG79	5-1	SLI	1-072A	L.M. BASS	235	176	53.0	0.20	< 0.02	< 0.02	0.24	0.90	0.10	0.70	1.9	2.0	
330.0	30AUG79	5-2	SLI	1-072B	L.M. BASS	325	56	91.0	0.16	0.03	0.11	0.71	1.24	0.21	0.62	2.9	2.9	
330.0	30AUG79	5-3	SLI	1-072C	L.M. BASS	330	555	85.0	0.32	0.40	1.04	3.20	6.73	1.04	3.68	16.1	16.1	
330.0	30AUG79	5-4	SLI	1-072D	L.M. BASS	304	335	52.0	0.31	0.11	0.18	1.26	2.09	0.44	1.08	5.2	5.2	
330.0	30AUG79	5-5	SLI	1-072E	L.M. BASS	308	426	57.0	0.12	< 0.02	< 0.02	0.06	0.22	0.04	0.21	0.5	0.6	
330.0	30AUG79	5-6	SLI	1-072F	L.M. BASS	291	348	55.0	0.31	0.09	0.15	1.03	2.00	0.29	0.92	4.5	4.5	
330.0	30AUG79	COM	SLI	1-072	L.M. BASS	.	.	.	0.09	0.05	0.06	0.43	1.06	0.13	0.54	2.3	2.3	M.D.
330.0	30AUG79	6-1			BLUEGILL	166	101	28.0	.	.	.	.	.	.	.	.	.	
330.0	30AUG79	6-2			BLUEGILL	168	118	29.0	.	.	.	.	.	.	.	.	.	
330.0	30AUG79	6-3			BLUEGILL	180	125	25.0	.	.	.	.	.	.	.	.	.	
330.0	30AUG79	6-4			BLUEGILL	150	80	15.0	.	.	.	.	.	.	.	.	.	
330.0	30AUG79	6-5			BLUEGILL	166	110	16.0	.	.	.	.	.	.	.	.	.	
330.0	30AUG79	6-6			BLUEGILL	153	68	8.0	.	.	.	.	.	.	.	.	.	
330.0	30AUG79	COM	SLI	1-073	BLUEGILL	.	.	.	0.11	< 0.02	< 0.02	< 0.02	0.06	< 0.01	< 0.01	0.1	0.1	
330.0	5SEP79	1-1			C. CATFISH	395	410	53.0	.	.	.	.	.	.	.	.	.	
330.0	5SEP79	1-2			C. CATFISH	559	370	58.0	.	.	.	.	.	.	.	.	.	
330.0	5SEP79	1-3			C. CATFISH	343	380	38.0	.	.	.	.	.	.	.	.	.	
330.0	5SEP79	1-4			C. CATFISH	395	445	67.0	.	.	.	.	.	.	.	.	.	
330.0	5SEP79	1-5			C. CATFISH	453	950	144.0	.	.	.	.	.	.	.	.	.	
330.0	5SEP79	1-6			C. CATFISH	418	660	51.0	.	.	.	.	.	.	.	.	.	
330.0	5SEP79	COM	SLI	1-097	C. CATFISH	.	.	.	1.09	0.08	< 0.02	< 0.02	0.09	0.05	0.11	0.3	0.4	
330.0	5SEP79	2-1			S.M. BUFFALO	406	990	85.0	.	.	.	.	.	.	.	.	.	
330.0	5SEP79	2-2			S.M. BUFFALO	460	1315	138.0	.	.	.	.	.	.	.	.	.	
330.0	5SEP79	2-3			S.M. BUFFALO	558	2300	140.0	.	.	.	.	.	.	.	.	.	
330.0	5SEP79	2-4			S.M. BUFFALO	549	2525	246.0	.	.	.	.	.	.	.	.	.	
330.0	5SEP79	2-5			S.M. BUFFALO	537	2095	254.0	.	.	.	.	.	.	.	.	.	
330.0	5SEP79	2-6			S.M. BUFFALO	409	1005	35.7	.	.	.	.	.	.	.	.	.	
330.0	5SEP79	COM	SLI	1-156	S.M. BUFFALO	.	.	.	0.71	0.11	0.15	0.04	0.12	0.07	0.37	0.9	0.9	
335.0	28AUG79	2-1			S.M. BUFFALO	422	1200	96.0	.	.	.	.	.	.	.	.	.	
335.0	28AUG79	2-2			S.M. BUFFALO	420	1191	84.0	.	.	.	.	.	.	.	.	.	
335.0	28AUG79	2-3			S.M. BUFFALO	396	794	80.0	.	.	.	.	.	.	.	.	.	
335.0	28AUG79	2-4			S.M. BUFFALO	373	963	67.0	.	.	.	.	.	.	.	.	.	
335.0	28AUG79	2-5			S.M. BUFFALO	454	1384	76.0	.	.	.	.	.	.	.	.	.	
335.0	28AUG79	2-6			S.M. BUFFALO	409	1000	120.0	.	.	.	.	.	.	.	.	.	
335.0	28AUG79	COM	SLI	1-095	S.M. BUFFALO	.	.	.	0.51	< 0.03	0.06	< 0.03	0.18	0.10	0.25	0.6	0.6	M.D.
335.0	7SEP79	1-1			C. CATFISH	445	822	.	.	.	.	.	.	.	.	.	.	
335.0	7SEP79	1-2			C. CATFISH	347	335	.	.	.	.	.	.	.	.	.	.	
335.0	7SEP79	1-3			C. CATFISH	360	416	.	.	.	.	.	.	.	.	.	.	
335.0	7SEP79	1-4			C. CATFISH	398	621	.	.	.	.	.	.	.	.	.	.	
335.0	7SEP79	1-5			C. CATFISH	392	610	.	.	.	.	.	.	.	.	.	.	
335.0	7SEP79	1-6			C. CATFISH	329	275	.	.	.	.	.	.	.	.	.	.	
335.0	7SEP79	COM	SLI	1-165	C. CATFISH	.	.	.	0.70	0.03	< 0.03	0.03	0.16	0.03	0.09	0.3	0.4	
335.0	7SEP79	5-1	SLI	1-138A	L.M. BASS	343	760	92.0	0.43	0.09	0.49	3.07	5.20	0.86	2.20	11.9	11.9	
335.0	7SEP79	5-2	SLI	1-138B	L.M. BASS	370	650	71.0	0.40	0.03	0.06	0.90	2.20	0.33	1.32	4.8	4.8	
335.0	7SEP79	5-3	SLI	1-138C	L.M. BASS	326	490	71.0	0.23	0.13	0.35	1.38	2.54	0.41	1.34	6.1	6.1	

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TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

									--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G--									
MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS (%)	--DDT(UG/G)-- O,P	P,P	--DDD(UG/G)-- O,P	P,P	--DDE(UG/G)-- O,P	P,P	--TOTAL DDTR-- MIN (UG/G)	MAX (UG/G)	REMARK
335.0	7SEP79	5-4	SLI	1-138D	L.M. BASS	370	840	98.0	0.14	0.14	0.22	0.74	1.18	0.22	0.74	3.2	3.2	
335.0	7SEP79	5-5	SLI	1-138E	L.M. BASS	372	840	80.0	0.33	0.23	0.73	1.98	5.48	0.73	2.13	11.3	11.3	
335.0	7SEP79	5-6	SLI	1-138F	L.M. BASS	248	240	38.3	0.26	< 0.02	0.02	0.27	0.91	0.10	0.59	1.9	1.9	
335.0	7SEP79	COM	SLI	1-138	L.M. BASS	.	.	.	0.26	0.29	0.45	1.45	2.91	0.48	1.76	7.3	7.3	N.D.
335.0	7SEP79	6-1			BLUEGILL	168	116	30.5	.	.	.	.	.	.	.	.	.	
335.0	7SEP79	6-2			BLUEGILL	160	100	28.7	.	.	.	.	.	.	.	.	.	
335.0	7SEP79	6-3			BLUEGILL	160	100	31.5	.	.	.	.	.	.	.	.	.	
335.0	7SEP79	6-4			BLUEGILL	155	95	26.0	.	.	.	.	.	.	.	.	.	
335.0	7SEP79	6-5			BLUEGILL	150	105	29.0	.	.	.	.	.	.	.	.	.	
335.0	7SEP79	6-6			BLUEGILL	153	80	21.0	.	.	.	.	.	.	.	.	.	
335.0	7SEP79	COM	SLI	1-074	BLUEGILL	.	.	.	0.15	< 0.02	< 0.02	< 0.02	0.04	< 0.01	< 0.01	0.0	0.1	
340.0	6SEP79	4-1			WHITE CRAPPIE	226	178	48.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	4-2			WHITE CRAPPIE	212	160	41.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	4-3			WHITE CRAPPIE	196	129	36.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	4-4			WHITE CRAPPIE	196	128	40.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	4-5			WHITE CRAPPIE	176	89	30.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	4-6			WHITE CRAPPIE	.	.	.	.	.	.	.	.	.	.	.	.	N.S.
340.0	6SEP79	COM	SLI	1-076	WHITE CRAPPIE	.	.	.	0.10	< 0.02	< 0.02	< 0.02	0.03	< 0.01	0.07	0.1	0.2	
340.0	6SEP79	5-1			L.M. BASS	320	405	75.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	5-2			L.M. BASS	325	404	79.5	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	5-3			L.M. BASS	385	950	148.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	5-4			L.M. BASS	312	460	76.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	5-5			L.M. BASS	348	692	106.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	5-6			L.M. BASS	369	780	125.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	COM	SLI	1-098	L.M. BASS	.	.	.	0.17	< 0.02	0.12	< 0.02	0.19	0.06	0.43	0.8	0.8	
340.0	6SEP79	6-1			BLUEGILL	173	122	26.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	6-2			BLUEGILL	140	68	14.4	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	6-3			BLUEGILL	255	81	24.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	6-4			BLUEGILL	257	97	28.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	6-5			BLUEGILL	155	87	26.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	6-6			BLUEGILL	200	192	49.0	.	.	.	.	.	.	.	.	.	
340.0	6SEP79	COM	SLI	1-075	BLUEGILL	.	.	.	0.16	< 0.02	< 0.02	< 0.02	0.04	< 0.01	0.03	0.1	0.1	
340.0	24SEP79	1-1			C. CATFISH	380	510	90.0	.	.	.	.	.	.	.	.	.	
340.0	24SEP79	1-2			C. CATFISH	440	890	155.0	.	.	.	.	.	.	.	.	.	
340.0	24SEP79	1-3			C. CATFISH	502	1360	210.0	.	.	.	.	.	.	.	.	.	
340.0	24SEP79	1-4			C. CATFISH	352	210	40.0	.	.	.	.	.	.	.	.	.	
340.0	24SEP79	1-5			C. CATFISH	465	1280	185.0	.	.	.	.	.	.	.	.	.	
340.0	24SEP79	1-6			C. CATFISH	302	220	30.0	.	.	.	.	.	.	.	.	.	
340.0	24SEP79	COM	SLI	1-050	C. CATFISH	.	.	.	1.27	0.09	0.03	0.12	0.51	0.10	0.35	1.2	1.2	
340.0	24SEP79	2-1			S.M. BUFFALO	390	1000	160.0	.	.	.	.	.	.	.	.	.	
340.0	24SEP79	2-2			S.M. BUFFALO	415	990	140.0	.	.	.	.	.	.	.	.	.	
340.0	24SEP79	2-3			S.M. BUFFALO	358	730	100.0	.	.	.	.	.	.	.	.	.	
340.0	24SEP79	2-4			S.M. BUFFALO	431	1200	150.0	.	.	.	.	.	.	.	.	.	
340.0	24SEP79	2-5			S.M. BUFFALO	439	1290	190.0	.	.	.	.	.	.	.	.	.	
340.0	24SEP79	2-6			S.M. BUFFALO	403	1150	140.0	.	.	.	.	.	.	.	.	.	
340.0	24SEP79	COM	SLI	1-051	S.M. BUFFALO	.	.	.	1.74	0.02	0.08	0.08	0.15	0.10	0.30	0.7	0.7	N.D.
345.0	.	. 7-1			GIZZARD SHAD	260	148	.	.	.	.	.	.	.	.	.	.	
345.0	.	. 7-2			GIZZARD SHAD	226	120	.	.	.	.	.	.	.	.	.	.	
345.0	.	. 7-3			GIZZARD SHAD	252	148	.	.	.	.	.	.	.	.	.	.	
345.0	.	. 7-4			GIZZARD SHAD	273	302	.	.	.	.	.	.	.	.	.	.	

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TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

										--CONCENTRATIONS OF DDT MEASURED IN FISH, UG/G--								
								FILET								--TOTAL DDTR--		
						LENGTH	T.WT	WT.	LIPIDS	--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		MIN	MAX	
MILE	DATE	FID	LAB	LABID	SPECIES	(MM)	(GM)	(GM)	(%)	O,P	P,P	O,P	P,P	O,P	P,P	(UG/G)	(UG/G)	REMARK
345.0	.	7-5			GIZZARD SHAD	245	168	.	.	.	.	.	.	.	.	.	.	
345.0	.	7-6			GIZZARD SHAD	211	82	.	.	.	.	.	.	.	.	.	.	
345.0	.	COM	SLI	1-168	GIZZARD SHAD	.	.	.	0.69	0.05	< 0.06	< 0.02	0.62	0.06	0.75	1.5	1.6	
345.0	7SEP79	4-1			WHITE CRAPPIE	203	109	34.5	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	4-2			WHITE CRAPPIE	235	210	33.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	4-3			WHITE CRAPPIE	198	120	30.5	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	4-4			WHITE CRAPPIE	209	145	39.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	4-5			WHITE CRAPPIE	210	136	34.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	4-6			WHITE CRAPPIE	200	120	33.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	COM	SLI	1-077	WHITE CRAPPIE	.	.	.	0.05	< 0.02	< 0.02	< 0.02	0.03	< 0.01	0.03	0.1	0.1	
345.0	7SEP79	5-1			L.M. BASS	358	875	135.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	5-2			L.M. BASS	315	473	58.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	5-3			L.M. BASS	262	225	61.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	5-4			L.M. BASS	289	330	49.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	5-5			L.M. BASS	291	258	34.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	5-6			L.M. BASS	225	148	43.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	COM	SLI	1-078	L.M. BASS	.	.	.	0.12	0.03	0.06	0.24	0.69	0.08	0.36	1.5	1.5	M.D.
345.0	7SEP79	6-1			BLUEGILL	194	200	43.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	6-2			BLUEGILL	195	165	41.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	6-3			BLUEGILL	193	195	40.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	6-4			BLUEGILL	160	110	30.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	6-5			BLUEGILL	185	160	42.0	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	6-6			BLUEGILL	198	160	32.5	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	COM	SLI	1-079	BLUEGILL	.	.	.	0.17	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1	
345.0	27SEP79	1-1	SLI	1-056A	C. CATFISH	471	1145	110.0	4.84	0.11	0.04	0.08	0.25	0.10	0.19	0.8	0.8	
345.0	27SEP79	1-2	SLI	1-056B	C. CATFISH	516	1125	100.0	2.23	0.08	0.03	0.07	0.38	0.10	0.27	0.9	0.9	
345.0	27SEP79	1-3	SLI	1-056C	C. CATFISH	479	1210	120.0	4.98	< 0.02	0.03	0.11	0.58	0.11	0.37	1.2	1.2	
345.0	27SEP79	1-4	SLI	1-056D	C. CATFISH	554	1725	175.0	3.02	0.10	0.23	0.08	0.22	0.12	0.24	1.0	1.0	M.D.
345.0	27SEP79	1-5	SLI	1-056E	C. CATFISH	313	325	35.0	1.78	0.18	0.11	< 0.02	0.15	0.12	0.25	0.8	0.6	
345.0	27SEP79	1-6	SLI	1-056F	C. CATFISH	532	1310	95.0	5.72	0.63	0.59	0.18	0.70	0.47	1.11	3.7	3.7	
345.0	27SEP79	COM	SLI	1-056	C. CATFISH	.	.	.	1.58	0.05	0.05	0.13	0.42	0.13	0.38	1.2	1.2	
345.0	27SEP79	2-1			S.M. BUFFALO	430	1225	150.0	.	.	.	.	.	.	.	.	.	
345.0	27SEP79	2-2			S.M. BUFFALO	412	1030	125.0	.	.	.	.	.	.	.	.	.	
345.0	27SEP79	2-3			S.M. BUFFALO	418	1150	110.0	.	.	.	.	.	.	.	.	.	
345.0	27SEP79	2-4			S.M. BUFFALO	414	1000	110.0	.	.	.	.	.	.	.	.	.	
345.0	27SEP79	2-5			S.M. BUFFALO	334	540	65.0	.	.	.	.	.	.	.	.	.	
345.0	27SEP79	2-6			S.M. BUFFALO	397	965	110.0	.	.	.	.	.	.	.	.	.	
345.0	27SEP79	COM	SLI	1-057	S.M. BUFFALO	.	.	.	1.30	0.03	0.03	0.03	0.09	0.07	0.27	0.5	0.5	
350.0	24SEP79	3-1			WHITE BASS	325	530	66.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	3-2			WHITE BASS	290	330	43.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	3-3			WHITE BASS	275	300	40.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	3-4			WHITE BASS	315	380	43.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	3-5			WHITE BASS	265	260	34.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	3-6			WHITE BASS	290	320	43.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	COM	SLI	1-169	WHITE BASS	.	.	.	0.77	0.02	0.03	< 0.01	0.05	0.02	0.11	0.2	0.2	
350.0	24SEP79	4-1			WHITE CRAPPIE	360	630	70.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	4-2			WHITE CRAPPIE	265	210	30.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	4-3			WHITE CRAPPIE	235	200	30.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	4-4			WHITE CRAPPIE	200	120	27.5	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	4-5			WHITE CRAPPIE	245	170	35.0	.	.	.	.	.	.	.	.	.	

AD-A128 024 ENGINEERING AND ENVIRONMENTAL STUDY OF DDT
CONTAMINATION OF HUNTSVILLE SP..(U) WATER AND AIR
RESEARCH INC GAINESVILLE FL J H SULLIVAN ET AL. NOV 80
UNCLASSIFIED DACW01-79-C-0224 F/G 13/3 NL

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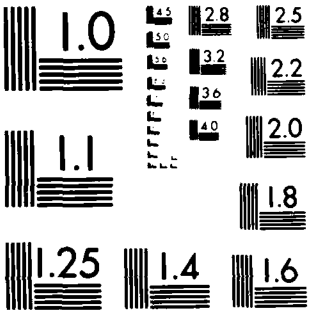

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963 A

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G--

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS (%)	--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		--TOTAL DDTR--		REMARK
										O,P	P,P	O,P	P,P	O,P	P,P	MIN (UG/G)	MAX (UG/G)	
350.0	24SEP79	4-6			WHITE CRAPPIE	230	160	34.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	COM	SLI	1-164	WHITE CRAPPIE	.	.	.	0.05	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1	
350.0	24SEP79	6-1			BLUEGILL	185	170	30.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	6-2			BLUEGILL	190	120	26.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	6-3			BLUEGILL	190	160	35.0	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	6-4			BLUEGILL	170	110	30.5	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	6-5			BLUEGILL	185	140	34.5	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	6-6			BLUEGILL	180	120	30.5	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	COM	SLI	1-135	BLUEGILL	.	.	.	0.24	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.01	0.0	0.1	
350.0	27SEP79	1-1			BLUE CATFISH	352	500	60.0	.	.	.	.	.	.	.	.	.	
350.0	27SEP79	1-2			BLUE CATFISH	346	465	45.0	.	.	.	.	.	.	.	.	.	
350.0	27SEP79	1-3			BLUE CATFISH	342	435	55.0	.	.	.	.	.	.	.	.	.	
350.0	27SEP79	1-4			BLUE CATFISH	350	475	55.0	.	.	.	.	.	.	.	.	.	
350.0	27SEP79	1-5			BLUE CATFISH	360	670	45.0	.	.	.	.	.	.	.	.	.	
350.0	27SEP79	1-6			BLUE CATFISH	357	500	35.0	.	.	.	.	.	.	.	.	.	
350.0	27SEP79	COM	SLI	1-058	BLUE CATFISH	.	.	.	2.45	0.05	0.05	0.06	0.20	0.07	0.16	0.6	0.6	
350.0	27SEP79	5-1			L.M. BASS	300	410	58.0	.	.	.	.	.	.	.	.	.	
350.0	27SEP79	5-2			L.M. BASS	315	500	54.0	.	.	.	.	.	.	.	.	.	
350.0	27SEP79	5-3			L.M. BASS	310	550	52.0	.	.	.	.	.	.	.	.	.	
350.0	27SEP79	5-4			L.M. BASS	305	430	52.0	.	.	.	.	.	.	.	.	.	
350.0	27SEP79	5-5			L.M. BASS	461	1485	228.0	.	.	.	.	.	.	.	.	.	
350.0	27SEP79	5-6			L.M. BASS	417	1130	190.0	.	.	.	.	.	.	.	.	.	
350.0	27SEP79	COM	SLI	1-059	L.M. BASS	.	.	.	0.22	< 0.02	< 0.02	< 0.02	0.11	< 0.01	0.08	0.2	0.3	
375.0	2OCT79	1-1			C. CATFISH	325	300	30.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	1-2			C. CATFISH	375	460	60.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	1-3			C. CATFISH	280	180	25.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	1-4			C. CATFISH	345	390	50.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	1-5			C. CATFISH	360	400	40.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	1-6			C. CATFISH	460	1250	190.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	COM	SLI	1-060	C. CATFISH	.	.	.	5.37	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.13	0.1	0.2	
375.0	2OCT79	2-1			S.M. BUFFALO	495	2000	270.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	2-2			S.M. BUFFALO	455	1860	260.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	2-3			S.M. BUFFALO	550	2920	370.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	2-4			S.M. BUFFALO	450	1540	210.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	2-5			S.M. BUFFALO	570	2490	330.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	2-6			S.M. BUFFALO	505	2150	250.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	COM	SLI	1-061	S.M. BUFFALO	.	.	.	3.57	< 0.02	< 0.02	< 0.02	0.08	0.13	0.25	0.5	0.5	
375.0	2OCT79	5-1			L.M. BASS	290	315	55.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	5-2			L.M. BASS	266	250	45.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	5-3			L.M. BASS	224	455	70.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	5-4			L.M. BASS	262	220	35.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	5-5			L.M. BASS	408	1110	170.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	5-6			L.M. BASS	471	1720	250.0	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	COM	SLI	1-062	L.M. BASS	.	.	.	0.24	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.03	0.0	0.1	
375.0	2OCT79	6-1			BLUEGILL	157	70	20.6	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	6-2			BLUEGILL	174	100	30.6	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	6-3			BLUEGILL	164	88	30.3	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	6-4			BLUEGILL	163	100	30.9	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	6-5			BLUEGILL	181	121	39.2	.	.	.	.	.	.	.	.	.	
375.0	2OCT79	6-6			BLUEGILL	158	65	20.6	.	.	.	.	.	.	.	.	.	

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	—CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G— LIPIDS (%)	--DDT(UG/G)-- O,P	--DDT(UG/G)-- P,P	--DDD(UG/G)-- O,P	--DDD(UG/G)-- P,P	--DDE(UG/G)-- O,P	--DDE(UG/G)-- P,P	--TOTAL DDTR-- MIN (UG/G)	--TOTAL DDTR-- MAX (UG/G)	REMARK
375.0	20CT79	COM	SLI	1-063	BLUEGILL	.	.	.	0.16	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.02	0.0	0.1	
400.0	28AUG79	1-1			C. CATFISH	495	1250	86.0	.	.	.	.	.	.	.	.	.	
400.0	28AUG79	1-2			C. CATFISH	405	650	72.0	.	.	.	.	.	.	.	.	.	
400.0	28AUG79	1-3			C. CATFISH	570	1970	154.0	.	.	.	.	.	.	.	.	.	
400.0	28AUG79	1-4			C. CATFISH	340	450	45.0	.	.	.	.	.	.	.	.	.	
400.0	28AUG79	1-5			C. CATFISH	350	410	70.0	.	.	.	.	.	.	.	.	.	
400.0	28AUG79	1-6			C. CATFISH	355	370	60.0	.	.	.	.	.	.	.	.	.	
400.0	20CT79	2-1			S.M. BUFFALO	465	1630	.	.	.	.	.	.	.	.	.	.	
400.0	20CT79	2-2			S.M. BUFFALO	460	1830	.	.	.	.	.	.	.	.	.	.	
400.0	20CT79	2-3			S.M. BUFFALO	455	1360	160.0	.	.	.	.	.	.	.	.	.	
400.0	20CT79	2-4			S.M. BUFFALO	485	1730	190.0	.	.	.	.	.	.	.	.	.	
400.0	20CT79	2-5			S.M. BUFFALO	490	1630	160.0	.	.	.	.	.	.	.	.	.	
400.0	20CT79	2-6			S.M. BUFFALO	440	1300	150.0	.	.	.	.	.	.	.	.	.	
400.0	20CT79	COM	SLI	1-064	S.M. BUFFALO	.	.	.	1.41	0.12	0.18	0.04	0.05	0.06	0.12	0.6	0.6	
400.0	20CT79	5-1			L.M. BASS	262	240	31.0	.	.	.	.	.	.	.	.	.	
400.0	20CT79	5-2			L.M. BASS	406	1140	175.0	.	.	.	.	.	.	.	.	.	
400.0	20CT79	5-3			L.M. BASS	339	490	79.0	.	.	.	.	.	.	.	.	.	
400.0	20CT79	5-4			L.M. BASS	363	700	130.0	.	.	.	.	.	.	.	.	.	
400.0	20CT79	5-5			L.M. BASS	362	665	110.0	.	.	.	.	.	.	.	.	.	
400.0	20CT79	5-6			L.M. BASS	253	245	40.0	.	.	.	.	.	.	.	.	.	
400.0	20CT79	COM	SLI	1-065	L.M. BASS	.	.	.	0.07	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1	
400.0	20CT79	6-1			BLUEGILL	167	100	20.1	.	.	.	.	.	.	.	.	.	
400.0	20CT79	6-2			BLUEGILL	160	105	20.5	.	.	.	.	.	.	.	.	.	
400.0	20CT79	6-3			BLUEGILL	161	100	20.1	.	.	.	.	.	.	.	.	.	
400.0	20CT79	6-4			BLUEGILL	156	100	31.0	.	.	.	.	.	.	.	.	.	
400.0	20CT79	6-5			BLUEGILL	152	83	30.2	.	.	.	.	.	.	.	.	.	
400.0	20CT79	6-6			BLUEGILL	190	121	30.9	.	.	.	.	.	.	.	.	.	
400.0	20CT79	COM	SLI	1-066	BLUEGILL	.	.	.	0.34	< 0.02	< 0.02	< 0.02	< 0.02	0.01	0.03	0.0	0.1	
400.0	20CT79	7-1			GIZZARD SHAD	254	100	.	.	.	.	.	.	.	.	.	.	
400.0	20CT79	7-2			GIZZARD SHAD	255	170	.	.	.	.	.	.	.	.	.	.	
400.0	20CT79	7-3			GIZZARD SHAD	250	160	.	.	.	.	.	.	.	.	.	.	
400.0	20CT79	7-4			GIZZARD SHAD	244	155	.	.	.	.	.	.	.	.	.	.	
400.0	20CT79	7-5			GIZZARD SHAD	282	255	.	.	.	.	.	.	.	.	.	.	
400.0	20CT79	7-6			GIZZARD SHAD	256	200	.	.	.	.	.	.	.	.	.	.	
400.0	20CT79	COM	SLI	1-067	GIZZARD SHAD	.	.	.	2.80	< 0.03	< 0.03	< 0.03	< 0.02	< 0.02	0.07	0.1	0.2	M.D. 1

FOOTNOTES:

A. ABSENCE OF DATA FOR INDIVIDUAL SAMPLES INDICATES ANALYSES WERE PERFORMED ON THE COMPOSITE OF THE INDIVIDUAL SAMPLES

B. REMARKS- AN ASTERISK (*) INDICATES THE SAMPLE WAS A PARTIAL FILLET PRESERVED WITH DRY ICE,
THE ABBREVIATION (N.S.) INDICATES THAT NO SAMPLE WAS COLLECTED,
THE ABBREVIATION (Q.D.) INDICATES QUESTIONABLE DDT DATA.
THE ABBREVIATION (M.D.) INDICATES SAMPLE IS A MERGED VALUE (VALUE REPORTED IS THE AVERAGE OF TWO ANALYSES).

C. FID = FIELD IDENTIFICATION

D. SLI = STEWART LABORATORY INC., EPA = ENVIRONMENTAL PROTECTION AGENCY.

E. COM = COMPOSITE SAMPLE

F. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

G. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

H. A NUMBER "1" INDICATES THESE SAMPLES WERE ORIGINALLY PREPARED BY SLI FOR ANALYSIS ON 12-12-79. INTERLAB COMPARISONS INDICATED THESE DATA WERE LOWER THAN EPA DATA. REFER TO QUALITY ASSURANCE DOCUMENT FOR DETAILS.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK1(MODIFIED) - WHOLE BODY DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

CONCENTRATIONS OF DDT MEASURED IN FISH(WHOLE)

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS (%)	--DDT(UG/G)-- O,P	P,P	--DDD(UG/G)-- O,P	P,P	--DDE(UG/G)-- O,P	P,P	--TOTAL DDTR-- MIN (UG/G)	MAX (UG/G)	REMARK	
-----INDIAN CREEK -----																			
2.0	. .	6-1	SLI	1M-49	BLUEGILL	170	110	26.0	0.50	0.05	0.03	0.78	2.98	0.41	1.13	5.4	5.4	1	
2.0	. .	6-2	SLI	1M-50	BLUEGILL	165	110	25.5	2.15	0.12	0.13	1.72	7.63	1.18	3.04	13.8	13.8	1	
2.0	. .	6-3	SLI	1M-51	BLUEGILL	155	90	20.5	2.94	0.23	0.17	2.86	13.03	1.60	5.31	23.2	23.2	1	
2.0	. .	6-4	SLI	1M-52	BLUEGILL	165	130	25.5	4.83	0.01	0.90	7.14	20.84	3.26	8.43	40.6	40.6	FFC	
2.0	. .	6-5	SLI	1M-53	BLUEGILL	160	90	21.5	1.43	0.13	0.00	2.39	8.64	1.31	2.99	15.5	15.5	1	
2.0	. .	1-1	SLI	1M-37	C. CATFISH	608	1270	364.0	5.93	7.63	9.12	60.01	214.6	28.96	98.22	418.5	418.5		
2.0	. .	1-2	SLI	1M-38	C. CATFISH	585	1030	119.0	8.48	5.15	6.80	86.74	259.7	34.37	126.9	519.7	519.7		
2.0	. .	1-3	SLI	1M-39	C. CATFISH	350	370	45.0	7.45	0.42	0.85	5.92	18.32	3.00	11.50	40.0	40.0		
2.0	. .	1-4	SLI	1M-40	C. CATFISH	425	680	90.0	11.65	7.52	0.03	95.01	255.7	41.49	142.2	542.0	542.0		
2.0	. .	1-5	SLI	1M-41	C. CATFISH	551	975	109.0	7.21	8.78	0.97	92.19	299.7	41.85	157.8	601.2	601.2		
2.0	. .	1-6	SLI	1M-42	C. CATFISH	320	300	40.0	8.20	1.49	1.85	14.20	37.79	5.67	21.58	82.6	82.6		
2.0	. .	5-1	SLI	1M-43	L.M. BASS	250	240	32.0	1.54	0.75	0.43	10.86	34.83	5.15	17.39	69.4	69.4	FFC	
2.0	. .	5-2	SLI	1M-44	L.M. BASS	280	310	30.0	2.15	0.51	0.00	5.23	19.30	2.71	10.15	37.9	37.9	FFC	
2.0	. .	5-3	SLI	1M-45	L.M. BASS	215	140	33.5	0.66	0.30	0.00	3.61	12.70	1.81	6.50	24.9	24.9	FFC	
2.0	. .	5-4	SLI	1M-46	L.M. BASS	205	100	22.3	0.61	0.00	1.72	5.42	16.92	2.77	12.60	39.4	39.4	FFC	
2.0	. .	5-5	SLI	1M-47	L.M. BASS	235	190	33.2	2.63	0.91	0.00	11.10	31.71	4.84	20.04	68.6	68.6	FFC	
2.0	. .	5-6	SLI	1M-48	L.M. BASS	235	190	30.7	2.15	0.71	1.22	8.05	23.07	3.69	13.65	50.4	50.4	FFC	
-----TENNESSEE RIVER -----																			
315.0	28AUG79	6-1	SLI	1M-01	BLUEGILL	150	75	10.5	2.01	0.00	0.00	0.19	1.34	0.26	1.17	3.0	3.0	FFC	
315.0	28AUG79	6-2	SLI	1M-02	BLUEGILL	166	100	10.9	1.19	0.00	0.10	0.15	0.82	0.19	1.12	2.4	2.4	FFC	
315.0	28AUG79	6-3	SLI	1M-03	BLUEGILL	142	40	10.0	0.59	0.00	0.00	0.05	0.43	0.09	0.35	0.9	0.9	FFC	
315.0	28AUG79	6-4	SLI	1M-04	BLUEGILL	160	90	10.4	2.39	0.11	0.16	0.39	3.64	0.60	3.49	8.4	8.4	FFC	
315.0	28AUG79	6-5	SLI	1M-05	BLUEGILL	150	80	10.5	4.18	0.00	0.11	0.19	1.71	0.43	1.87	4.3	4.3	FFC	
315.0	28AUG79	1-1	SLI	1M-07	C. CATFISH	475	1150	96.0	5.05	0.47	0.81	3.17	8.73	1.85	7.84	22.9	22.9		
315.0	28AUG79	1-2	SLI	1M-08	C. CATFISH	470	860	110.0	3.01	0.03	3.02	5.46	35.48	5.05	27.76	76.8	76.8		
315.0	28AUG79	1-3	SLI	1M-09	C. CATFISH	295	220	30.5	6.95	0.59	0.40	1.85	7.49	1.69	7.16	19.2	19.2		
315.0	28AUG79	1-4	SLI	1M-10	C. CATFISH	430	820	81.0	9.86	1.37	1.53	12.01	48.77	7.13	31.64	102.5	102.5		
315.0	28AUG79	1-5	SLI	1M-11	C. CATFISH	310	260	30.6	4.45	0.42	0.38	1.38	3.94	0.93	3.63	10.7	10.7		
315.0	28AUG79	1-6	SLI	1M-12	C. CATFISH	485	720	81.0	6.42	0.46	0.42	0.67	2.24	0.87	2.56	7.2	7.2		
315.0	28AUG79	5-5	SLI	1M-17	L.M. BASS	390	865	86.0	3.73	7.72	11.81	35.28	79.37	10.56	39.60	184.4	184.4		
345.0	7SEP79	6-1	SLI	1M-31	BLUEGILL	194	200	43.0	3.98	0.14	0.13	0.24	0.82	0.22	0.55	2.1	2.1	FFC	
345.0	7SEP79	6-2	SLI	1M-32	BLUEGILL	195	165	41.0	3.17	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	FFC	
345.0	7SEP79	6-3	SLI	1M-33	BLUEGILL	193	195	40.0	5.05	0.13	0.21	0.08	0.31	0.41	1.49	2.6	2.6	FFC	
345.0	7SEP79	6-4	SLI	1M-34	BLUEGILL	160	110	30.0	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	FFC	1
345.0	7SEP79	6-5	SLI	1M-35	BLUEGILL	185	160	42.0	5.33	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	FFC	
345.0	7SEP79	6-6	SLI	1M-36	BLUEGILL	198	160	32.5	0.97	0.00	0.00	0.00	0.10	0.06	0.09	0.2	0.2	FFC	
345.0	7SEP79	1-1	SLI	1M-19	C. CATFISH	471	1145	110.0	5.34	0.71	0.56	0.31	0.84	0.38	0.93	3.7	3.7		
345.0	7SEP79	1-2	SLI	1M-20	C. CATFISH	516	1125	100.0	5.29	0.26	0.37	0.28	2.31	0.50	1.78	5.5	5.5		
345.0	7SEP79	1-3	SLI	1M-21	C. CATFISH	479	1210	120.0	8.76	0.49	0.25	1.00	4.11	0.84	3.16	9.8	9.8		
345.0	7SEP79	1-4	SLI	1M-22	C. CATFISH	554	1725	175.0	6.33	0.46	0.42	0.28	0.88	0.64	1.02	3.7	3.7		
345.0	7SEP79	1-5	SLI	1M-23	C. CATFISH	313	325	35.0	3.62	0.21	0.29	0.19	0.48	0.42	1.03	2.6	2.6		
345.0	7SEP79	1-6	SLI	1M-24	C. CATFISH	532	1310	95.0	4.16	0.09	0.10	0.10	0.45	0.32	0.86	1.9	1.9		
345.0	7SEP79	5-1	SLI	1M-25	L.M. BASS	358	875	135.0	6.21	1.52	1.94	14.67	38.16	5.59	17.14	79.0	79.0	FFC	1

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK1(MODIFIED) - WHOLE BODY DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

										CONCENTRATIONS OF DDT MEASURED IN FISH(WHOLE)								
								FILET								—TOTAL DDTR—		
						LENGTH	T.WT	WT.	LIPIDS	--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		MIN	MAX	
MILE	DATE	FID	LAB	LABIU	SPECIES	(MM)	(GM)	(GM)	(%)	O,P	P,P	O,P	P,P	O,P	P,P	(UG/G)	(UG/G)	REMARK
345.0	7SEP79	5-2	SLI	1M-26	L.M. BASS	315	473	58.0	1.59	1.54	3.08	12.22	25.97	4.35	10.48	57.6	57.6	FFC 1
345.0	7SEP79	5-3	SLI	1M-27	L.M. BASS	262	225	61.0	0.30	0.07	0.08	0.09	0.28	0.06	0.27	0.8	0.8	FFC 1
345.0	7SEP79	5-4	SLI	1M-28	L.M. BASS	286	334	49.0	0.32	0.00	0.11	0.53	1.95	0.19	1.07	3.9	3.9	FFC 1
345.0	7SEP79	5-5	SLI	1M-29	L.M. BASS	291	258	34.0	0.77	0.25	0.42	0.74	3.55	0.44	2.96	8.4	8.4	FFC 1
345.0	7SEP79	5-6	SLI	1M-30	L.M. BASS	225	148	43.0	0.53	0.00	0.07	0.20	1.18	0.10	0.68	2.2	2.2	FFC 1

FOOTNOTES:

A. WHOLE BODY DDT AND LIPID VALUES WERE CALCULATED BY DETERMINING THE WEIGHTED AVERAGE OF THE INDIVIDUAL FILLET VALUES (PREVIOUSLY REPORTED) AND THE VALUES MEASURED IN THE REMAINDER OF EACH FISH SPECIMEN.

B. REMARKS - FFC INDICATES THAT THE FILLET VALUE USED IN THE WHOLE BODY CALCULATION WAS FROM A COMPOSITE OF SEVERAL FISH. ALL LESS THAN DETECTABLE VALUES WERE SET TO ZERO FOR THE WHOLE BODY CALCULATIONS OF DDT. FOR THIS REASON ZEROS APPEAR IN THE DATA TABLES WHEN BOTH THE FILLET AND SAMPLE REMAINDER CONCENTRATIONS ARE LESS THAN DETECTABLE.

C. A NUMBER "1" INDICATES THESE SAMPLES WERE ORIGINALLY PREPARED BY SLI FOR ANALYSIS ON 12-12-79. INTERLAB COMPARISONS INDICATED THESE DATA WERE SIGNIFICANTLY LOWER THAN EPA DATA. REFER TO QUALITY ASSURANCE DOCUMENT FOR DETAILS.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION OF HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS, WHEELER RESERVOIR, ALABAMA

TASK 2

FISH POPULATION ESTIMATES AND DDTR CONCENTRATIONS IN YOUNG-OF-THE-YEAR FISH SPECIMENS OF INDIAN CREEK AND HUNTSVILLE SPRING BRANCH EMBAYMENTS OF WHEELER RESERVOIR

Tennessee Valley Authority
Office of Natural Resources

August 1980

PREFACE

This document was prepared in support of the Envineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

Contents

TASK 2

WORKTASK DESCRIPTION

TASK 2

FISH POPULATION ESTIMATES AND DDTR CONCENTRATIONS IN YOUNG-OF-THE-YEAR FISH SPECIMENS OF INDIAN CREEK AND HUNTSVILLE SPRING BRANCH EMBAYMENTS OF WHEELER RESERVOIR

1.0 Purpose

The purpose of this task was to: (a) determine the standing crop of fish species inhabiting coves in Indian Creek and Huntsville Spring Branch embayments, (b) determine the reproductive success of fish species in these areas, (c) develop a species list for Indian Creek and Huntsville Spring Branch embayments, and (d) collect young-of-the-year fish specimens from coves in Indian Creek and Huntsville Spring Branch embayments and other coves in Wheeler Reservoir for DDTR* analysis.

2.0 Scope

Coves were sampled in Indian Creek, Huntsville Spring Branch and Wheeler Reservoir.

3.0 Procedure

3.1 Fish Population Estimates

3.1.1 Sampling Locations

Fish samples for population estimates were collected from the five areas shown on the navigation charts in Appendix A. Area 1, is a cove on Indian Creek. Area 2, is a cove on Huntsville Spring Branch. Areas 3, 4, and 5 are coves respectively located on Second Creek (≅TRM 275), Elk River (≅TRM 284), and at Lawrence County Park - Wheeler Reservoir (≅TRM 286).

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*DDTR - DDT isomers and metabolites.

3.1.2 Type of Sample

Cove Rotenone.

3.1.3 Field Collection and Sample Handling

3.1.3.1 The coves referenced in 3.1.1 were surveyed to determine their size in acres (see Appendix B).

3.1.3.2 Samples were collected before the water temperature dropped below 70°F.

3.1.3.3 Coves were closed with a block net at 5:00 p.m. one day and rotenone applied at a one mg/l concentration the following morning.

3.1.3.4 Fish were picked up two consecutive days and sorted into species by size classes. Each size class was counted and weighed. Weights were taken on first-day fish only with weights of second-day fish estimated from those of the first day except for sizes not collected the first day.

3.1.4 Data Analysis

Fish population estimate data are summarized in tables in Appendix B, in terms of weights and numbers per acre for all sizes and groups of fish.

3.2 DDTR Analysis of Young-of-Year

3.2.1 Sampling Locations

Young-of-year gizzard shad, largemouth bass, and bluegill were collected from coves in Elk River (Area 4), and Lawrence County Park-Wheeler Reservoir (Area 5), for DDTR analysis. Young-of-year gizzard shad and bluegill were collected from coves in Indian Creek (Area 1), and Huntsville Spring Branch (Area 2) for DDTR analysis. No largemouth bass were found in Indian Creek and Huntsville Spring Branch.

3.2.2 Type of Sample

Cove rotenone.

3.2.3 Sample Handling

Each of the species from each cove sampled under 3.2.1 were divided (if possible) into three separate aliquotes. The same approximate size range of fish were in each aliquote. The length and weight of each fish comprising each aliquot is presented in Appendix C. After collection each individual fish was wrapped in aluminum foil, properly labeled, and placed in polyethylene ziplock bags. Bags were placed on ice in the field and later transferred to a chest freezer in the laboratory.

3.2.4 DDTR Analysis

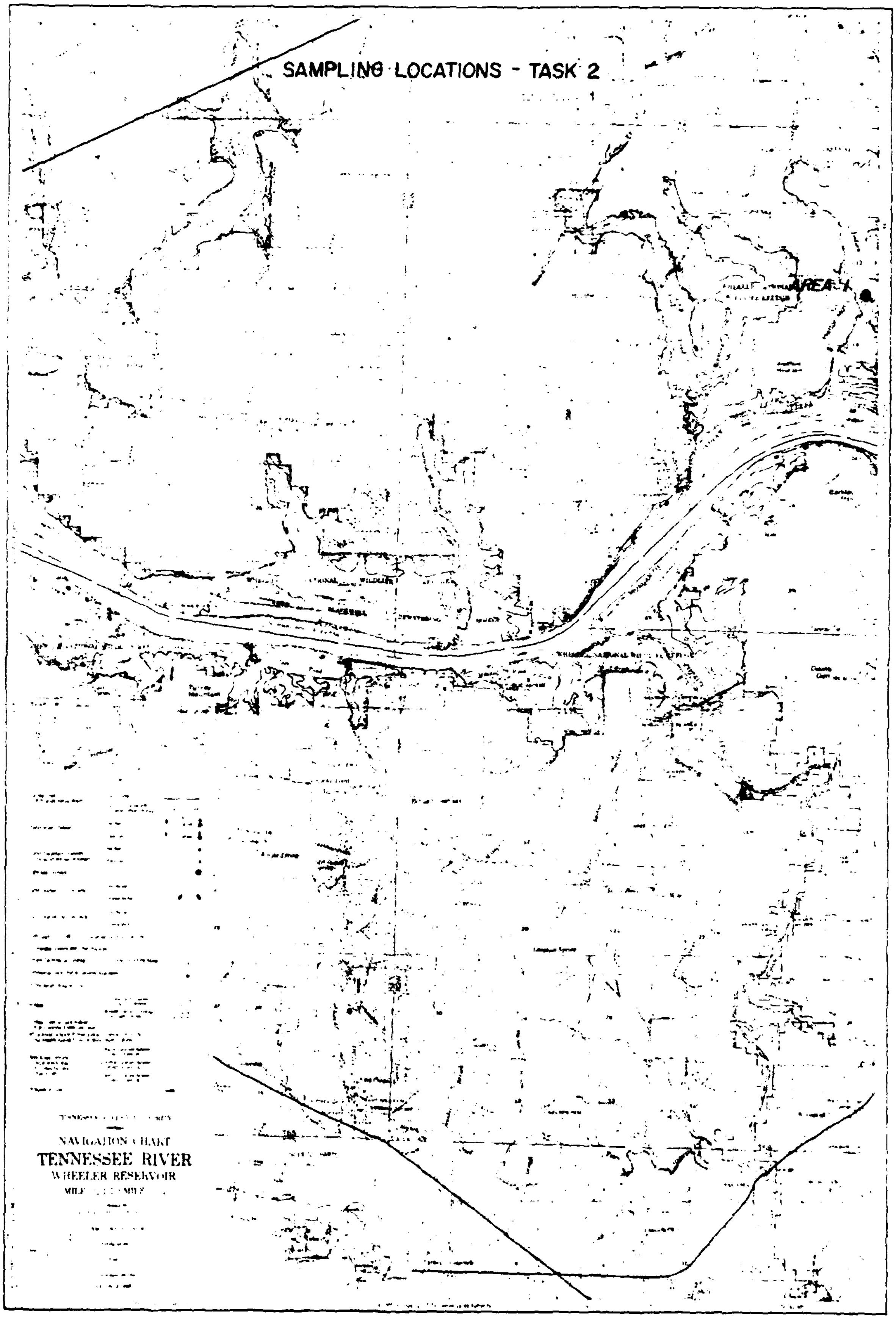
Each aliquot prepared under Section 3.2.3 was analyzed for DDTR according to procedures outlined in the Quality Assurance document. The analytical results of the DDTR analysis are presented in Appendix D.

APPENDIX A

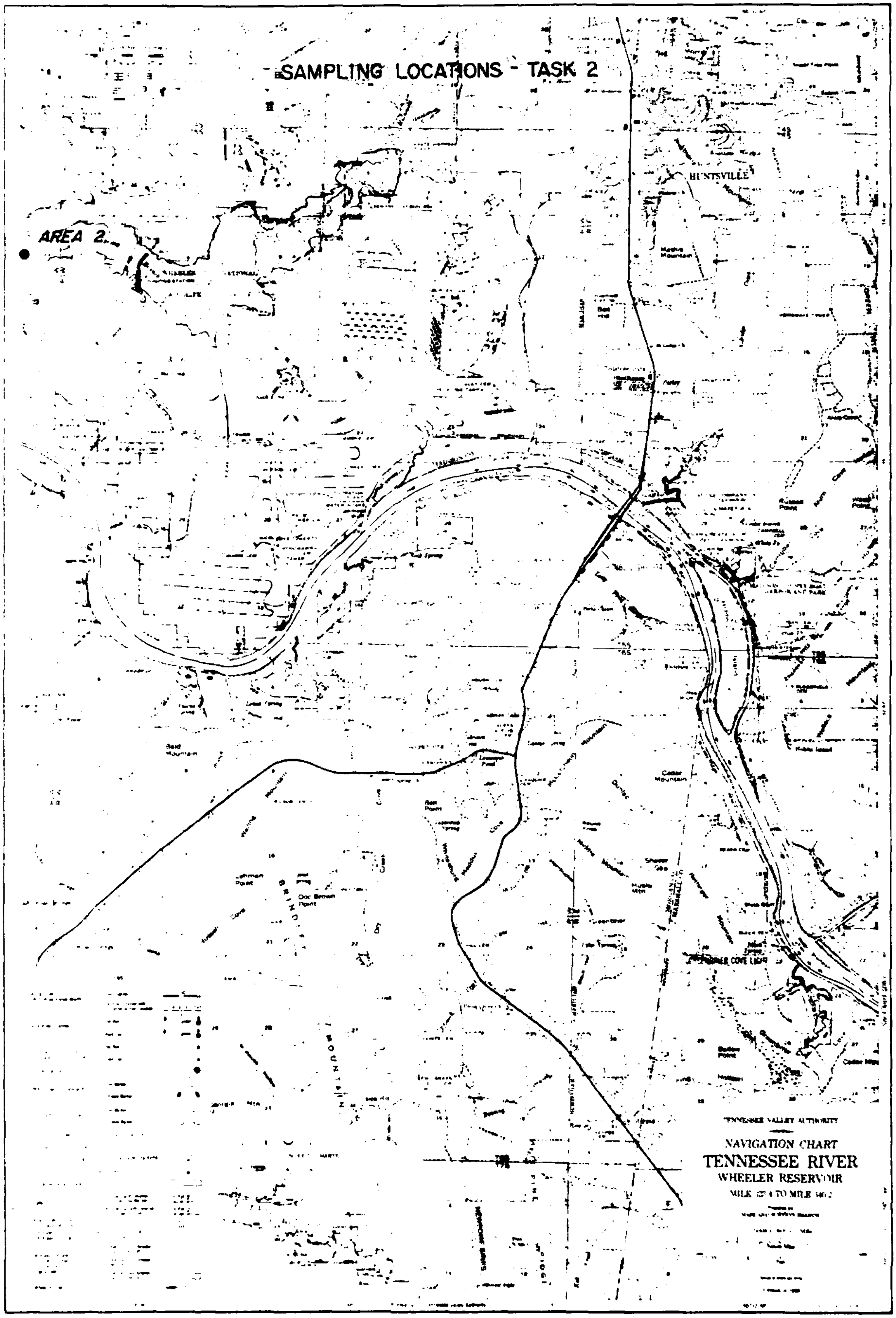
Task 2

Sampling Location Maps

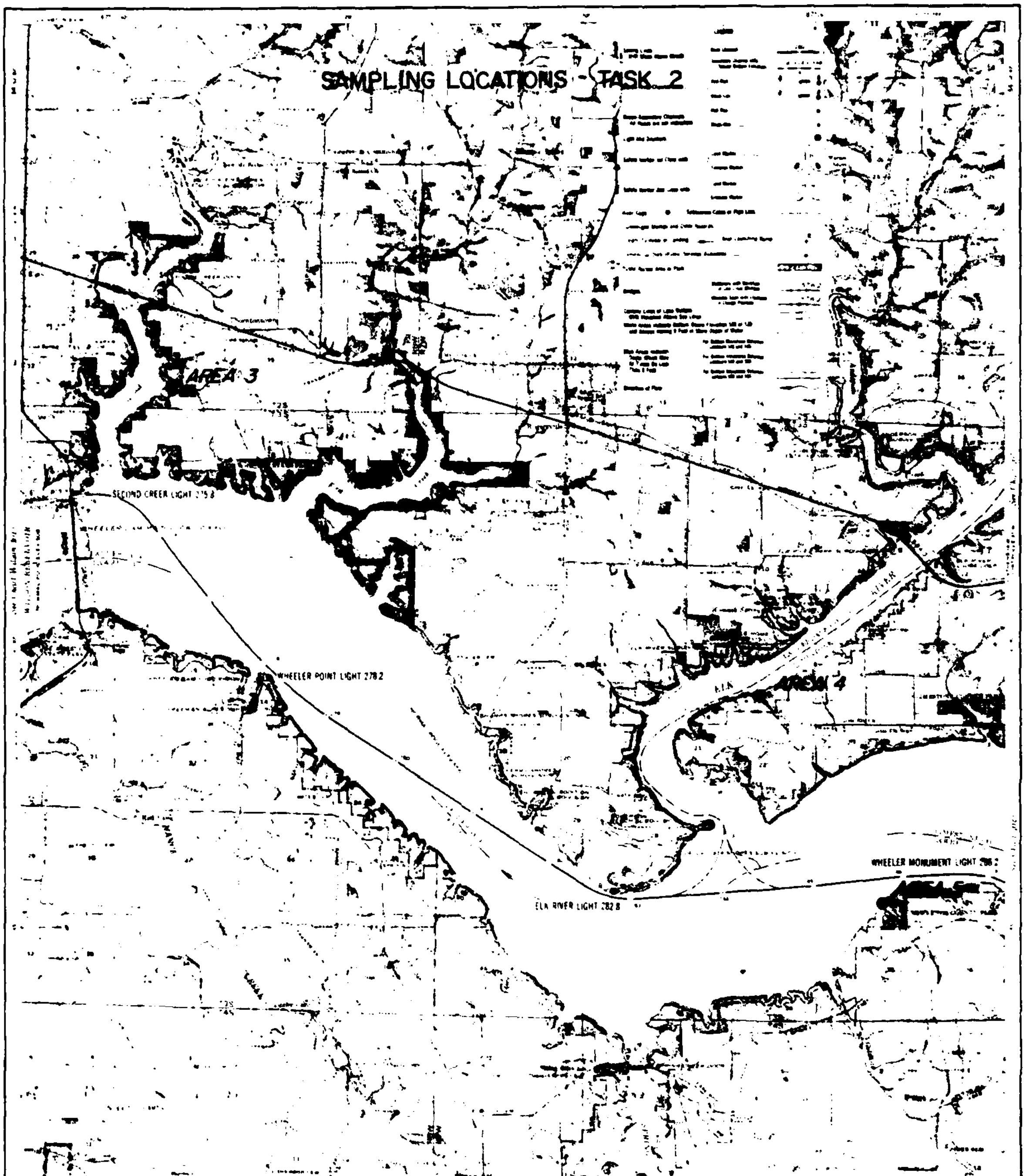
SAMPLING LOCATIONS - TASK 2



SAMPLING LOCATIONS - TASK 2



SAMPLING LOCATIONS - TASK 2



APPENDIX B

Task 2

Fish Population Estimate Data

TABLE 1. SAMPLE AREA LOCATIONS, WHEELER RESERVOIR, 1979

SAMPLE AREA	DATE	RIVER MILE	UNIVERSAL GRID CODE
AREA 1	SEPTEMBER 18	320.9	348656013054
AREA 2	SEPTEMBER 11	320.9	348656007058

TABLE 2. STANDING CROP OF FISH BY SAMPLE AREA, WHEELER RESERVOIR, 1979

SAMPLE AREA	****SIZE*****		MEAN DEPTH		NUMBER OF FISH PER HECTARE	NUMBER OF FISH PER ACRE	WEIGHT OF FISH	
	HECTARES	ACRES	METERS	FEET			KG/HA	LB/AC
AREA 1	0.1	0.4	0.3	1.0	11400.0	4613.5	131.2	117.0
AREA 2	0.3	0.6	0.2	0.7	26704.0	10806.8	209.1	186.6
ALL AREAS	0.4	1.0	0.2	0.8	19052.0	7710.2	170.2	151.8

TABLE 3. COMMON AND SCIENTIFIC NAMES OF FISH IN ROTENONE SAMPLES, WHEELER RESERVOIR, 1979

COMMON NAME	SCIENTIFIC NAME
GAME	
WARMOUTH	LEPOMIS GULOSUS
GREEN SUNFISH	LEPOMIS CYANELLUS
BLUEGILL	LEPOMIS MACROCHIRUS
LONGEAR SUNFISH	LEPOMIS MEGALOTIS
REDEAR SUNFISH	LEPOMIS MICROLOPHUS
ROUGH	
BOWFIN	AMIA CALVA
GOLDFISH	CARASSIUS AURATUS
CARP	CYPRINUS CARPIO
SMALLMOUTH BUFFALO	ICTIOBUS BUBALUS
SPOTTED SUCKER	MINYTREMA MELANOPS
BLACK BULLHEAD	ICTALURUS MELAS
CHANNEL CATFISH	ICTALURUS PUNCTATUS
FORAGE	
GIZZARD SHAD	DOROSOMA CEPEDIANUM
THREADFIN SHAD	DOROSOMA PETENENSE
STONEROLLER	CAMPOSTOMA ANOMALUM
GOLDEN SHINER	NOTEMIGONUS CRYSOLEUCAS
EMERALD SHINER	NOTROPIS ATHERINOIDES
COMMON SHINER	NOTROPIS CORNUTUS
BLACKSPOTTED TOPMINNOW	FUNDULUS OLIVACEUS
MOSQUITOFISH	GAMBUSIA AFFINIS
BROOK SILVERSIDE	LABIDESTHES SICCULUS
MIXED & UNID MINNOWS	

TABLE 4. SIZE CLASSES (MILLIMETERS) USED IN FISH INVENTORIES

SPECIES	YOUNG OF YEAR	INTER-MEDIATE	HARVEST-ABLE
GAME			
WHITE BASS	1-150	151-200	201 AND OVER
YELLOW BASS	1-150	151-200	201 AND OVER
STRIPED BASS	1-175	176-375	376 AND OVER
ROCK BASS	1-75	76-125	126 AND OVER
BLUEGILL	1-75	76-125	126 AND OVER
OTHER SUNFISH	1-75	76-125	126 AND OVER
SMALLMOUTH BASS	1-100	101-200	201 AND OVER
SPOTTED BASS	1-100	101-200	201 AND OVER
LARGEMOUTH BASS	1-100	101-225	226 AND OVER
CRAPPIE	1-75	76-175	176 AND OVER
SAUGER	1-200	201-275	276 AND OVER
WALLEYE	1-200	201-275	276 AND OVER
ROUGH			
LAMPREY	1-50	51-125	126 AND OVER
PADDLEFISH	1-300	301-450	451 AND OVER
GAR	1-300	301-475	476 AND OVER
BOWFIN	1-200	201-300	301 AND OVER
SKIPJACK HERRING	1-150	151-275	276 AND OVER
MOONEYE	1-150	151-300	301 AND OVER
CARP	1-200	201-300	301 AND OVER
GOLDFISH	1-150	151-250	251 AND OVER
BUFFALO	1-200	201-300	301 AND OVER
CARPSUCKERS	1-175	176-250	251 AND OVER
REDHORSES	1-175	176-250	251 AND OVER
OTHER SUCKERS	1-175	176-250	251 AND OVER
BLUE CATFISH	1-125	126-225	226 AND OVER
CHANNEL CATFISH	1-125	126-225	226 AND OVER
BULLHEADS	1-100	101-175	176 AND OVER
FLATHEAD CATFISH	1-125	126-275	276 AND OVER
FRESHWATER DRUM	1-125	126-200	201 AND OVER
GRASS PICKEREL	1-175	176-300	301 AND OVER
FORAGE			
GIZZARD SHAD	1-125	-	126 AND OVER
THREADFIN SHAD	1-125	-	126 AND OVER
ORANGESPOTTED SUNFISH	1-50	51-75	76 AND OVER
MISC. FORAGE FISH	ALL SIZES	-	-

TABLE 5. AREA POPULATIONS FOR MAJOR FISH GROUPS , WHEELER RESERVOIR, 1979

	FISH	NUMBER OF	NUMBER OF FISH		WEIGHT OF FISH	
SAMPLE AREA	GROUP	SPECIES	HECTARE	ACRE	KG/HA	LBS/AC
AREA 1						
	GAME	5	2406.7	974.0	12.2	10.9
	ROUGH	4	233.3	94.4	28.8	25.7
	FORAGE	7	8760.0	3545.1	90.1	80.4
		16	11400.0	4613.5	131.2	117.0
AREA 2						
	GAME	4	692.0	280.0	2.7	2.4
	ROUGH	7	404.0	163.5	23.4	20.9
	FORAGE	5	25608.0	10363.3	183.0	163.2
		16	26704.0	10806.8	209.1	186.6
ALL AREAS						
	GAME	5	1549.3	627.0	7.5	6.7
	ROUGH	7	318.7	129.0	26.1	23.3
	FORAGE	9	17184.0	6954.2	136.5	121.8
		21	19052.0	7710.2	170.2	151.8

TABLE 6. SIZE DISTRIBUTION PER HECTARE, WHEELER RESERVOIR, 1979

SPECIES	YOUNG OF YEAR		INTERMEDIATE		HARVESTABLE		TOTAL	
	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
GIZZARD SHAD	15281.33	32.16	-	-	1072.00	51.65	16353.33	133.81
BLUEGILL	822.00	2.76	43.33	0.46	-	-	865.33	3.23
GREEN SUNFISH	366.67	1.44	101.33	1.26	6.67	0.29	474.67	2.99
GOLDEN SHINER	322.00	0.92	-	-	-	-	322.00	0.92
MIXED & UNID MINNOWS	237.33	1.37	-	-	-	-	237.33	1.37
GOLDFISH	45.33	0.80	57.33	9.13	26.67	8.52	129.33	18.45
THREADFIN SHAD	103.33	0.21	-	-	-	-	103.33	0.21
REDEAR SUNFISH	90.00	0.24	6.67	0.07	6.67	0.51	103.33	0.82
LONGEAR SUNFISH	102.67	0.46	-	-	-	-	102.67	0.46
COMMON SHINER	97.33	0.12	-	-	-	-	97.33	0.12
BLACK BULLHEAD	93.33	0.19	-	-	-	-	93.33	0.19
SPOTTED SUCKER	53.33	0.36	-	-	-	-	53.33	0.36
EMERALD SHINER	26.67	0.08	-	-	-	-	26.67	0.08
CARP	16.00	0.84	2.00	0.24	6.00	2.99	24.00	4.07
MOSQUITOFISH	22.00	0.01	-	-	-	-	22.00	0.01
BLACKSPOTTED TOPMINNOW	13.33	0.01	-	-	-	-	13.33	0.01
BOWFIN	-	-	10.67	1.97	-	-	10.67	1.97
BROOK SILVERSIDE	6.67	0.01	-	-	-	-	6.67	0.01
SMALLMOUTH BUFFALO	2.00	0.10	-	-	2.00	0.91	4.00	1.01
CHANNEL CATFISH	-	-	4.00	0.07	-	-	4.00	0.07
WARMOUTH	3.33	T	-	-	-	-	3.33	T
STONEROLLER	2.00	T	-	-	-	-	2.00	T

T = LESS THAN 0.01 PER HECTARE

TABLE 7. SPECIES COMPOSITION OF COVE POPULATIONS, WHEELER RESERVOIR 1979

SPECIES	PERCENT OF TOTAL NUMBERS	PERCENT OF TOTAL WEIGHT
GIZZARD SHAD	85.84	78.64
BLUEGILL	4.54	1.90
GREEN SUNFISH	2.49	1.76
GOLDEN SHINER	1.69	0.54
MIXED & UNID MINNOWS	1.25	0.80
GOLDFISH	0.68	10.84
THREADFIN SHAD	0.54	0.12
REDEAR SUNFISH	0.54	0.48
LONGEAR SUNFISH	0.54	0.27
COMMON SHINER	0.51	0.07
BLACK BULLHEAD	0.49	0.11
SPOTTED SUCKER	0.28	0.21
EMERALD SHINER	0.14	0.05
CARP	0.13	2.39
MOSQUITOFISH	0.12	T
BLACKSPOTTED TOPMINNOW	0.07	T
BOWFIN	0.06	1.16
BROOK SILVERSIDE	0.03	T
SMALLMOUTH BUFFALO	0.02	0.59
CHANNEL CATFISH	0.02	0.04
WARMOUTH	0.02	T
STONEROLLER	0.01	T
	100.00	100.00

T = LESS THAN 0.01 PERCENT

TABLE 8. SIZE DISTRIBUTION OF MAJOR FISH GROUPS, WHEELER RESERVOIR, 1979

FISH GROUP	**********PERCENT BY NUMBER**********				*********PERCENT BY WEIGHT*********			
	YOUNG OF YEAR	INTER-MEDIATE	HARVEST-ABLE	TOTAL	YOUNG OF YEAR	INTER-MEDIATE	HARVEST-ABLE	TOTAL
GAME	7.3	0.8	0.1	8.1	2.9	1.1	0.5	4.4
ROUGH	1.1	0.4	0.2	1.7	1.3	6.7	7.3	15.4
FORAGE	84.6	0.0	5.6	90.2	49.9	0.0	30.4	80.2
TOTAL	92.9	1.2	5.9	100.0	54.1	7.8	38.1	100.0

TABLE 9. SAMPLE AREA LOCATIONS, WHEELER
RESERVOIR, 1979

SAMPLE AREA	DATE	RIVER MILE	UNIVERSAL GRID CODE
AREA III	AUGUST 23	275.2	348773044012
AREA IV	AUGUST 28	2.7	348773088111
AREA V	AUGUST 30	285.8	348772119014

TABLE 10. STANDING CROP OF FISH BY SAMPLE AREA, WHEELER RESERVOIR, 1979

					NUMBER OF FISH			
SAMPLE	****SIZE*****		MEAN DEPTH		PER	PER	WEIGHT OF FISH	
AREA	HECTARES	ACRES	METERS	FEET	HECTARE	ACRE	KG/HA	LB/AC
AREA III	1.0	2.5	2.2	7.2	23319.0	9437.0	513.0	457.7
AREA IV	0.6	1.5	1.4	4.6	23448.3	9489.3	596.7	532.4
AREA V	1.4	3.5	1.3	4.3	16780.0	6790.7	538.6	480.5
ALL AREAS	3.0	7.4	1.6	5.4	21182.4	8572.3	549.4	490.2

TABLE 11. COMMON AND SCIENTIFIC NAMES OF FISH IN ROTENONE SAMPLES, WHEELER RESERVOIR, 1979

COMMON NAME	SCIENTIFIC NAME
GAME	
WHITE BASS	MORONE CHRYSOPS
YELLOW BASS	MORONE MISSISSIPPIENSIS
WARMOUTH	LEPOMIS GULOSUS
GREEN SUNFISH	LEPOMIS CYANELLUS
BLUEGILL	LEPOMIS MACROCHIRUS
LONGEAR SUNFISH	LEPOMIS MEGALOTIS
REDEAR SUNFISH	LEPOMIS MICROLOPHUS
SMALLMOUTH BASS	MICROPTERUS DOLOMIEUI
SPOTTED BASS	MICROPTERUS PUNCTULATUS
LARGEMOUTH BASS	MICROPTERUS SALMOIDES
WHITE CRAPPIE	POMOXIS ANNULARIS
BLACK CRAPPIE	POMOXIS NIGROMACULATUS
YELLOW PERCH	PERCA FLAVESCENS
SAUGER	STIZOSTEDION CANADENSE
ROUGH	
SPOTTED GAR	LEPISOSTEUS OCULATUS
LONGNOSE GAR	LEPISOSTEUS OSSEUS
SKIPJACK HERRING	ALOSA CHRYSOCHLORIS
CARP	CYPRINUS CARPIO
SMALLMOUTH BUFFALO	ICTIOBUS BUBALUS
BIGMOUTH BUFFALO	ICTIOBUS CYPRINELLUS
SPOTTED SUCKER	MINYTREMA MELANOPS
SILVER REDHORSE	MOXOSTOMA ANISURUM
GOLDEN REDHORSE	MOXOSTOMA ERYTHRURUM
CHANNEL CATFISH	ICTALURUS PUNCTATUS
FLATHEAD CATFISH	PYLODICTIS OLIVARIS
FRESHWATER DRUM	APLODINOTUS GRUNNIENS
FORAGE	
GIZZARD SHAD	DOROSOMA CEPEDIANUM
THREADFIN SHAD	DOROSOMA PETENENSE
STONEROLLER	CAMPOSTOMA ANOMALUM
SILVER CHUB	HYBOPSIS STORERIANA
GOLDEN SHINER	NOTEMIGONUS CRYSOLEUCAS
EMERALD SHINER	NOTROPIS ATHERINOIDES
BULLHEAD MINNOW	PIMEPHALES VIGILAX
TADPOLE MADTOM	NOTURUS GYRINUS
BLACKSPOTTED TOPMINNOW	FUNDULUS OLIVACEUS
MOSQUITOFISH	GAMBUSIA AFFINIS
ORANGESPOTTED SUNFISH	LEPOMIS HUMILIS
FANTAIL DARTER	ETHEOSTOMA FLABELLARE
STRIPETAIL DARTER	ETHEOSTOMA KENNICOTTI

TABLE 11. COMMON AND SCIENTIFIC NAMES OF FISH IN ROTENONE SAMPLES, WHEELER RESERVOIR, 1979
(Cont.)

COMMON NAME	SCIENTIFIC NAME
LOGPERCH	PERCINA CAPRODES
RIVER DARTER	PERCINA SHUMARDI
BROOK SILVERSIDE	LABIDESTHES SICCULUS

TABLE 12. SIZE CLASSES (MILLIMETERS) USED IN FISH INVENTORIES

SPECIES	YOUNG OF YEAR	INTER- MEDIATE	HARVEST- ABLE
GAME			
WHITE BASS	1-150	151-200	201 AND OVER
YELLOW BASS	1-150	151-200	201 AND OVER
STRIPED BASS	1-175	176-375	376 AND OVER
ROCK BASS	1-75	76-125	126 AND OVER
BLUEGILL	1-75	76-125	126 AND OVER
OTHER SUNFISH	1-75	76-125	126 AND OVER
SMALLMOUTH BASS	1-100	101-200	201 AND OVER
SPOTTED BASS	1-100	101-200	201 AND OVER
LARGEMOUTH BASS	1-100	101-225	226 AND OVER
CRAPPIE	1-75	76-175	176 AND OVER
SAUGER	1-200	201-275	276 AND OVER
WALLEYE	1-200	201-275	276 AND OVER
ROUGH			
LAMPREY	1-50	51-125	126 AND OVER
PADDLEFISH	1-300	301-450	451 AND OVER
GAR	1-300	301-475	476 AND OVER
BOWFIN	1-200	201-300	301 AND OVER
SKIPJACK HERRING	1-150	151-275	276 AND OVER
MOONEYE	1-150	151-300	301 AND OVER
CARP	1-200	201-300	301 AND OVER
GOLDFISH	1-150	151-250	251 AND OVER
BUFFALO	1-200	201-300	301 AND OVER
CARPSUCKERS	1-175	176-250	251 AND OVER
REDHORSES	1-175	176-250	251 AND OVER
OTHER SUCKERS	1-175	176-250	251 AND OVER
BLUE CATFISH	1-125	126-225	226 AND OVER
CHANNEL CATFISH	1-125	126-225	226 AND OVER
BULLHEADS	1-100	101-175	176 AND OVER
FLATHEAD CATFISH	1-125	126-275	276 AND OVER
FRESHWATER DRUM	1-125	126-200	201 AND OVER
GRASS PICKEREL	1-175	176-300	301 AND OVER
FORAGE			
GIZZARD SHAD	1-125	-	126 AND OVER
THREADFIN SHAD	1-125	-	126 AND OVER
ORANGESPOTTED SUNFISH	1-50	51-75	76 AND OVER
MISC. FORAGE FISH	ALL SIZES	-	-

TABLE 13. AREA POPULATIONS FOR MAJOR FISH GROUPS , WHEELER RESERVOIR, 1979

SAMPLE AREA	FISH GROUP	NUMBER OF SPECIES	NUMBER OF FISH		WEIGHT OF FISH	
			HECTARE	ACRE	KG/HA	LBS/AC
AREA III						
	GAME	13	9045.0	3660.4	117.7	105.0
	ROUGH	10	400.0	161.9	155.9	139.1
	FORAGE	12	13874.0	5614.7	239.4	213.6
		35	23319.0	9437.0	513.0	457.7
AREA IV						
	GAME	10	13498.3	5462.6	236.8	211.3
	ROUGH	8	445.0	180.1	169.0	150.8
	FORAGE	10	9505.0	3846.6	190.9	170.4
		28	23448.3	9489.3	596.7	532.4
AREA V						
	GAME	12	2857.9	1156.5	57.7	51.5
	ROUGH	11	435.0	176.0	184.6	164.7
	FORAGE	14	13487.1	5458.1	296.3	264.3
		37	16780.0	6790.7	538.6	480.5
ALL AREAS						
	GAME	14	8467.1	3426.5	137.4	122.6
	ROUGH	12	426.7	172.7	169.8	151.5
	FORAGE	16	12288.7	4973.1	242.2	216.1
		42	21182.4	8572.3	549.4	490.2

TABLE 14. SIZE DISTRIBUTION P HECTARE, WHEELER RESERVOIR, .,79

SPECIES	YOUNG OF YEAR		INTERMEDIATE		HARVESTABLE		TOTAL	
	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
GIZZARD SHAD	315.11	2.71	-	-	7357.03	217.09	7672.14	19.79
BLUEGILL	2392.83	7.84	1807.51	31.40	484.60	30.67	4684.94	69.91
THREADFIN SHAD	4329.97	20.63	-	-	-	-	4329.97	20.63
LONGEAR SUNFISH	1193.94	4.02	1206.76	21.64	56.00	2.64	2456.70	28.30
REDEAR SUNFISH	214.41	1.01	80.00	1.35	82.33	11.25	376.75	13.61
GREEN SUNFISH	174.84	0.55	89.84	1.53	16.22	0.88	280.90	2.95
WARMOUTH	183.59	0.66	73.16	1.22	17.02	1.30	273.76	3.18
FRESHWATER DRUM	60.95	0.61	76.08	3.34	66.27	23.30	203.30	27.25
LARGEMOUTH BASS	74.65	0.50	82.10	2.33	21.37	10.39	178.11	13.22
LOGPERCH	132.27	1.01	-	-	-	-	132.27	1.01
SPOTTED SUCKER	-	-	3.16	0.39	84.49	34.36	87.65	34.76
YELLOW BASS	66.33	0.24	0.33	0.02	-	-	66.67	0.26
BULLHEAD MINNOW	64.22	0.13	-	-	-	-	64.22	0.13
SPOTTED BASS	40.22	0.24	13.22	0.24	2.46	0.47	55.90	0.95
SMALLMOUTH BASS	24.57	0.17	15.24	0.37	4.90	0.84	44.71	1.38
SMALLMOUTH BUFFALO	-	-	1.76	0.67	42.62	57.30	44.38	57.96
GOLDEN REDHORSE	-	-	0.79	0.12	38.70	20.31	39.49	20.43
BLACKSPOTTED TOPMINNOW	25.84	0.06	-	-	-	-	25.84	0.06
ORANGESPOTTED SUNFISH	0.24	T	22.71	0.09	1.35	0.01	24.30	0.10
WHITE CRAPPIE	-	-	8.70	0.44	15.51	2.26	24.21	2.70
WHITE BASS	14.62	0.26	2.24	0.12	-	-	16.86	0.37
FLATHEAD CATFISH	3.33	0.02	6.86	0.52	5.49	3.34	15.68	3.89
GOLDEN SHINER	13.05	0.42	-	-	-	-	13.05	0.42
EMERALD SHINER	11.05	0.02	-	-	-	-	11.05	0.02
SPOTTED GAR	2.25	0.15	0.67	0.18	5.68	4.69	8.60	5.02
CHANNEL CATFISH	1.00	0.01	-	-	7.56	4.49	8.56	4.51
SILVER REDHORSE	-	-	-	-	7.86	5.45	7.86	5.45
BROOK SILVERSIDE	7.32	0.01	-	-	-	-	7.32	0.01
SAUGER	3.43	0.08	1.90	0.20	1.00	0.20	6.33	0.48
SKIPJACK HERRING	0.71	0.01	5.29	0.26	0.24	0.04	6.24	0.32
SILVER CHUB	2.81	0.02	-	-	-	-	2.81	0.02
BIGMOUTH BUFFALO	-	-	-	-	2.71	5.06	2.71	5.06
STRIPETAIL DARTER	2.56	T	-	-	-	-	2.56	T
MOSQUITOFISH	1.67	T	-	-	-	-	1.67	T
CARP	-	-	-	-	1.19	4.10	1.19	4.10
LONGNOSE GAR	-	-	0.67	0.10	0.33	0.99	1.00	1.09
FANTAIL DARTER	0.71	T	-	-	-	-	0.71	T
BLACK CRAPPIE	-	-	-	-	0.67	0.11	0.67	0.11
YELLOW PERCH	-	-	0.56	T	-	-	0.56	T
TADPOLE MADTOM	0.33	T	-	-	-	-	0.33	T
STONEROLLER	0.24	T	-	-	-	-	0.24	T
RIVER DARTER	0.24	T	-	-	-	-	0.24	T

T = LESS THAN 0.01 PER HECTARE

TABLE 15. SPECIES COMPOSITION OF COVE POPULATIONS, WHEELER RESERVOIR 1979

SPECIES	PERCENT OF TOTAL NUMBERS	PERCENT OF TOTAL WEIGHT
GIZZARD SHAD	36.22	40.00
BLUEGILL	22.12	12.72
THREADFIN SHAD	20.44	3.75
LONGEAR SUNFISH	11.60	5.15
REDEAR SUNFISH	1.78	2.48
GREEN SUNFISH	1.33	0.54
WARMOUTH	1.29	0.58
FRESHWATER DRUM	0.96	4.96
LARGEMOUTH BASS	0.84	2.41
LOGPERCH	0.62	0.18
SPOTTED SUCKER	0.41	6.33
YELLOW BASS	0.31	0.05
BULLHEAD MINNOW	0.30	0.02
SPOTTED BASS	0.26	0.17
SMALLMOUTH BASS	0.21	0.25
SMALLMOUTH BUFFALO	0.21	10.55
GOLDEN REDHORSE	0.19	3.72
BLACKSPOTTED TOPMINNOW	0.12	0.01
ORANGESPOTTED SUNFISH	0.11	0.02
WHITE CRAPPIE	0.11	0.49
WHITE BASS	0.08	0.07
FLATHEAD CATFISH	0.07	0.71
GOLDEN SHINER	0.06	0.08
EMERALD SHINER	0.05	T
SPOTTED GAR	0.04	0.91
CHANNEL CATFISH	0.04	0.82
SILVER REDHORSE	0.04	0.99
BROOK SILVERSIDE	0.03	T
SAUGER	0.03	0.09
SKIPJACK HERRING	0.03	0.06
SILVER CHUB	0.01	T
BIGMOUTH BUFFALO	0.01	0.92
STRIPETAIL DARTER	0.01	T
MOSQUITOFISH	T	T
CARP	T	0.75
LONGNOSE GAR	T	0.20
FANTAIL DARTER	T	T
BLACK CRAPPIE	T	0.02
YELLOW PERCH	T	T
TADPOLE MADTOM	T	T
STONEROLLER	T	T
RIVER DARTER	T	T
	100.00	100.00

T = LESS THAN 0.01 PERCENT

TABLE 16. SIZE DISTRIBUTION OF MAJOR FISH GROUPS, WHEELER RESERVOR, 1979

	PERCENT BY NUMBER				PERCENT BY WEIGHT			
FISH GROUP	YOUNG OF YEAR	INTER-MEDIATE	HARVEST-ABLE	TOTAL	YOUNG OF YEAR	INTER-MEDIATE	HARVEST-ABLE	TOTAL
GAME	20.7	16.0	3.3	40.0	2.8	11.1	11.1	25.0
ROUGH	0.3	0.4	1.2	2.0	0.1	1.0	29.7	30.9
FORAGE	23.2	0.1	34.7	58.0	4.6	0.0	39.5	44.1
TOTAL	44.2	16.5	39.3	100.0	7.5	12.1	80.4	100.0

APPENDIX C

Task 2

Physical Data on Young-of-the-Year Fish Selected for DDTR Analysis

Physical Data on Young-of-the-Year Fish Selected for DDTR Analysis

Sample #	Location	Species	Length (mm)	Weight (gm)
DDT 2M-1	Elk River	Bluegill	91	15.7
			84	11.8
			85	12.2
			78	9.0
DDT 2M-2	Elk River	Bluegill	56	3.5
			63	4.5
			58	3.8
			55	3.1
			55	3.4
			54	3.2
			50	2.2
			54	3.2
			51	2.7
			55	3.3
			52	2.7
			50	2.7
			48	2.4
			46	2.1
			50	2.8
			52	2.8
			49	2.5
			50	2.7
			48	2.1
			49	2.0
			52	2.8
			49	2.1
			45	1.8
DDT 2M-3	Elk River	Gizzard Shad	120	18.1
			116	15.2
			120	15.0
			120	15.9
			120	16.3
			117	16.1
DDT 2M-4	Elk River	Gizzard Shad	90	6.0
			85	5.6
DDT 2M-5	Elk River	Largemouth Bass	108	17.0
			109	15.0
			102	11.7
DDT 2M-6	Elk River	Largemouth Bass	94	9.7
			87	7.6
			84	8.2
			85	7.1
			83	7.1
			85	6.9

Sample #	Location	Species	Length (mm)	Weight (gm)
DDT 2M-7	Elk River	Largemouth Bass	75	5.1
			74	5.0
			76	5.1
			71	4.3
			68	3.7
DDT 2M-8	Lawrence Co. Park-Wheeler Lake	Bluegill	55	2.7
			45	1.6
			47	0.9
			46	1.6
			44	2.0
			41	2.2
			40	1.9
			48	1.7
			45	1.4
			34	1.3
			44	1.2
			40	1.1
DDT 2M-9	Lawrence Co. Park-Wheeler Lake	Bluegill	35	0.9
			36	0.8
			35	0.6
			37	0.5
			33	0.6
			27	0.3
			35	0.8
			33	0.6
			35	0.5
			30	0.7
			34	0.6
			37	0.8
			37	1.0
DDT 2M-10	Lawrence Co. Park-Wheeler Lake	Gizzard Shad	80	3.8
			85	5.4
			86	5.5
			87	4.4
			84	5.2
			80	3.8
			82	4.2
			80	3.9
DDT 2M-11	Lawrence Co. Park-Wheeler Lake	Gizzard Shad	75	3.4
			75	3.0
			76	3.5
			75	3.6
			77	3.2
			70	2.9
			71	2.9
			65	2.3
			65	2.2
			65	2.4

Sample #	Location	Species	Length (mm)	Weight (gm)
DDT 2M-12	Huntsville Spring Branch	Gizzard Shad	82	4.8
			84	5.3
			84	5.1
			88	6.1
			84	5.5
			79	4.2
			85	5.4
			80	4.1
			83	5.2
			92	7.2
DDT 2M-13	Huntsville Spring Branch	Gizzard Shad	72	3.6
			75	3.7
			76	3.2
			67	2.4
			71	3.1
			64	2.9
			74	3.6
			70	2.1
DDT 2M-14	Huntsville Spring Branch	Gizzard Shad	63	2.1
			62	2.2
			63	2.0
			60	1.8
			60	1.7
			50	1.0
DDT 2M-15	Huntsville Spring Branch	Bluegill	71	3.7
			71	7.7
			65	5.5
			64	5.1
			59	3.7
DDT 2M-16	Huntsville Spring Branch	Bluegill	51	2.9
			57	2.5
			45	1.9
			54	2.6
			48	2.1
			47	1.7
			45	1.2
			46	1.8
DDT 2M-17	Huntsville Spring Branch	Bluegill	42	1.1
			35	0.5
			40	1.1
			40	1.2
			40	0.9
			41	1.1
			38	1.0
			40	0.9
			44	1.1
			40	0.8
			37	0.7
			35	0.4
			40	0.9
			36	0.7

Sample #	Location	Species	Length (mm)	Weight (gm)
DDT 2M-18	Indian Creek	Bluegill	65	5.0
			64	5.3
			67	6.1
			64	5.4
			65	6.0
			65	6.0
			60	4.8
			60	4.2
			62	4.8
			67	5.6
			65	4.8
DDT 2M-19	Indian Creek	Bluegill	56	3.4
			55	2.8
			54	3.4
			55	2.9
			50	2.6
			49	2.3
			50	2.5
			49	2.1
			50	2.5
			50	2.4
			45	1.8
			54	2.9
			54	2.7
			49	2.1
			45	1.6
DDT 2M-20	Indian Creek	Gizzard Shad	87	5.1
			85	5.4
			89	6.4
			90	6.9
			84	5.5
			81	4.5
			80	4.7
DDT 2M-21	Indian Creek	Gizzard Shad	72	3.8
			72	3.5
			74	4.1
			77	4.3
			75	4.0
			75	4.0
			73	3.6
			75	3.9
			72	3.1
			75	3.7
			75	4.7
			70	3.2
			72	3.6
			60	3.9

Sample #	Location	Species	Length (mm)	Weight (gm)
DDT 2M-22	Indian Creek	Largemouth Bass	107	13.6
			100	11.4
			115	16.9
			110	16.7
			101	11.5
			107	14.8
DDT 2M-23	Indian Creek	Largemouth Bass	100	10.8
			90	13.3
			93	13.9
			93	13.3
DDT 2M-24	Indian Creek	Largemouth Bass	74	3.9
			85	5.9
			76	4.0
			80	5.0
			79	5.5
			72	4.0

APPENDIX D

Task 2
DDTR Analysis Data for Young-of-the-Year Fish Samples

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 2 FISH POPULATION ESTIMATES FOR INDIAN CREEK AND HUNTSVILLE SPRING BRANCH EMBAYMENTS OF WHEELER RESERVOIR
DDT ANALYSIS OF YOUNG OF YEAR FISHES

LOCATION	LABID	SPECIES	LENGTH RANGE (MM)	% LIPIDS	NUMBER OF FISH	CONCENTRATIONS OF DDT MEASURED IN FISH[1] - (UG/G) DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	---TOTAL DDTR--- MINIMUM (UG/G)	MAXIMUM (UG/G)
K RIVER	2M-001	BLUEGILL	078-091	2.76	4	0.080	<0.020	<0.030	0.090	0.020	0.190	0.380	0.430*
K RIVER	2M-002	BLUEGILL	045-063	2.01	24	0.040	<0.020	<0.020	0.055	0.041	0.069	0.205	0.245
K RIVER	2M-003	GIZ. SHAD	116-120	4.05	6	<0.040	<0.040	0.029	0.130	<0.020	0.150	0.309	0.409
K RIVER	2M-004	GIZ. SHAD	085-090	0.17	2	<0.080	<0.080	<0.060	<0.050	<0.050	<0.050	0.000	0.370
K RIVER	2M-005	L.M. BASS	102-109	0.40	3	<0.050	<0.040	<0.030	<0.030	<0.030	0.037	0.037	0.217
K RIVER	2M-006	L.M. BASS	083-094	0.13	6	<0.050	<0.050	<0.030	<0.030	<0.030	<0.030	0.000	0.220
K RIVER	2M-007	L.M. BASS	068-076	0.30	5	<0.050	<0.040	<0.030	<0.030	<0.030	0.041	0.041	0.221
VILLE SPRING BRANCH	2M-015	BLUEGILL	059-071	2.18	5	0.610	0.470	9.850	37.6	3.310	10.7	62.540	62.540*
VILLE SPRING BRANCH	2M-016	BLUEGILL	045-057	0.84	8	0.600	0.310	9.860	34.7	4.010	11.9	61.380	61.380
VILLE SPRING BRANCH	2M-017	BLUEGILL	035-044	1.87	13	1.320	0.870	17.8	68.8	7.360	22.2	118.350	118.350
VILLE SPRING BRANCH	2M-012	GIZ. SHAD	079-092	0.93	10	0.890	0.480	11.2	23.4	2.900	8.370	47.240	47.240
VILLE SPRING BRANCH	2M-013	GIZ. SHAD	064-076	2.65	8	2.190	1.760	34.9	74.5	9.340	28	150.690	150.690
VILLE SPRING BRANCH	2M-014	GIZ. SHAD	050-063	0.39	6	0.150	<0.070	3.110	5.770	0.920	3.050	13.000	13.070
DIAN CREEK	2M-018	BLUEGILL	060-067	1.17	11	0.210	<0.040	2.200	10.6	1.270	3.630	17.910	17.950
DIAN CREEK	2M-019	BLUEGILL	045-056	1.31	15	0.190	0.079	2.510	12.3	1.590	4.600	21.269	21.269
DIAN CREEK	2M-020	GIZ. SHAD	080-090	1.81	7	0.580	0.430	12.4	29.8	3.620	11.1	57.930	57.930
DIAN CREEK	2M-021	GIZ. SHAD	060-072	0.55	14	0.260	0.120	4.100	9.240	1.190	3.560	18.470	18.470
WRENCE CO. PARK	2M-008	BLUEGILL	034-055	1.03	12	<0.050	<0.050	<0.040	0.070	<0.030	0.093	0.163	0.333
WRENCE CO. PARK	2M-009	BLUEGILL	027-037	0.43	13	<0.100	<0.100	<0.080	0.072	<0.070	0.092	0.164	0.514
WRENCE CO. PARK	2M-010	GIZ. SHAD	080-087	1.09	8	<0.040	<0.040	<0.030	0.140	<0.030	0.110	0.250	0.390
WRENCE CO. PARK	2M-011	GIZ. SHAD	067-077	0.22	10	<0.030	<0.030	<0.020	<0.020	<0.020	0.018	0.018	0.138
WRENCE CO. PARK	2M-022	L.M. BASS	100-115	0.20	6	<0.050	<0.040	<0.030	0.028	<0.030	0.062	0.090	0.240
WRENCE CO. PARK	2M-023	L.M. BASS	090-100	0.20	4	<0.050	<0.050	<0.030	<0.030	<0.030	0.085	0.085	0.275
WRENCE CO. PARK	2M-024	L.M. BASS	070-085	0.31	6	<0.050	<0.040	<0.030	0.044	<0.030	0.120	0.164	0.314

FOOTNOTES:
ELK RIVER AND LAWRENCE CO. PARK SAMPLES COLLECTED 8/79
HUNTSVILLE SPRING BRANCH AND INDIAN CREEK SAMPLES COLLECTED 9/79
NUMBER OF FISH COLUMN INDICATES NUMBER OF FISH COMPOSITED.
MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.
-- ALL SAMPLES ANALYZED BY STEWART LABORATORIES, INC.

-- INDICATES SAMPLE IS A MERGED VALUE (VALUE REPORTED IS THE AVERAGE OF TWO ANALYSES).

ALL SAMPLES IN THIS TABULATION WERE ORIGINALLY PREPARED BY SLI FOR ANALYSIS ON 12-12-79. INTERLAB COMPARISONS INDICATED THESE DATA WERE SIGNIFICANTLY LOWER THAN EPA DATA. REFER TO QUALITY ASSURANCE DOCUMENT FOR DETAILS.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION OF HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS, WHEELER RESERVOIR, ALABAMA

TASK 3

ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

Tennessee Valley Authority
Office of Natural Resources

August 1980

PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

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WORKTASK DESCRIPTION

TASK 3

ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

1.0 Purpose

To define the areal extent of DDT contamination of sediments throughout Wheeler Reservoir.

2.0 Scope

Bottom sediment samples were collected throughout Wheeler Reservoir, on the main stream Tennessee River and from selected tributaries, and from selected locations on the adjacent Wilson and Guntersville Reservoirs. Water samples also were collected. Sediment samples were analyzed for particle size distribution; sediment and water samples were analyzed for DDT residues which consisted of two isomers of each metabolite (DDT, DDE, DDD).

3.0 Procedure

3.1 Sample Locations

3.1.1 Sediment sample collections were attempted from the following locations: cross sections at 5-mile intervals between TRM 260 and 350, cross sections at TRM 375 and 400, and cross sections at the 15 tributary stations listed in Table 1 and shown on the maps in Appendix A. Samples were collected at five equidistant points along each cross section. However, field crews were unable to collect sediment samples from a one hundred mile reach of the Tennessee River, beginning at TRM 305, about 16 miles downstream of Triana, to TRM 400 in Guntersville Reservoir, at the prescribed 5-mile intervals (except at TRM 325 and 350). Subsequent sampling

Table 1

SEDIMENT SAMPLING LOCATIONS

Assessment of DDT Concentrations in Sediments Corresponding to Area-Wide Fisheries Studies

Stream	Mile	Reservoir	Sediment	Water
Tennessee River	260	Wilson	X	
Tennessee River	265	Wilson	X	
Tennessee River	270	Wilson	X	X
Tennessee River	275	Wheeler	X	
Tennessee River	280	Wheeler	X	
Tennessee River	285	Wheeler	X	
Tennessee River	290	Wheeler	X	X
Tennessee River	295	Wheeler	X	
Tennessee River	300	Wheeler	X	
Tennessee River	305	Wheeler	X	
Tennessee River	310	Wheeler	X	
Tennessee River	315	Wheeler	X	X
Tennessee River	320	Wheeler	X	
Tennessee River	325	Wheeler	X	
Tennessee River	330	Wheeler	X	
Tennessee River	335	Wheeler	X	
Tennessee River	340	Wheeler	X	
Tennessee River	345	Wheeler	X	X
Tennessee River	350	Guntersville	X	X
Tennessee River	375	Guntersville	X	
Tennessee River	400	Guntersville	X	
Elk River	5	Wheeler	X	X
Elk River	10	Wheeler	X	X
Elk River	15	Wheeler	X	X
Spring Creek*	1.0	Wheeler	X	X
Spring Creek	2.0	Wheeler	X	X
Limestone Creek*	1.5	Wheeler	X	X
Limestone Creek	3.0	Wheeler	X	X
Flint Creek*	6.7	Wheeler	X	X
Flint Creek	13.3	Wheeler	X	X
Cotaco Creek*	3.8	Wheeler	X	X
Cotaco Creek	7.7	Wheeler	X	X
Flint River*	1.2	Wheeler	X	X
Flint River	2.5	Wheeler	X	X
Paint Rock River*	1.9	Wheeler	X	X
Paint Rock River	3.9	Wheeler	X	X

*At Spring Creek, Limestone Creek, Flint Creek, Cotaco Creek, Flint River, and Paint Rock River the two sampling locations (each tributary) approximate the 1/3 and 2/3 river mile distance between the inflow of the tributary at winter pool (upstream location of backwater effect) and the mouth of the tributary with the Tennessee River.

above and below the prescribed transects indicated a hard bottom with no collectable sediment. A third attempt was made to sample these areas based on siltation data. These locations are shown in table 2. This attempt was also unsuccessful except for TRM 320.8 where sediment was found at two horizontal locations.

3.1.2 Water samples were collected from the stations shown in Tables 1 and 2 and on the maps in Appendix A.

3.2 Field Collection

3.2.1 Sediment samples were collected by dredge, passed through a 1/4-inch mesh screen, mixed for uniformity, and placed in specially prepared glass pint jars. If possible, one pint of sediment was collected at each location. Each sample was handled separately and identified properly.

3.2.2 Water samples were collected by a hand-held sampling device and placed in specially prepared glass bottles. A total volume of one gallon was required at each sampling station. The additional composite water samples collected from the eight stations in table 2 included: (1) a near-bottom composite, which was obtained by first measuring the water depth with a separate line and then triggering the sampler at three feet above the measured depth; and (2) a full water column composite, which was obtained by sampling the water column above the "near bottom composite" at four equidistant points, and compositing all samples collected across a transect.

3.3 Sample Handling

3.3.1 Sediment samples were collected in 1-pint glass containers (Mason jars) specially cleaned for pesticide analysis. Container lids were lined with aluminum foil.

Table 2. Additional Locations for the Collection of Water and Sediment Samples for DDTR Analysis

Sediment and Water Samples

TRM 305.7 (Silt Range 40)
TRM 309.7 (Silt Range 44)
TRM 314.0 (Silt Range 50)
TRM 320.8 (Silt Range 57)
TRM 326.0
TRM 331.0
TRM 333.6 (Silt Range 63)
TRM 343.9 (Silt Range 68)
TRM 395.0

Water Samples only

TRM 375.0
Elk Rv. 8.5
Spring Cr. 1.5
Limestone Cr. 1.5
Flint Cr. 2.0
Cotaco Cr. 1.2
Flint Rv. 1.6
Paint Rock Rv. 1.3

3.3.2 Water samples were collected in glass bottles specially cleaned for pesticide analysis. A total volume of one gallon was required for each sampling location.

3.3.3 All sediment and water samples were placed on ice immediately upon collection, and kept at 4°C through transportation to the laboratory.

3.4 Sample Analysis

3.4.1 The five sediment samples collected at each cross section were composited in the laboratory into one sample for analysis. Each composite sediment sample was analyzed for particle size distribution ranging from > 2.0 mm to < 0.25 μm. This analysis included % moisture and % volatile solids. All six forms of DDT residues were measured on all composite samples.

3.4.2 Water samples were analyzed for all six forms of DDT. In addition, each water sample listed in table 2 was analyzed for total and filterable DDTR.

3.4.3 All analyses were performed by approved or acceptable procedures. Approximately 10 percent of all analyses were replicated. Additionally, approximately 10 percent of all samples analyzed were split and analyzed by a second laboratory. Spiked samples were also utilized to document accuracy of laboratory results (see Quality Assurance document for details).

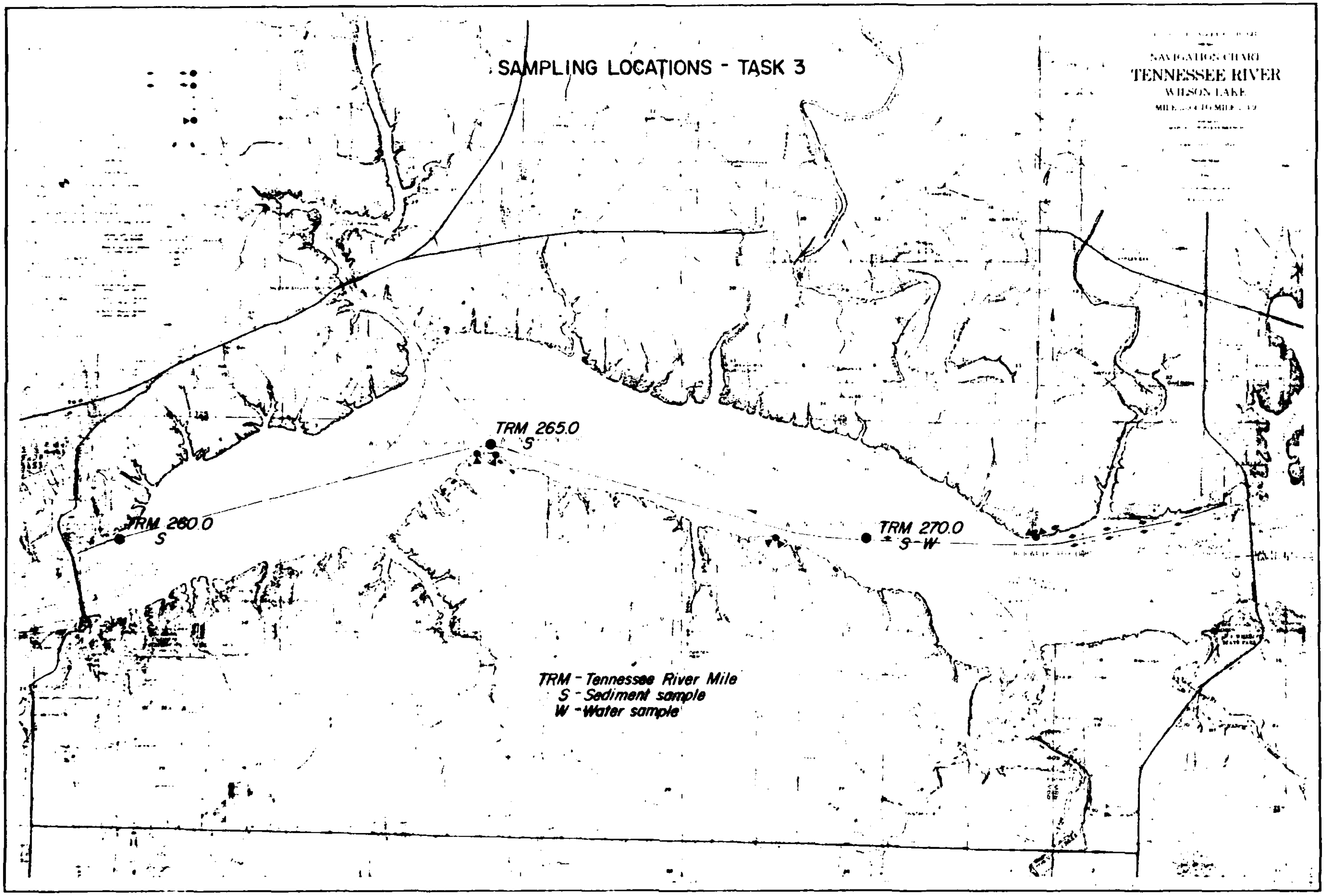
3.5 Data Handling and Reporting

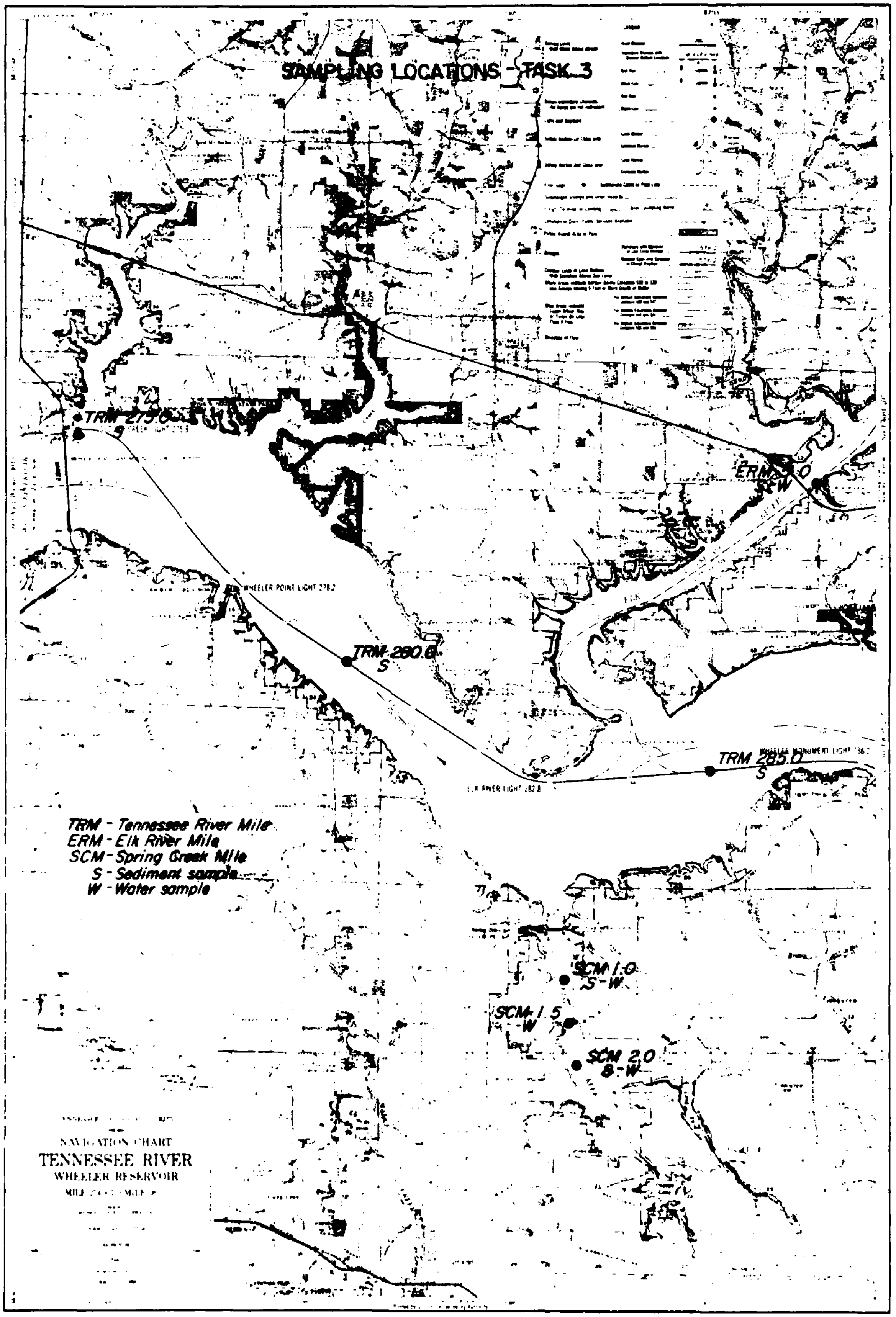
3.5.1 All data are summarized into a tabular form and appear in Appendix B. This table includes: Sample identification number, location, date collected, and all analytical data (each of six forms of DDT and total minimum and maximum residue concentration).

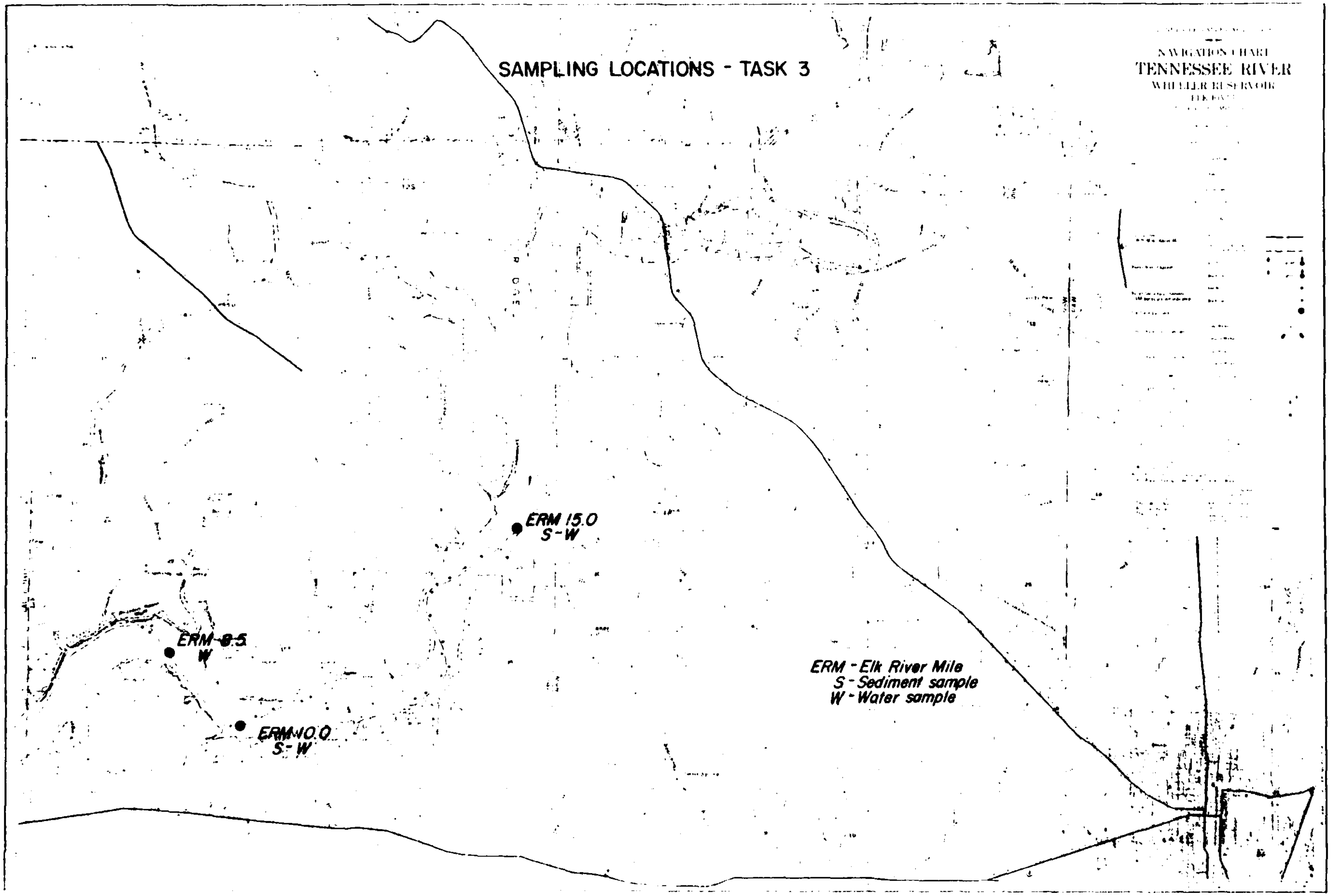
APPENDIX A

TASK 3

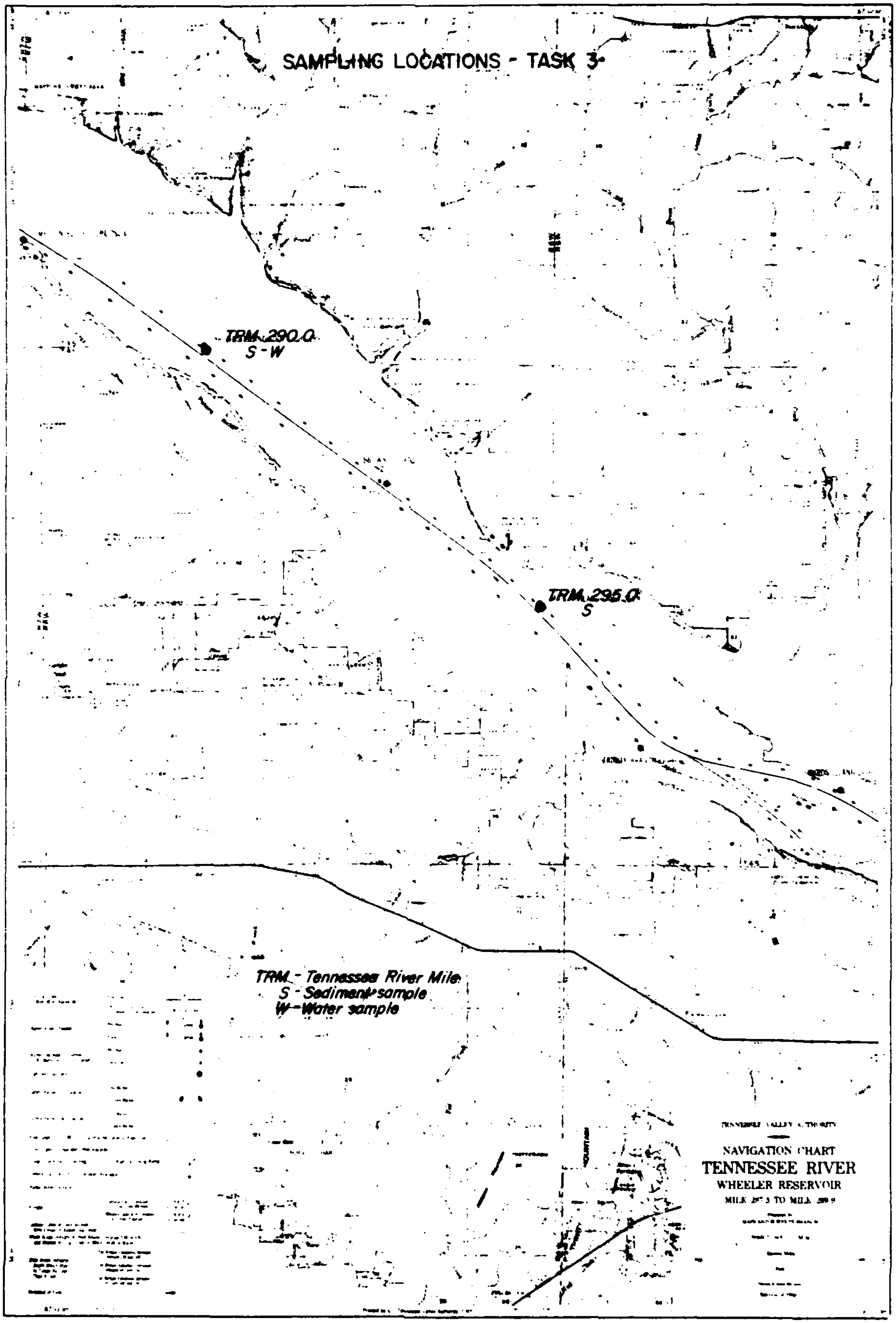
SAMPLING LOCATION MAPS

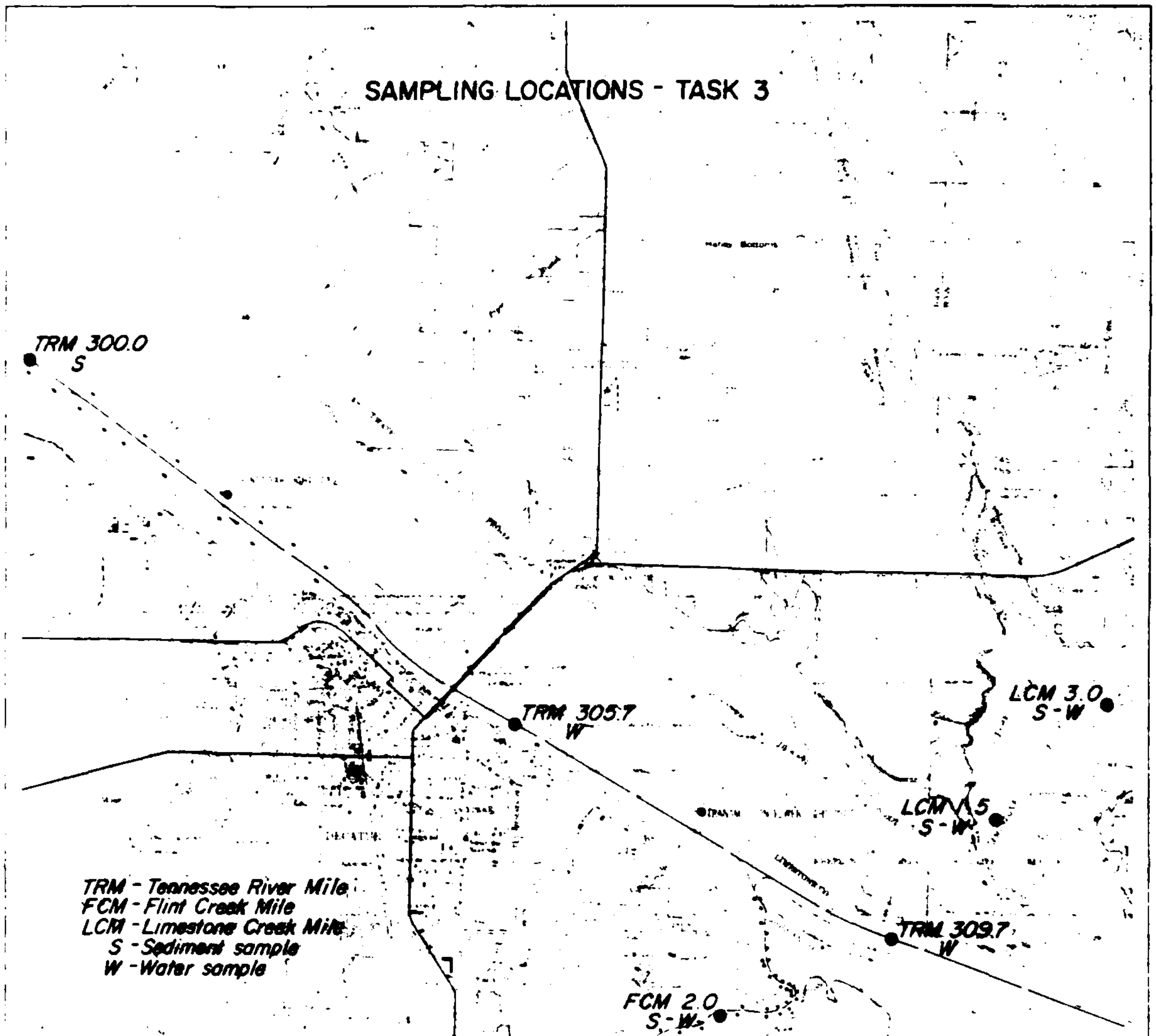

SAMPLING LOCATIONS - TASK 3
NAVIGATION CHART
TENNESSEE RIVER
WILSON LAKE
TRM 260.0
S
TRM 265.0
S
TRM 270.0
S-W
TRM - Tennessee River Mile
S - Sediment sample
W - Water sample

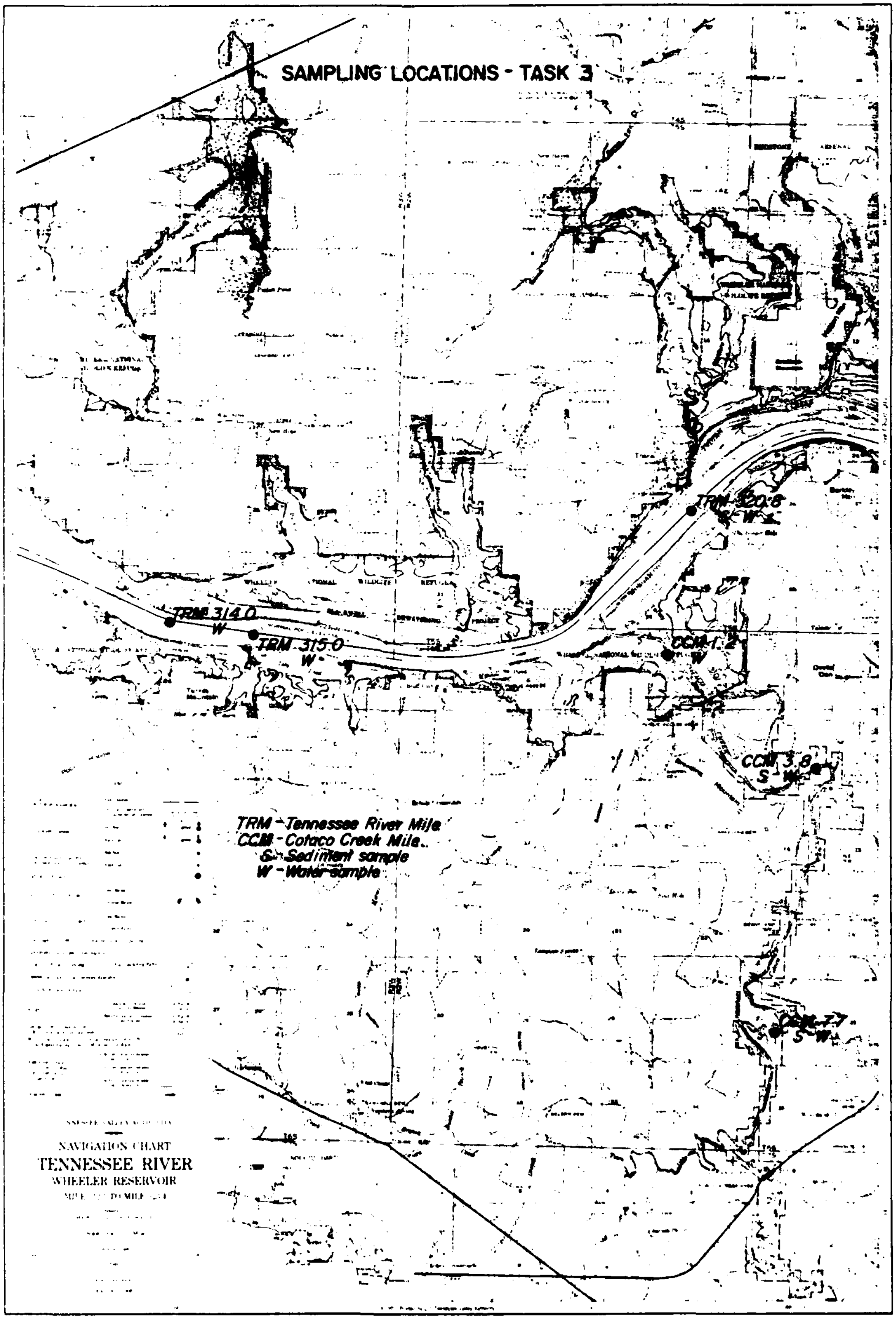

SAMPLING LOCATIONS - TASK 3
TRM 275.0
S
TRM 280.0
S
TRM 285.0
S
ERM [illegible].0
S-W
WHEELER POINT LIGHT 278.2
ELK RIVER LIGHT 282.8
WHEELER MONUMENT LIGHT 286.0
SCM 1.0
S-W
SCM 1.5
W
SCM 2.0
S-W
TRM - Tennessee River Mile
ERM - Elk River Mile
SCM - Spring Creek Mile
S - Sediment sample
W - Water sample
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR

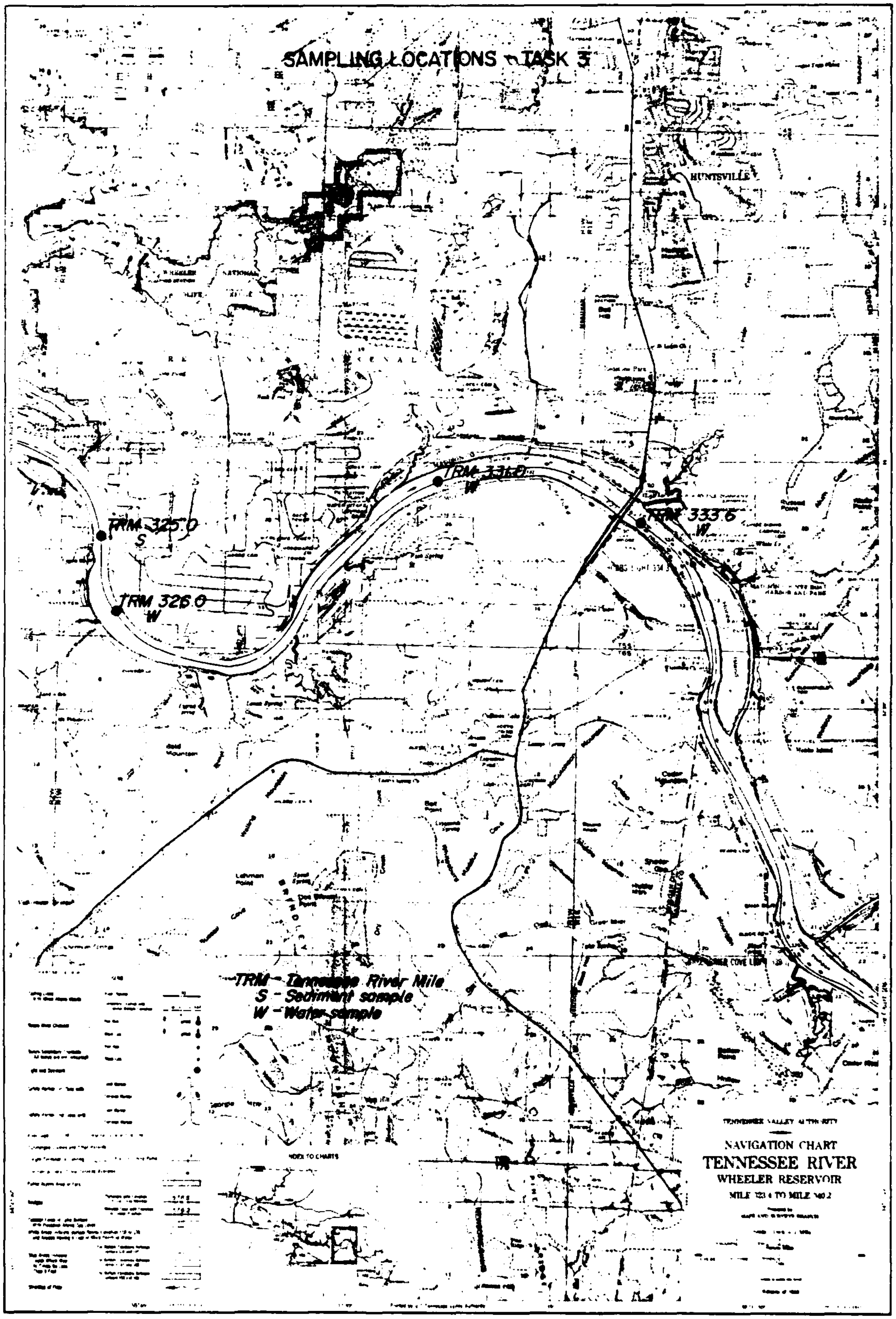


SAMPLING LOCATIONS - TASK 3

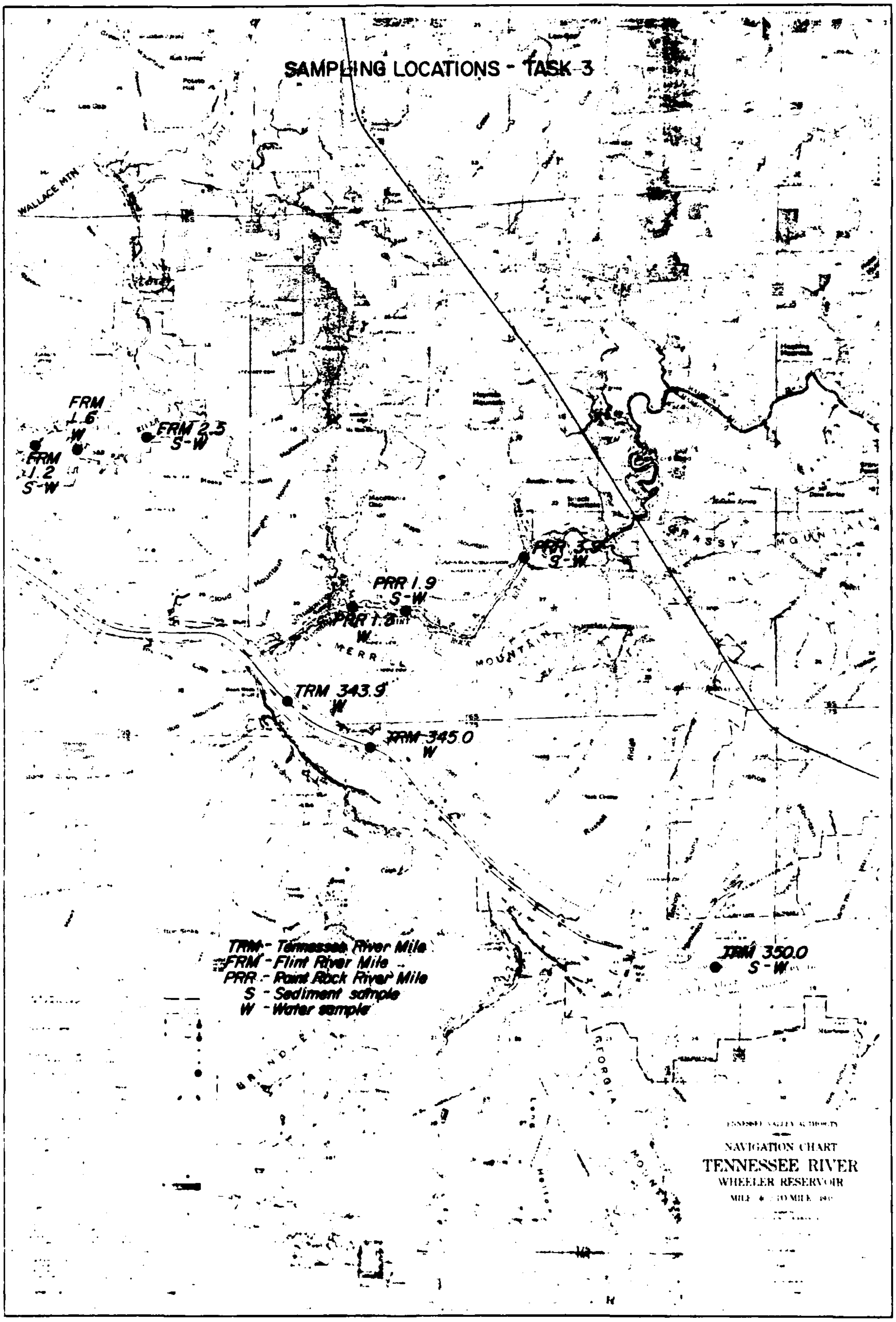

SAMPLING LOCATIONS - TASK 3
TRM 290.0
S - W
TRM 295.0
S
TRM - Tennessee River Mile
S - Sediment sample
W - Water sample
TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR

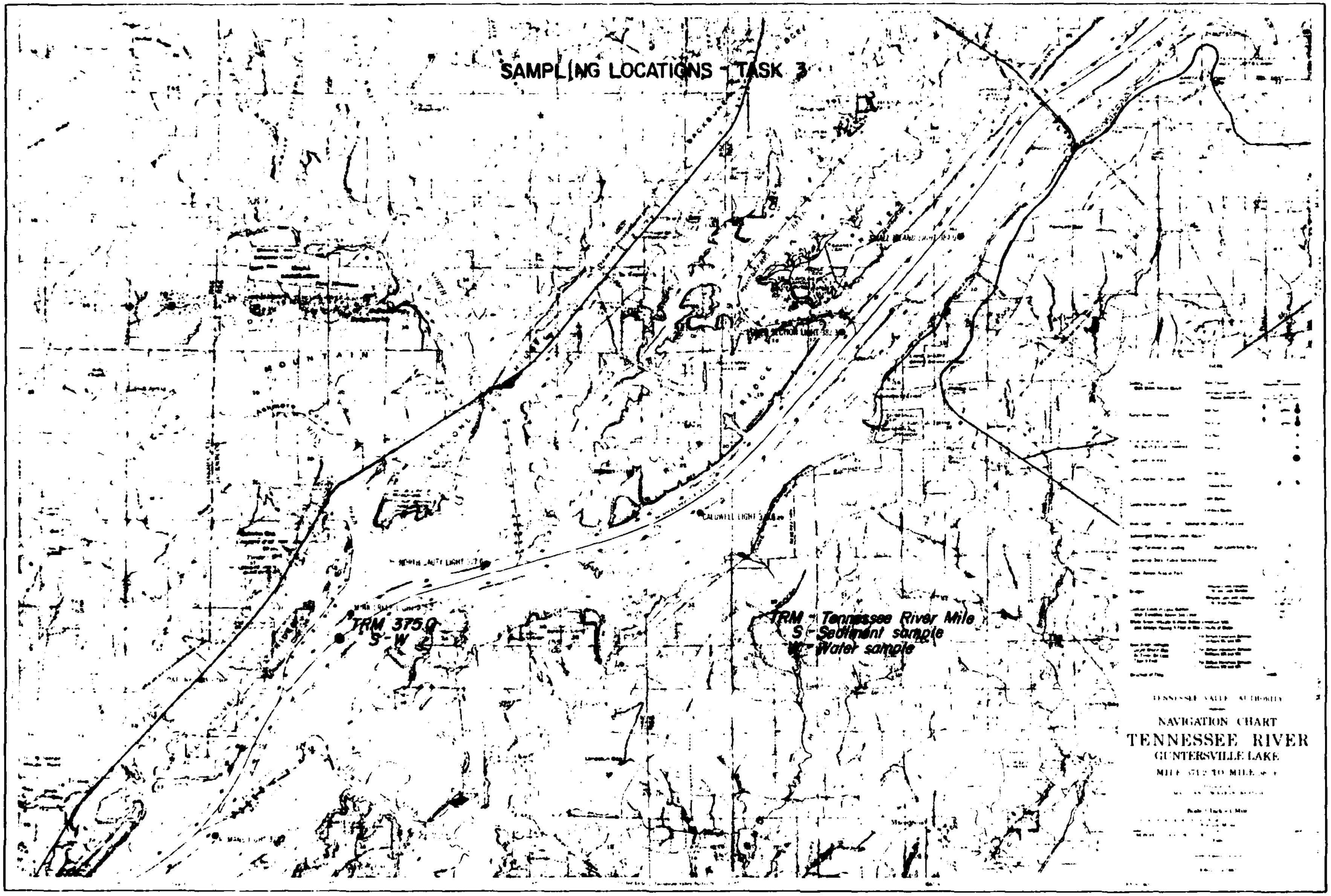

SAMPLING LOCATIONS - TASK 3
TRM 300.0
S
TRM 305.7
W
LCM 3.0
S-W
LCM 1.5
S-W
TRM 309.7
W
FCM 2.0
S-W
FCM 6.7
W
FCM 13.3
S
DECATUR
TRM - Tennessee River Mile
FCM - Flint Creek Mile
LCM - Limestone Creek Mile
S - Sediment sample
W - Water sample
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR


SAMPLING LOCATIONS - TASK 3
TRM 320.8
W
TRM 314.0
W
TRM 315.0
W
CCM 1.2
W
CCM 3.8
S W
CCM 7.7
S W
TRM - Tennessee River Mile
CCM - Cotaco Creek Mile
S - Sediment sample
W - Water sample
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR



SAMPLING LOCATIONS - TASK 3


SAMPLING LOCATIONS - TASK 3
WALLACE MTN
FRM 1.6 W
FRM 2.3 S-W
FRM 1.2 S-W
PRR 3.3 S-W
GRASSY MOUNTAIN
PRR 1.9 S-W
PRR 1.8 W
MERRILL MOUNTAIN
TRM 343.9 W
TRM 345.0 W
TRM 350.0 S-W
TRM - Tennessee River Mile
FRM - Flint River Mile
PRR - Paint Rock River Mile
S - Sediment sample
W - Water sample
BRINDLEE
GEORGIA MOUNTAIN
TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR



SAMPLING LOCATIONS - TASK 3

APPENDIX B

RAW DATA TABULATIONS

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

					TOTAL CONCENTRATIONS OF DDT MEASURED IN WATER						---TOTAL DDTR---		
STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	MINIMUM (UG/L)	MAXIMUM (UG/L)	REMARKS
CATACO CREEK	3.8	COMP	2AUG79	3-041	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
CATACO CREEK	7.7	COMP	2AUG79	3-037	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
ELK RIVER	5.0	COMP	2AUG79	3-025	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
ELK RIVER	10.0	COMP	2AUG79	3-027	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
ELK RIVER	15.0	COMP	2AUG79	3-029	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
FLINT CREEK	6.7	COMP	2AUG79	3-031	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
FLINT RIVER	1.2	COMP	1AUG79	3-019	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
FLINT RIVER	2.5	COMP	1AUG79	3-021	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
LIMESTONE CREEK	1.5	COMP	2AUG79	3-033	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
LIMESTONE CREEK	3.0	COMP	2AUG79	3-043	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
PAINT ROCK RIVER	1.9	COMP	1AUG79	3-015	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
PAINT ROCK RIVER	3.9	COMP	1AUG79	3-017	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
SPRING CREEK	1.0	COMP	30JUL79	3-002	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
SPRING CREEK	2.0	COMP	30JUL79	3-004	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
TENNESSEE RIVER	270.0	COMP	30JUL79	3-007	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
TENNESSEE RIVER	290.0	COMP	31JUL79	3-012	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
TENNESSEE RIVER	315.0	COMP	31JUL79	3-010	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
TENNESSEE RIVER	345.0	COMP	1AUG79	3-024	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
TENNESSEE RIVER	350.0	COMP	2AUG79	3-035	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200	NBS
CATACO CREEK	1.2	COMP	14DEC79	3M-03	<0.080	0.096	0.120	0.140	<0.040	<0.040	0.356	0.516	NBS
CATACO CREEK	1.2	COMP	14DEC79	3M-04	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
ELK RIVER	8.5	COMP	6DEC79	3M-30	<0.080	0.110	<0.080	<0.080	<0.040	<0.040	0.110	0.430	NBS
ELK RIVER	8.5	COMP	6DEC79	3M-31	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
FLINT CREEK	2.0	COMP	6DEC79	3M-24	<0.080	0.130	<0.080	<0.080	<0.040	<0.040	0.130	0.450	NBS
FLINT CREEK	2.0	COMP	6DEC79	3M-25	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
FLINT RIVER	1.6	COMP	6DEC79	3M-14	<0.080	0.089	<0.080	<0.080	<0.040	<0.040	0.089	0.409	NBS
FLINT RIVER	1.6	COMP	6DEC79	3M-15	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
LIMESTONE CREEK	1.5	COMP	6DEC79	3M-28	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
LIMESTONE CREEK	1.5	COMP	6DEC79	3M-29	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
PAINT ROCK CREEK	1.3	COMP	6DEC79	3M-18	<0.080	<0.080	<0.080	0.096	<0.040	<0.040	0.096	0.416	NBS
PAINT ROCK CREEK	1.3	COMP	6DEC79	3M-19	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
SPRING CREEK	1.5	COMP	6DEC79	3M-20	<0.080	0.180	<0.080	<0.080	<0.040	<0.040	0.180	0.500	NBS
SPRING CREEK	1.5	COMP	6DEC79	3M-21	<0.080	0.100	<0.080	<0.080	<0.040	<0.040	0.100	0.420	FWC
TENNESSEE RIVER	305.7	COMP	6DEC79	3M-22	<0.080	0.083	<0.080	<0.080	<0.040	<0.040	0.083	0.403	NBS
TENNESSEE RIVER	305.7	COMP	6DEC79	3M-23	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	309.7	COMP	6DEC79	3M-26	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	309.7	COMP	6DEC79	3M-27	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	314.0	COMP	14DEC79	3M-01	<0.080	0.490	0.670	0.540	0.070	0.130	1.900	1.980	NBS
TENNESSEE RIVER	314.0	COMP	14DEC79	3M-02	<0.080	0.280	<0.080	0.097	<0.040	<0.040	0.377	0.617	FWC
TENNESSEE RIVER	320.8	COMP	14DEC79	3M-05	<0.080	0.170	0.085	0.110	<0.040	<0.040	0.365	0.525	NBS
TENNESSEE RIVER	320.8	COMP	14DEC79	3M-06	<0.080	0.230	<0.080	0.053	<0.040	<0.040	0.283	0.523	FWC
TENNESSEE RIVER	326.0	COMP	14DEC79	3M-08	<0.080	0.230	<0.080	0.080	<0.040	<0.040	0.310	0.550	NBS
TENNESSEE RIVER	326.0	COMP	14DEC79	3M-09	<0.080	0.120	<0.080	<0.080	<0.040	<0.040	0.120	0.440	FWC
TENNESSEE RIVER	331.0	COMP	6DEC79	3M-10	<0.080	<0.080	0.250	0.310	<0.040	<0.040	0.560	0.800	NBS
TENNESSEE RIVER	331.0	COMP	6DEC79	3M-11	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	333.6	COMP	6DEC79	3M-12	<0.080	<0.080	0.170	0.240	<0.040	<0.040	0.410	0.650	NBS
TENNESSEE RIVER	333.6	COMP	6DEC79	3M-13	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	343.9	COMP	6DEC79	3M-16	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	343.9	COMP	6DEC79	3M-17	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	375.0	COMP	10DEC79	3M-32	<0.080	0.180	<0.080	0.090	<0.040	<0.040	0.270	0.510	NBS

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

					TOTAL CONCENTRATIONS OF DDT MEASURED IN WATER						---TOTAL DDTR---		
STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	MINIMUM (UG/L)	MAXIMUM (UG/L)	REMARKS
TENNESSEE RIVER	375.0	COMP	10DEC79	3M-33	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	395.0	COMP	10DEC79	3M-34	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	395.0	COMP	10DEC79	3M-35	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC

FOOTNOTES:

A. NBS - COMPOSITE WATER SAMPLES PREPARED BY COMPOSITING EQUAL VOLUMES TAKEN FROM ONE FOOT OFF THE BOTTOM FROM FIVE (OR FOUR) EQUIDISTANT POINTS ALONG A CROSS-SECTION.

B. FWC - COMPOSITE WATER SAMPLES PREPARED BY COMPOSITING DEPTH INTEGRATED SAMPLES TAKEN FROM FOUR EQUIDISTANT POINTS ALONG A CROSS-SECTION.

C. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

D. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

					DISSOLVED CONCENTRATIONS OF DDT MEASURED IN WATER						---TOTAL DDTR---		
STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	MINIMUM (UG/L)	MAXIMUM (UG/L)	REMARKS
CATACO CREEK	1.2	COMP	14DEC79	3M-03	<0.080	<0.080	0.120	0.140	<0.040	<0.040	0.260	0.500	NBS
CATACO CREEK	1.2	COMP	14DEC79	3M-04	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
ELK RIVER	8.5	COMP	6DEC79	3M-30	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
ELK RIVER	8.5	COMP	6DEC79	3M-31	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
FLINT CREEK	2.0	COMP	6DEC79	3M-24	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
FLINT CREEK	2.0	COMP	6DEC79	3M-25	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
FLINT RIVER	1.6	COMP	6DEC79	3M-14	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
FLINT RIVER	1.6	COMP	6DEC79	3M-15	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
LIMESTONE CREEK	1.5	COMP	6DEC79	3M-28	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
LIMESTONE CREEK	1.5	COMP	6DEC79	3M-29	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
PAINT ROCK CREEK	1.3	COMP	6DEC79	3M-18	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
PAINT ROCK CREEK	1.3	COMP	6DEC79	3M-19	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
SPRING CREEK	1.5	COMP	6DEC79	3M-20	<0.080	0.100	<0.080	<0.080	<0.040	<0.040	0.100	0.420	NBS
SPRING CREEK	1.5	COMP	6DEC79	3M-21	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	305.7	COMP	6DEC79	3M-22	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	305.7	COMP	6DEC79	3M-23	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	309.7	COMP	6DEC79	3M-26	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	309.7	COMP	6DEC79	3M-27	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	314.0	COMP	14DEC79	3M-01	<0.080	0.120	0.450	0.380	0.061	0.078	1.089	1.169	NBS
TENNESSEE RIVER	314.0	COMP	14DEC79	3M-02	<0.080	<0.080	<0.080	0.086	<0.040	<0.040	0.086	0.406	FWC
TENNESSEE RIVER	320.8	COMP	14DEC79	3M-05	<0.080	<0.080	0.082	0.110	<0.040	<0.040	0.192	0.432	NBS
TENNESSEE RIVER	320.8	COMP	14DEC79	3M-06	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	326.0	COMP	14DEC79	3M-08	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	326.0	COMP	14DEC79	3M-09	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	331.0	COMP	6DEC79	3M-10	<0.080	<0.080	0.130	0.170	<0.040	<0.040	0.300	0.540	NBS
TENNESSEE RIVER	331.0	COMP	6DEC79	3M-11	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	333.6	COMP	6DEC79	3M-12	<0.080	<0.080	0.094	0.120	<0.040	<0.040	0.214	0.454	NBS
TENNESSEE RIVER	333.6	COMP	6DEC79	3M-13	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	343.9	COMP	6DEC79	3M-16	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	343.9	COMP	6DEC79	3M-17	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	375.0	COMP	10DEC79	3M-32	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	375.0	COMP	10DEC79	3M-33	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	395.0	COMP	10DEC79	3M-34	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	395.0	COMP	10DEC79	3M-35	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FWC

FOOTNOTES:

A. NBS - COMPOSITE WATER SAMPLES PREPARED BY COMPOSITING EQUAL VOLUMES TAKEN FROM ONE FOOT OFF THE BOTTOM FROM FIVE (OR FOUR) EQUIDISTANT POINTS ALONG A CROSS-SECTION.

B. FWC - COMPOSITE WATER SAMPLES PREPARED BY COMPOSITING DEPTH INTEGRATED SAMPLES TAKEN FROM FOUR EQUIDISTANT POINTS ALONG A CROSS-SECTION.

C. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

D. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
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WHEELER RESERVOIR, ALABAMA

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

					TOTAL CONCENTRATIONS OF DDT MEASURED IN SEDIMENT						---TOTAL DDTR---		
STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)	REMARKS
CATACO CREEK	3.8	17	2AUG79		.	.	.	.	.	.	.	.	
CATACO CREEK	3.8	34	2AUG79		.	.	.	.	.	.	.	.	
CATACO CREEK	3.8	51	2AUG79		.	.	.	.	.	.	.	.	
CATACO CREEK	3.8	68	2AUG79		.	.	.	.	.	.	.	.	
CATACO CREEK	3.8	85	2AUG79		.	.	.	.	.	.	.	.	
CATACO CREEK	3.8	COMP	2AUG79	3-042	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
CATACO CREEK	7.7	17	2AUG79		.	.	.	.	.	.	.	.	
CATACO CREEK	7.7	34	2AUG79		.	.	.	.	.	.	.	.	
CATACO CREEK	7.7	51	2AUG79		.	.	.	.	.	.	.	.	NO SAMPLE
CATACO CREEK	7.7	68	2AUG79		.	.	.	.	.	.	.	.	NO SAMPLE
CATACO CREEK	7.7	85	2AUG79		.	.	.	.	.	.	.	.	
CATACO CREEK	7.7	COMP	2AUG79	3-038	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
ELK RIVER	5.0	17	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	5.0	34	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	5.0	51	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	5.0	68	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	5.0	85	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	5.0	COMP	2AUG79	3-026	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
ELK RIVER	10.0	17	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	10.0	34	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	10.0	51	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	10.0	68	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	10.0	85	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	10.0	COMP	2AUG79	3-028	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
ELK RIVER	15.0	17	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	15.0	34	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	15.0	51	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	15.0	68	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	15.0	85	2AUG79		.	.	.	.	.	.	.	.	
ELK RIVER	15.0	COMP	2AUG79	3-030	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
FLINT CREEK	6.7	17	2AUG79		.	.	.	.	.	.	.	.	
FLINT CREEK	6.7	34	2AUG79		.	.	.	.	.	.	.	.	
FLINT CREEK	6.7	51	2AUG79		.	.	.	.	.	.	.	.	
FLINT CREEK	6.7	68	2AUG79		.	.	.	.	.	.	.	.	
FLINT CREEK	6.7	85	2AUG79		.	.	.	.	.	.	.	.	
FLINT CREEK	6.7	COMP	2AUG79	3-032	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
FLINT CREEK	13.3	17	2AUG79		.	.	.	.	.	.	.	.	NO SAMPLE
FLINT CREEK	13.3	34	2AUG79		.	.	.	.	.	.	.	.	NO SAMPLE
FLINT CREEK	13.3	51	2AUG79		.	.	.	.	.	.	.	.	NO SAMPLE
FLINT CREEK	13.3	68	2AUG79		.	.	.	.	.	.	.	.	NO SAMPLE
FLINT CREEK	13.3	85	2AUG79		.	.	.	.	.	.	.	.	NO SAMPLE
FLINT RIVER	1.2	17	1AUG79		.	.	.	.	.	.	.	.	
FLINT RIVER	1.2	34	1AUG79		.	.	.	.	.	.	.	.	
FLINT RIVER	1.2	51	1AUG79		.	.	.	.	.	.	.	.	
FLINT RIVER	1.2	68	1AUG79		.	.	.	.	.	.	.	.	
FLINT RIVER	1.2	85	1AUG79		.	.	.	.	.	.	.	.	
FLINT RIVER	1.2	COMP	1AUG79	3-020	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
FLINT RI	2.5	17	1AUG79		.	.		.	.	.	.	.	
FLINT RIVER	2.5	34	1AUG79		.	.	.	.	.	.	.	.	
FLINT RIVER	2.5	51	1AUG79		.	.	.	.	.	.	.	.	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CB K, AND ADJACENT LANDS AND WATERS
WHEELER RESE. IR, ALABAMA

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

					TOTAL CONCENTRATIONS OF DDT MEASURED IN SEDIMENT						---TOTAL DDTR---		
STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)	REMARKS
FLINT RIVER	2.5	68	1AUG79		.	.	.	.	.	.	.	.	
FLINT RIVER	2.5	85	1AUG79		.	.	.	.	.	.	.	.	
FLINT RIVER	2.5	COMP	1AUG79	3-022	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
LIMESTONE CREEK	1.5	17	2AUG79		.	.	.	.	.	.	.	.	
LIMESTONE CREEK	1.5	34	2AUG79		.	.	.	.	.	.	.	.	
LIMESTONE CREEK	1.5	51	2AUG79		.	.	.	.	.	.	.	.	
LIMESTONE CREEK	1.5	68	2AUG79		.	.	.	.	.	.	.	.	
LIMESTONE CREEK	1.5	85	2AUG79		.	.	.	.	.	.	.	.	
LIMESTONE CREEK	1.5	COMP	2AUG79	3-034	<0.020	<0.020	<0.020	0.020	<0.050	0.030	0.050	0.160	
LIMESTONE CREEK	3.0	17	2AUG79		.	.	.	.	.	.	.	.	
LIMESTONE CREEK	3.0	34	2AUG79		.	.	.	.	.	.	.	.	
LIMESTONE CREEK	3.0	51	2AUG79		.	.	.	.	.	.	.	.	
LIMESTONE CREEK	3.0	68	2AUG79		.	.	.	.	.	.	.	.	
LIMESTONE CREEK	3.0	85	2AUG79		.	.	.	.	.	.	.	.	
LIMESTONE CREEK	3.0	COMP	2AUG79	3-044	<0.020	<0.020	<0.020	<0.020	<0.050	0.030	0.030	0.160	
PAINT ROCK RIVER	1.9	17	1AUG79		.	.	.	.	.	.	.	.	
PAINT ROCK RIVER	1.9	34	1AUG79		.	.	.	.	.	.	.	.	
PAINT ROCK RIVER	1.9	51	1AUG79		.	.	.	.	.	.	.	.	
PAINT ROCK RIVER	1.9	68	1AUG79		.	.	.	.	.	.	.	.	
PAINT ROCK RIVER	1.9	85	1AUG79		.	.	.	.	.	.	.	.	
PAINT ROCK RIVER	1.9	COMP	1AUG79	3-016	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
PAINT ROCK RIVER	3.9	17	1AUG79		.	.	.	.	.	.	.	.	
PAINT ROCK RIVER	3.9	34	1AUG79		.	.	.	.	.	.	.	.	
PAINT ROCK RIVER	3.9	51	1AUG79		.	.	.	.	.	.	.	.	
PAINT ROCK RIVER	3.9	68	1AUG79		.	.	.	.	.	.	.	.	
PAINT ROCK RIVER	3.9	85	1AUG79		.	.	.	.	.	.	.	.	
PAINT ROCK RIVER	3.9	COMP	1AUG79	3-018	<0.200	<0.020	<0.020	<0.020	0.020	<0.010	0.020	0.290	
SPRING CREEK	1.0	17	30JUL79		.	.	.	.	.	.	.	.	
SPRING CREEK	1.0	34	30JUL79		.	.	.	.	.	.	.	.	
SPRING CREEK	1.0	51	30JUL79		.	.	.	.	.	.	.	.	
SPRING CREEK	1.0	68	30JUL79		.	.	.	.	.	.	.	.	
SPRING CREEK	1.0	85	30JUL79		.	.	.	.	.	.	.	.	
SPRING CREEK	1.0	COMP	30JUL79	3-001	<0.020	<0.020	<0.020	0.020	<0.050	0.010	0.030	0.140	
SPRING CREEK	2.0	17	30JUL79		.	.	.	.	.	.	.	.	
SPRING CREEK	2.0	34	30JUL79		.	.	.	.	.	.	.	.	
SPRING CREEK	2.0	51	30JUL79		.	.	.	.	.	.	.	.	
SPRING CREEK	2.0	68	30JUL79		.	.	.	.	.	.	.	.	
SPRING CREEK	2.0	85	30JUL79		.	.	.	.	.	.	.	.	
SPRING CREEK	2.0	COMP	30JUL79	3-003	0.030	0.030	0.030	0.050	<0.050	0.030	0.170	0.220	
TENNESSEE RIVER	260.0	17	3AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	260.0	34	3AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	260.0	51	3AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	260.0	68	3AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	260.0	85	3AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	260.0	COMP	3AUG79	3-039	<0.020	<0.020	<0.020	0.030	<0.050	0.020	0.050	0.160	
TENNESSEE RIVER	265.0	17	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	265.0	34	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	265.0	51	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	265.0	68	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	265.0	85	30JUL79		.	.	.	.	.	.	.	.	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	TOTAL CONCENTRATIONS OF DDT MEASURED IN SEDIMENT						---TOTAL DDTR---		REMARKS
					DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)	
TENNESSEE RIVER	265.0	COMP	30JUL79	3-005	<0.020	<0.020	0.020	0.030	<0.050	0.030	0.080	0.170	
TENNESSEE RIVER	270.0	17	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	270.0	34	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	270.0	51	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	270.0	68	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	270.0	85	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	270.0	COMP	30JUL79	3-006	<0.020	<0.020	0.020	0.030	<0.050	0.030	0.080	0.170	
TENNESSEE RIVER	275.0	17	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	275.0	34	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	275.0	51	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	275.0	68	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	275.0	85	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	275.0	COMP	30JUL79	3-008	<0.020	<0.020	0.020	0.040	<0.050	0.030	0.090	0.180	
TENNESSEE RIVER	280.0	17	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	280.0	34	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	280.0	51	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	280.0	68	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	280.0	85	30JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	280.0	COMP	30JUL79	3-009	<0.020	<0.020	0.030	0.040	<0.050	0.030	0.100	0.190	
TENNESSEE RIVER	285.0	17	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	285.0	34	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	285.0	51	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	285.0	68	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	285.0	85	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	285.0	COMP	31JUL79	3-011	<0.020	<0.020	0.030	0.040	<0.050	0.030	0.100	0.190	
TENNESSEE RIVER	290.0	17	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	290.0	34	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	290.0	51	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	290.0	68	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	290.0	85	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	290.0	COMP	31JUL79	3-012	<0.020	<0.020	0.020	0.030	<0.050	0.020	0.070	0.160	
TENNESSEE RIVER	295.0	17	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	295.0	34	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	295.0	51	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	295.0	68	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	295.0	85	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	295.0	COMP	31JUL79	3-013	<0.020	<0.020	0.030	0.040	<0.050	0.020	0.090	0.180	
TENNESSEE RIVER	300.0	17	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	300.0	34	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	300.0	51	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	300.0	68	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	300.0	85	31JUL79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	300.0	COMP	31JUL79	3-014	<0.020	<0.020	0.030	0.040	<0.050	0.020	0.090	0.180	
TENNESSEE RIVER	320.8	COMP	14DEC79	3M-07	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100	
TENNESSEE RIVER	325.0	17	1AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	325.0	34	1AUG79		.	.	.	.	.	.	.	.	NO SAMPLE
TENNESSEE RIVER	325.0	51	1AUG79		.	.	.	.	.	.	.	.	NO SAMPLE
TENNESSEE RIVER	325.0	68	1AUG79		.	.	.	.	.	.	.	.	NO SAMPLE
TENNESSEE RIVER	325.0	85	1AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	325.0	COMP	1AUG79	3-023	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
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TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	TOTAL CONCENTRATIONS OF DDT MEASURED IN SEDIMENT DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	---TOTAL DDTR--- MINIMUM (UG/G)	MAXIMUM (UG/G)	REMARKS
TENNESSEE RIVER	350.0	17	2AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	350.0	34	2AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	350.0	51	2AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	350.0	68	2AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	350.0	85	2AUG79		.	.	.	.	.	.	.	.	NO SAMPLE
TENNESSEE RIVER	350.0	COMP	2AUG79	3-036	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
TENNESSEE RIVER	375.0	17	2AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	375.0	34	2AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	375.0	51	2AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	375.0	68	2AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	375.0	85	2AUG79		.	.	.	.	.	.	.	.	
TENNESSEE RIVER	375.0	COMP	2AUG79	3-040	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	

FOOTNOTES:

A. HORIZONTAL LOCATION OF INDIVIDUAL SAMPLES REFERS TO PERCENT DISTANCE FROM THE LEFT BANK LOOKING DOWNSTREAM.

B. ABSENCE OF DATA FOR INDIVIDUAL SAMPLES INDICATES ANALYSES WERE PERFORMED ON THE COMPOSITE OF THE INDIVIDUAL SAMPLES.

C. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

D. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

				SEDIMENT SAMPLES - PHYSICAL MEASUREMENT													
						PERCENT SOLIDS FINER THAN (MM)											
MILE	HLOC	DATE	LABID	% MOISTURE	% VOL-SOL	2.0	0.5	0.125	0.063	0.031	0.016	0.008	0.004	0.002	0.001	0.0005	REMARKS
----CATACO CREEK ----																	
4	COMP	2AUG79	3-042	27.73	1.66	100.00	98.54	25.74	22.46	22.23	20.88	18.86	15.72	13.02	10.78	8.98	
8	COMP	2AUG79	3-038	39.82	4.10	100.00	99.23	61.48	53.40	53.40	50.19	42.72	33.64	27.76	22.42	18.15	
----ELK RIVER ----																	
5	COMP	2AUG79	3-026	45.74	5.34	99.54	98.16	93.19	90.43	90.43	81.38	66.01	51.54	41.59	33.45	27.12	
10	COMP	2AUG79	3-028	43.14	4.69	100.00	99.56	89.39	86.06	86.06	84.33	61.10	47.33	38.72	30.98	24.09	
15	COMP	2AUG79	3-030	47.38	4.87	99.52	97.52	93.14	90.67	89.76	83.41	66.18	50.77	40.80	33.54	27.20	
----FLINT CREEK ----																	
7	COMP	2AUG79	3-032	34.10	4.86	99.45	98.82	84.71	74.94	73.44	66.69	56.95	47.21	38.96	32.22	26.22	
----FLINT RIVER ----																	
1	COMP	1AUG79	3-020	28.83	2.42	96.47	83.08	31.75	30.60	30.60	29.68	26.92	22.03	17.44	13.77	10.71	
3	COMP	1AUG79	3-022	49.31	5.74	100.00	99.41	89.48	88.10	88.10	84.57	73.12	56.38	44.93	36.12	27.31	
----LIMESTONE CREEK ----																	
2	COMP	2AUG79	3-034	41.93	5.21	99.28	96.66	89.43	86.36	84.63	82.04	71.67	58.72	47.49	38.86	30.22	
2	COMP	2AUG79	3-034	45.71	5.62	99.46	96.80	89.20	85.99	85.99	83.41	73.95	60.19	49.01	40.41	32.67	P.S.
3	COMP	2AUG79	3-044	39.61	5.13	96.75	90.89	78.93	74.86	74.11	68.87	57.64	44.16	35.93	29.19	23.95	
----PAINT ROCK RIVER ----																	
2	COMP	1AUG79	3-016	41.04	3.87	100.00	98.47	68.50	63.75	63.11	61.20	54.18	44.62	43.98	32.51	26.13	
4	COMP	1AUG79	3-018	21.65	0.89	99.61	61.45	14.81	12.20	11.95	10.98	9.15	7.19	5.73	4.63	3.66	
----SPRING CREEK ----																	
1	COMP	30JUL79	3-001	49.75	4.62	99.70	98.59	74.65	68.92	68.23	62.02	53.75	44.10	37.21	31.01	24.81	
2	COMP	30JUL79	3-003	64.11	7.53	100.00	100.00	99.86	99.57	99.57	97.57	83.63	70.69	58.74	47.79	37.83	
----TENNESSEE RIVER ----																	
260	COMP	3AUG79	3-039	64.41	8.40	100.00	99.72	99.58	99.58	99.00	99.00	95.75	85.00	74.50	63.00	50.00	
265	COMP	30JUL79	3-005	58.84	7.56	100.00	100.00	99.64	99.40	99.40	97.41	91.44	77.53	59.64	44.73	31.80	
270	COMP	30JUL79	3-006	58.31	7.26	100.00	99.88	99.53	99.06	99.06	98.06	92.12	84.20	73.30	63.39	53.49	
275	COMP	30JUL79	3-008	63.86	7.22	100.00	99.86	99.04	98.50	98.50	98.50	95.54	87.66	73.87	63.04	53.19	
280	COMP	30JUL79	3-009	55.48	6.46	100.00	94.15	93.70	90.66	90.66	87.94	80.68	70.71	59.83	50.76	41.70	
285	COMP	31JUL79	3-011	61.56	7.98	100.00	99.87	99.48	99.09	98.09	96.11	88.19	77.29	66.39	56.48	46.57	
290	COMP	31JUL79	3-012	46.77	5.45	100.00	99.72	87.29	75.23	73.72	69.96	63.19	54.91	45.13	38.36	30.09	
295	COMP	31JUL79	3-013	41.02	3.94	100.00	98.61	69.04	56.17	54.48	49.42	42.68	36.51	32.01	26.96	21.90	
300	COMP	31JUL79	3-014	35.41	3.71	100.00	92.36	60.92	53.74	52.66	48.90	43.52	36.54	31.16	26.33	21.49	
300	COMP	31JUL79	3-014	35.34	3.70	100.00	88.93	58.26	51.19	51.19	46.58	40.44	34.29	28.66	24.05	18.94	P.S.
321	COMP	14DEC79	3M-07	18.62	3.86	60.56	45.95	14.74	11.29	10.84	9.77	8.69	7.85	6.66	5.19	3.61	
325	COMP	1AUG79	3-023	35.54	6.53	100.00	99.43	57.74	51.06	50.03	46.97	42.37	34.21	26.55	21.44	16.33	
350	COMP	2AUG79	3-036	49.06	3.52	100.00	99.51	64.63	57.44	56.86	55.71	51.12	45.37	39.05	32.74	25.84	
375	COMP	2AUG79	3-040	51.00	6.65	99.77	98.63	96.92	86.32	84.59	75.09	66.46	56.97	49.20	41.43	32.80	

FOOTNOTES:

A. HORIZONTAL LOCATION (HLOC) OF INDIVIDUAL SAMPLES REFERS TO PERCENT DISTANCE FROM THE LEFT BANK LOOKING DOWNSTREAM.

B. ABSENCE OF DATA FOR INDIVIDUAL SAMPLES INDICATES ANALYSES WERE PERFORMED ON THE COMPOSITE (COMP) OF THE INDIVIDUAL SAMPLES.

C. THE ABBREVIATION (P.S.) REFERS TO A PRECISION SAMPLE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION OF HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS, WHEELER RESERVOIR, ALABAMA

TASK 4

ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

Tennessee Valley Authority
Office of Natural Resources

August 1980

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PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

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TASK 4

ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

1.0 Purpose

To better define the areal extent of the DDT contamination and to define the physical characteristics of the sediment as they may relate to remedial measures and to evaluate the potential for the occurrence of other pollutants in the bottom sediment.

2.0 Scope

Sediment samples were collected from Indian Creek (IC) and Huntsville Spring Branch (HSB). This included sampling in the channel, overbank and swampy areas, and on the floodplain.

3.0 Procedure

3.1 Types of Samples

Sediment and water.

3.2 Sample Locations

3.2.1 Cross sections are located at the following nominal locations: Indian Creek Miles 0.0, 1.0, 2.0, 3.0, 4.0, and 5.0 and Huntsville Spring Branch Miles 0.0, 1.0, 2.0, 3.0, 4.0, and 5.0, where Huntsville Spring Branch enters Indian Creek at mile 5.4, and where the DDT waste ditch (old ditch) enters HSB at mile 5.37 (see sampling location maps in Appendix A).

3.2.2 At each sampling transect a detailed and complete probe sounding was made of sediment depth and a cross section drawn to scale for the record (see Appendix B). The horizontal location of core samples was selected in the field from the soundings to adequately represent the sediment deposit. Core samples were collected only in locations where sediment was found. Multiple horizontal locations were sampled to keep distances between sampling locations to approximately 50 feet.

3.2.3 Additional transects were sampled in swampy areas at HSB miles 1.7, 3.5, 4.2, 4.5, 5.6, and approximately midway on the horseshoe-shaped "loop" opposite the DDT waste ditch. Sampling locations (cores) at the transects at HSB miles 1.7 and 3.5 were taken at approximately 100-foot intervals. At HSB miles 4.2 and 4.5, approximate 200-foot intervals were used. HSB mile 5.6 and the "loop" transect were at 50-foot intervals.

3.2.4 In addition to the transects described above, eight miscellaneous sampling locations were located in normally inundated locations: Barren Fork Creek (approximate mile 1.2), the slough on the left bank adjacent to IC mile 1.0, the slough on the left bank adjacent to IC mile 2.0, and five locations selected in the field in the vicinity of the mouth of the present and old DDT waste ditch. The purpose of the five locations selected in the field was to locate "hot spots," such as old "DDT bars."

3.2.5 Eleven additional sampling locations were established in floodplain areas not normally inundated.

3.2.6 At the beginning of the field work, an anchored marker buoy was placed at each cross section and sampling location. Following sample collection, an aerial inspection was made to verify and document actual sampling locations.

3.3 Field Collection

3.3.1 At each sampling location a minimum of three cores were collected to help ensure that samples are representative. Cores were collected approximately three feet apart.

3.3.2 All core samples were subdivided into separate and distinct horizontal fractions--the top 6 inches, the second 6 inches, the second foot, and anything greater than the second foot. One quart of sediment was provided for each of the separate core portions. (To obtain the required volume for the individual samples, composites from more than the minimum of three cores may have been required.) The sediments from each corresponding portion of the multiple cores composited were mixed well to ensure a representative sample was collected. This compositing was done in the field.

3.3.3 A 2-gallon water sample was collected at each sampling location where elutriate analyses were performed. See Section 3.5.4 for the identification of these locations. Where applicable, these samples were collected from 1 foot off the bottom. In shallow and swampy areas with water depths six inches or greater, the 2-gallon water sample was collected by the best means available.

3.3.5 At those core sampling locations where the collection of water samples was not feasible or appropriate, water for the elutriate tests were collected at a point on the creek nearest the core sampling location.

3.4 Sample Handling

3.4.1 Sediment samples were collected in 1-quart glass containers (mason jars) specially cleaned for pesticide analysis. Container lids were lined with aluminum foil.

3.4.2 Water samples for elutriate tests were collected in specially prepared glass bottles. A minimum of two gallons were required per sample.

3.4.3 All sediment and water samples were placed on ice and kept at $4^{\circ}C$ through transportation to the laboratory.

3.5 Sample Analysis

3.5.1 From the individual samples collected at each of the transects identified in Sections 3.2.1 and 3.2.3, composites were made in the laboratory of the 0-6 inch fractions, 6-12 inch fractions, 12-24 inch fractions, etc. A sufficient quantity of each individual sample was retained for possible later separate analysis. From these composites, analyses were made for particle size distribution (>2.0 mm to <0.25 mm), % moisture, % volatile solids, and DDTR. Additionally, separate analyses were initially made on 24 individual samples from the transect at HSB mile 4.2. These separate samples were taken from each of the four vertical locations at six equally spaced sampling locations. Additional DDTR analysis was performed on individual or differently composited samples. These additional samples are listed in the attached table 4-2.

3.5.2 For each of the eight additional stations (Section 3.2.4) below the 556-foot elevation, one laboratory depth-integrated composite was made. From these composites, analyses were made of particle size distribution, % moisture, % volatile solids, and DDTR.

3.5.3 For each of the eleven floodplain samples identified in Section 3.2.5, the 0-6 inch fraction was initially analyzed for particle size distribution, % moisture, % volatile solids, and DDTR. The remaining fractions were retained for possible later analysis.

3.5.4 Initially, 15 elutriate analyses were performed on the sediments collected from the locations described at the following points; ICM 1 and 3; HSBM 0, 2, 3, 4.2, 4.5, 5.0, and 5.6; and the five locations in the vicinity of the old waste ditch as identified in Section 3.2.4. The elutriate samples consisted of a composite of the individual sediment samples collected at the cross section or sampling location.

3.5.5 Laboratory analyses associated with the elutriate tests were DDT, Hg, Cd, Cu, Zn, Ni, Be, and As. These analyses were performed on the sediment and water samples collected for elutriate tests as well as on the elutriate water resulting from the tests.

3.5.6 In addition to the elutriate analysis for the samples from ICM 3.0 and HSBM 3.0, EPA's priority pollutants were analyzed. For these analyses, the samples at each mile point consisted of a composite of the top 6-inch sediment sample across each stream mile point. The priority pollutant scans were made on the overlying water, the composited sediment sample, and the elutriate water. The analysis of the priority pollutants was a qualitative scan with identification of the major peaks on the chromatograms.

3.5.7 All analyses were performed by procedures described in the Quality Assurance document.

3.6 Data Handling and Reporting

3.6.1 All data are summarized in a tabular form and presented in Appendix C. This table includes: Sample identification number, location, date collected, field measurements, and each of six forms of DDT and total residue concentrations.

TASK 4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

TABLE 4-1

SEDIMENT SAMPLING LOCATIONS

<u>Core Sample Number and Distance (feet) Taken From Left Bank</u>

	Mile	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Indian Creek	0.0	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	1.0	37.5	87.5	137.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	2.0	55	100	160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	3.0	25	75	125	175	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	4.0	50	130	180	230	280	-	-	-	-	-	-	-	-	-	-	-	-	-
"	5.0	130	250	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H-ville Spg. Br.	0.0	37	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	1.0	80	180	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	1.7	290	390	490	590	815	915	1015	1075	-	-	-	-	-	-	-	-	-	-
"	2.0	24	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	3.0	65	175	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	3.5	50	300	400	500	600	700	830	930	1030	-	-	-	-	-	-	-	-	-
"	4.0	277	388	595	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	4.2	248	448	648	848	1048	1253	1453	1653	1853	2032	2232	2432	2632	2832	3032	3058	3232	3462
"	4.5	0	200	400	600	800	1000	1200	1400	1600	1621	1800	1875	2100	2300	-	-	-	-
"	5.0	82	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	5.6	68	118	166	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H-ville Spg. Br. Loop		28	100	143	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 4-2: Additional Individual and Composited Sample Analyzed for DDTR

Sample #	Location	Core Sample Location Number from Left Bank	Core Fraction	Notes
DDT 4-141	Huntsville Spring Branch 1.0	1	0-6"	
DDT 4-142	" " " "	1	6-12"	
DDT 4-143	" " " "	1	12-24"	
DDT 4-181	" " " "	3	0-6"	
DDT 4-182	" " " "	3	6-12"	
DDT 4-183	" " " "	3	12-24"	
DDT 4-184	" " " "	3	>24"	
DDT 4-144	Huntsville Spring Branch 1.7	1	0-6"	
DDT 4-145	" " " "	1	6-12"	
DDT 4-146	" " " "	2,3&4	0-6"	Composite
DDT 4-147	" " " "	2,3&4	6-12"	"
DDT 4-148	" " " "	5&6	0-6"	"
DDT 4-149	" " " "	5&6	6-12"	"
DDT 4-150	" " " "	5&6	12-24"	"
DDT 4-151	" " " "	7	0-6"	
DDT 4-152	" " " "	7	6-12"	
DDT 4-153	" " " "	7	12-24"	
DDT 4-154	" " " "	8	0-6"	
DDT 4-155	" " " "	8	6-12"	
DDT 4-156	" " " "	8	12-24"	
DDT 4-157	" " " "	8	>24"	
DDT 4-158	Huntsville Spring Branch 3.0	1	0-6"	
DDT 4-159	" " " "	1	6-12"	
DDT 4-160	" " " "	1	12-24"	
DDT 4-161	" " " "	1	>24"	
DDT 4-162	" " " "	3	0-6"	
DDT 4-163	" " " "	3	6-12"	
DDT 4-164	" " " "	3	12-24"	
DDT 4-165	Huntsville Spring Branch 3.5	1	0-6"	
DDT 4-166	" " " "	2	0-6"	
DDT 4-167	" " " "	2	6-12"	
DDT 4-168	" " " "	3&4	0-6"	Composite
DDT 4-169	" " " "	3&4	6-12"	"
DDT 4-170	" " " "	5&6	0-6"	"
DDT 4-171	" " " "	5&6	6-12"	"
DDT 4-172	" " " "	7&8	0-6"	"
DDT 4-173	" " " "	7&8	6-12"	"
DDT 4-174	" " " "	7&8	12-24"	"
DDT 4-175	Huntsville Spring Branch 4.0	1	0-6"	
DDT 4-176	" " " "	1	6-12"	
DDT 4-177	" " " "	2	0-6"	
DDT 4-178	" " " "	2	6-12"	
DDT 4-179	" " " "	2	12-24"	

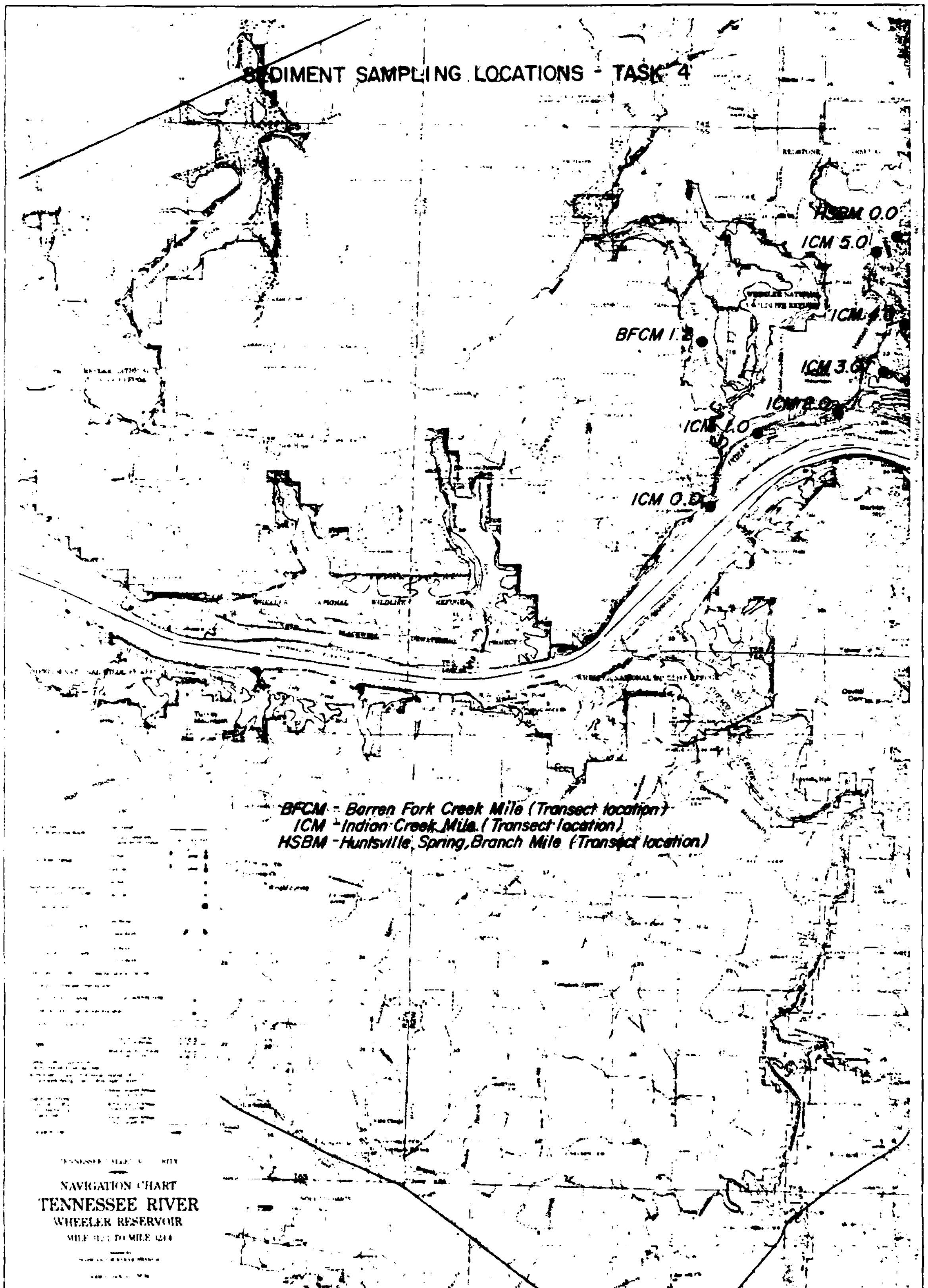
Sample #	Location	Core Sample Location Number from Left Bank	Core Fraction	Notes
DDT 4-180	Huntsville Spring Branch 3.5	2	>24"	
DDT 4-185	" " " "	3	0-6"	
DDT 4-186	" " " "	3	6-12"	
DDT 4-187	" " " "	3	12-24"	
DDT 4-188	Huntsville Spring Branch 4.5	1	0-6"	
DDT 4-189	" " " "	2	0-6"	
DDT 4-190	" " " "	2	6-12"	
DDT 4-191	" " " "	3	0-6"	
DDT 4-192	" " " "	3	6-12"	
DDT 4-193	" " " "	3	12-24"	
DDT 4-194	" " " "	4,5&6	0-6"	Composite
DDT 4-195	" " " "	4,5&6	6-12"	"
DDT 4-196	" " " "	4,5&6	12-24"	"
DDT 4-197	" " " "	7&8	0-6"	"
DDT 4-198	" " " "	7&8	6-12"	"
DDT 4-199	" " " "	7&8	12-24"	"
DDT 4-200	" " " "	9	0-6"	
DDT 4-201	" " " "	10	0-6"	
DDT 4-202	" " " "	10	6-12"	
DDT 4-203	" " " "	10	12-24"	
DDT 4-204	" " " "	11	0-6"	
DDT 4-205	" " " "	11	6-12"	
DDT 4-206	" " " "	11	12-24"	
DDT 4-207	" " " "	12&13	0-6"	"
DDT 4-208	" " " "	12&13	6-12"	"
DDT 4-209	" " " "	12&13	12-24"	"
DDT 4-210	" " " "	12	>24"	
DDT 4-211	" " " "	14	0-6"	
DDT 4-212	" " " "	14	6-12"	
DDT 4-213	" " " "	14	12-24"	
DDT 4-214	Huntsville Spring Branch 4.2	12	0-6"	
DDT 4-215	" " " "	12	6-12"	
DDT 4-216	" " " "	13	0-6"	
DDT 4-217	" " " "	13	6-12"	
DDT 4-220	" " " "	16	0-6"	
DDT 4-221	" " " "	16	6-12"	
DDT 4-218	" " " "	16	12-24"	
DDT 4-219	" " " "	16	>24"	
DDT 4-222	" " " "	17	0-6"	
DDT 4-223	" " " "	17	6-12"	
DDT 4-224	" " " "	17	12-24"	
DDT 4-225	" " " "	18	0-6"	
DDT 4-226	" " " "	18	6-12"	
DDT 4-227	" " " "	18	12-24"	

Sample #	Location	Core Sample Location Number from Left Bank	Core Fraction	Notes
DDT 4-228	Huntsville Spring Branch 5.0	1	0-6"	
DDT 4-229	" " " "	1	6-12"	
DDT 4-230	" " " "	1	12-24"	
DDT 4-231	" " " "	2	0-6"	
DDT 4-232	" " " "	2	6-12"	
DDT 4-233	" " " "	2	12-24"	
DDT 4-234	Huntsville Spring Branch 5.35	1	6-12"	
DDT 4-235	Huntsville Spring Branch 5.38	1	0-6"	
DDT 4-236	" " " "	1	12-24"	
DDT 4-237	" " " "	1	>24"	
DDT 4-238	Huntsville Spring Branch 5.41	1	0-6"	
DDT 4-239	" " " "	1	12-24"	
DDT 4-240	" " " "	1	>24"	

APPENDIX A

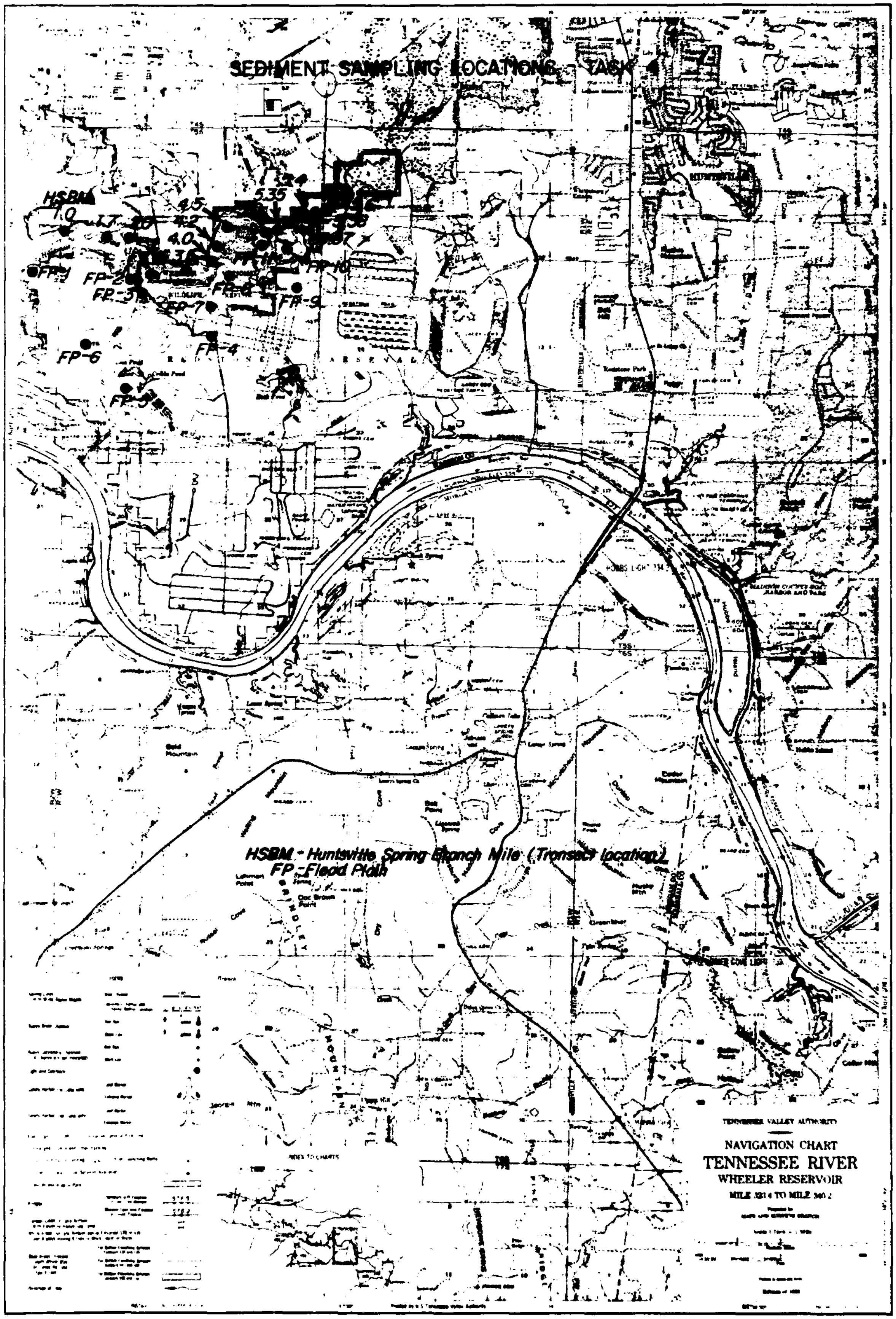
TASK 4

SAMPLING LOCATION MAPS



SEDIMENT SAMPLING LOCATIONS - TASK 4

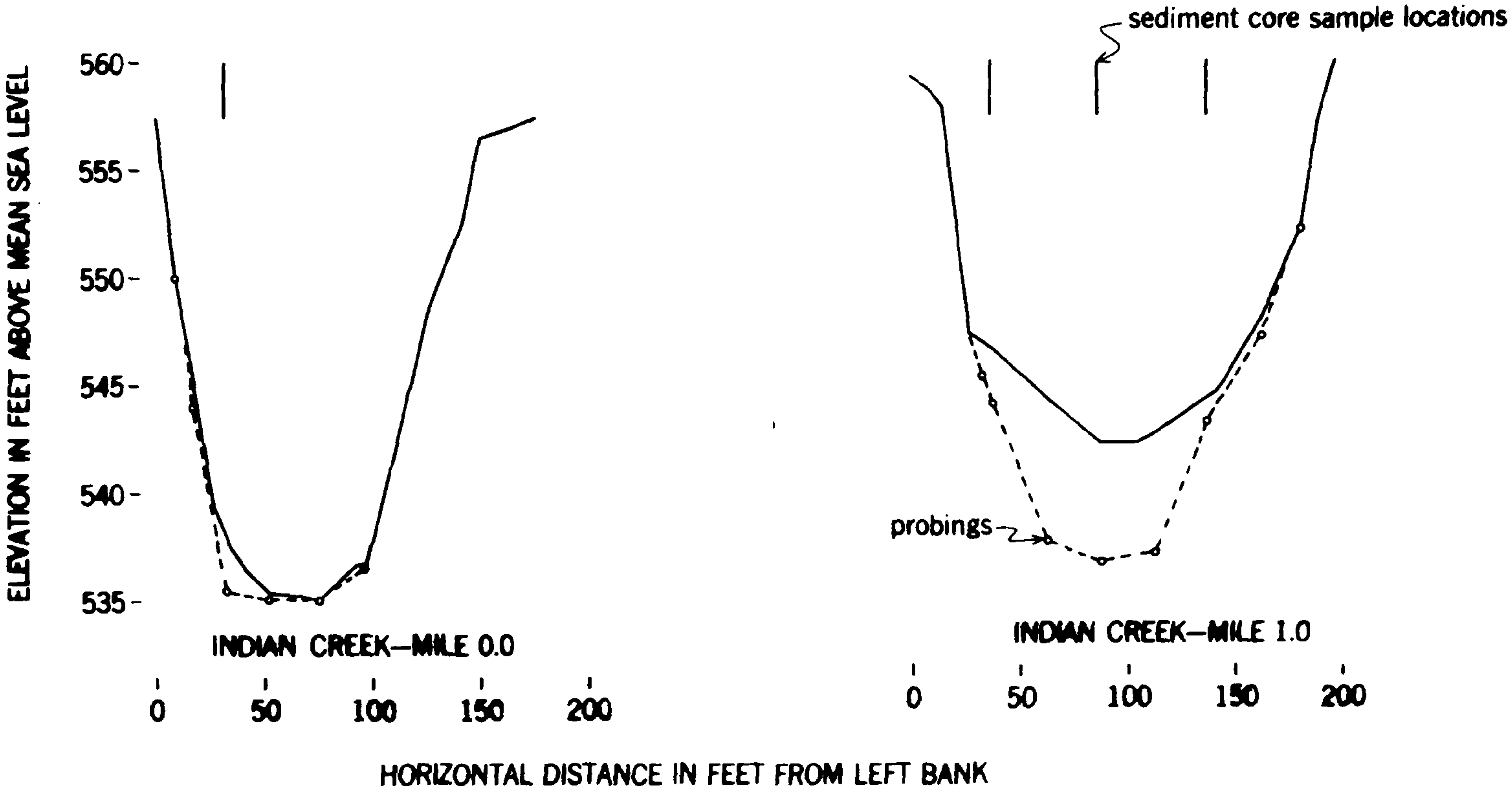
BFCM - Barren Fork Creek Mile (Transect location)
ICM - Indian Creek Mile (Transect location)
HSBM - Huntsville Spring Branch Mile (Transect location)


SEDIMENT SAMPLING LOCATIONS - TASK 4
HSBM
1.0
1.7
4.5
4.2
4.0
5.35
FP-1
FP-2
FP-3
FP-4
FP-5
FP-6
FP-7
FP-8
FP-9
FP-10
REDSTONE ARSENAL
WILDLIFE REFUGE
HOBBS LIGHT 314
HSBM - Huntsville Spring Branch Mile (Transect location)
FP - Flood Plain
TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR
MILE 333.4 TO MILE 340.2

APPENDIX B

TASK 4

TRANSECT CROSS-SECTIONS AND PROCEDURES

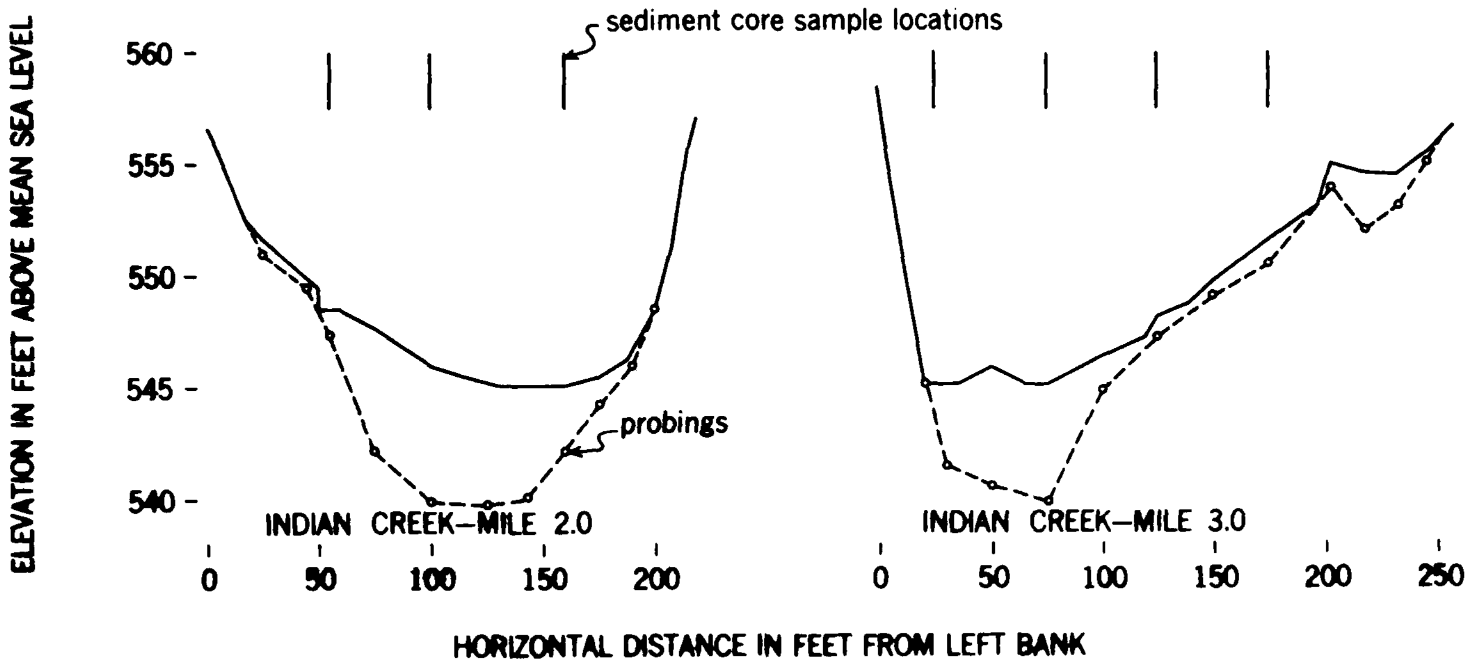


TENNESSEE VALLEY AUTHORITY
DATA SERVICES BRANCH

DDT STUDY IN VICINITY OF REDSTONE ARSENAL

SEDIMENT INVESTIGATIONS

AUGUST 1979
Sheet 1 of 10

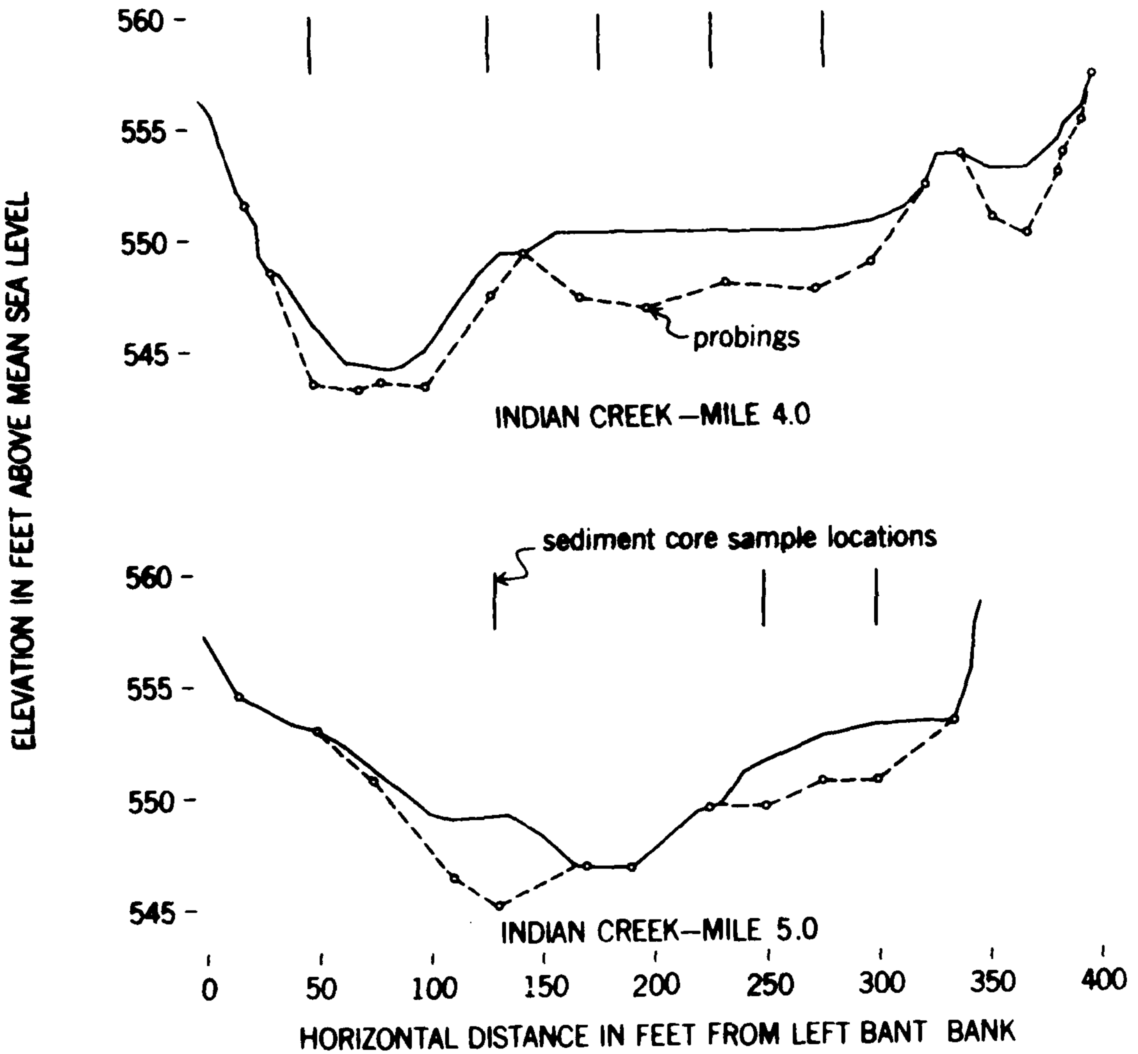


TENNESSEE VALLEY AUTHORITY
DATA SERVICES BRANCH

DDT STUDY IN VICINITY OF REDSTONE ARSENAL

SEDIMENT INVESTIGATIONS

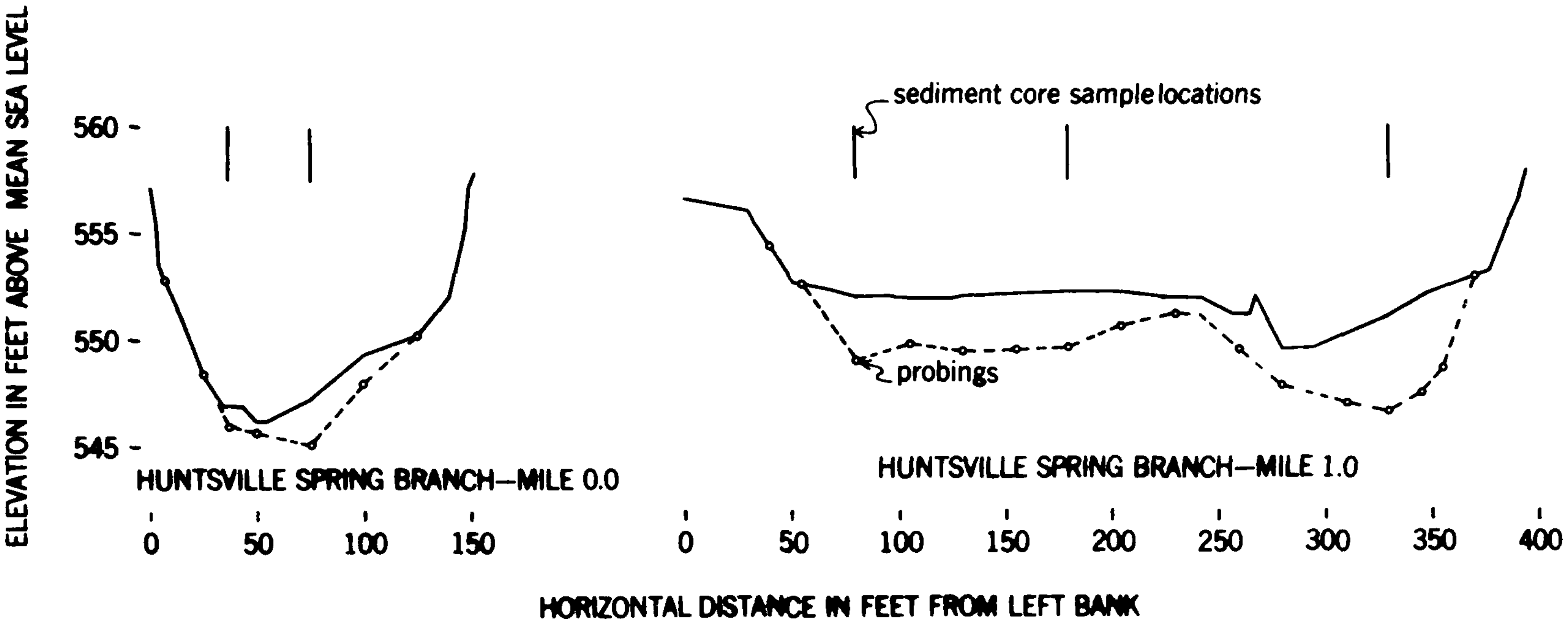
AUGUST 1979
Sheet 2 of 10



TENNESSEE VALLEY AUTHORITY
DATA SERVICES BRANCH

DDT STUDY IN VICINITY OF REDSTONE ARSENAL

SEDIMENT INVESTIGATIONS
AUGUST 1979
Sheet 3 of 10



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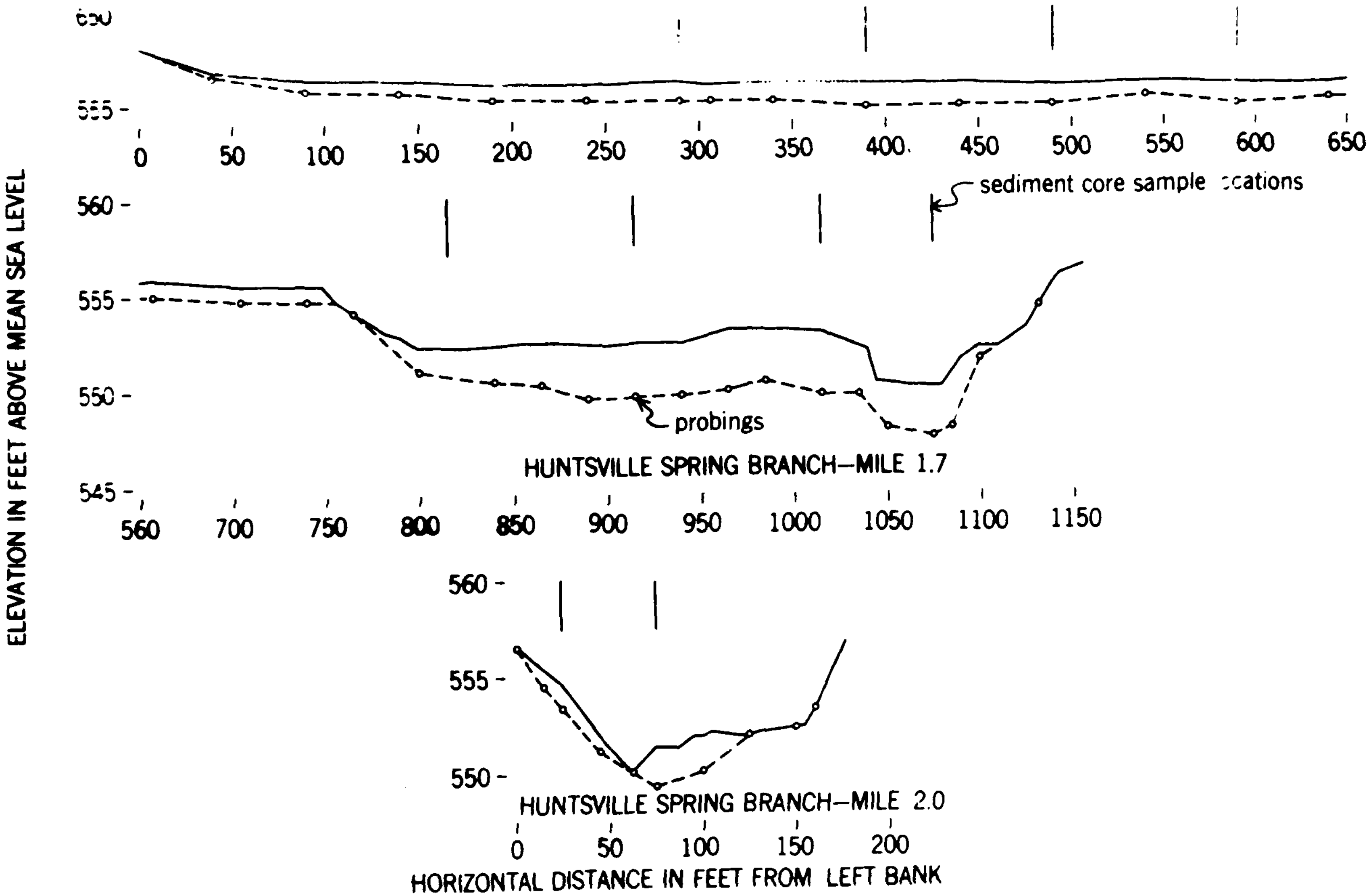
DATA SERVICES BRANCH

DDT STUDY IN VICINITY OF REDSTONE ARSENAL

SEDIMENT INVESTIGATIONS
AUGUST 1979
Sheet 4 of 10



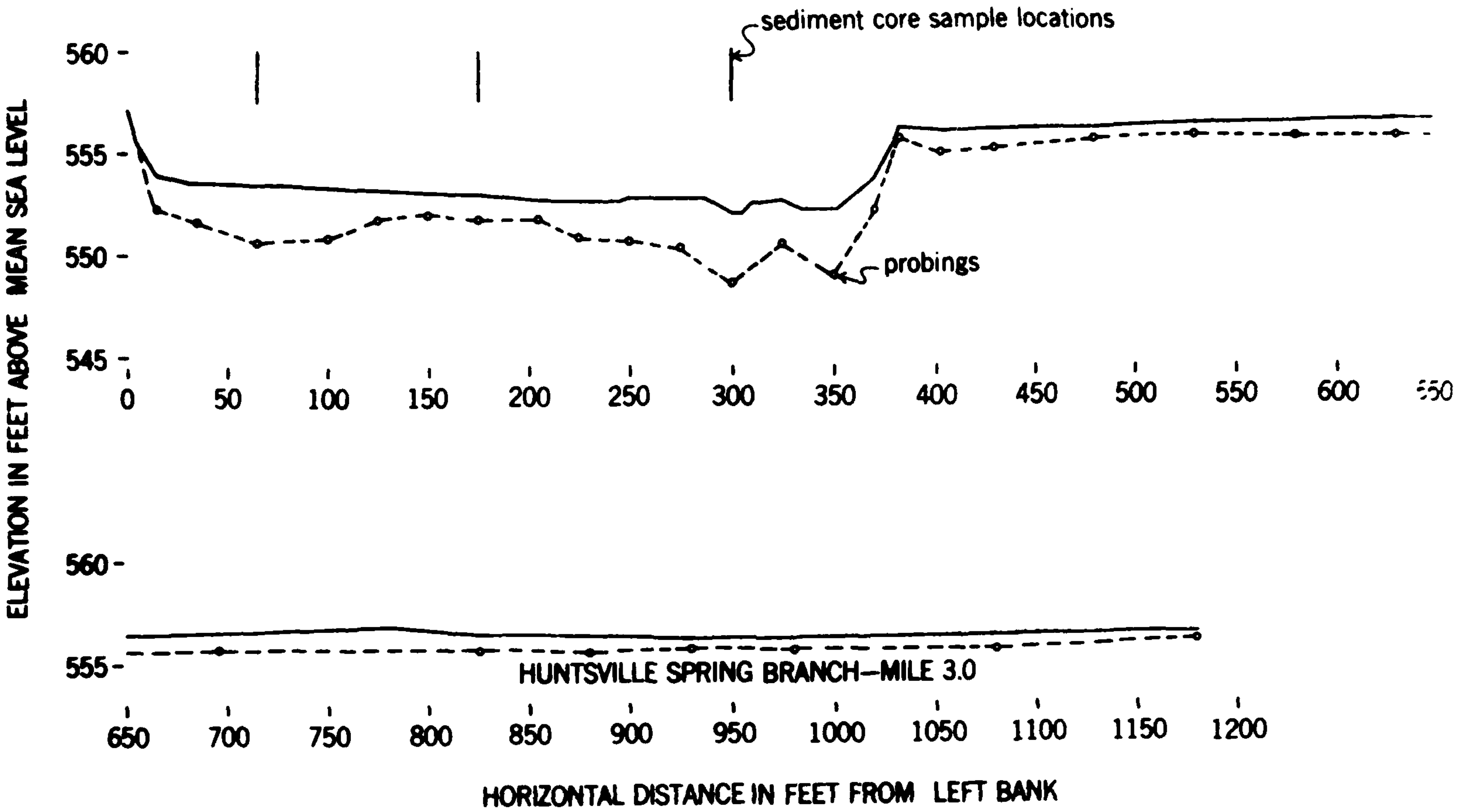
TENNESSEE VALLEY AUTHORITY DATA SERVICES BRANCH

DDT STUDY IN VICINITY OF REDSTONE ARSENAL

SEDIMENT INVESTIGATIONS

AUGUST 1979

Sheet 5 of 10



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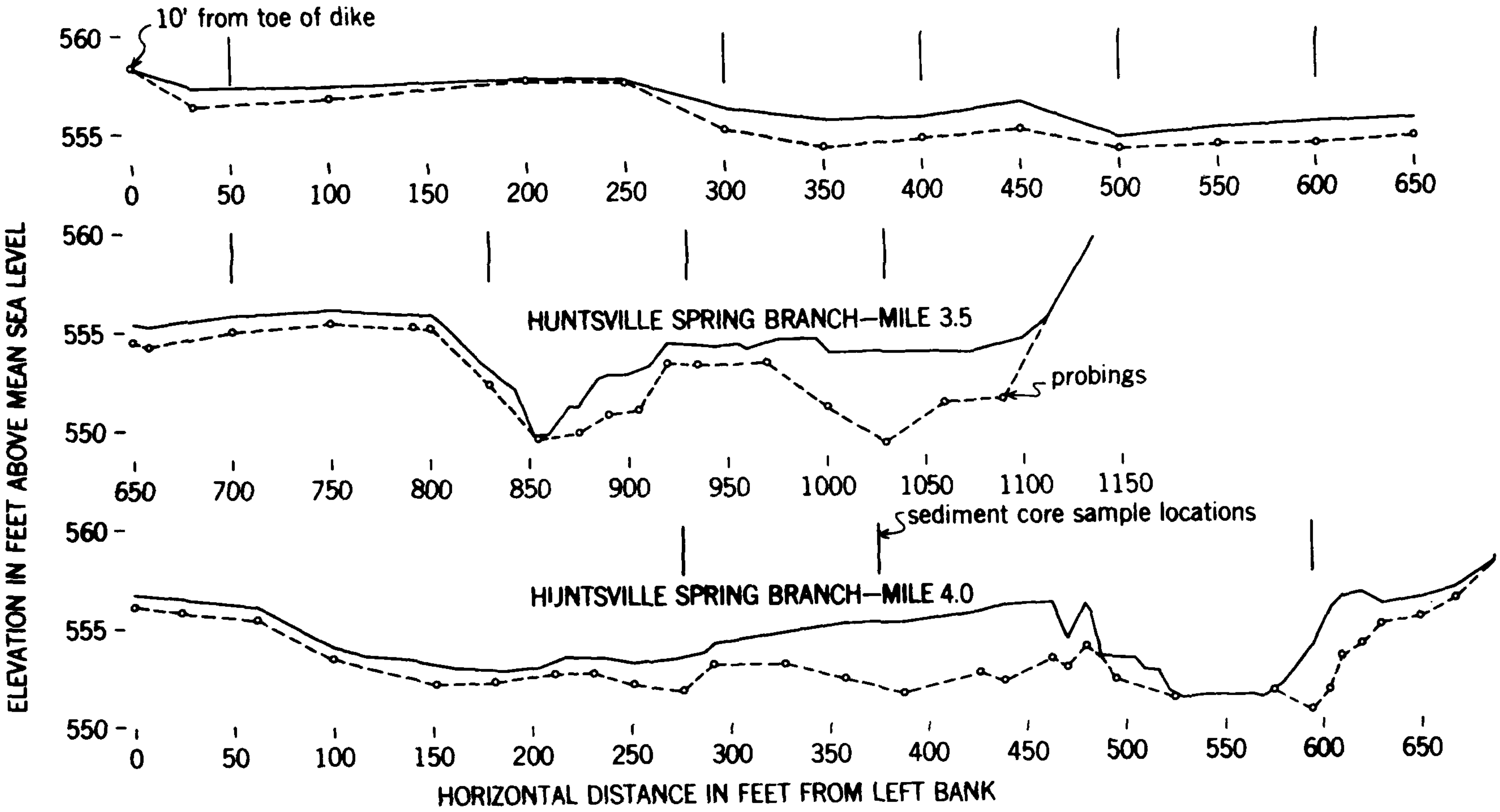
DATA SERVICES BRANCH

DDT STUDY IN VICINITY OF REDSTONE ARSENAL

SEDIMENT INVESTIGATIONS

AUGUST 1979
Sheet 6 of 10



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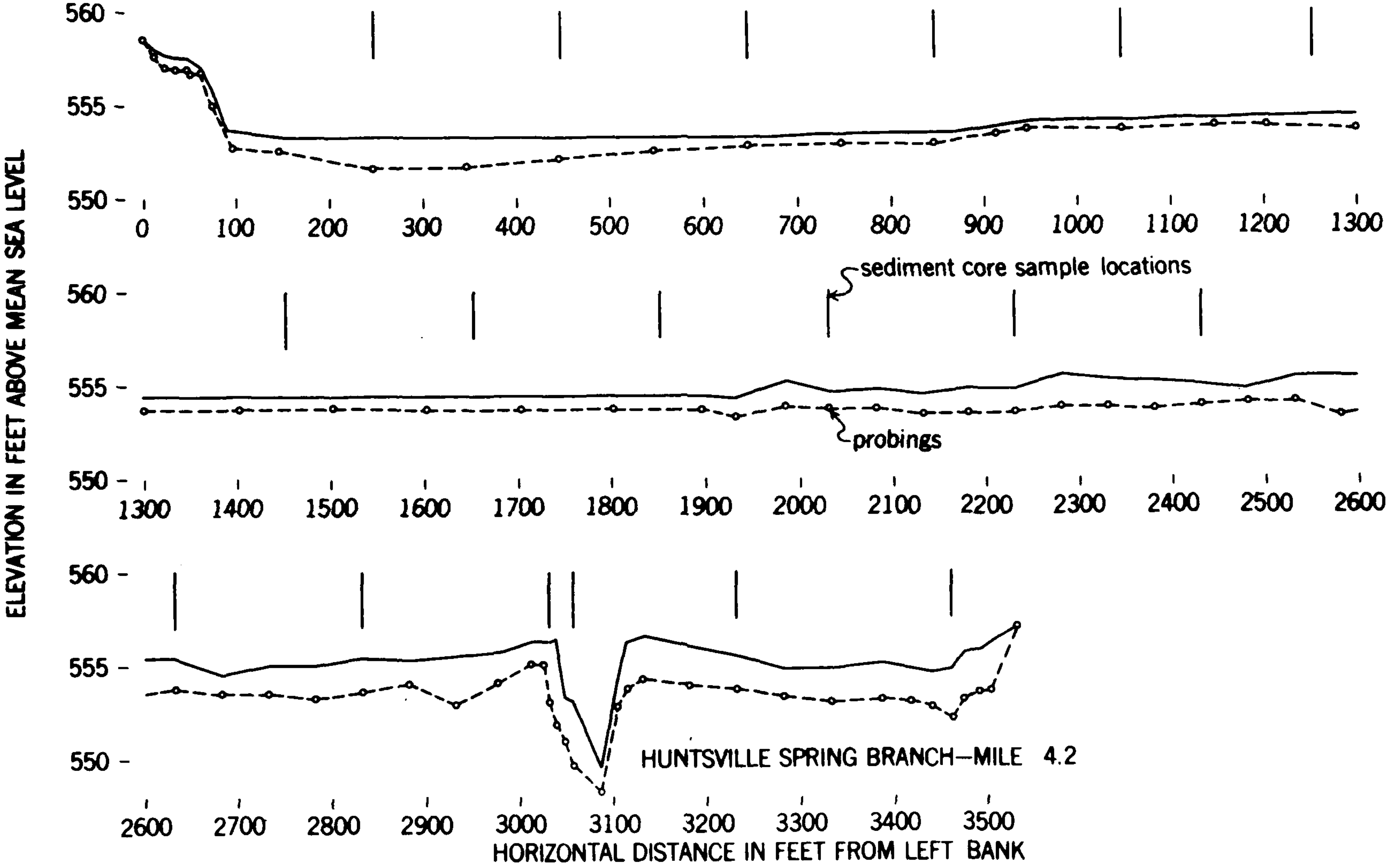
DDT STUDY IN VICINITY OF REDSTONE ARSENAL

SEDIMENT INVESTIGATIONS

AUGUST 1979
Sheet 7 of 10



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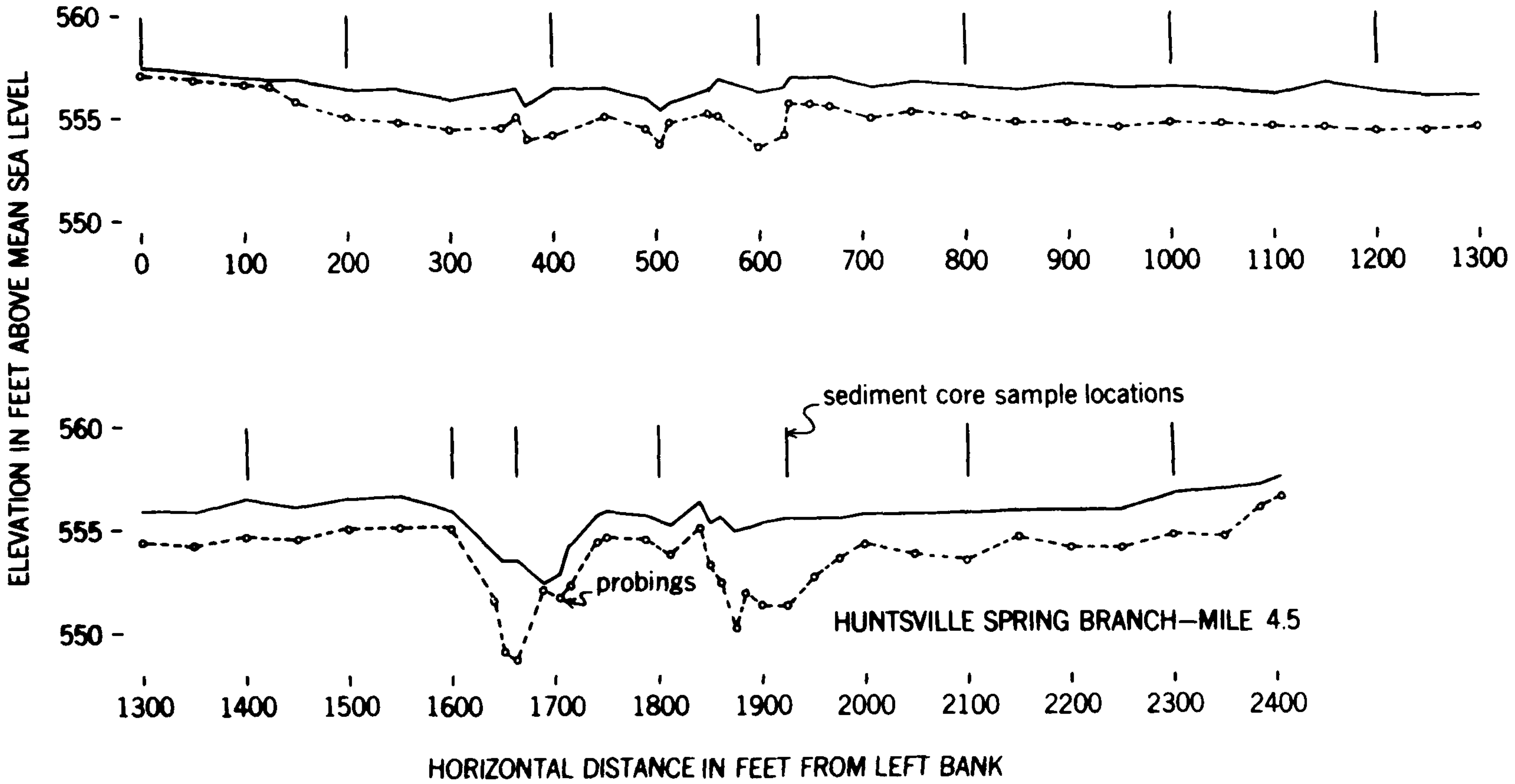
DDT STUDY IN VICINITY OF REDSTONE ARSENAL

SEDIMENT INVESTIGATIONS

AUGUST 1979

Sheet 8 of 10



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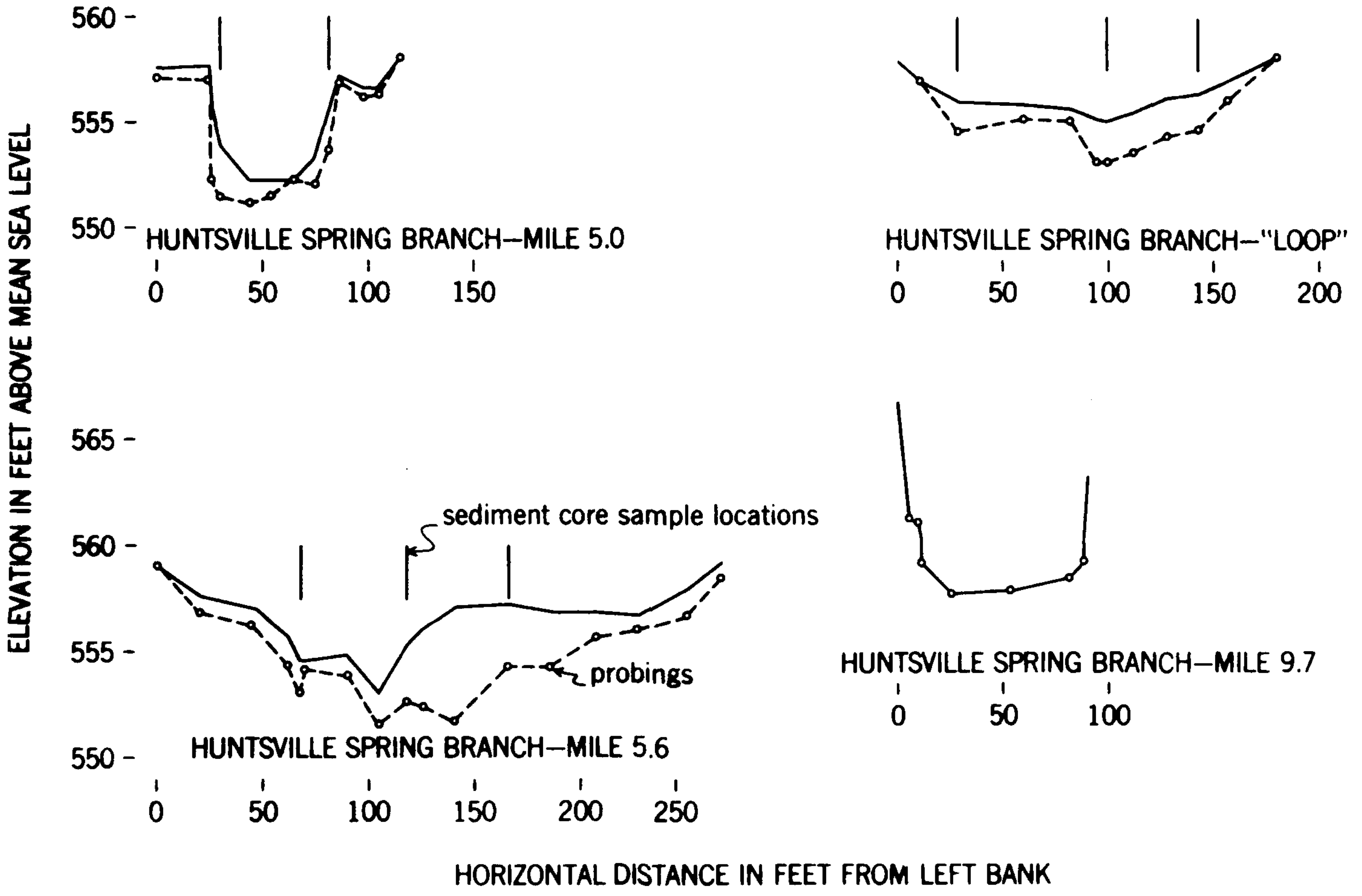
DDT STUDY IN VICINITY OF REDSTONE ARSENAL

SEDIMENT INVESTIGATIONS

AUGUST 1979
Sheet 9 of 10



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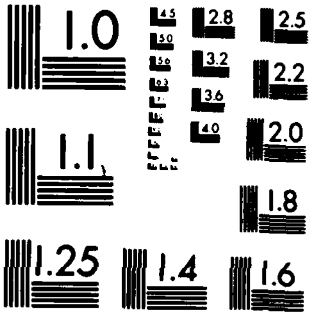
DDT STUDY IN VICINITY OF REDSTONE ARSENAL

SEDIMENT INVESTIGATIONS

AUGUST 1979
Sheet 10 of 10

AD-A128 024 ENGINEERING AND ENVIRONMENTAL STUDY OF DDT
CONTAMINATION OF HUNTSVILLE SP..(U) WATER AND AIR
RESEARCH INC GAINESVILLE FL J H SULLIVAN ET AL. NOV 80
UNCLASSIFIED DACW01-79-C-0224 F/G 13/3 NL

4/8



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

METHOD AND PROCEDURE FOR OBTAINING CROSS-SECTION DATA FOR REDSTONE ARSENAL DDT STUDY

To obtain cross-section data, a transit was used for alignment and leveling in conjunction with a boat containing a sonar recorder and a wire distance wheel. The transit was set up on one bank and alignment made to the other bank. Levels and probings of the overbank were taken using a level rod, probing rod, and a 100-foot tape, if necessary. The end of the wire from the wire distance wheel on the boat was secured to the "0" or to some determined distance near the water edge. Soundings were then taken by the sonar recorder as the boat crossed to the other bank. Interval distances of 25 feet were automatically recorded on the sonar chart by "fix" lines as the wire unwound from the wire wheel. Alignment of the boat was maintained by radio communication from the transitman to the boat operator. When the boat landed at the other bank, a distance was measured from the wire distance wheel to some point on the bank. Levels and probings were then taken of that overbank. The sonar chart was then reviewed for probable probing locations. After securing the wire again to the same initial point, the boat proceeded as before to the first probing location. Anchors, fore and aft, would be set, distance and alignment checked, then a probing would be made. The boat would then move to the next location and anchor as before. From the information obtained from the probings as the boat moved from one location to the next, the previously selected probing locations were revised, added to, or deleted, if deemed necessary. Where the boat and sonar could not be used due to shallow water or brush, the section was taken by wading and using the same procedure in taking the overbank section.

Water surface elevation was used for reference elevation for all sections from mile 0.0 Indian Creek to mile 4.5 Huntsville Spring Branch. The water surface elevation for the day and time each section was taken was obtained from the water level charts from gages installed at mile 0.0 and 4.7 on Indian Creek and mile 2.7 on Huntsville Spring Branch. Third-order levels were run from the gage at mile 5.9 on Patten Road Bridge to temporary bench marks (TBM's) at miles 5.0, 5.6, and the "loop" section on Huntsville Spring Branch. Elevation for section at mile 9.7 on Huntsville Spring Branch was obtained from the water level gage at mile 9.7 at the time the section was taken. All gages were tied by third order levels to second- or third-order bench marks. Data for the cross sections were recorded in Data Services Branch's field book No. 1726, page 2 through page 24, and on the sonar charts. Data for levels to gages were recorded in Data Services Branch's field book No. 3238, page 19 through page 30 and field book No. 3241, page 1 through page 18. Elevations were tied to the following bench marks: A9-4H; BM-44 (reset); BM-47; BM-H-1-R; B-314; CY-150; T5SR1-W; USEG-47; and WSR-57-R.

APPENDIX C

TASK 4

RAW DATA TABULATIONS

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

			CORE			CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G						---TOTAL DDTR---	
STREAM	MILE	HORIZONTAL LOCATION	FRACTION (INCHES)	DATE	LABID	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
BARREN FORK CREEK	1.2	01	0-6	15AUG79		.	.	.	.	.	.	.	.
BARREN FORK CREEK	1.2	01	6-12	15AUG79		.	.	.	.	.	.	.	.
BARREN FORK CREEK	1.2	01	12-24	15AUG79		.	.	.	.	.	.	.	.
BARREN FORK CREEK	1.2	01	>24	15AUG79		.	.	.	.	.	.	.	.
BARREN FORK CREEK	1.2	01	COMP	15AUG79	4-027	< 0.02	0.02	0.09	0.18	0.17	0.33	0.79	0.81
H-VILLE SPRING BR	FP	01	0-6	30AUG79	4-140	169.00	250.00	171.00	61.50	600.00	730.00	1981.50	1981.50
H-VILLE SPRING BR	FP01	01	0-6	23AUG79	4-098	< 0.02	0.09<	0.02<	0.02<	0.01<	0.01	0.09	0.17
H-VILLE SPRING BR	FP02	01	0-6	23AUG79	4-099	< 0.02	0.08<	0.02<	0.02<	0.01	0.02	0.10	0.17
H-VILLE SPRING BR	FP03	01	0-6	23AUG79	4-100	0.02	0.11	0.02	0.04	0.01	0.05	0.25	0.25
H-VILLE SPRING BR	FP03	01	6-12	23AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	FP04	01	0-6	23AUG79	4-101	< 0.02	0.09<	0.02<	0.02<	0.01<	0.01	0.09	0.17
H-VILLE SPRING BR	FP05	01	0-6	23AUG79	4-102	0.08	0.29	0.02	0.06	0.01	0.04	0.50	0.50
H-VILLE SPRING BR	FP06	01	0-6	23AUG79	4-103	< 0.02	0.04<	0.02<	0.02<	0.01	0.01	0.05	0.12
H-VILLE SPRING BR	FP06	01	6-12	23AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	FP07	01	0-6	23AUG79	4-104	< 0.02	0.09<	0.02	0.04 <	0.01	0.01	0.14	0.19
H-VILLE SPRING BR	FP08	01	0-6	23AUG79	4-105	0.02	0.02	0.02	0.08	0.02	0.03	0.19	0.19
H-VILLE SPRING BR	FP09	01	0-6	23AUG79	4-106	0.04	0.14	0.02	0.03	0.02	0.06	0.31	0.31
H-VILLE SPRING BR	FP10	01	0-6	23AUG79	4-107	0.03	0.09<	0.02	0.03<	0.02	0.03	0.18	0.22
H-VILLE SPRING BR	FP11	01	0-6	23AUG79	4-108	0.05	0.12	0.08	0.07	0.07	0.09	0.48	0.48
H-VILLE SPRING BR	LCS	01	0-6	23AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	LCS	01	6-12	23AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	LCS	01	12-24	23AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	LCS	02	0-6	23AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	LCS	02	6-12	23AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	LCS	02	12-24	23AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	LCS	03	0-6	23AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	LCS	03	6-12	23AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	LCS	03	12-24	23AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	LCS	COMP	0-6	23AUG79	4-109	0.06	0.18	0.04	0.08	0.06	0.09	0.51	0.51
H-VILLE SPRING BR	LCS	COMP	6-12	23AUG79	4-110	0.05	0.21	0.05	0.14	0.07	0.24	0.76	0.76
H-VILLE SPRING BR	LCS	COMP	12-24	23AUG79	4-111	0.03	0.71	0.11	0.34	0.03	0.08	1.30	1.30
H-VILLE SPRING BR	0.0	01	0-6	16AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	0.0	01	6-12	16AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	0.0	02	0-6	16AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	0.0	02	6-12	16AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	0.0	02	12-24	16AUG79	4-034	0.11	2.35	0.51	1.11	0.44	0.43	4.95	4.95
H-VILLE SPRING BR	0.0	COMP	0-6	16AUG79	4-032	0.10	3.05	1.22	3.68	1.08	1.11	10.24	10.24
H-VILLE SPRING BR	0.0	COMP	6-12	16AUG79	4-033	< 0.02	0.17	0.10	0.22	0.07	0.06	0.62	0.64
H-VILLE SPRING BR	1.0	01	0-6	16AUG79	4-141	5.15	60.70	17.10	49.70	11.40	17.70	161.75	161.75
H-VILLE SPRING BR	1.0	01	6-12	16AUG79	4-142	0.76	4.83	6.86	16.30	2.70	7.11	38.56	38.56
H-VILLE SPRING BR	1.0	01	12-24	16AUG79	4-143	0.31	0.95	1.31	2.85	1.53	1.98	8.93	8.93
H-VILLE SPRING BR	1.0	02	0-6	16AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.0	02	6-12	16AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.0	02	12-24	16AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.0	03	0-6	16AUG79	4-181	1.28	22.80	2.43	6.88	0.95	2.45	36.79	36.79
H-VILLE SPRING BR	1.0	03	6-12	16AUG79	4-182	0.05	2.42	0.37	1.39	0.17	0.39	4.79	4.79
H-VILLE SPRING BR	1.0	03	12-24	16AUG79	4-183	0.03	1.61	0.32	0.91	0.11	0.22	3.20	3.20
H-VILLE SPRING BR	1.0	03	>24	16AUG79	4-041	< 0.02	0.53	0.19	0.41	0.12	0.11	1.36	1.38
H-VILLE SPRING BR	1.0	03	>24	16AUG79	4-184	< 0.01	0.25	0.10	0.21	0.06	0.09	0.71	0.73
H-VILLE SPRING BR	1.0	COMP	0-6	16AUG79	4-038	2.73	63.00	11.50	36.50	7.81	10.40	131.94	131.94

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TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

STREAM	MILE	HORIZONTAL LOCATION	CORE FRACTION (INCHES)	DATE	LABID		CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	---TOTAL DDTR--- MINIMUM (UG/G)	MAXIMUM (UG/G)
H-VILLE SPRING BR	1.0	COMP	6-12	16AUG79	4-039		0.68	34.40	10.30	34.40	10.30	9.75	99.83	99.83
H-VILLE SPRING BR	1.0	COMP	12-24	16AUG79	4-040		0.02	0.81	0.48	1.10	0.66	0.57	3.64	3.64
H-VILLE SPRING BR	1.7	01	0-6	16AUG79	4-144	<	0.02	0.03	0.42	0.30	0.11	1.16	2.02	2.04
H-VILLE SPRING BR	1.7	01	6-12	16AUG79	4-145	<	0.01	0.02	0.03	0.02	0.02	0.01	0.11	0.12
H-VILLE SPRING BR	1.7	02	0-6	16AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.7	02	6-12	16AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.7	03	0-6	16AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.7	03	6-12	16AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.7	04	0-6	16AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.7	04	6-12	16AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.7	2,3,4	0-6	16AUG79	4-146		0.06	0.52	1.81	1.37	0.52	1.89	6.17	6.17
H-VILLE SPRING BR	1.7	2,3,4	6-12	16AUG79	4-147	<	0.08	0.15	0.65	0.53	0.18	0.63	2.14	2.22
H-VILLE SPRING BR	1.7	05	0-6	17AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.7	05	6-12	17AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.7	05	12-24	17AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.7	06	0-6	17AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.7	06	6-12	17AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.7	06	12-24	17AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	1.7	5,6	0-6	17AUG79	4-148		2.25	180.00	32.00	128.00	16.50	22.50	381.25	381.25
H-VILLE SPRING BR	1.7	5,6	6-12	17AUG79	4-149	<	0.08	1.28	1.55	5.13	1.53	1.33	10.82	10.90
H-VILLE SPRING BR	1.7	5,6	12-24	17AUG79	4-150		0.02	0.24	0.07	0.16	0.03	0.07	0.60	0.60
H-VILLE SPRING BR	1.7	07	0-6	17AUG79	4-151		1.75	115.00	13.00	47.50	7.50	15.00	199.75	199.75
H-VILLE SPRING BR	1.7	07	6-12	17AUG79	4-152		0.02	0.33	0.04	0.16	0.03	0.06	0.64	0.64
H-VILLE SPRING BR	1.7	07	12-24	17AUG79	4-153		0.02	0.16	0.05	0.10	0.02	0.05	0.39	0.39
H-VILLE SPRING BR	1.7	08	0-6	17AUG79	4-154		0.13	6.00	0.89	2.00	0.34	1.07	10.43	10.43
H-VILLE SPRING BR	1.7	08	6-12	17AUG79	4-155		0.04	2.75	0.21	0.50	0.11	0.38	3.99	3.99
H-VILLE SPRING BR	1.7	08	12-24	17AUG79	4-156	<	0.07	0.10<	0.05	0.05<	0.04<	0.04	0.15	0.35
H-VILLE SPRING BR	1.7	08	>24	17AUG79	4-047	<	0.02	0.14<	0.02	0.10<	0.01	0.01	0.25	0.30
H-VILLE SPRING BR	1.7	08	>24	17AUG79	4-157	<	0.09	0.30<	0.06	0.08<	0.05	0.05	0.43	0.63
H-VILLE SPRING BR	1.7	COMP	0-6	17AUG79	4-044		1.14	52.50	11.00	35.00	6.50	9.00	115.14	115.14
H-VILLE SPRING BR	1.7	COMP	6-12	17AUG79	4-045		0.02	1.28	0.66	1.20	0.38	0.48	4.02	4.02
H-VILLE SPRING BR	1.7	COMP	12-24	17AUG79	4-046	<	0.02	0.13	0.03	0.07	0.02	0.02	0.27	0.29
H-VILLE SPRING BR	2.0	01	0-6	17AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	2.0	01	6-12	17AUG79	4-049		0.19	6.50	5.00	4.25	1.45	3.75	21.14	21.14
H-VILLE SPRING BR	2.0	02	0-6	17AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	2.0	COMP	0-6	17AUG79	4-048		0.40	13.70	2.74	5.06	1.22	2.69	25.81	25.81
H-VILLE SPRING BR	3.0	01	0-6	20AUG79	4-158		2.73	200.00	23.60	153.00	10.20	33.00	422.53	422.53
H-VILLE SPRING BR	3.0	01	6-12	20AUG79	4-159		0.03	0.55	0.36	2.42	1.08	1.55	5.99	5.99
H-VILLE SPRING BR	3.0	01	12-24	20AUG79	4-160	<	0.02	0.17	0.04	0.14	0.02	0.04	0.41	0.43
H-VILLE SPRING BR	3.0	01	>24	20AUG79	4-063	<	0.02	0.57	0.11	0.45	0.04	0.08	1.25	1.27
H-VILLE SPRING BR	3.0	01	>24	20AUG79	4-161		0.01	0.19	0.05	0.12	0.03	0.08	0.48	0.48
H-VILLE SPRING BR	3.0	02	0-6	20AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.0	02	6-12	20AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.0	03	0-6	20AUG79	4-162		24.90	472.00	74.70	290.00	43.80	113.00	1018.40	1018.40
H-VILLE SPRING BR	3.0	03	6-12	20AUG79	4-163	<	4.02	30.20	5.78	23.40	4.77	7.29	71.44	75.46
H-VILLE SPRING BR	3.0	03	12-24	20AUG79	4-164	<	0.13	4.15	0.75	2.18	0.35	0.48	7.91	8.04
H-VILLE SPRING BR	3.0	COMP	0-6	20AUG79	4-060		2.60	166.00	30.40	102.00	18.60	29.40	349.00	349.00
H-VILLE SPRING BR	3.0	COMP	6-12	20AUG79	4-061		0.26	10.40	3.17	8.51	1.39	1.98	25.71	25.71
H-VILLE SPRING BR	3.0	COMP	12-24	20AUG79	4-062		0.04	1.53	0.32	0.99	0.13	0.24	3.25	3.25
H-VILLE SPRING BR	3.5	01	0-6	17AUG79	4-165		0.13	7.13	1.20	2.80	0.65	1.15	13.06	13.06

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TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

STREAM	MILE	HORIZONTAL LOCATION	CORE FRACTION (INCHES)	DATE	LABID	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G						---TOTAL DDTR---	
						DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
H-VILLE SPRING BR	3.5	02	0-6	17AUG79	4-166	< 0.14	1.01	1.32	0.98	0.42	1.57	5.30	5.44
H-VILLE SPRING BR	3.5	02	6-12	17AUG79	4-167	< 0.01<	0.02<	0.01<	0.01	0.00	0.03	0.03	0.08
H-VILLE SPRING BR	3.5	03	0-6	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	03	6-12	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	04	0-6	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	04	6-12	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	3,4	0-6	17AUG79	4-168	< 0.40<	0.40	2.53	1.73	1.271	8.79	14.32	15.12
H-VILLE SPRING BR	3.5	3,4	6-12	17AUG79	4-169	< 0.01<	0.02	0.03	0.02	0.02	0.09	0.16	0.19
H-VILLE SPRING BR	3.5	05	0-6	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	05	6-12	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	06	0-6	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	06	6-12	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	5,6	0-6	17AUG79	4-170	< 0.13	1.68	3.28	1.45	0.85	3.13	10.39	10.52
H-VILLE SPRING BR	3.5	5,6	6-12	17AUG79	4-171	< 0.41	0.91	2.94	1.74	1.24	4.26	11.09	11.50
H-VILLE SPRING BR	3.5	07	0-6	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	08	0-6	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	08	6-12	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	08	12-24	17AUG79	4-055	0.07	2.21	0.89	1.97	0.24	0.44	5.82	5.82
H-VILLE SPRING BR	3.5	7,8	0-6	17AUG79	4-172	7.00	78.80	56.30	68.80	17.30	38.80	267.00	267.00
H-VILLE SPRING BR	3.5	7,8	6-12	17AUG79	4-173	5.23	81.30	40.40	92.50	17.80	48.60	285.83	285.83
H-VILLE SPRING BR	3.5	7,8	12-24	17AUG79	4-174	0.28	3.10	0.30	0.89<	0.20	0.52	5.09	5.29
H-VILLE SPRING BR	3.5	09	0-6	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	09	6-12	17AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	3.5	COMP	0-6	17AUG79	4-053	3.94	85.00	27.30	50.60	5.56	14.20	186.60	186.60
H-VILLE SPRING BR	3.5	COMP	6-12	17AUG79	4-054	1.58	63.10	22.10	58.90	6.83	14.70	167.21	167.21
H-VILLE SPRING BR	4.0	01	0-6	20AUG79	4-175	0.40	0.44	0.14	0.16	0.12	0.31	1.57	1.57
H-VILLE SPRING BR	4.0	01	6-12	20AUG79	4-176	< 0.53	6.38	2.58	5.88	1.05	2.80	18.69	19.22
H-VILLE SPRING BR	4.0	02	0-6	20AUG79	4-177	< 52.50	875.00	363.00	775.00	131.00	385.00	2529.00	2581.50
H-VILLE SPRING BR	4.0	02	6-12	20AUG79	4-178	70.00	1113.00	488.00	838.00	111.00	325.00	2945.00	2945.00
H-VILLE SPRING BR	4.0	02	12-24	20AUG79	4-179	6.60	132.00	76.00	96.00	8.80	32.00	351.40	351.40
H-VILLE SPRING BR	4.0	02	>24	20AUG79	4-059	0.20	3.00	1.56	2.18	0.29	0.68	7.91	7.91
H-VILLE SPRING BR	4.0	02	>24	20AUG79	4-180	0.13	3.00	0.48	0.85	0.13	0.30	4.89	4.89
H-VILLE SPRING BR	4.0	03	0-6	20AUG79	4-185	0.32	4.78	0.66	0.78	0.34	0.98	7.86	7.86
H-VILLE SPRING BR	4.0	03	6-12	20AUG79	4-186	< 0.03	0.27	0.06	0.15	0.11	0.05	0.63	0.66
H-VILLE SPRING BR	4.0	03	12-24	20AUG79	4-187	< 0.04	0.05	0.08	0.02	0.02	0.07	0.24	0.28
H-VILLE SPRING BR	4.0	COMP	0-6	20AUG79	4-056	17.80	280.00	131.00	222.00	32.10	70.20	753.10	753.10
H-VILLE SPRING BR	4.0	COMP	6-12	20AUG79	4-057	27.50	315.00	196.00	260.00	42.00	98.50	939.00	939.00
H-VILLE SPRING BR	4.0	COMP	12-24	20AUG79	4-058	10.60	167.00	60.10	88.80	9.09	21.70	357.29	357.29
H-VILLE SPRING BR	4.2	01	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	01	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	01	12-24	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	02	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	02	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	02	12-24	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	03	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	03	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	04	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	04	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	05	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	05	6-12	22AUG79		.	.	.	.	.	.	.	.

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STREAM	MILE	HORIZONTAL LOCATION	CORE FRACTION (INCHES)	DATE	LABID	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	---TOTAL DDTR--- MINIMUM (UG/G)	MAXIMUM (UG/G)
H-VILLE SPRING BR	4.2	06	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	07	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	08	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	09	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	10	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	10	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	11	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	11	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	12	0-6	22AUG79	4-214	0.10	1.11	2.10	2.49	0.98	2.59	9.37	9.37
H-VILLE SPRING BR	4.2	12	6-12	22AUG79	4-215	0.01	0.01	0.06	0.05	0.03	0.09	0.24	0.24
H-VILLE SPRING BR	4.2	13	0-6	22AUG79	4-216	0.38	5.15	8.00	10.80	2.50	6.25	33.08	33.08
H-VILLE SPRING BR	4.2	13	6-12	22AUG79	4-217	< 0.05	0.44	0.92	1.04	0.56	1.44	4.40	4.45
H-VILLE SPRING BR	4.2	14	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	14	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	16	0-6	22AUG79	4-220	740.00	6100.00	640.00	850.00	148.00	435.00	8913.00	8913.00
H-VILLE SPRING BR	4.2	16	6-12	22AUG79	4-221	2300.00	12700	1000.00	1300.00	150.00	650.00	18100	18100
H-VILLE SPRING BR	4.2	16	12-24	22AUG79	4-218	21.40	50.00	4.79	8.82	0.74	2.46	88.21	88.21
H-VILLE SPRING BR	4.2	16	>24	22AUG79	4-219	1550.00	8630.00	369.00	1050.00	44.50	226.00	11869.5	11869.5
H-VILLE SPRING BR	4.2	17	0-6	22AUG79	4-222	4.76	36.70	12.20	12.20	4.08	15.60	85.54	85.54
H-VILLE SPRING BR	4.2	17	6-12	22AUG79	4-223	1.56	12.20	22.60	21.10	7.02	20.80	85.28	85.28
H-VILLE SPRING BR	4.2	17	12-24	22AUG79	4-224	4.20	11.80	1.08	1.30	0.30	1.08	19.76	19.76
H-VILLE SPRING BR	4.2	18	0-6	22AUG79	4-225	0.70	7.50	0.73	1.03	0.25	0.98	11.19	11.19
H-VILLE SPRING BR	4.2	18	6-12	22AUG79	4-226	0.09	0.17	0.14	0.09	0.06	0.19	0.74	0.74
H-VILLE SPRING BR	4.2	18	12-24	22AUG79	4-227	0.11	0.34	0.05	0.07	0.01	0.04	0.62	0.62
H-VILLE SPRING BR	4.2	18	>24	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	0-6	22AUG79	4-075	66.80	796.00	54.50	65.20	10.10	42.70	1035.30	1035.30
H-VILLE SPRING BR	4.2	COMP	6-12	22AUG79	4-076	157.00	1070.00	82.00	97.00	13.90	66.00	1485.90	1485.90
H-VILLE SPRING BR	4.2	COMP	12-24	22AUG79	4-077	332.00	1595.00	74.50	98.50	10.80	54.50	2165.30	2165.30
H-VILLE SPRING BR	4.2	COMP	>24	22AUG79	4-078	7.45	35.70	1.60	1.80	0.23	1.20	47.98	47.98
H-VILLE SPRING BR	4.2	01	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	02	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	03	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	0-6	22AUG79	4-082	0.04	0.82	0.60	0.97	0.62	1.54	4.59	4.59
H-VILLE SPRING BR	4.2	04	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	05	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	06	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	0-6	22AUG79	4-083	0.05	0.59	0.69	1.06	0.34	0.86	3.59	3.59
H-VILLE SPRING BR	4.2	07	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	08	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	09	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	0-6	22AUG79	4-084	0.02	0.14	0.38	0.55	0.18	0.41	1.68	1.68
H-VILLE SPRING BR	4.2	10	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	11	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	12	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	0-6	22AUG79	4-085	0.18	1.29	2.39	2.90	0.80	2.40	9.96	9.96
H-VILLE SPRING BR	4.2	13	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	14	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	16	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	0-6	22AUG79	4-086	298.00	2500.00	221.00	305.00	45.00	160.00	3529.00	3529.00
H-VILLE SPRING BR	4.2	17	0-6	22AUG79		.	.	.	.	.	.	.	.

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TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

						CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G						---TOTAL DDTR---	
STREAM	MILE	HORIZONTAL LOCATION	CORE FRACTION (INCHES)	DATE	LABID	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
H-VILLE SPRING BR	4.2	18	0-6	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	0-6	22AUG79	4-087	1.10	17.40	7.85	7.60	2.60	8.50	45.05	45.05
H-VILLE SPRING BR	4.2	01	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	02	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	03	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	6-12	22AUG79	4-088	< 0.02	0.09	0.15	0.25	0.19	0.38	1.06	1.08
H-VILLE SPRING BR	4.2	04	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	05	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	6-12	22AUG79	4-089	< 0.02	0.05	0.06	0.09	0.03	0.06	0.29	0.31
H-VILLE SPRING BR	4.2	10	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	11	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	12	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	6-12	22AUG79	4-090	< 0.02	0.04	0.07	0.08	0.03	0.05	0.27	0.29
H-VILLE SPRING BR	4.2	13	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	14	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	16	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	6-12	22AUG79	4-091	730.00	4400.00	385.00	460.00	60.00	255.00	6290.00	6290.00
H-VILLE SPRING BR	4.2	17	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	18	6-12	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	6-12	22AUG79	4-092	4.10	21.60	13.10	14.40	2.75	6.50	62.45	62.45
H-VILLE SPRING BR	4.2	01	12-24	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	02	12-24	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	12-24	22AUG79	4-093	0.28	1.63	0.13	0.18	0.05	0.13	2.40	2.40
H-VILLE SPRING BR	4.2	16	12-24	22AUG79	4-094	1230.00	5650.00	520.00	460.00	54.00	245.00	8159.00	8159.00
H-VILLE SPRING BR	4.2	17	12-24	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	18	12-24	22AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.2	COMP	12-24	22AUG79	4-095	1.57	9.50	0.77	0.93	0.13	0.51	13.41	13.41
H-VILLE SPRING BR	4.2	16	>24	22AUG79	4-096	7.50	38.40	2.90	3.30	0.38	1.90	54.38	54.38
H-VILLE SPRING BR	4.2	18	>24	22AUG79	4-097	0.04	0.21	0.04	0.05<	0.01	0.02	0.36	0.37
H-VILLE SPRING BR	4.5	01	0-6	21AUG79	4-188	0.04	0.19	0.05	0.11	0.05	0.36	0.81	0.81
H-VILLE SPRING BR	4.5	02	0-6	21AUG79	4-189	0.06	1.20	0.40	0.75	0.32	1.68	4.41	4.41
H-VILLE SPRING BR	4.5	02	6-12	21AUG79	4-190	< 0.01	0.03	0.03	0.04	0.04	0.28	0.41	0.42
H-VILLE SPRING BR	4.5	03	0-6	21AUG79	4-191	0.52	0.70	0.62	0.94	0.40	1.05	4.23	4.23
H-VILLE SPRING BR	4.5	03	6-12	21AUG79	4-192	0.01	0.02	0.03	0.05	0.02	0.04	0.17	0.17
H-VILLE SPRING BR	4.5	03	12-24	21AUG79	4-193	0.05	0.26	0.05	0.07	0.02	0.06	0.52	0.52
H-VILLE SPRING BR	4.5	04	0-6	21AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.5	04	6-12	21AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.5	04	12-24	21AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.5	05	0-6	21AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.5	05	6-12	21AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.5	05	12-24	21AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.5	06	0-6	21AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.5	06	6-12	21AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.5	06	12-24	21AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.5	4,5,6	0-6	21AUG79	4-194	0.34	4.36	3.61	6.21	2.01	5.03	21.56	21.56
H-VILLE SPRING BR	4.5	4,5,6	6-12	21AUG79	4-195	0.05	0.35	1.44	1.38	0.83	1.50	5.55	5.55
H-VILLE SPRING BR	4.5	4,5,6	12-24	21AUG79	4-196	< 0.02<	0.04	0.08	0.05	0.05	0.09	0.27	0.33
H-VILLE SPRING BR	4.5	07	0-6	21AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.5	07	6-12	21AUG79		.	.	.	.	.	.	.	.
H-VILLE SPRING BR	4.5	07	12-24	21AUG79		.	.	.	.	.	.	.	.

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TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

						CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G						---TOTAL DDTR---	
TREAM	MILE	HORIZONTAL LOCATION	CORE FRACTION (INCHES)	DATE	LABID	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
-VILLE SPRING BR	4.5	08	0-6	21AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	4.5	08	6-12	21AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	4.5	08	12-24	21AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	4.5	7,8	0-6	21AUG79	4-197	0.34	16.50	7.53	11.40	3.30	10.10	49.17	49.17
-VILLE SPRING BR	4.5	7,8	6-12	21AUG79	4-198	< 0.10	0.50	3.10	4.70	1.05	1.25	10.60	10.70
-VILLE SPRING BR	4.5	7,8	12-24	21AUG79	4-199	< 0.01	0.01	0.04	0.02	0.03	0.06	0.17	0.17
-VILLE SPRING BR	4.5	09	0-6	21AUG79	4-200	105.00	860.00	46.20	39.90	23.10	90.30	1164.50	1164.50
-VILLE SPRING BR	4.5	10	0-6	21AUG79	4-201	800.00	9000.00	1000.00	2200.00	300.00	950.00	14250	14250
-VILLE SPRING BR	4.5	10	6-12	21AUG79	4-202	4000.00	23000	380.00	1000.00	320.00	1200.00	29900	29900
-VILLE SPRING BR	4.5	10	12-24	21AUG79	4-203	5.00	35.00	13.00	18.00	2.00	7.00	80.00	80.00
-VILLE SPRING BR	4.5	11	0-6	21AUG79	4-204	1.50	32.00	62.50	125.00	20.50	32.50	274.00	274.00
-VILLE SPRING BR	4.5	11	6-12	21AUG79	4-205	1.38	1.55	1.35	1.25	1.05	1.30	7.88	7.88
-VILLE SPRING BR	4.5	11	12-24	21AUG79	4-206	0.12	0.86	0.84	0.66	0.28	0.24	3.00	3.00
-VILLE SPRING BR	4.5	12	0-6	21AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	4.5	12	6-12	21AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	4.5	12	12-24	21AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	4.5	12	>24	21AUG79	4-071	0.03	0.54	0.39	0.94	0.19	0.35	2.44	2.44
-VILLE SPRING BR	4.5	12	>24	21AUG79	4-210	0.29	1.82	1.56	3.84	0.82	1.56	9.89	9.89
-VILLE SPRING BR	4.5	13	0-6	21AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	4.5	13	6-12	21AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	4.5	13	12-24	21AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	4.5	12,13	0-6	21AUG79	4-207	0.22	1.77	1.25	2.94	2.65	5.55	14.38	14.38
-VILLE SPRING BR	4.5	12,13	6-12	21AUG79	4-208	1.10	5.55	1.00	2.41	1.78	2.75	14.59	14.59
-VILLE SPRING BR	4.5	12,13	12-24	21AUG79	4-209	1.06	16.00	19.20	56.00	9.20	14.00	115.46	115.46
-VILLE SPRING BR	4.5	14	0-6	21AUG79	4-211	< 0.07	0.38	0.37	0.54	0.22	0.79	2.30	2.37
-VILLE SPRING BR	4.5	14	6-12	21AUG79	4-212	0.07	0.35	0.05	0.10	0.03	0.11	0.71	0.71
-VILLE SPRING BR	4.5	14	12-24	21AUG79	4-213	< 0.02	0.17	0.02	0.09	0.01	0.02	0.31	0.33
-VILLE SPRING BR	4.5	COMP	0-6	21AUG79	4-068	47.20	1301.00	79.70	148.00	22.20	64.00	1662.10	1662.10
-VILLE SPRING BR	4.5	COMP	6-12	21AUG79	4-069	270.00	1500.00	54.00	40.00	46.00	90.00	2000.00	2000.00
-VILLE SPRING BR	4.5	COMP	12-24	21AUG79	4-070	3.10	28.10	5.75	13.50	2.00	3.50	55.95	55.95
-VILLE SPRING BR	5.0	01	0-6	23AUG79	4-228	170.00	3100.00	960.00	2400.00	275.00	800.00	7705.00	7705.00
-VILLE SPRING BR	5.0	01	6-12	23AUG79	4-229	89.10	1430.00	902.00	1760.00	220.00	539.00	4940.10	4940.10
-VILLE SPRING BR	5.0	01	12-24	23AUG79	4-230	91.30	550.00	429.00	792.00	64.90	220.00	2147.20	2147.20
-VILLE SPRING BR	5.0	02	0-6	23AUG79	4-231	173.00	1980.00	289.00	619.00	74.30	270.00	3405.30	3405.30
-VILLE SPRING BR	5.0	02	6-12	23AUG79	4-232	5.40	85.50	92.30	169.00	20.80	60.80	433.80	433.80
-VILLE SPRING BR	5.0	02	12-24	23AUG79	4-233	0.62	16.60	38.00	10.60	0.59	2.20	68.61	68.61
-VILLE SPRING BR	5.0	COMP	0-6	23AUG79	4-112	197.00	3540.00	780.00	1540.00	260.00	500.00	6817.00	6817.00
-VILLE SPRING BR	5.0	COMP	6-12	23AUG79	4-113	70.50	1612.00	715.00	1551.00	137.00	393.00	4478.50	4478.50
-VILLE SPRING BR	5.0	COMP	12-24	23AUG79	4-114	46.70	248.00	214.00	750.00	36.00	75.10	1369.80	1369.80
-VILLE SPRING BR	5.35	01	0-6	24AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	5.35	01	6-12	24AUG79	4-234	19.70	97.80	10.70	18.80	3.57	16.00	166.57	166.57
-VILLE SPRING BR	5.35	01	COMP	24AUG79	4-131	279.00	2050.00	106.00	112.00	62.10	271.00	2880.10	2880.10
-VILLE SPRING BR	5.37	01	0-6	24AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	5.37	02	0-6	24AUG79	4-128	550.00	1513.00	65.10	90.00	60.10	280.00	2558.20	2558.20
-VILLE SPRING BR	5.37	01	6-12	24AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	5.37	01	12-24	24AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	5.37	01	COMP	24AUG79	4-125	1060.00	10909	124.00	360.00	120.00	450.00	13023	13023
-VILLE SPRING BR	5.38	01	0-6	24AUG79	4-235	2.52	52.80	7.02	14.40	1.91	7.38	86.03	86.03
-VILLE SPRING BR	5.38	01	6-12	24AUG79		.	.	.	.	.	.	.	.
-VILLE SPRING BR	5.38	01	12-24	24AUG79	4-236	184.00	1050.00	127.00	260.00	835.00	130.00	2586.00	2586.00

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TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

							CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G						---TOTAL DDTR---	
STREAM	MILE	HORIZONTAL LOCATION	CORE FRACTION (INCHES)	DATE	LABID		DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
H-VILLE SPRING BR	5.38	01	>24	24AUG79	4-237		31.50	387.00	46.40	115.00	22.50	65.70	668.10	668.10
H-VILLE SPRING BR	5.38	01	COMP	24AUG79	4-122		176.00	1400.00	128.00	186.00	52.00	118.00	2060.00	2060.00
H-VILLE SPRING BR	5.4	01	0-6	24AUG79	4-238		34.90	190.00	8.55	23.70	6.09	17.90	281.14	281.14
H-VILLE SPRING BR	5.4	01	6-12	24AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.4	01	12-24	24AUG79	4-239		9.72	117.00<	1.80	6.66<	1.80	5.67	139.05	142.65
H-VILLE SPRING BR	5.4	01	>24	24AUG79	4-240		1.17	2.57<	0.52	1.03	0.39	0.70	5.86	6.38
H-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118		17.40	130.00	4.20	8.41	2.19	7.40	169.60	169.60
H-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118A		13.80	170.00	5.29	8.70	3.10	6.31	207.20	207.20
H-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118B		16.00	106.00	4.40	8.41	2.19	7.10	144.10	144.10
H-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118C		25.10	154.00	4.49	9.41	2.20	5.89	201.09	201.09
H-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118D		17.60	135.00	3.81	7.80	2.32	7.48	174.01	174.01
H-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118E		20.50	135.00	4.40	8.40	2.88	9.71	180.89	180.89
H-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118F		18.70	220.00	4.19	9.80	2.39	8.28	263.36	263.36
H-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118G		15.00	89.70	3.81	7.61	2.00	6.61	124.73	124.73
H-VILLE SPRING BR	5.6	01	0-6	24AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.6	01	6-12	24AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.6	01	12-24	24AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.6	02	0-6	24AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.6	02	6-12	24AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.6	02	12-24	24AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.6	03	0-6	24AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.6	03	6-12	24AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.6	03	12-24	24AUG79			.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.6	COMP	0-6	24AUG79	4-134		0.08	0.25	0.04	0.10<	0.06	0.07	0.54	0.60
H-VILLE SPRING BR	5.6	COMP	6-12	24AUG79	4-135		0.05	0.13	0.03	0.07<	0.06	0.11	0.39	0.45
H-VILLE SPRING BR	5.6	COMP	12-24	24AUG79	4-136		0.04	0.10	0.02	0.03	0.04	0.05	0.28	0.28
INDIAN CREEK	0.0	01	0-6	14AUG79	4-001	<	0.02	0.03	0.17	0.45	0.11	0.14	0.90	0.92
INDIAN CREEK	1.0	01	0-6	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	1.0	01	6-12	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	1.0	01	12-24	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	1.0	02	0-6	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	1.0	02	6-12	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	1.0	02	12-24	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	1.0	02	>24	14AUG79	4-005	<	0.02<	0.02	0.04	0.05<	0.05	0.02	0.11	0.20
INDIAN CREEK	1.0	03	0-6	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	1.0	03	6-12	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	1.0	COMP	0-6	14AUG79	4-002		0.04	2.20	3.40	3.10	2.00	3.00	13.74	13.74
INDIAN CREEK	1.0	COMP	6-12	14AUG79	4-003		0.03	0.55	0.62	0.98	1.80	1.20	5.18	5.18
INDIAN CREEK	1.0	COMP	12-24	14AUG79	4-004		0.04	0.17	0.28	0.72	0.60	0.57	2.38	2.38
INDIAN CREEK	1.0	FP	0-6	14AUG79	4-006		0.03	0.22	1.20	0.73	0.55	1.40	4.13	4.13
INDIAN CREEK	2.0	01	0-6	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	2.0	01	6-12	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	2.0	01	12-24	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	2.0	02	0-6	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	2.0	02	6-12	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	2.0	02	12-24	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	2.0	02	>24	14AUG79	4-014	<	0.02<	0.02<	0.02	0.02<	0.05	0.02	0.04	0.15
INDIAN CREEK	2.0	03	0-6	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	2.0	03	6-12	14AUG79			.	.	.	.	.	.	.	.
INDIAN CREEK	2.0	FP	0-6	14AUG79	4-010		0.03	0.13	0.82	1.10	0.51	0.90	3.49	3.49

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TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

STREAM	MILE	HORIZONTAL LOCATION	CORE FRACTION (INCHES)	DATE	LABID	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G						---TOTAL DDTR---	
						DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
INDIAN CREEK	2.0	COMP	0-6	14AUG79	4-011	0.13	1.60	1.60	3.30	2.00	2.11	10.74	10.74
INDIAN CREEK	2.0	COMP	6-12	14AUG79	4-012	0.13	0.50	0.78	1.00	0.55	1.30	4.26	4.26
INDIAN CREEK	2.0	COMP	12-24	14AUG79	4-013	0.02	0.06	0.40	0.29	0.20	1.00	1.97	1.97
INDIAN CREEK	3.0	01	0-6	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	3.0	01	6-12	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	3.0	01	12-24	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	3.0	01	>24	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	3.0	02	0-6	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	3.0	02	6-12	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	3.0	02	12-24	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	3.0	02	>24	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	3.0	03	0-6	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	3.0	03	6-12	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	3.0	04	0-6	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	3.0	04	6-12	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	3.0	COMP	0-6	15AUG79	4-015	0.27	7.61	4.27	9.07	2.40	4.97	28.59	28.59
INDIAN CREEK	3.0	COMP	6-12	15AUG79	4-016	0.12	1.86	1.41	3.53	1.19	2.94	11.05	11.05
INDIAN CREEK	3.0	COMP	12-24	15AUG79	4-017	0.11	0.86	0.82	1.55	1.49	2.21	7.04	7.04
INDIAN CREEK	3.0	COMP	>24	15AUG79	4-018	0.03	0.25	0.04	0.08	0.03	0.04	0.47	0.47
INDIAN CREEK	4.0	01	0-6	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	01	6-12	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	01	12-24	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	02	0-6	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	02	6-12	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	02	12-24	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	03	0-6	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	03	6-12	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	03	12-24	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	03	>24	15AUG79	4-026	0.02	0.46	0.22	0.41	0.14	0.16	1.41	1.41
INDIAN CREEK	4.0	04	0-6	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	04	6-12	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	04	12-24	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	05	0-6	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	05	6-12	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	05	12-24	15AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	4.0	COMP	0-6	15AUG79	4-023	0.23	6.63	2.00	4.90	2.50	2.81	19.07	19.07
INDIAN CREEK	4.0	COMP	6-12	15AUG79	4-024	0.10	1.73	0.53	1.24	1.24	1.43	6.27	6.27
INDIAN CREEK	4.0	COMP	12-24	15AUG79	4-025	< 0.02	0.11	0.05	0.12	0.23	0.21	0.72	0.74
INDIAN CREEK	5.0	01	0-6	16AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	5.0	01	6-12	16AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	5.0	01	12-24	16AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	5.0	01	>24	16AUG79	4-031	< 0.02	0.19	0.06	0.14	0.13	0.09	0.61	0.63
INDIAN CREEK	5.0	02	0-6	16AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	5.0	02	6-12	16AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	5.0	02	12-24	16AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	5.0	03	0-6	16AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	5.0	03	6-12	16AUG79		.	.	.	.	.	.	.	.
INDIAN CREEK	5.0	COMP	0-6	16AUG79	4-028	0.24	10.10	2.61	7.35	2.20	3.85	26.35	26.35
INDIAN CREEK	5.0	COMP	6-12	16AUG79	4-029	0.14	4.90	1.45	3.88	1.73	2.14	14.24	14.24
INDIAN CREEK	5.0	COMP	12-24	16AUG79	4-030	0.20	4.27	1.73	4.66	1.81	2.04	14.71	14.71

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TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

						CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G						---TOTAL DDTR---	
STREAM	MILE	HORIZONTAL LOCATION	CORE FRACTION (INCHES)	DATE	LABID	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)

FOOTNOTES:
A. REFFR TO TABLE 4-1 FOR AN ACCURATE DESCRIPTION OF EACH INDIVIDUAL SAMPLES HORIZONTAL LOCATION.
6. STREAM MILE ABBREVIATIONS:
FP - FLOOD PLAIN
LCS - LOOP CROSS SECTION.
C. ABSENCE OF DATA FOR INDIVIDUAL SAMPLES INDICATES ANALYSES WERE PERFORMED ON THE COMPOSITE OF THE INDIVIDUAL SAMPLES.
D. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
D. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR A BSOLUTE VALUE.
E. CORE FRACTION (INCHES) REFERS TO VERTICAL DEPTH BELOW SEDIMENT SURFACE.
F. MUTLIPLE NUMBERS IN HORIZONTAL LOCATION COLUMN INDICATE A COMPOSITE SAMPLE OF THE LISTED HORIZONTAL LOCATIONS.
G. LABID NUMBERS GREATER THAN 4-140 ARE MODIFIED SAMPLES.

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TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

		CORE FRACTION			SEDIMENT SAMPLES - PHYSICAL MEASUREMENT													
					%	%	PERCENT SOLIDS FINER THAN (MM)											
MILE	HLOC	(INCHES)	DATE	LABID	MOISTURE	VOL-SOL	2.0	0.5	0.125	0.063	0.031	0.016	0.008	0.004	0.002	0.001	0.0005	REMARKS
----BARREN FORK CREEK ---																		
1.2	01	COMP	15AUG79	4-027	48.08	7.47	100.00	99.71	98.36	97.30	96.33	92.44	80.76	67.14	56.43	48.65	38.92	
----H-VILLE SPRING BRANCH ---																		
FP	01	0-6	30AUG79	4-140	24.72	7.32	98.26	94.43	71.21	66.71	65.38	60.04	53.37	46.70	42.03	34.69	33.36	
FP01	01	0-6	23AUG79	4-098	20.74	6.51	96.82	87.16	78.07	72.54	70.36	60.93	47.15	35.54	26.84	20.31	14.51	
FP02	01	0-6	23AUG79	4-099	18.02	6.02	100.00	99.43	90.77	85.36	84.51	77.68	63.17	50.36	41.83	35.00	29.88	
FP03	01	0-6	23AUG79	4-100	44.02	8.11	99.73	91.91	69.46	64.28	64.28	59.78	53.35	43.07	36.64	31.50	24.43	
FP04	01	0-6	23AUG79	4-101	17.58	5.39	99.82	98.29	83.40	76.84	73.00	63.01	47.64	36.88	31.50	26.13	21.52	
FP04	01	0-6	23AUG79	4-101	17.52	4.65	100.00	98.60	83.30	76.99	.	.	.	.	.	.	.	P.S.
FP05	01	0-6	23AUG79	4-102	20.54	9.14	100.00	99.37	90.92	85.66	83.95	74.52	58.25	46.26	37.69	28.27	27.41	
FP06	01	0-6	23AUG79	4-103	27.80	7.30	99.86	98.18	67.53	61.65	60.42	57.33	51.17	44.39	35.14	27.74	21.58	
FP07	01	0-6	23AUG79	4-104	25.08	3.69	100.00	91.96	65.02	60.21	59.01	53.59	45.76	39.74	35.52	32.51	29.50	
FP07	01	0-6	23AUG79	4-104	.	.	.	.	.	60.21	58.40	53.59	45.76	40.34	36.13	32.51	30.11	P.S.
FP08	01	0-6	23AUG79	4-105	15.22	6.80	90.07	83.85	74.22	72.15	72.15	64.94	50.50	36.80	28.14	23.81	20.20	
FP09	01	0-6	23AUG79	4-106	18.92	8.72	100.00	99.50	86.49	83.25	81.58	76.59	62.44	45.79	30.80	21.64	15.82	
FP10	01	0-6	23AUG79	4-107	28.13	10.35	95.23	89.75	79.71	76.86	76.86	73.79	65.33	54.57	42.27	32.28	24.60	
FP11	01	0-6	23AUG79	4-108	32.04	9.12	100.00	99.03	93.68	91.90	91.90	90.06	83.63	71.68	56.98	38.60	31.25	
CS	COMP	0-6	23AUG79	4-109	47.14	10.10	98.66	95.69	79.01	75.46	75.46	70.93	62.63	52.82	43.77	36.98	31.69	
CS	COMP	6-12	23AUG79	4-110	50.73	13.14	99.79	99.27	96.15	94.17	94.17	93.23	85.69	74.39	61.21	49.91	39.55	
CS	COMP	12-24	23AUG79	4-111	40.58	10.16	100.00	100.00	97.25	96.50	95.54	94.57	89.74	81.06	67.55	55.97	45.36	
CS	COMP	12-24	23AUG79	4-111	39.79	9.91	95.76	92.53	88.88	87.52	86.64	85.77	81.39	73.52	62.14	50.76	40.26	P.S.
0.0	COMP	0-6	16AUG79	4-032	45.02	7.57	99.45	97.26	83.73	80.80	79.99	75.14	64.64	50.90	40.40	32.32	25.86	
0.0	COMP	6-12	16AUG79	4-033	37.55	7.30	95.21	91.15	78.58	73.23	72.50	68.84	60.78	48.33	38.08	30.76	24.17	
0.0	02	12-24	16AUG79	4-034	41.25	6.55	100.00	99.58	89.56	87.79	87.79	84.28	74.62	58.82	44.77	35.12	27.21	
1.0	COMP	0-6	16AUG79	4-038	52.26	8.81	100.00	99.49	88.21	83.49	82.66	75.98	65.12	55.10	46.75	37.57	30.89	
1.0	COMP	6-12	16AUG79	4-039	48.57	7.53	99.62	99.43	95.16	90.52	89.61	85.09	74.23	61.55	51.60	44.35	35.30	
1.0	COMP	12-24	16AUG79	4-040	41.40	7.72	99.91	98.54	95.98	93.93	92.99	90.17	80.78	67.63	55.42	44.15	34.75	
1.0	03	>24	16AUG79	4-041	31.78	4.83	98.13	89.98	55.15	51.11	50.60	48.04	41.91	34.75	28.62	23.51	19.42	
1.7	COMP	0-6	16AUG79	4-044	42.50	9.79	96.68	95.96	79.62	72.77	71.31	68.40	61.85	53.12	44.39	35.66	24.01	
1.7	COMP	6-12	16AUG79	4-045	34.00	8.34	98.87	96.45	82.01	77.55	76.77	73.67	66.69	58.16	48.08	40.33	32.57	
1.7	COMP	12-24	17AUG79	4-046	29.14	6.51	99.85	99.41	87.81	83.60	81.93	76.08	64.37	54.34	45.14	38.46	31.77	
1.7	COMP	12-24	17AUG79	4-046	27.99	6.67	97.76	95.24	85.44	81.91	81.09	76.18	63.89	52.42	45.05	37.68	31.13	P.S.
1.7	08	>24	17AUG79	4-047	26.56	4.50	100.00	99.45	52.15	43.85	42.53	39.90	34.20	27.19	22.36	19.29	16.66	
2.0	COMP	0-6	17AUG79	4-048	33.58	6.07	92.66	85.62	54.61	50.57	49.56	46.52	40.46	34.39	29.33	25.28	20.73	
2.0	01	6-12	17AUG79	4-049	32.38	6.14	93.35	86.94	76.86	71.36	69.93	67.08	59.23	50.67	43.53	37.11	32.11	
3.0	COMP	0-6	20AUG79	4-060	44.30	9.06	97.78	94.32	88.73	85.98	85.98	84.26	76.52	65.34	54.17	43.85	36.11	
3.0	COMP	6-12	20AUG79	4-061	40.14	8.98	96.15	94.31	88.10	83.82	83.82	82.14	75.44	63.70	52.81	42.75	34.37	
3.0	COMP	12-24	20AUG79	4-062	42.84	11.32	100.00	96.11	87.03	81.93	81.11	81.11	76.19	64.72	52.44	46.60	35.23	
3.0	01	>24	20AUG79	4-063	27.42	4.30	96.27	90.08	58.75	45.17	44.72	43.81	40.20	34.78	29.36	24.84	21.23	
3.5	COMP	0-6	17AUG79	4-053	44.38	10.56	97.25	91.65	80.38	77.70	76.92	75.37	69.15	62.16	52.06	42.74	34.19	
3.5	COMP	6-12	17AUG79	4-054	39.06	9.03	97.74	92.90	78.86	76.60	75.83	74.30	68.17	58.22	48.26	40.60	32.17	
3.5	08	12-24	17AUG79	4-055	34.82	7.92	98.10	94.68	92.70	91.25	90.34	86.69	76.65	62.05	50.19	41.06	31.94	
4.0	COMP	0-6	20AUG79	4-056	37.66	8.53	98.83	96.11	75.74	73.10	71.64	68.71	62.14	51.17	42.40	35.09	28.51	
4.0	COMP	6-12	20AUG79	4-057	32.97	7.38	98.26	95.46	77.47	75.43	74.68	72.41	66.38	55.82	46.01	37.72	30.93	
4.0	COMP	12-24	20AUG79	4-058	33.02	6.43	98.95	96.92	75.51	71.08	69.66	65.39	56.15	45.49	38.38	32.70	27.72	
4.0	02	>24	20AUG79	4-059	34.81	8.65	96.23	93.72	92.54	91.51	89.68	87.85	78.70	64.06	52.16	43.92	37.52	
4.0	02	>24	20AUG79	4-059	32.40	8.49	95.26	92.81	90.98	90.06	90.06	87.36	79.25	63.94	51.33	41.43	33.32	P.S.
4.2	COMP	0-6	22AUG79	4-075	47.80	10.34	96.58	91.59	75.93	73.29	72.56	71.82	65.96	57.17	47.64	38.11	30.78	

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WHEELER RESERVOIR, ALABAMA

TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

					SEDIMENT SAMPLES - PHYSICAL MEASUREMENT													
							PERCENT SOLIDS FINER THAN (MM)											
MILE	HLOC	CORE FRACTION (INCHES)	DATE	LABID	% MOISTURE	% VOL-SOL	2.0	0.5	0.125	0.063	0.031	0.016	0.008	0.004	0.002	0.001	0.0005	REMARKS
4.2	COMP	0-6	22AUG79	4-075	.	.	.	.	.	73.29	72.56	71.09	64.50	54.97	46.17	37.38	29.32	P.S.
4.2	COMP	6-12	22AUG79	4-076	34.58	8.31	97.61	95.06	83.01	80.54	80.54	78.12	70.07	58.79	48.32	38.66	31.41	
4.2	COMP	12-24	22AUG79	4-077	33.33	7.21	98.63	97.10	81.45	78.47	78.47	76.12	69.05	59.64	50.22	42.37	32.17	
4.2	COMP	>24	22AUG79	4-078	34.71	6.82	97.15	95.77	59.54	57.78	56.05	54.89	47.96	39.29	31.20	25.42	21.38	
4.2	COMP	>24	22AUG79	4-076	34.82	6.92	98.62	96.62	60.63	58.40	57.82	56.06	49.06	39.71	32.12	26.28	21.61	P.S.
4.2	COMP	0-6	22AUG79	4-067	60.35	10.71	98.51	95.03	92.17	89.93	89.93	88.13	80.94	71.94	62.05	51.26	42.27	
4.2	COMP	0-6	22AUG79	4-083	43.90	10.30	93.84	84.24	75.00	72.74	72.01	69.10	62.56	56.01	45.10	37.10	29.10	
4.2	COMP	0-6	22AUG79	4-084	38.77	7.16	90.27	88.49	68.54	64.32	63.68	61.75	56.60	48.88	39.88	32.80	27.01	
4.2	COMP	0-6	22AUG79	4-065	53.55	11.86	94.98	90.07	76.77	73.83	72.35	72.35	67.19	60.54	49.47	39.87	32.49	
4.2	COMP	0-6	22AUG79	4-086	42.68	8.83	92.61	87.22	54.94	53.28	52.75	51.68	47.95	41.03	34.10	28.77	24.51	
4.2	COMP	0-6	22AUG79	4-087	53.19	14.89	98.68	96.04	92.39	91.27	90.36	87.62	81.23	69.37	58.41	48.37	40.16	
4.2	COMP	6-12	22AUG79	4-088	39.33	8.66	93.43	90.14	87.78	86.43	84.70	83.84	78.65	68.28	57.04	45.81	37.16	
4.2	COMP	6-12	22AUG79	4-089	32.27	8.06	86.34	83.59	82.88	80.60	79.79	77.38	70.12	61.26	49.97	41.11	34.66	
4.2	COMP	6-12	22AUG79	4-090	32.47	6.90	83.33	82.37	70.15	67.41	66.74	66.06	62.69	54.60	44.49	36.40	30.33	
4.2	COMP	6-12	22AUG79	4-091	43.10	9.32	99.82	99.29	74.51	71.49	70.78	69.35	63.63	55.05	44.32	36.46	29.31	
4.2	COMP	6-12	22AUG79	4-091	43.29	9.52	99.08	97.14	71.26	69.59	69.59	68.20	63.33	54.98	45.23	36.88	29.92	P.S.
4.2	COMP	6-12	22AUG79	4-092	39.97	8.27	99.83	99.46	94.16	91.55	89.72	82.40	71.41	59.51	50.35	43.03	35.70	
4.2	COMP	12-24	22AUG79	4-093	35.42	8.23	99.84	98.98	97.64	95.60	93.69	91.78	87.00	77.44	65.96	54.49	45.89	
4.2	16	12-24	22AUG79	4-094	36.48	6.52	99.61	96.31	31.79	29.59	29.59	29.00	26.04	22.49	18.94	16.57	14.80	
4.2	COMP	12-24	22AUG79	4-095	31.07	5.07	99.49	99.13	89.99	83.75	82.08	77.05	66.16	56.11	46.90	39.36	34.34	
4.2	16	>24	22AUG79	4-096	36.16	6.05	99.84	97.36	33.60	30.72	30.41	29.80	27.03	22.43	17.82	14.44	11.67	
4.2	18	>24	22AUG79	4-097	32.24	7.25	99.77	99.24	95.01	94.10	92.22	87.51	74.34	58.34	46.11	37.64	31.99	
4.5	COMP	0-6	21AUG79	4-068	55.67	13.53	94.54	89.86	79.06	76.39	75.63	72.57	64.93	54.24	45.07	36.67	28.26	
4.5	COMP	6-12	21AUG79	4-069	54.19	13.35	96.87	91.71	74.37	72.09	71.37	69.93	62.72	53.35	43.25	35.32	28.84	
4.5	COMP	12-24	21AUG79	4-070	31.91	5.68	97.70	94.28	68.80	65.38	64.73	62.76	55.57	45.11	37.27	30.73	25.50	
4.5	12	>24	21AUG79	4-071	41.85	10.06	98.90	96.95	92.37	90.08	88.28	86.48	76.57	58.55	46.84	37.83	35.13	
5.0	COMP	0-6	23AUG79	4-112	40.46	8.66	100.00	99.82	82.04	78.55	78.55	73.84	65.20	53.41	45.56	38.49	32.21	
5.0	COMP	6-12	23AUG79	4-113	46.70	9.85	99.52	99.04	92.99	91.26	88.52	79.40	66.62	54.76	46.54	39.24	31.03	
5.0	COMP	12-24	23AUG79	4-114	41.29	8.55	100.00	99.57	93.60	92.04	91.12	86.52	73.63	59.83	47.86	41.42	32.21	
5.35	01	COMP	24AUG79	4-131	30.95	8.80	100.00	99.04	91.40	89.56	88.66	84.19	72.54	61.80	52.84	46.57	39.41	
5.37	01	COMP	24AUG79	4-125	48.17	10.56	99.90	99.41	93.46	91.12	90.21	82.92	69.25	56.49	47.38	40.09	32.80	
5.37	02	0-6	24AUG79	4-128	27.83	8.04	99.65	97.32	88.43	85.04	83.34	77.39	66.33	55.28	48.47	42.52	37.42	
5.38	01	COMP	24AUG79	4-122	42.25	10.84	100.00	100.00	97.20	92.73	91.80	83.46	70.47	58.42	49.15	41.73	35.24	
5.4	01	COMP	24AUG79	4-118	32.76	17.53	83.35	73.68	51.04	49.35	48.86	46.39	40.96	33.56	28.13	24.18	19.74	
5.6	COMP	0-6	24AUG79	4-134	45.90	8.46	100.00	99.62	89.46	87.06	87.06	80.97	67.91	53.11	43.53	37.44	29.60	
5.6	COMP	6-12	24AUG79	4-135	39.90	7.51	100.00	100.00	96.51	95.57	94.61	91.75	79.32	62.12	48.74	39.18	32.49	
5.6	COMP	12-24	24AUG79	4-136	39.35	8.28	99.83	99.50	94.68	93.93	93.93	92.05	79.84	61.99	46.96	38.51	31.94	
5.6	COMP	12-24	24AUG79	4-136	38.46	8.11	99.92	99.84	94.90	94.23	94.23	91.40	79.15	61.25	47.12	38.63	31.10	P.S.
----INDIAN CREEK ----																		
0.0	01	0-6	14AUG79	4-001	34.18	7.13	99.61	98.82	92.04	88.65	85.99	79.78	69.15	55.85	45.21	37.23	29.25	
1.0	COMP	0-6	14AUG79	4-002	50.77	8.56	99.40	98.60	96.29	93.17	92.23	88.51	77.33	64.29	53.11	44.72	36.34	
1.0	COMP	6-12	14AUG79	4-003	43.49	7.36	100.00	99.82	97.68	95.81	94.85	91.98	82.40	67.07	53.65	44.07	36.41	
1.0	COMP	12-24	14AUG79	4-004	42.11	7.04	99.57	98.20	96.57	94.60	92.71	92.71	81.36	64.33	51.08	41.62	33.11	
1.0	COMP	12-24	14AUG79	4-004	42.20	7.40	100.00	99.67	97.47	95.27	94.32	91.46	80.99	64.78	51.45	40.97	33.34	P.S.
1.0	02	>24	14AUG79	4-005	42.44	7.78	100.00	100.00	99.82	99.82	98.82	98.82	91.83	74.86	58.89	46.92	38.93	
1.0	FP	0-6	14AUG79	4-006	38.64	8.76	100.00	99.45	97.03	96.09	95.13	93.21	84.56	68.22	54.77	43.24	33.63	
2.0	FP	0-6	14AUG79	4-010	51.83	9.45	99.58	98.52	95.87	94.07	93.13	90.31	81.84	67.73	54.56	44.21	33.87	
2.0	COMP	0-6	14AUG79	4-011	48.88	6.95	99.91	99.63	92.59	89.96	89.96	86.36	74.67	59.37	49.48	41.38	34.18	
2.0	COMP	6-12	14AUG79	4-012	40.49	6.38	100.00	99.74	87.60	84.76	83.91	79.67	70.35	56.79	46.62	38.99	30.51	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

		CORE FRACTION			SEDIMENT SAMPLES - PHYSICAL MEASUREMENT													
					%	%	PERCENT SOLIDS FINER THAN (MM)											
MILE	HLOC	(INCHES)	DATE	LABID	MOISTURE	VOL-SOL	2.0	0.5	0.125	0.063	0.031	0.016	0.008	0.004	0.002	0.001	0.0005	REMARKS
2.0	COMP	12-24	14AUG79	4-013	40.01	6.85	100.00	100.00	96.09	94.98	93.08	88.33	78.83	62.69	51.29	41.79	33.24	
2.0	02	>24	14AUG79	4-014	45.16	7.34	100.00	100.00	99.55	99.10	97.12	95.14	85.23	69.37	54.50	42.61	32.70	
3.0	COMP	0-6	15AUG79	4-015	54.07	8.76	99.79	98.38	89.76	84.64	83.79	79.56	70.25	57.56	50.78	40.63	33.86	
3.0	COMP	6-12	15AUG79	4-016	44.44	7.93	99.74	98.54	94.43	91.01	90.10	87.37	77.36	62.80	50.97	41.86	32.76	
3.0	COMP	12-24	15AUG79	4-017	48.49	7.64	99.72	99.34	95.49	92.29	90.44	85.83	76.60	63.68	53.53	43.38	35.99	
3.0	COMP	12-24	15AUG79	4-017	48.53	7.15	99.62	98.28	93.39	90.32	.	.	.	.	.	.	.	P.S.
3.0	COMP	>24	15AUG79	4-018	45.94	9.92	99.65	99.13	95.20	92.75	92.75	90.90	81.62	64.92	51.01	39.88	30.61	
3.0	COMP	>24	15AUG79	4-018	.	.	.	.	.	92.75	91.82	89.04	76.83	62.14	48.23	38.03	29.68	P.S.
4.0	COMP	0-6	15AUG79	4-023	48.46	3.72	100.00	99.32	81.70	77.32	75.77	71.91	62.63	53.35	44.85	37.89	30.93	
4.0	COMP	6-12	15AUG79	4-024	44.05	5.94	99.65	98.76	84.12	78.44	76.87	72.16	63.54	51.77	43.14	36.08	28.24	
4.0	COMP	12-24	15AUG79	4-025	42.24	6.21	100.00	99.57	91.77	89.89	87.19	84.50	77.31	62.92	50.34	41.35	32.36	
4.0	03	>24	15AUG79	4-026	46.47	7.68	100.00	99.73	98.72	98.17	97.19	94.24	84.43	61.85	52.03	42.21	32.40	
5.0	COMP	0-6	16AUG79	4-028	36.86	5.76	96.72	90.15	74.38	69.98	69.28	65.01	56.68	48.99	43.39	41.99	33.59	
5.0	COMP	6-12	16AUG79	4-029	35.49	5.40	99.29	97.63	82.42	78.93	78.14	74.19	63.93	52.09	41.83	33.94	26.84	
5.0	COMP	12-24	16AUG79	4-030	37.95	6.09	99.28	97.60	85.90	81.97	81.15	75.41	63.94	51.64	41.80	35.25	28.69	
5.0	01	>24	16AUG79	4-031	41.64	7.07	100.00	99.91	98.29	97.61	96.63	92.73	79.06	61.49	46.85	36.12	27.33	
5.0	01	>24	16AUG79	4-031	41.94	7.06	100.00	99.74	98.44	98.01	97.03	92.13	79.39	60.77	48.02	38.22	27.44	P.S.

FOOTNOTES:

A. REFER TO TABLE 4-1 FOR AN ACCURATE DESCRIPTION OF EACH INDIVIDUAL SAMPLES HORIZONTAL LOCATION (HLOC).

B. STREAM MILE ABBREVIATIONS:
FP - FLOOD PLAIN
LCS - LOOP CROSS SECTION.

C. THE ABBREVIATION (COMP) REFERS TO A COMPOSITED SAMPLE,
THE ABBREVIATION (P.S.) REFERS TO A PRECISION SAMPLE.

D. CORE FRACTION (INCHES) REFERS TO VERTICAL DEPTH BELOW SEDIMENT SURFACE.

PRIORITY POLLUTANT DATA

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

H-VILLE SPRING BRANCH 3.0, SAMPLED 20 AUG 79

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
	4-060	4-064	4-065
1. ACENAPHTHENE	< 2.00	< 27.00	< 25.00
5. BENZIDINE	< 2.00	< 27.00	< 25.00
8. 1,2,4-TRICHLOROBENZENE	< 2.00	< 27.00	< 25.00
9. HEXACHLOROBENZENE	< 2.00	< 27.00	< 25.00
12. HEXACHLOROETHANE	< 2.00	< 27.00	< 25.00
17. BIS(CHLOROMETHYL) ETHER	< 2.00	< 27.00	< 25.00
18. bIS(2-CHLOROETHYL) ETHER	< 2.00	< 27.00	< 25.00
19. 2-CHLOROETHYL VINYL ETHER (MIXED)	< 2.00	< 27.00	< 25.00
20. 2-CHLORONAPHTHALENE	< 2.00	< 27.00	< 25.00
21. 2,4,6-TRICHLOROPHENOL	< 0.25	< 27.00	< 25.00
22. PARACHLOROMETA CRESOL	< 0.25	< 27.00	< 25.00
24. 2-CHLOROPHENOL	< 0.25	< 27.00	< 25.00
25. 1,2-DICHLOROBENZENE	< 2.00	< 27.00	< 25.00
26. 1,3-DICHLOROBENZENE	< 2.00	< 27.00	< 25.00
27. 1,4-DICHLOROBENZENE	< 2.00	< 27.00	< 25.00
28. 3,3'-DICHLOROBENZIDINE	< 2.00	< 27.00	< 25.00
31. 2,4-DICHLOROPHENOL	< 0.25	< 27.00	< 25.00
34. 2,4-DIMETHYLPHENOL	< 0.25	< 27.00	< 25.00
35. 2,4-DINITROTOLUENE	< 2.00	< 27.00	< 25.00
36. 2,6-DINITROTOLUENE	< 2.00	< 27.00	< 25.00
37. 1,2-DIPHENYLHYDRAZINE	< 2.00	< 27.00	< 25.00
39. FLUORANTHENE	< 2.00	< 27.00	< 25.00
40. 4-CHLOROPHENYL PHENYL ETHER	< 2.00	< 27.00	< 25.00
41. 4-BROMOPHENYL PHENYL ETHER	< 2.00	< 27.00	< 25.00
42. bIS(2-CHLOROISOPROPYL) ETHER	< 2.00	< 27.00	< 25.00
43. BIS(2-CHLOROETHOXY) METHANE	< 2.00	< 27.00	< 25.00
52. HEXACHLOROBUTADIENE	< 2.00	< 27.00	< 25.00
53. HEXACHLOROCYCLOPENTADIENE	< 2.00	< 27.00	< 25.00
54. ISOPHORONE	< 2.00	< 27.00	< 25.00
55. NAPHTHALENE	< 2.00	< 27.00	< 25.00
56. NITROBENZENE	< 2.00	< 27.00	< 25.00
57. 2-NITROPHENOL	< 0.25	< 27.00	< 25.00
58. 4-NITROPHENOL	< 0.25	< 27.00	< 25.00
59. 2,4-DINITROPHENOL	< 0.25	< 27.00	< 25.00
60. 4,6-DINITRO-O-CRESOL	< 0.25	< 27.00	< 25.00
61. N-NITROSODIMETHYLAMINE	< 2.00	< 27.00	< 25.00
62. N-NITROSODIPHENYLAMINE	< 2.00	< 27.00	< 25.00
63. N-NITROSODI-N-PROPYLAMINE	< 2.00	< 27.00	< 25.00
64. PENTACHLOROPHENOL	< 0.25	< 27.00	< 25.00
65. PHENOL	< 0.25	< 27.00	< 25.00
66. BIS(2-ETHYLHEXYL) PHTHALATE	2.00	< 27.00	< 25.00
67. BUTYL BENZYL PHTHALATE	< 2.00	< 27.00	< 25.00
68. DI-N-BUTYL PHTHALATE	< 2.00	< 27.00	< 25.00
69. DI-N-OCTYL PHTHALATE	< 2.00	< 27.00	< 25.00
70. DIETHYL PHTHALATE	< 2.00	< 27.00	< 25.00
71. DIMETHYL PHTHALATE	< 2.00	< 27.00	< 25.00

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

OMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
72. BENZO(A)ANTHRACENE (1,2-BENZANTHRACENE)	< 2.00	< 27.00	< 25.00
73. BENZO(A)PYRENE (3,4-BENZOPYRENE)	< 2.00	< 27.00	< 25.00
74. 3,4-BENZOFLUORANTHENE	< 2.00	< 27.00	< 25.00
75. BENZO(K)FLUORANTHANE	< 2.00	< 27.00	< 25.00
76. CHRYSENE	< 2.00	< 27.00	< 25.00
77. ACENAPHTHYLENE	< 2.00	< 27.00	< 25.00
78. ANTHRACENE	< 2.00	< 27.00	< 25.00
79. BENZO(GHI)PERYLENE (1,12-BENZOPERYLENE)	< 2.00	< 27.00	< 25.00
80. FLUORENE	< 2.00	< 27.00	< 25.00
81. PHENANTHRENE	< 2.00	< 27.00	< 25.00
82. DIBENZO(A,H)ANTHRACENE(1,2,5,6-DIBENZANTHRACENE	< 2.00	< 27.00	< 25.00
83. IDENO(1,2,3-CD)PYRENE (2,3-O-PHENYLENEPYRENE)	< 2.00	< 27.00	< 25.00
84. PYRENE	< 2.00	< 27.00	< 25.00
89. ALDRIN	< 4.00	< 1.00	< 1.00
90. DIELDRIN	< 4.00	< 1.00	< 1.00
91. CHLORDANE (TECH. MIXTURE AND METABOLITES)	< 4.00	< 1.00	< 1.00
92. 4,4'-DDT	380.00	< 1.00	7.70
93. 4,4'-DDE(P,P'DDX)	35.00	< 0.50	< 0.50
94. 4,4'-DDD(P,P' -TDE)	175.00	2.50	5.10
95. A-ENDOSULFAN-ALPHA	< 4.00	< 1.00	< 1.00
96. B-ENDOSULFAN-BETA	< 4.00	< 1.00	< 1.00
97. ENDOSULFAN SULFATE	< 4.00	< 1.00	< 1.00
98. ENDRIN	< 4.00	< 1.00	< 1.00
99. ENDRIN ALDEHYDE	< 4.00	< 1.00	< 1.00
00. HEPTACHLOR	< 4.00	< 1.00	< 1.00
01. HEPTACHLOR EPOXIDE	< 4.00	< 1.00	< 1.00
02. A-BHC-ALPHA (HEXACHLOROCYCLOHEXANE)	< 4.00	< 1.00	< 1.00
03. B-BHC-BETA (HEXACHLOROCYCLOHEXANE)	< 4.00	< 1.00	< 1.00
04. 4-BHC-(LINDANE)-GAMMA (HEXACHLOROCYCLOHEXANE)	< 4.00	< 1.00	< 1.00
05. G-BHC-DELTA (HEXACHLOROCYCLOHEXANE)	< 4.00	< 1.00	< 1.00
06. PCB-1242 (AROCLOR 1242)	< 4.00	< 1.00	< 1.00
07. PCB-1254 (AROCLOR 1254)	< 4.00	< 1.00	< 1.00
08. PCB-1221 (AROCLOR 1221)	< 4.00	< 1.00	< 1.00
09. PCB-1232 (AROCLOR 1232)	< 4.00	< 1.00	< 1.00
10. PCB-1248 (AROCLOR 1248)	< 4.00	< 1.00	< 1.00
11. PCB-1260 (AROCLOR 1260)	< 4.00	< 1.00	< 1.00
12. PCB-1016 (AROCLOR 1016)	< 4.00	< 1.00	< 1.00
13. TOXAPHENE	< 4.00	< 1.00	< 1.00

INDIAN CREEK 3.0, SAMPLED 15 AUG 79

	4-015	4-019	4-020
1. ACENAPHTHENE	< 2.50	< 25.00	< 25.00
5. BENZIDINE	< 2.50	< 25.00	< 25.00
8. 1,2,4-TRICHLOROBENZENE	< 2.50	< 25.00	< 25.00
9. HEXACHLOROBENZENE	< 2.50	< 25.00	< 25.00
12. HEXACHLOROETHANE	< 2.50	< 25.00	< 25.00
17. BIS(CHLOROMETHYL) ETHER	< 2.50	< 25.00	< 25.00
18. BIS(2-CHLOROETHYL) ETHER	< 2.50	< 25.00	< 25.00
19. 2-CHLOROETHYL VINYL ETHER (MIXED)	< 2.50	< 25.00	< 25.00

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WHEELER RESERVOIR, ALABAMA

TASK4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
20. 2-CHLORONAPHTHALENE	< 2.50	< 25.00	< 25.00
21. 2,4,6-TRICHLOROPHENOL	< 0.25	< 25.00	< 25.00
22. PARACHLOROMETA CRESOL	< 0.25	< 25.00	< 25.00
24. 2-CHLOROPHENOL	< 0.25	< 25.00	< 25.00
25. 1,2-DICHLOROBENZENE	< 2.50	< 25.00	< 25.00
26. 1,3-DICHLOROBENZENE	< 2.50	< 25.00	< 25.00
27. 1,4-DICHLOROBENZENE	< 2.50	< 25.00	< 25.00
28. 3,3'-DICHLOROBENZIDINE	< 2.50	< 25.00	< 25.00
31. 2,4-DICHLOROPHENOL	< 0.25	< 25.00	< 25.00
34. 2,4-DIMETHYLPHENOL	< 0.25	< 25.00	< 25.00
35. 2,4-DINITROTOLUENE	< 2.50	< 25.00	< 25.00
36. 2,6-DINITROTOLUENE	< 2.50	< 25.00	< 25.00
37. 1,2-DIPHENYLHYDRAZINE	< 2.50	< 25.00	< 25.00
39. FLUORANTHENE	< 2.50	< 25.00	< 25.00
40. 4-CHLOROPHENYL PHENYL ETHER	< 2.50	< 25.00	< 25.00
41. 4-BROMOPHENYL PHENYL ETHER	< 2.50	< 25.00	< 25.00
42. BIS(2-CHLOROISOPROPYL) ETHER	< 2.50	< 25.00	< 25.00
43. BIS(2-CHLOROETHOXY) METHANE	< 2.50	< 25.00	< 25.00
52. HEXACHLOROBUTADIENE	< 2.50	< 25.00	< 25.00
53. HEXACHLOROCYCLOPENTADIENE	< 2.50	< 25.00	< 25.00
54. ISOPHORONE	< 2.50	< 25.00	< 25.00
55. NAPHTHALENE	< 2.50	< 25.00	< 25.00
56. NITROBENZENE	< 2.50	< 25.00	< 25.00
57. 2-NITROPHENOL	< 0.25	< 25.00	< 25.00
58. 4-NITROPHENOL	< 0.25	< 25.00	< 25.00
59. 2,4-DINITROPHENOL	< 0.25	< 25.00	< 25.00
60. 4,6-DINITRO-O-CRESOL	< 0.25	< 25.00	< 25.00
61. N-NITROSODIMETHYLAMINE	< 2.50	< 25.00	< 25.00
62. N-NITROSODIPHENYLAMINE	< 2.50	< 25.00	< 25.00
63. N-NITROSODI-N-PROPYLAMINE	< 2.50	< 25.00	< 25.00
64. PENTACHLOROPHENOL	< 0.25	< 25.00	< 25.00
65. PHENOL	< 0.25	< 25.00	< 25.00
66. BIS(2-ETHYLHEXYL) PHTHALATE	< 2.50	< 25.00	< 25.00
67. BUTYL BENZYL PHTHALATE	< 2.50	< 25.00	< 25.00
68. DI-N-BUTYL PHTHALATE	< 2.50	< 25.00	< 25.00
69. DI-N-OCTYL PHTHALATE	< 2.50	< 25.00	< 25.00
70. DIETHYL PHTHALATE	< 2.50	< 25.00	< 25.00
71. DIMETHYL PHTHALATE	< 2.50	< 25.00	< 25.00
72. BENZO(A)ANTHRACENE (1,2-BENZANTHRACENE)	< 2.50	< 25.00	< 25.00
73. BENZO(A)PYRENE (3,4-BENZOPYRENE)	< 2.50	< 25.00	< 25.00
74. 3,4-BENZOFLUORANTHENE	< 2.50	< 25.00	< 25.00
75. BENZO(K)FLUORANTHANE	< 2.50	< 25.00	< 25.00
76. CHRYSENE	< 2.50	< 25.00	< 25.00
77. ACENAPHTHYLENE	< 2.50	< 25.00	< 25.00
78. ANTHRACENE	< 2.50	< 25.00	< 25.00
79. BENZO(GHI)PERYLENE (1,12-BENZOPERYLENE)	< 2.50	< 25.00	< 25.00
80. FLUORENE	< 2.50	< 25.00	< 25.00
81. PHENANTHRENE	< 2.50	< 25.00	< 25.00
82. DIBENZO(A,H)ANTHRACENE(1,2,5,6-DIBENZANTHRACENE	< 2.50	< 25.00	< 25.00
83. IDENO(1,2,3-CD)PYRENE (2,3-O-PHENYLENEPYRENE)	< 2.50	< 25.00	< 25.00

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
84. PYRENE	< 2.50	< 25.00	< 25.00
89. ALDRIN	< 0.25	< 1.00	< 1.00
90. DIELDRIN	< 0.25	< 1.00	< 1.00
91. CHLORDANE (TECH. MIXTURE AND METABOLITES)	< 0.25	< 1.00	< 1.00
92. 4,4'-DDT	13.00	< 1.00	< 1.00
93. 4,4'-DDE(P,P'DDX)	4.00	< 0.50	< 0.50
94. 4,4'-DDD(P,P' -TDE)	11.00	0.86	< 0.70
95. A-ENDOSULFAN-ALPHA	< 0.25	< 1.00	< 1.00
96. B-ENDOSULFAN-BETA	< 0.25	< 1.00	< 1.00
97. ENDOSULFAN SULFATE	< 0.25	< 1.00	< 1.00
98. ENDRIN	< 0.25	< 1.00	< 1.00
99. ENDRIN ALDEHYDE	< 0.25	< 1.00	< 1.00
00. HEPTACHLOR	< 0.25	< 1.00	< 1.00
01. HEPTACHLOR EPOXIDE	< 0.25	< 1.00	< 1.00
02. A-BHC-ALPHA (HEXACHLOROCYCLOHEXANE)	< 0.25	< 1.00	< 1.00
03. B-BHC-BETA (HEXACHLOROCYCLOHEXANE)	< 0.25	< 1.00	< 1.00
04. 4-BHC-(LINDANE)-GAMMA (HEXACHLOROCYCLOHEXANE)	< 0.25	< 1.00	< 1.00
05. G-BHC-DELTA (HEXACHLOROCYCLOHEXANE)	< 0.25	< 1.00	< 1.00
06. PCB-1242 (AROCLOR 1242)	< 0.25	< 1.00	< 1.00
07. PCB-1254 (AROCLOR 1254)	< 0.25	< 1.00	< 1.00
08. PCB-1221 (AROCLOR 1221)	< 0.25	< 1.00	< 1.00
09. PCB-1232 (AROCLOR 1232)	< 0.25	< 1.00	< 1.00
10. PCB-1248 (AROCLOR 1248)	< 0.25	< 1.00	< 1.00
11. PCB-1260 (AROCLOR 1260)	< 0.25	< 1.00	< 1.00
12. PCB-1016 (AROCLOR 1016)	< 0.25	< 1.00	< 1.00
13. TOXAPHENE	< 0.25	< 1.00	< 1.00

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
INDIAN CREEK 1.00, SAMPLED 14 AUG 79 COMPOSITE FROM ALL CORE FRACTIONS			
	4-007A	4-008	4-009
1. DDT(O,P)	0.03	< 0.08	< 0.08
2. DDT(P,P)	0.75	< 0.08	0.81
3. DDD(O,P)	0.78	0.48	0.18
4. DDD(P,P)	1.51	0.66	0.29
5. DDE(O,P)	1.01	0.12	0.23
6. DDE(P,P)	1.26	0.15	0.22
7. TOTAL DDTR	5.34	1.49	1.77
8. MERCURY(TOTAL)	0.63	< 0.20	< 0.20
9. CADMIUM(TOTAL)	< 1.00	1.00	< 1.00
10. COPPER(TOTAL)	36.00	60.00	20.00
11. ZINC(TOTAL)	280.00	710.00	10.00
12. NICKEL(TOTAL)	39.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	12.00	< 2.00	< 2.00
INDIAN CREEK 3.00, SAMPLED 15 AUG 79 COMPOSITE OF 0-6" FRACTIONS			
	4-015	4-019	4-020
1. DDT(O,P)	0.27	< 0.08	< 0.08
2. DDT(P,P)	7.61	< 0.08	0.92
3. DDD(O,P)	4.27	0.46	0.56
4. DDD(P,P)	9.07	0.56	1.22
5. DDE(O,P)	2.40	0.06	0.45
6. DDE(P,P)	4.97	0.07	0.52
7. TOTAL DDTR	28.60	1.23	3.71
8. MERCURY(TOTAL)	0.57	< 0.20	< 0.20
9. CADMIUM(TOTAL)	2.00	< 1.00	1.00
10. COPPER(TOTAL)	48.00	30.00	10.00
11. ZINC(TOTAL)	330.00	20.00	30.00
12. NICKEL(TOTAL)	28.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	7.00	< 2.00	< 2.00
15. CHROMIUM(TOTAL)	66.00	< 5.00	< 5.00
16. LEAD(TOTAL)	58.00	< 10.00	< 10.00
17. SELENIUM(TOTAL)	< 0.80	< 1.00	< 1.00
18. SILVER(TOTAL)	5.00	< 10.00	< 10.00
19. THALIUM(TOTAL)	< 5.00	< 50.00	< 50.00
20. ANTIMONY(TOTAL)	0.80	< 2.00	< 2.00
INDIAN CREEK 3.00, SAMPLED 15 AUG 79 COMPOSITE OF ALL SAMPLES			
	4-021	4-019	4-022
1. DDT(O,P)	0.16	< 0.08	< 0.08

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
2. DDT(P,P)	2.65	< 0.08	0.32
3. DDD(O,P)	1.95	0.46	0.81
4. DDD(P,P)	4.42	0.56	0.18
5. DDE(O,P)	2.08	0.06	0.10
6. DDE(P,P)	3.07	0.07	0.05
7. TOTAL DDTR	14.30	1.23	1.50
8. MERCURY(TOTAL)	0.78	< 0.20	< 0.20
9. CADMIUM(TOTAL)	1.00	< 1.00	< 1.00
10. COPPER(TOTAL)	46.00	30.00	20.00
11. ZINC(TOTAL)	310.00	20.00	10.00
12. NICKEL(TOTAL)	31.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	11.00	< 2.00	3.00
15. CHROMIUM(TOTAL)	.	< 5.00	.
16. LEAD(TOTAL)	.	< 10.00	.
17. SELENIUM(TOTAL)	.	< 1.00	.
18. SILVER(TOTAL)	.	< 10.00	.
19. THALIUM(TOTAL)	.	< 50.00	.
20. ANTIMONY(TOTAL)	.	< 2.00	.

H-VILLE SPRING BRANCH 0.00, SAMPLED 16 AUG 79
COMPOSITE FROM ALL CORE FRACTIONS

	4-035	4-036	4-037
1. DDT(O,P)	0.12	< 0.08	< 0.08
2. DDT(P,P)	1.99	0.33	1.41
3. DDD(O,P)	0.72	0.63	0.36
4. DDD(P,P)	1.67	1.42	0.70
5. DDE(O,P)	0.63	0.10	0.42
6. DDE(P,P)	0.62	0.12	0.38
7. TOTAL DDTR	5.75	2.64	3.31
8. MERCURY(TOTAL)	0.93	< 0.20	< 0.20
9. CADMIUM(TOTAL)	< 1.00	1.00	2.00
10. COPPER(TOTAL)	26.00	10.00	10.00
11. ZINC(TOTAL)	220.00	90.00	< 10.00
12. NICKEL(TOTAL)	35.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	20.00	< 2.00	5.00

H-VILLE SPRING BRANCH 2.00, SAMPLED 17 AUG 79
COMPOSITE FROM ALL CORE FRACTIONS

	4-050	4-051	4-052
1. DDT(O,P)	0.21	< 0.08	< 0.08
2. DDT(P,P)	12.70	< 0.08	2.23
3. DDD(O,P)	4.00	1.30	0.60
4. DDD(P,P)	5.40	2.35	0.70
5. DDE(O,P)	1.21	0.12	0.17
6. DDE(P,P)	3.40	0.26	0.26
7. TOTAL DDTR	26.90	4.11	4.00

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
8. MERCURY(TOTAL)	0.97	< 0.20	< 0.20
9. CADMIUM(TOTAL)	< 1.00	< 1.00	< 1.00
10. COPPER(TOTAL)	20.00	20.00	10.00
11. ZINC(TOTAL)	180.00	470.00	< 10.00
12. NICKEL(TOTAL)	20.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	32.00	3.00	3.00

H-VILLE SPRING BRANCH 3.00, SAMPLED 20 AUG 79
COMPOSITE OF 0-6" FRACTIONS

	4-060	4-064	4-065
1. DDT(O,P)	2.60	0.25	< 0.08
2. DDT(P,P)	166.00	0.13	10.00
3. DDD(O,P)	30.40	2.64	2.71
4. DDD(P,P)	102.00	4.57	12.60
5. DDE(O,P)	18.60	0.28	4.57
6. DDE(P,P)	29.40	0.28	3.57
7. TOTAL DDTR	349.00	8.12	33.50
8. MERCURY(TOTAL)	0.97	< 0.20	< 0.20
9. CADMIUM(TOTAL)	2.00	< 1.00	< 1.00
10. COPPER(TOTAL)	64.00	30.00	20.00
11. ZINC(TOTAL)	340.00	20.00	90.00
12. NICKEL(TOTAL)	35.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	9.00	2.00	2.00
15. CHROMIUM(TOTAL)	85.00	< 5.00	< 5.00
16. LEAD(TOTAL)	72.00	< 10.00	< 10.00
17. SELENIUM(TOTAL)	< 0.80	< 1.00	< 1.00
18. SILVER(TOTAL)	5.00	< 10.00	< 10.00
19. THALIUM(TOTAL)	< 5.00	< 50.00	< 50.00
20. ANTIMONY(TOTAL)	0.80	< 2.00	< 2.00

H-VILLE SPRING BRANCH 3.00, SAMPLED 20 AUG 79
COMPOSITE FROM ALL CORE FRACTIONS

	4-066	4-064	4-067
1. DDT(O,P)	1.00	0.25	0.25
2. DDT(P,P)	83.00	0.13	7.43
3. DDD(O,P)	3.80	2.64	1.52
4. DDD(P,P)	45.50	4.57	4.22
5. DDE(O,P)	4.70	0.28	1.49
6. DDE(P,P)	7.90	0.28	0.95
7. TOTAL DDTR	151.00	8.12	15.90
8. MERCURY(TOTAL)	0.43	< 0.20	< 0.20
9. CADMIUM(TOTAL)	2.00	< 1.00	1.00
10. COPPER(TOTAL)	33.00	30.00	20.00
11. ZINC(TOTAL)	340.00	20.00	10.00
12. NICKEL(TOTAL)	34.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00

TASK4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
14. ARSENIC(TOTAL)	9.00	2.00	< 2.00
15. CHROMIUM(TOTAL)	.	< 5.00	.
16. LEAD(TOTAL)	.	< 10.00	.
17. SELENIUM(TOTAL)	.	< 1.00	.
18. SILVER(TOTAL)	.	< 10.00	.
19. THALIUM(TOTAL)	.	< 50.00	.
20. ANTIMONY(TOTAL)	.	< 2.00	.

H-VILLE SPRING BRANCH 4.50, SAMPLED 21 AUG 79
COMPOSITE FROM ALL CORE FRACTIONS

	4-072	4-073	4-074
1. DDT(O,P)	89.40	0.20	1.64
2. DDT(P,P)	628.00	0.13	50.00
3. DDD(O,P)	38.70	1.30	3.94
4. DDD(P,P)	68.50	1.39	3.79
5. DDE(O,P)	15.70	0.11	1.06
6. DDE(P,P)	47.10	0.17	0.92
7. TOTAL DDTR	887.00	3.30	61.40
8. MERCURY(TOTAL)	0.83	< 0.20	< 0.20
9. CADMIUM(TOTAL)	1.00	< 1.00	3.00
10. COPPER(TOTAL)	42.00	10.00	20.00
11. ZINC(TOTAL)	300.00	10.00	10.00
12. NICKEL(TOTAL)	26.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	10.00	< 2.00	< 2.00

H-VILLE SPRING BRANCH 4.20, SAMPLED 22 AUG 79
COMPOSITE FROM ALL CORE FRACTIONS

	4-079	4-080	4-081
1. DDT(O,P)	132.00	< 0.20	3.98
2. DDT(P,P)	905.00	< 0.20	13.90
3. DDD(O,P)	64.50	1.44	6.33
4. DDD(P,P)	82.00	1.59	4.90
5. DDE(O,P)	12.00	0.10	0.92
6. DDE(P,P)	48.00	0.21	2.06
7. TOTAL DDTR	1244	3.54	32.10
8. MERCURY(TOTAL)	0.50	< 0.20	< 0.20
9. CADMIUM(TOTAL)	< 1.00	< 1.00	< 1.00
10. COPPER(TOTAL)	29.00	10.00	10.00
11. ZINC(TOTAL)	300.00	< 10.00	< 10.00
12. NICKEL(TOTAL)	24.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	10.00	< 2.00	< 2.00

H-VILLE SPRING BRANCH 5.00, SAMPLED 23 AUG 79

	4-115	4-116	4-117

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
1. DDT(O,P)	118.00	0.32	4.08
2. DDT(P,P)	1660	0.22	32.80
3. DDD(O,P)	580.00	2.10	12.10
4. DDD(P,P)	1300	2.05	16.90
5. DDE(O,P)	140.00	0.18	1.91
6. DDE(P,P)	320.00	0.24	1.78
7. TOTAL DDTR	4118	5.11	69.80
8. MERCURY(TOTAL)	3.30	< 0.20	1.30
9. CADMIUM(TOTAL)	1.00	1.00	1.00
10. COPPER(TOTAL)	41.00	50.00	40.00
11. ZINC(TOTAL)	360.00	20.00	< 10.00
12. NICKEL(TOTAL)	35.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	32.00	2.00	34.00

H-VILLE SPRING BRANCH 5.40, SAMPLED 24 AUG 79
COMPOSITE OF ALL 4 FRACTIONS

	4-119	4-120	4-121
1. DDT(O,P)	17.00	0.38	0.66
2. DDT(P,P)	588.00	1.51	11.60
3. DDD(O,P)	5.47	0.36	1.01
4. DDD(P,P)	12.90	0.79	1.43
5. DDE(O,P)	3.63	0.16	0.67
6. DDE(P,P)	8.70	0.18	0.30
7. TOTAL DDTR	636.00	3.38	15.70
8. MERCURY(TOTAL)	1.00	< 0.20	< 0.20
9. CADMIUM(TOTAL)	< 1.00	1.00	< 1.00
10. COPPER(TOTAL)	25.00	10.00	60.00
11. ZINC(TOTAL)	180.00	20.00	< 10.00
12. NICKEL(TOTAL)	16.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	36.00	< 2.00	5.00

H-VILLE SPRING BRANCH 5.38, SAMPLED 24 AUG 79
COMPOSITE OF ALL 4 FRACTIONS

	4-123	4-123A	4-124
1. DDT(O,P)	169.00	0.13	3.88
2. DDT(P,P)	1374	0.14	208.00
3. DDD(O,P)	134.00	0.18	79.70
4. DDD(P,P)	185.00	0.28	59.00
5. DDE(O,P)	57.60	0.04	10.10
6. DDE(P,P)	95.70	0.07	14.60
7. TOTAL DDTR	2015	0.84	375.00
8. MERCURY(TOTAL)	1.60	< 0.20	0.30
9. CADMIUM(TOTAL)	< 1.00	< 1.00	< 1.00
10. COPPER(TOTAL)	88.00	< 10.00	50.00
11. ZINC(TOTAL)	320.00	20.00	< 10.00
12. NICKEL(TOTAL)	58.00	< 50.00	< 50.00

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	50.00	2.00	8.00

H-VILLE SPRING BRANCH 5.37, SAMPLED 24 AUG 79
COMPOSITE OF 0-6, 6-12, 12-24 CORE FRACTION

	4-126	4-126A	4-127
1. DDT(O,P)	1163	0.11	8.19
2. DDT(P,P)	10236	0.30	409.00
3. DDD(O,P)	147.00	0.15	30.40
4. DDD(P,P)	458.00	0.19	8.77
5. DDE(O,P)	114.00	< 0.04	5.85
6. DDE(P,P)	448.00	0.05	2.34
7. TOTAL DDTR	12566	0.63	465.00
8. MERCURY(TOTAL)	1.20	< 0.20	< 0.20
9. CADMIUM(TOTAL)	3.00	< 1.00	1.00
10. COPPER(TOTAL)	130.00	< 10.00	20.00
11. ZINC(TOTAL)	450.00	10.00	< 10.00
12. NICKEL(TOTAL)	34.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	8.00	3.00	19.00

H-VILLE SPRING BRANCH 5.37, SAMPLED 24 AUG 79
0-6" CORE FRACTION TAKEN IN DITCH

	4-129	4-126A	4-130
1. DDT(O,P)	533.00	0.11	18.70
2. DDT(P,P)	2012	0.30	28.90
3. DDD(O,P)	74.20	0.15	5.15
4. DDD(P,P)	133.00	0.19	5.49
5. DDE(O,P)	62.80	< 0.04	3.33
6. DDE(P,P)	209.00	0.05	8.33
7. TOTAL DDTR	3024	0.82	69.90
8. MERCURY(TOTAL)	1.00	< 0.20	< 0.20
9. CADMIUM(TOTAL)	< 1.00	< 1.00	< 1.00
10. COPPER(TOTAL)	30.00	< 10.00	< 10.00
11. ZINC(TOTAL)	230.00	10.00	< 10.00
12. NICKEL(TOTAL)	37.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	14.00	3.00	2.00

H-VILLE SPRING BRANCH 5.35, SAMPLED 24 AUG 79
COMPOSITE OF 0-6, 6-12 CORE FRACTION

	4-132	4-132A	4-133
1. DDT(O,P)	560.00	< 0.30	55.90
2. DDT(P,P)	197.00	< 0.30	37.30
3. DDD(O,P)	116.00	< 0.20	29.80
4. DDD(P,P)	147.00	< 0.20	18.60
5. DDE(O,P)	62.00	< 0.09	10.50

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
6. DDE(P,P)	289.00	< 0.10	23.00
7. TOTAL DDTR	1371	0.60	175.00
8. MERCURY(TOTAL)	1.20	< 0.20	0.30
9. CADMIUM(TOTAL)	< 1.00	< 1.00	< 1.00
10. COPPER(TOTAL)	50.00	10.00	20.00
11. ZINC(TOTAL)	460.00	20.00	< 10.00
12. NICKEL(TOTAL)	34.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	18.00	< 2.00	7.00

H-VILLE SPRING BRANCH 5.60, SAMPLED 24 AUG 79

	4-137	4-138	4-139
1. DDT(O,P)	0.07	< 0.08	0.18
2. DDT(P,P)	0.20	< 0.08	0.20
3. DDD(O,P)	0.03	< 0.08	< 0.08
4. DDD(P,P)	0.08	< 0.08	< 0.08
5. DDE(O,P)	0.07	< 0.04	0.06
6. DDE(P,P)	0.05	< 0.04	0.05
7. TOTAL DDTR	0.50	0.20	0.57
8. MERCURY(TOTAL)	4.90	< 0.20	0.40
9. CADMIUM(TOTAL)	1.00	< 1.00	< 1.00
10. COPPER(TOTAL)	[illegible].00	< 10.00	20.00
11. ZINC(TOTAL)	268.00	< 10.00	20.00
12. NICKEL(TOTAL)	25.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	35.00	3.00	59.00

FOOTNOTES:
VALUES LESS THAN DETECTION LIMITS ARE ESTIMATED TO BE ONE-HALF THE DETECTION LIMIT WHEN TOTAL DDTR IS CALCULATED.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS
AMOUNT OF FILTERABLE RESIDUE FINER THAN GLASS FIBER (1.2 MICRON) BUT RETAINED ON A 0.45 MICRON FILTER

LABID	LOCATION	TYPE SAMPLE	DDT ANALYSIS	ORGANIC PRIORITY POLLUTANT ANALYSES
4-008	ICM 1.0	DILUTION WATER	<1	
4-009	ICM 1.0	ELUTRIATE TEST WATER	79	
4-019	ICM 3.0	DILUTION WATER	<1	2
4-020	ICM 3.0	ELUTRIATE TEST WATER	22	11
4-022	ICM 3.0	ELUTRIATE TEST WATER	28	
4-036	HSB 0.0	DILUTION WATER	<1	
4-037	HSB 0.0	ELUTRIATE TEST WATER	12	
4-051	HSB 2.0	DILUTION WATER	5	
4-052	HSB 2.0	ELUTRIATE TEST WATER	16	
4-064	HSB 3.0	DILUTION WATER	12	8
4-065	HSB 3.0	ELUTRIATE TEST WATER	23	27
4-067	HSB 3.0	ELUTRIATE TEST WATER	6	
4-073	HSB 4.5	DILUTION WATER	3	
4-074	HSB 4.5	ELUTRIATE TEST WATER	16	
4-080	HSB 4.2	DILUTION WATER	7	
4-081	HSB 4.2	ELUTRIATE TEST WATER	670	
4-116	HSB 5.0	DILUTION WATER	7	
4-117	HSB 5.0	ELUTRIATE TEST WATER	11	
4-120	HSB 5.4	DILUTION WATER	9	
4-121	HSB 5.4	ELUTRIATE TEST WATER	22	
4-123A	HSB 5.38	DILUTION WATER	2	
4-124	HSB 5.38	ELUTRIATE TEST WATER	43	
4-126A	HSB 5.37	DILUTION WATER	<1	
4-127	HSB 5.37	ELUTRIATE TEST WATER	31	
4-130	HSB 5.37	ELUTRIATE TEST WATER	32	
4-132A	HSB 5.35	DILUTION WATER	<1	
4-133	HSB 5.35	ELUTRIATE TEST WATER	63	
4-138	HSB 5.6	DILUTION WATER	<1	
4-139	HSB 5.6	ELUTRIATE TEST WATER	36	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION OF HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS, WHEELER RESERVOIR, ALABAMA

TASK 5

AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

Tennessee Valley Authority
Office of Natural Resources

August 1980

PREFACE

This document was prepared in support of the Envineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

TASK 5

AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

CONTENTS

LIST OF TABLES

WORKTASK DESCRIPTION

I. Purpose

The purpose of the task is to define the body burden levels of DDTR (i.e., DDT isomers and metabolites) in nonvertebrate aquatic organisms occurring in Huntsville Spring Branch (HSB), Indian Creek (IC), and adjoining regions of Wheeler and Guntersville Reservoirs. In addition, the task documents the spatial distribution of these organisms as it relates to any remedial measures.

II. Scope

A. Three sampling efforts were conducted: once immediately following a large rainfall event in late summer, once during the late summer/early fall season, and once during the late fall/early winter season.

B. Indian Creek and Huntsville Spring Branch were sampled at various locations up to ICM 7.0 and HSBM 5.9, respectively. The Tennessee River was sampled from TRM 359.0 in Guntersville Reservoir downstream to TRM 289.9 in Wheeler Reservoir. Flint River (FRM 22.7), Elk River (ERM 20.7), Limestone Creek (LCM 18.0) and Barren Fork Creek (BFCM 1.2) were sampled as tributary stations (See Appendix). Not all stations were sampled during each field effort.

C. The types of samples collected included:

   1. Biological samples for concentration of DDTR and organism identification/enumeration including:

a. Phytoplankton

b. Zooplankton

c. Benthos

d. Aufwuchs, and

e. Herbaceous aquatic vascular plant communities.

2. Whole water for DDTR, nutrients, and selected metals analysis, as well as <u>in situ</u> water quality parameters.

3. Sediment for DDTR analysis.

Not all types of samples were collected during each of the three field efforts (See Table 5-1).

III. Sample Collection and Handling

A. Biological

1. Phytoplankton

Phytoplankton/inorganic particle samples were collected at half-meter intervals as grab samples from the euphotic zone. Two 4-L samples were made at each station by compositing three replicate grab samples each. These samples were placed in glass containers cleaned for DDTR analysis, capped with lids lined with aluminum foil, and iced to 4°C during transport to the laboratory. Samples for DDTR analysis were labeled with identifying number, location, and date, and were accompanied by detailed field notes describing actual sampling locations cross-referenced to sample numbers.

Samples for phytoplankton identification and enumeration were collected, preserved with an appropriate fixative, and labeled for biological analysis.

Table 5-1. Summary of Samples Collected for Task 5

	Field Effort		
Sample Type	Rainfall Survey	Late Summer/Early Fall	Late Fall/ Early Winter
Phytoplankton	ICM 0.0, 4.0	HSBM 0.0, 1.3, 2.4, 5.37, 5.9 ICM 0.0, 4.0 TRM 289.9, 315.0, 345.2, 350.0 BFCM 1.2	No Samples Collected
Zooplankton	ICM 0.0, 4.0	HSBM 0.0, 1.3, 2.4, 5.37, 5.9 ICM 0.0, 4.0 TRM 289.9, 315.0, 345.0, 350.0 BFCM 1.2	HSBM 2.4, 5.9 ICM 0.8, 4.6
Benthic Macroinvertebrates	No Samples Collected	HSBM 0.0, 1.3, 2.4, 4.3, 5.37, 5.4, 5.9 ICM 0.0, 4.0 TRM 289.9, 315.0, 345.3, 350.0 BFCM 1.2 ERM 20.7 FRM 22.7 LCM 18.0	HSBM 2.4, 5.9 ICM 0.8, 4.6
Aufwuchs	No Samples Collected	HSBM 0.0, 1.3, 2.4, 5.37, 5.9 ICM 0.0, 4.0 TRM 289.9, 315.0, 345.2, 350.0 BFCM 1.2	No Samples Collected
Aquatic Vascular Plants	No Samples Collected	HSBM 2.5, 4.5, 5.6 ICM 4.2, 6.7, 7.0 TRM 293.0 LOB, 305.1 ROB, 328.5 LOB, 359.0 (ROB)	No Samples Collected
Whole Water DDTR	No Samples Collected	TRM 345.0 FRM 22.7 LCM 18.0	No Samples Collected

Table 5-1. Summary of Samples Collected for Task 5
(Continued)

Sample Type	Field Effort Rainfall Survey	Late Summer/Early Fall	Late Fall/ Early Winter
Nutrients, Metals	ICM 0.0, 4.0	HSBM 0.0, 5.37, 5.9 ICM 0.0, 4.0 TRM 289.9, 315.0, 345.2, 350.0 BFCM 1.2 ERM 20.7 FRM 22.7 LCM 18.0	No Samples Collected
in situ Water Quality	No Samples Collected	HSBM 0.0, 1.3, 2.4, 5.37, 5.9 ICM 0.0, 4.0 TRM 289.0, 315.0, 345.2, 350.0 BFCM 1.2	No Samples Collected
Sediment DDTR	No Samples Collected	FRM 22.7 LCM 18.0	No Samples Collected

2. Zooplankton

Zooplankton was collected for the rainfall event and the late summer/early fall sampling periods by 5-minute horizontal tows using a 0.5-m aperture plankton net with 80 μ mesh. During the late fall/early winter sampling period, zooplankton was collected by pumping water through an 80-micron mesh net for 10 minutes since the low water levels prevented net towing. Zooplankton which was collected for each of the DDTR analyses was placed in a glass container cleaned for DDTR analysis and sealed with a lid lined with aluminum foil. One gram of zooplankton would have been optimum, but because of the small sample weights of zooplankton at certain locations it was sometimes necessary to make a composite to obtain a large enough sample for analysis. Table 5-2 lists the samples that were composited. The samples were placed on ice and kept at 4°C during transport to the laboratory. Sample bottles were labeled with identifying number, location, and date and were accompanied by detailed field notes describing actual sampling locations cross-referenced to sample numbers.

The zooplankton samples were prepared by filtering the entire zooplankton sample through a pre-weighed glass fiber filter, retaining the filtrate. The filters were air dried to constant weight, recombined with the retained filtrate, and blended using a polytron blender for two minutes. The volume of the sample was determined and the sample analyzed for DDTR. The results of the analyses are reported as μg DDTR/g zooplankton.

Table 5-2. Zooplankton Samples Composited for DDT Analysis

Sample #	Location	Number of Individual Samples Composited
DDT 5-48C	TRM 289.9 (ROB)	3
DDT 5-51C	TRM 289.9 (MID)	3
DDT 5-54C	TRM 289.9 (LOB)	3
DDT 5-57C	TRM 315.0 (ROB)	3
DDT 5-60C	TRM 315.0 (MID)	3
DDT 5-63C	TRM 315.0 (LOB)	3
DDT 5-66C	TRM 345.2 (LOB)	3
DDT 5-69C	TRM 345.2 (MID)	3
DDT 5-75C	TRM 350.0 (LOB)	3
DDT 5-78C	TRM 350.0 (MID)	3
DDT 5-81C	TRM 350.0 (ROB)	3
DDT 5-87C	HSB 1.3	2
DDT 5-90C	HSB 2.4	2
DDT 5-94C	HSB 5.37	2
DDT 5-96C	HSB 5.9	3
DDT 5-13C	ICM 0.0	5
DDT 5-11C	ICM 4.0	2
DDT 5-103C	ICM 4.0	3
DDT 5-105C	BFC 1.2	

TRM = Tennessee River Mile
HSB = Huntsville Spring Branch
IC = Indian Creek
BFC = Barren Fork Creek
MID = Midstream
LOB = Left overbank
ROB = Right overbank

2. Zooplankton

Zooplankton was collected for the rainfall event and the late summer/early fall sampling periods by 5-minute horizontal tows using a 0.5-m aperture plankton net with 80 μ mesh. During the late fall/early winter sampling period, zooplankton was collected by pumping water through an 80-micron mesh net for 10 minutes since the low water levels prevented net towing. Zooplankton which was collected for each of the DDTR analyses was placed in a glass container cleaned for DDTR analysis and sealed with a lid lined with aluminum foil. One gram of zooplankton would have been optimum, but because of the small sample weights of zooplankton at certain locations it was sometimes necessary to make a composite to obtain a large enough sample for analysis. Table 5-2 lists the samples that were composited. The samples were placed on ice and kept at 4°C during transport to the laboratory. Sample bottles were labeled with identifying number, location, and date and were accompanied by detailed field notes describing actual sampling locations cross-referenced to sample numbers.

The zooplankton samples were prepared by filtering the entire zooplankton sample through a pre-weighed glass fiber filter, retaining the filtrate. The filters were air dried to constant weight, recombined with the retained filtrate, and blended using a polytron blender for two minutes. The volume of the sample was determined and the sample analyzed for DDTR. The results of the analyses are reported as μg DDTR/g zooplankton.

Table 5-2. Zooplankton Samples Composited for DDT Analysis

Sample #	Location	Number of Individual Samples Composited
DDT 5-48C	TRM 289.9 (ROB)	3
DDT 5-51C	TRM 289.9 (MID)	3
DDT 5-54C	TRM 289.9 (LOB)	3
DDT 5-57C	TRM 315.0 (ROB)	3
DDT 5-60C	TRM 315.0 (MID)	3
DDT 5-63C	TRM 315.0 (LOB)	3
DDT 5-66C	TRM 345.2 (LOB)	3
DDT 5-69C	TRM 345.2 (MID)	3
DDT 5-75C	TRM 350.0 (LOB)	3
DDT 5-78C	TRM 350.0 (MID)	3
DDT 5-81C	TRM 350.0 (ROB)	3
DDT 5-87C	HSB 1.3	2
DDT 5-90C	HSB 2.4	2
DDT 5-94C	HSB 5.37	2
DDT 5-96C	HSB 5.9	3
DDT 5-13C	ICM 0.0	5
DDT 5-11C	ICM 4.0	2
DDT 5-103C	ICM 4.0	3
DDT 5-105C	BFC 1.2	

TRM = Tennessee River Mile
HSB = Huntsville Spring Branch
IC = Indian Creek
BFC = Barren Fork Creek
MID = Midstream
LOB = Left overbank
ROB = Right overbank

Samples collected for zooplankton identification and enumeration were preserved with an appropriate fixative and labeled for biological analysis. During the late fall/early winter sampling period triplicate samples for percent composition analysis of were also collected.

3. Benthos

Benthic macroinvertebrates were collected by a grab sampler with the exception that a Needham scraper was used to collect organisms at FRM 22.7 and LCM 18.0 because of the rock and gravel substrate. Triplicate samples (from right and left overbanks and mid-channel) were composited in the field; two composite samples were made at each station. However, for TRM 350.0, 345.2, 2,315.0, and 289.9 the samples were not composited and were analyzed individually. Samples for DDTR analysis were collected in glass containers cleaned for DDTR analysis, sealed with lids lined with aluminum foil, and transported to the laboratory on ice. The samples were frozen in the laboratory until processed.

Benthic macroinvertebrate samples were prepared by filtering the sample through a tared 63 μm sieve, retaining the filtrate. The sieve was reweighed and the total weight of filtered material determined. Sieve contents were washed back into the retained filtrate and the sample was blended for two minutes. The volume of the sample was determined and analyzed for DDTR. The results of the DDTR analysis are reported in μg DDTR/g.

4. Aufwuchs

The aufwuchs community was sampled using both Hester-Dendy macroinvertebrate samplers and Plexiglas® periphyton samplers. Hester-Dendy samplers were suspended in the upper portion of the euphotic zone at each station for a four-week incubation period. Indian Creek and Huntsville Spring Branch were sampled in triplicate at each station. Tennessee River sites had five samplers at each point (ROB, MC, LOB) across a transect at each station. No Hester-Dendy samplers were placed at midchannel sites at TRM 315.0, 345.2, and 350.0 because of river traffic. The Plexiglas® samplers were placed and incubated for two weeks, but a decision was made not to use these samples because of the possibility of DDT adsorption on the Plexiglas® slides. All Plexiglas® slides, however, were frozen for possible future use.

Appropriate aufwuchs sample collection techniques were used to minimize organism loss during collection and biasing of subsequent DDTR analysis. The samplers were placed in plastic bags and transported on ice to the laboratory. At least 25g and preferably 50g of organisms were removed from each sampler for DDTR analysis. The organism samples to be analyzed for DDTR were placed in specially cleaned glass bottles, and sealed with caps lined with aluminum foil.

The samplers used to collect samples for identification and enumeration analysis were placed in individual plastic bags, labeled, and preserved with formalin.

5. Herbaceous Aquatic Vascular Plants

Herbaceous vascular plants were collected by identifying the dominant genera and gathering sufficient quantities of the representatives to perform analyses. Whole plant collection was routinely performed, but storage and/or reproductive structures such as seeds and tubers were collected when available and submitted for separate analysis. After collection and prior to processing, the plants were washed to remove sediments, taking care not to dislodge organisms which would normally be consumed by grazing organisms along with the plant structures. At least 50 g of material was collected for DDTR analysis.

B. Whole Water

Whole water (i.e., unfiltered) samples were collected by field compositing samples gathered at half-meter intervals starting at 50 cm below the water surface and ending near the bottom. A four-liter composite sample was placed in a glass container washed for pesticide analysis, sealed with a cap lined with aluminum foil, and transported to the laboratory on ice for DDTR analysis.

Water samples for nutrients (NO_2-NO_3, NH_3, and PO_4) and selected metals (Ca and Mg) analyses were collected and preserved using the currently accepted and approved regulatory agency methodologies.[1] Samples were taken at half-meter intervals top to bottom and composited.

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[1] See Quality Assurance Document for reference.

In situ water quality parameters (pH, DO, conductivity, and temperature) were determined potentiometrically with a calibrated and documented instrument at half-meter intervals from 50 cm below the surface to the bottom. Alkalinity was determined in the field using the currently accepted and approved regulatory agency methodology[1] on samples composited by collecting at half-meter intervals from 50 cm below the surface to the bottom.

C. Sediment

Sediments for DDTR analysis were collected with an Ekman dredge, placed in glass containers cleaned for DDTR analysis, sealed with caps lined with aluminum foil and transported on ice to the laboratory. Multiple grab samples were collected at ROB and LOB locations and composited to yield sufficient sample for analysis.

IV. Sample Analysis

A. Biological

1. DDTR Analysis

All biological samples collected for DDTR analyses were analyzed using currently accepted and approved regulatory agency methodology.[2]

DDTR levels in the phytoplankton/inorganic particle fraction were calculated after analysis of the total DDTR in one four-liter sample and an analysis of the filtrate from the second four-liter sample.

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1. See Quality Assurance Document for reference.
2. Ibid.

2. Identification/Enumeration

Approximately 150 samples were analyzed for kinds and numbers of organisms present. These data are reported to the lowest identifiable taxon.

B. Whole Water

1. DDTR Analysis

All water samples for DDTR analysis were analyzed using currently accepted and approved regulatory agency methodology.[1]

2. Nutrient and Metal Analysis

All water samples for nutrient and metal determination were analyzed using currently accepted and approved regulatory agency methodology.[2]

C. Sediment

All sediment samples were analyzed for DDTR using currently accepted and approved regulatory agency methodology.[3]

V. Data Handling and Reporting

A. Biological

1. DDTR Analysis

All data is summarized in tabular form. Each of six forms of DDT and total residue concentration are shown along with detection limits and precision and accuracy data for each procedure.

2. Identification and Enumeration

Results of biological analysis for identification and enumeration are tabulated by appropriate classification group.

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[1] See Quality Assurance Document for reference.
[2] Ibid.
[3] Ibid.

B. Whole Water

1. DDTR Analysis

Results of chemical analyses for DDTR are summarized in tabular form. Each of six forms of DDT and total residue concentration are shown along with detection limits and precision and accuracy data for each procedure.

2. Nutrient and Metal Analysis

Nutrient concentrations and metals are summarized in tabular form along with field measurements of in situ water quality parameters.

C. Sediment

Results of chemical analyses for DDTR are summarized in tabular form. Each of six forms of DDT and total residue concentration are shown along with detection limits and precision and accuracy data for each procedure.

D. Data Reporting

The data are compiled into the attached report which includes data summaries and a brief assessment of the data with noting of values which appear to be outside normal ranges.

DATA SUMMARY

The data are summarized by field effort, and within this category by sample type.

I. <u>Sampling After A Large Rainfall Event</u>

A. <u>Phytoplankton/Inorganic</u>

1. <u>Stations Sampled</u>

ICM 0.0; ICM 4.0.

2. <u>Number of Samples Collected</u>

Duplicate samples were collected for DDTR analyses as well as for identification.

3. <u>Number of Analyses Performed</u>

Although four samples were collected for DDTR analyses there was sufficient sample volume in each to permit three DDTR analyses per station to be run. This resulted in six total DDTR analyses and six dissolved DDTR analyses (see Table 5-3). There were two identifications performed at each station.

4. <u>Taxonomic and Water Quality Data</u>

Chemical water quality data for the rainfall survey is summarized in Table 5-3.

The phytoplankton assemblages at the two stations were numerically dominated by the same taxa (<u>Merismopedia</u> sp. and <u>Melosira</u> sp.). However, there were 57 taxa at ICM 0.0 and 46 taxa at ICM 4.0. One more chrysophyte taxon occurred at ICM 4.0 than at ICM 0.0 (the stations had seven chrysophytes in common). There were eight fewer chlorophyte taxa and four fewer cyanophyte taxa at ICM 4.0 than at ICM 0.0. (See Tables 5-4A and 5-4B).

B. Zooplankton

1. Stations Sampled

ICM 0.0, ICM 4.0.

2. Number of Samples Collected

Duplicate samples were collected for DDTR analyses as well as for identification.

3. Number of Analyses Performed

Because of a sample size constraint, duplicate zooplankton samples were composited for each station, resulting in two DDTR analyses (see Table 5-3).

4. Taxonomic Data

The zooplankton assemblages for the two stations were both rotifer-dominated (Brachionus caudatus at ICM 4.0 and B. calyciflorus at ICM 0.0). There were two fewer rotifer taxa, four fewer cladoceran taxa and one less copepod taxon at ICM 4.0 than at ICM 0.0. The two stations had 22 rotifer taxa (out of 40), one cladoceran taxon (out of five), and three copepod taxa (out of four) in common. (See Tables 5-5A and 5-5B).

C. Benthic Macroinvertebrates

No samples were collected for DDTR analysis or identification/ enumeration.

D. Aufwuchs

No samples were collected for DDTR analysis or identification/ enumeration.

E. Aquatic Vascular Plants

No samples were collected for DDTR analysis.

F. Whole Water and Sediments

No samples were collected for DDTR analysis.

II. Late Summer/Early Fall

A. Phytoplankton/Inorganic

1. Stations Sampled

ICM 0.0; ICM 4.0; BFCM 1.2; HSBM 0.0; HSBM 1.3; HSBM 2.4; HSBM 5.37; HSBM 5.9; TRM 289.9 ROB, MC, LOB;[1] TRM 315.0 ROB, MC, LOB; TRM 345.2 ROB, MC, LOB; TRM 350.0 ROB, MC, LOB.

2. Number of Samples Collected

Triplicate samples were collected at all stations for a total of 60 samples for DDTR and 60 for identification.

3. Number of Analyses Performed

There were 120 total DDTR analyses (60 total DDTR and 60 dissolved DDTR) completed and 60 identifications were performed (see Table 5-3).

4. Taxonomic and Water Quality Data

Laboratory determinations of water quality parameters are presented in Table 5-3; Table 5-6 details the results of the in situ and field determined water quality parameters.

The structure of the phytoplankton assemblage varied from primarily diatom-dominated communities (*Melosira* sp.) at

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[1] ROB = right overbank.
MC = midchannel.
LOB = left overbank.

TRM 315.0 (LOB, MC), TRM 289.9 (MC, ROB), TRM 345.2 (LOB), and HSBM 5.37 to cyanophyte-dominated communities (Anacystis sp. or Merismopedia sp.) at all other stations. For individual sample analyses results see Tables 5-7A and 5-7B.

B. Zooplankton

1. Stations Sampled

HSBM 0.0, HSBM 1.3, HSBM 2.4, HSBM 5.37, HSBM 5.9, ICM 0.0, ICM 4.0, BFCM 1.2, TRM 289.9, TRM 315.0, TRM 345.2, TRM 350.0.

2. Number of Samples Collected

There were 60 samples collected for DDTR analyses and 60 for identifications.

3. Number of Analyses Performed

There were 29 total DDTR analyses made on the samples (see Table 5-3). Many samples were composited to obtain sufficient sample size for analyses. There were 39 identifications/analyses performed.

4. Taxonomic Data

The species structure of the zooplankton community changed from a cladoceran-dominated (Bosmina longirostris) one at the river stations (TRM 350.0 and 345.2) and ICM 0.0 to a rotifer-dominated (Brachionus calyciflorus) one in the HSB/IC system. (See Tables 5-8A and 5-8B). The number of taxa was slightly higher in the HSB/IC system (mean, 44) than in the river (mean, 39). No identification/enumeration analysis was done on samples collected at HSBM 0.0, TRM 289.9, and TRM 315.0.

C. Benthic Macroinvertebrates

1. Stations Sampled

ICM 0.0; ICM 4.0; BFCM 1.2; HSBM 0.0; HSBM 1.3; HSBM 2.4; HSBM 4.3; HSBM 5.37; HSBM 5.4; HSBM 5.9; TRM 289.9; TRM 315.0 LOB, MC, ROB; TRM 345.3 LOB, MC, ROB; TRM 350.0 LOB, MC, ROB; ERM 20.7, FRM 22.7, LCM 18.0.

2. Number of Samples Collected

Several stations yielded insufficient organisms for DDTR analyses; these were ICM 0.0, ICM 4.0, HSBM 1.3, HSBM 2.4, HSBM 5.4, and HSBM 5.9. Samples from 15 of the stations were collected in duplicate before the workplan was finalized specifying triplicate samples. Consequently, only 33 composite samples were collected for DDTR analyses. One hundred seventy one samples were collected for identification.

3. Number of Analyses Performed

All 33 composites for DDTR were analyzed and reported (see Table 5-3). Identifications and enumerations were performed on 108 samples.

4. Taxonomic Data

The benthic macroinvertebrate populations varied from a Chironomidae/Tubificidae/Hexagenia community structure in the reservoir stations (TRM 350 and 345.3) to an Oligochaeta (Tubificidae)/Chironomidae community structure in the more organically enriched Huntsville Spring Branch/Indian Creek system (see Table 5-9). Gastropods and molluscs (with the exception of Sphaerium sp.) were generally not found in the HSB/IC system. Conversely, the odonates Libellulidae and Macromiidae, and the isopod, Asellus sp., were only found in the HSB/IC system. Coleopterans were found only in one tributary station, ERM 20.7, and megalopterans were found only at TRM 350.0 LOB.

D. Aufwuchs

Although the plant and animal portions of the aufwuchs were sampled, only the animal samples were analyzed.

1. Stations Sampled

ICM 0.0; ICM 4.0; BFCM 1.2; HSBM 0.0; HSBM 1.3; HSBM 2.4; HSBM 5.37; HSBM 5.9; TRM 289.9 LOB, MC, ROB; TRM 315.0 LOB, ROB; TRM 345.2 LOB, ROB; TRM 350.0 LOB, ROB.

2. Number of Samples Collected

Although 69 samplers were placed, vandalism or natural phenomena caused the loss of samplers at some stations. There were 32 Hester-Dendy traps recovered for DDTR analyses and 12 recovered for identification and enumeration.

3. Number of Analyses Performed

DDTR analyses were performed on 32 samples (see Table 5-3). Identifications were done on eight of the Hester-Dendy samplers.

4. Taxonomic Data

The community data from the Hester-Dendy traps shows a shift in structure from a trichopteran-dominated structure in the river (TRM 350.0 and 345.2) to a chironomid dominated one in the HSB/IC system (see Table 5-10). Hydropsychids, planarians, and amphipods were found in the Tennessee River but not in the HSB/IC system. Conversely, odonates and molluscs were found on the samplers from the HSB/IC system but not from those in the Tennessee River.

E. Aquatic Vascular Plants

1. Stations and Species Sampled

Samples of two aquatic plant species, buttonbush (Cephalanthus occidentalis L.) and halberd-leaved marsh mallow (Hibiscus militaris Cav.) were collected from the following localities: TRM 293.0 (LOB), TRM 305.1 (ROB), TRM 328.5 (LOB), TRM 359.0 (ROB), ICM 4.2, ICM 6.7, ICM 7.0, HSBM 2.5, HSBM 4.5. Buttonbush samples also were collected at HSBM 5.6. Duckweed, consisting of a mixture of Lemna sp. and Spirodela polyrrhiza (L.) Schield., was collected from along Huntsville Spring Branch at HSBM 4.5 and HSBM 5.6. Samples of Hibiscus and Cephalanthus consisted of seeds, fruits, and stems and leaves from the upper portion of the plant. In the case of duckweed, the entire plant was collected for analysis.

With the exception of the collection of duckweed from HSBM 4.5 and collections of Hibiscus and Cephalanthus from ICM 2.5, three replicates of each species were collected at sampling localities. Only two replicates of duckweed were collected at HSBM 4.5 due to the paucity of plants at this station.

Buttonbush and halberd-leaved marsh mallow were selected because of their common and widespread occurrence along Indian Creek, Huntsville Spring Branch, and mainstream reservoirs of the Tennessee River. Halberd-leaved marsh mallow is an herbaceous, emergent species typically found along the margins of streams, rivers, embayments, and overbank areas of reservoirs, while buttonbush is a woody shrub commonly found in shallow water in similar habitats to those described for Hibiscus. Both species frequently grow on mud flats that are inundated during the early portion of the growing season. Habitats from which the two species mentioned above were collected include stream and reservoir margins, the shallow water of beaver ponds, and margins of embayments. Duckweed, a small floating herbaceous plant that frequently covers the water surface in sloughs and backwater areas with restricted flow, was collected from the still water of beaver ponds along Huntsville Spring Branch. The upper and lower portions of Indian Creek embayment were searched for duckweed but no colonies were found in these areas at the time of collection.

The samples of Hibiscus and Cephalanthus were not washed prior to sample shipment. While the lower portions of these plants are frequently covered with sediments deposited during times of high water (i.e., spring and early summer), the upper plant portions were not covered with excessive sediments. However, some adherance of soil particulates to the upper portions of these plants undoubtly occurred as a result of fluctuations in water levels and other phenomena. The relatively small amount of sediment on the collected plant structures would most likely be ingested by feeding herbivores. The collections of duckweed were field washed by gently 'sloshing' the plants in their surrounding water medium. This removed the major portion of floating organic debris commonly associated with duckweed colonies. Due to the small size of duckweeds and associated organic debris, some non-living organic material was inadvertently included in the duckweed samples.

2. Number of Samples Collected/Number of Analyses Performed

A total of 62 samples were collected and DDT residue analyses performed on 31 samples of Cephalanthus, 26 samples of Hibiscus, and 5 samples of duckweek. One sample of Cephalanthus collected at HSBM 4.5 was lost during lab preparation (see Table 5-3).

F. Whole Water and Sediment

Whole water and sediment samples were collected from two tributary stations above the influence of Wheeler Reservoir.

1. Stations Sampled

LCM 18.0 ROB, LOB; FRM 22.7 ROB, LOB.

2. Number of Samples Collected

One whole water sample and two sediment samples were collected at each station resulting in two whole water samples and four sediment samples for DDTR analyses.

3. Number of Analyses Performed

Two whole water DDTR analyses and four sediment analyses were performed (see Table 5-3).

III. Late Fall/Early Winter

A. Phytoplankton/Inorganic

No samples were collected for DDTR analysis or identification/enumeration.

B. Zooplankton

1. Stations Sampled

ICM 0.8; ICM 4.6; HSBM 2.4; HSBM 5.9.

2. Number of Samples Collected

Triplicate samples were collected at all stations for a total of 12 samples for DDTR analyses and 12 samples for determining percentage zooplankton, percentage other organics, and percentage inorganic particles.

3. Number of Analyses Performed

There were six DDTR analyses performed, some replicate samples had to be combined to yield sufficient sample volume for analysis (see Table 5-3). There were 14 particle percentage determinations made with one sample analyzed at three different dilution volumes (see Table 5-11).

4. Taxonomic Data

No samples were analyzed for species composition/enumeration.

C. Benthic Macroinvertebrates

1. Stations Sampled

ICM 0.8; ICM 4.6; HSBM 2.4; HSBM 5.9.

2. Number of Samples Collected

Triplicate samples were collected for DDTR analyses at each station. Six dredge hauls were taken at each of three locations (25, 50, and 75 percent) on a horizontal transect at each station. The six dredge hauls at each percentage point were composited to yield three samples per river mile.

3. Number of Analyses Performed

Each composite sample was analyzed for DDTR, yielding 12 DDTR data points (see Table 5-3).

4. Taxonomic Data

The benthic macroinvertebrate samples were not subjected to identification/enumeration analysis.

D. Aufwuchs

No aufwuchs samples were taken for DDTR analysys or identification/ enumeration.

E. Aquatic Vascular Plants

No macrophyte samples were taken for DDTR analysis.

F. Whole Water and Sediments

No samples were collected for DDTR analysis.

Table 5-3

SUMMARY OF CHEMICAL DATA FOR TASK 5

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK5 - AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

							TOTAL CONCENTRATIONS OF DDT IN AQUATIC ORGANISMS						--TOTAL DDTR--	
STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	SAMPLE TYPE-SPECIES	WEIGHT (GM)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MIN (UG/G)	MAX (UG/G)
BARREN FORK CREEK	1.20		24OCT79	5-187	AUFWUCHS	24.4	< 0.001	0.003	0.015	0.009	0.014	0.025	0.066	0.067
BARREN FORK CREEK	1.20		24OCT79	5-188	AUFWUCHS	14.6	0.003	0.010	0.074	0.170	0.020	0.081	0.356	0.356
H-VILLE SPRING BR	0.00		24OCT79	5-189	AUFWUCHS	26.2	0.050	1.570	1.570	2.220	0.730	1.600	7.740	7.740
H-VILLE SPRING BR	0.00		24OCT79	5-190	AUFWUCHS	14.1	0.070	0.450	1.490	2.620	0.570	1.130	6.330	6.330
H-VILLE SPRING BR	1.30		24OCT79	5-191	AUFWUCHS	8.100	6.050	20.700	4.840	12.400	1.740	3.720	49.450	49.450
H-VILLE SPRING BR	2.40		24OCT79	5-192	AUFWUCHS	16.3	0.430	16.600	3.200	11.000	1.040	2.700	34.970	34.970
H-VILLE SPRING BR	2.40		24OCT79	5-193	AUFWUCHS	8.600	0.930	23.200	3.480	9.400	1.390	3.020	41.420	41.420
H-VILLE SPRING BR	5.37		24OCT79	5-194	AUFWUCHS	16.4	0.004	0.018	0.029	0.020	0.024	0.410	0.505	0.505
H-VILLE SPRING BR	5.37		24OCT79	5-195	AUFWUCHS	10.9	0.006	0.009	0.006	0.017	0.010	0.004	0.052	0.052
H-VILLE SPRING BR	5.90		24OCT79	5-196	AUFWUCHS	14.2	0.007	0.010	0.016	0.041	0.031	0.016	0.121	0.121
H-VILLE SPRING BR	5.90		24OCT79	5-197	AUFWUCHS	23.5	0.004	0.060	0.020	0.040	0.030	0.020	0.174	0.174
INDIAN CREEK	0.00		24OCT79	5-183	AUFWUCHS	67	0.015	0.036	0.280	0.550	0.088	0.230	1.199	1.199
INDIAN CREEK	0.00		24OCT79	5-184	AUFWUCHS	19	0.003	0.006	0.110	0.270	0.060	0.150	0.599	0.599
INDIAN CREEK	4.00		24OCT79	5-185	AUFWUCHS	28.7	0.049	0.730	0.920	1.110	0.330	0.840	3.979	3.979
INDIAN CREEK	4.00		24OCT79	5-186	AUFWUCHS	14.6	0.021	0.110	0.360	0.620	0.130	0.210	1.451	1.451
TENNESSEE RIVER	289.90		24OCT79	5-176	AUFWUCHS	17.6	0.003	0.010	0.012	0.029	0.006	0.015	0.075	0.075
TENNESSEE RIVER	289.90		24OCT79	5-177	AUFWUCHS	9.000	0.011	0.110	0.024	0.049	0.014	0.041	0.249	0.249
TENNESSEE RIVER	315.00		24OCT79	5-178	AUFWUCHS	26.9	0.006	0.032	0.006	0.028	0.006	0.014	0.094	0.094
TENNESSEE RIVER	315.00		24OCT79	5-179	AUFWUCHS	25.8	0.004	0.027	0.009	0.022	0.005	0.012	0.079	0.079
TENNESSEE RIVER	315.00		24OCT79	5-180	AUFWUCHS	29.1	0.003	0.004	0.004	0.008	0.008	0.007	0.034	0.034
TENNESSEE RIVER	315.00	RT. BANK	1NOV79	5-216	AUFWUCHS	27.6	0.007	0.007	0.069	0.087	0.203	0.160	0.533	0.533
TENNESSEE RIVER	315.00	RT. BANK	1NOV79	5-217	AUFWUCHS	26.5	0.003	0.006	0.025	0.049	0.019	0.074	0.176	0.176
TENNESSEE RIVER	315.00	RT. BANK	1NOV79	5-218	AUFWUCHS	34.5	0.006	0.006	0.049	0.078	0.041	0.160	0.340	0.340
TENNESSEE RIVER	315.00	RT. BANK	1NOV79	5-219	AUFWUCHS	35.4	0.002	0.003	0.018	0.033	0.015	0.700	0.771	0.771
TENNESSEE RIVER	345.20	RT. BANK	1NOV79	5-220	AUFWUCHS	44.9	0.002	0.002	0.016	0.036	0.007	0.021	0.084	0.084
TENNESSEE RIVER	345.20	RT. BANK	1NOV79	5-221	AUFWUCHS	44.3	0.003	0.003	0.001	0.002	0.003	0.004	0.016	0.016
TENNESSEE RIVER	345.20	RT. BANK	1NOV79	5-222	AUFWUCHS	32.8	0.008	0.009	0.001	0.002	0.008	0.009	0.037	0.037
TENNESSEE RIVER	345.20	RT. BANK	1NOV79	5-223	AUFWUCHS	27.6	0.006	0.009	< 0.001	0.003	0.005	0.006	0.029	0.030
TENNESSEE RIVER	350.00		24OCT79	5-181	AUFWUCHS	11.3	< 0.003	< 0.003	0.003	0.007	0.002	0.004	0.016	0.022
TENNESSEE RIVER	350.00		24OCT79	5-182	AUFWUCHS	7.300	< 0.005	0.005	0.007	0.014	0.005	0.010	0.041	0.046
TENNESSEE RIVER	350.00	LT. BANK	1NOV79	5-224	AUFWUCHS	6.400	< 0.006	< 0.006	< 0.005	0.005	< 0.003	0.005	0.010	0.030
TENNESSEE RIVER	350.00	LT. BANK	1NOV79	5-225	AUFWUCHS	5.600	< 0.005	< 0.005	< 0.005	< 0.005	< 0.002	0.009	0.009	0.031
TENNESSEE RIVER	350.00	RT. BANK	1NOV79	5-226	AUFWUCHS	7.700	< 0.005	< 0.005	0.005	0.010	0.005	0.007	0.027	0.037
TENNESSEE RIVER	350.00	RT. BANK	1NOV79	5-227	AUFWUCHS	9.500	< 0.004	< 0.004	< 0.003	0.003	< 0.002	0.003	0.006	0.019
BARREN FORK CREEK	1.20		12SEP79	5-047	BENTHOS	.	< 0.006	0.020	0.450	0.950	0.180	0.460	2.060	2.066
ELK RIVER	20.70		18OCT79	5-115	BENTHOS	3.600	0.140	0.310	0.022	0.047	0.033	0.060	0.612	0.612
ELK RIVER	20.70		18OCT79	5-116	BENTHOS	15.8	0.260	0.890	0.067	0.110	0.051	0.130	1.508	1.508
ELK RIVER	20.70		18OCT79	5-117	BENTHOS	21.3	0.002	0.005	< 0.001	0.001	0.002	0.001	0.011	0.012
FLINT RIVER	22.70		25OCT79	5-173	BENTHOS	36.5	0.005	0.033	0.001	0.007	0.002	0.012	0.060	0.060
FLINT RIVER	22.70		25OCT79	5-174	BENTHOS	48.1	.	.	.	.	.	.	.	.
FLINT RIVER	22.70		25OCT79	5-175	BENTHOS	41.6	0.003	0.014	0.002	0.006	0.002	0.010	0.037	0.037
H-VILLE SPRING BR	2.40	25	15DEC79	5M-17	BENTHOS	0.600	< 1.000	6.980	2.970	9.400	3.050	6.140	28.540	28.540
H-VILLE SPRING BR	2.40	50	15DEC79	5M-18	BENTHOS	0.700	3.180	14.900	4.210	22.200	4.260	6.680	55.430	55.430
H-VILLE SPRING BR	2.40	75	15DEC79	5M-19	BENTHOS	1.700	28.700	280	69.900	173	27.300	94.300	683.200	683.200
H-VILLE SPRING BR	4.30		30AUG79	5-003	BENTHOS	.	0.020	0.010	0.530	0.900	0.270	0.660	2.390	2.390
H-VILLE SPRING BR	4.30		30AUG79	5-004	BENTHOS	.	0.010	0.020	0.570	0.450	0.320	0.740	2.610	2.610

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 5 - AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	SAMPLE TYPE-SPECIES	WEIGHT (GM)	TOTAL CONCENTRATIONS OF DDT IN AQUATIC ORGANISMS DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	—TOTAL DDTR— MIN (UG/G)	MAX (UG/G)
H-VILLE SPRING BR	5.37		3OCT79	5-111	BENTHOS	2.100	7.730	3571	90.300	1488	86.900	333	5577.13	5577.13
H-VILLE SPRING BR	5.37		3OCT79	5-112	BENTHOS	2.100	59.500	200	6.430	66.900	5.710	31.000	389.540	389.540
H-VILLE SPRING BR	5.37		3OCT79	5-113	BENTHOS	2.700	127	1590	55.600	259	36.900	94.500	2165	2165
H-VILLE SPRING BR	5.90	25	16DEC79	5M-23	BENTHOS	1.600	< 1.000	< 1.000	1.480	4.520	0.670	1.340	8.010	10.010
H-VILLE SPRING BR	5.90	50	16DEC79	5M-24	BENTHOS	1.100	< 0.400	< 0.500	< 0.200	0.440	0.130	0.220	0.790	1.890
H-VILLE SPRING BR	5.90	75	16DEC79	5M-25	BENTHOS	0.900	< 2.000	< 2.000	< 0.500	0.670	< 0.400	< 0.400	0.670	5.970
INDIAN CREEK	0.30		29AUG79	5-005	BENTHOS	27.2	0.180	< 0.100	4.200	7.540	1.930	3.680	17.530	17.630
INDIAN CREEK	0.00		29AUG79	5-006	BENTHOS	25.2	0.300	0.060	6.550	14.200	2.880	7.150	31.140	31.140
INDIAN CREEK	0.90	25	16DEC79	5M-26	BENTHOS	2.100	0.920	< 0.600	18.600	44.000	8.140	18.400	90.060	90.660
INDIAN CREEK	0.80	50	16DEC79	5M-27	BENTHOS	1.700	< 9.000	<11.000	51.100	117	30.600	56.600	255.300	275.300
INDIAN CREEK	0.80	75	16DEC79	5M-25	BENTHOS	0.900	4.110	< 3.000	30.700	93.700	10.600	22.900	162.010	165.010
INDIAN CREEK	4.60	25	15DEC79	5M-20	BENTHOS	1.100	< 0.800	1.370	2.440	11.000	2.370	3.120	20.300	21.100
INDIAN CREEK	4.60	50	15DEC79	5M-21	BENTHOS	10.1	19.900	15.600	146	318	39.500	166	708.000	708.000
INDIAN CREEK	4.60	75	15DEC79	5M-22	BENTHOS	1.600	6.630	< 6.000	73.300	149	31.100	67.200	329.230	335.230
LIMESTONE CREEK	19.00		23OCT79	5-167	BENTHOS	30.5	0.015	0.690	0.007	0.015	0.005	0.270	1.005	1.005
LIMESTONE CREEK	19.00		23OCT79	5-168	BENTHOS	47	0.002	0.014	0.002	0.009	0.002	0.016	0.045	0.045
LIMESTONE CREEK	18.00		23OCT79	5-169	BENTHOS	34	0.004	0.031	0.003	0.007	0.003	0.016	0.064	0.064
TENNESSEE RIVER	289.90		6SEP79	5-045	BENTHOS	43.2	0.003	0.002	0.004	0.011	0.005	0.010	0.035	0.035
TENNESSEE RIVER	289.90		6SEP79	5-046	BENTHOS	35.2	0.006	0.014	0.036	0.078	0.024	0.065	0.223	0.223
TENNESSEE RIVER	315.00	LT. BANK	29AUG79	5-007	BENTHOS	35.6	0.002	0.001	0.015	0.007	0.005	0.008	0.038	0.038
TENNESSEE RIVER	315.00	LT. BANK	29AUG79	5-008	BENTHOS	33.4	0.011	0.012	0.002	0.010	0.007	0.015	0.057	0.057
TENNESSEE RIVER	315.00	RT. BANK	29AUG79	5-009	BENTHOS	11.6	0.026	0.026	0.140	0.280	0.095	0.220	0.787	0.787
TENNESSEE RIVER	315.00	RT. BANK	29AUG79	5-010	BENTHOS	9.400	0.022	0.022	0.210	0.380	0.140	0.340	1.114	1.114
TENNESSEE RIVER	345.30		5SEP79	5-044	BENTHOS	44.5	0.003	0.005	0.003	0.001	0.004	0.004	0.020	0.020
TENNESSEE RIVER	350.00	LT. BANK	17SEP79	5-035	BENTHOS	34.6	0.009	0.010	< 0.001	0.002	0.006	0.007	0.034	0.035
TENNESSEE RIVER	350.00	LT. BANK	17SEP79	5-036	BENTHOS	30.3	0.022	0.021	< 0.001	0.003	0.014	0.015	0.075	0.076
TENNESSEE RIVER	350.00	LT. BANK	17SEP79	5-037	BENTHOS	44.5	0.023	0.011	< 0.001	0.003	0.006	0.007	0.050	0.051
TENNESSEE RIVER	350.00	MIDDLE	17SEP79	5-038	BENTHOS	40.5	0.004	0.003	< 0.001	0.001	0.005	0.002	0.015	0.016
TENNESSEE RIVER	350.00	MIDDLE	17SEP79	5-039	BENTHOS	34.1	0.004	0.003	0.001	0.004	0.004	0.004	0.020	0.020
TENNESSEE RIVER	350.00	MIDDLE	17SEP79	5-040	BENTHOS	35.7	0.005	0.004	0.001	0.004	0.004	0.004	0.022	0.022
TENNESSEE RIVER	350.00	RT. BANK	17SEP79	5-041	BENTHOS	44.4	0.009	0.009	< 0.001	0.001	0.007	0.005	0.031	0.032
TENNESSEE RIVER	350.00	RT. BANK	17SEP79	5-042	BENTHOS	47.7	0.003	0.006	< 0.001	0.001	0.002	0.002	0.014	0.015
TENNESSEE RIVER	350.00	RT. BANK	17SEP79	5-043	BENTHOS	47.2	0.008	0.009	< 0.001	0.001	0.007	0.005	0.030	0.031
H-VILLE SPRING BR	2.50		18OCT79	5-144	CEPHALANTHUS	.	0.009	0.047	0.120	0.210	0.019	0.052	0.457	0.457
H-VILLE SPRING BR	2.50		18OCT79	5-145	CEPHALANTHUS	.	0.012	0.060	0.073	0.150	0.017	0.057	0.369	0.369
H-VILLE SPRING BR	2.50		18OCT79	5-146	CEPHALANTHUS	.	0.010	0.024	0.053	0.100	0.010	0.029	0.226	0.226
H-VILLE SPRING BR	2.50		18OCT79	5-147	CEPHALANTHUS	.	< 0.001	0.002	0.001	0.002	0.001	0.001	0.007	0.008
H-VILLE SPRING BR	4.50		18OCT79	5-136	CEPHALANTHUS	.	0.017	0.020	0.051	0.078	0.019	0.050	0.235	0.235
H-VILLE SPRING BR	4.50		18OCT79	5-137	CEPHALANTHUS	.	0.013	0.014	0.032	0.043	0.023	0.036	0.161	0.161
H-VILLE SPRING BR	4.50		18OCT79	5-138	CEPHALANTHUS	.	0.020	0.028	0.052	0.089	0.019	0.068	0.276	0.276
H-VILLE SPRING BR	5.60		18OCT79	5-130	CEPHALANTHUS	.	0.001	0.002	0.001	0.001	0.001	0.001	0.007	0.007
H-VILLE SPRING BR	5.60		18OCT79	5-131	CEPHALANTHUS	.	0.001	0.004	0.001	0.001	0.002	0.002	0.011	0.011
H-VILLE SPRING BR	5.60		18OCT79	5-132	CEPHALANTHUS	.	0.001	0.002	0.001	0.001	0.001	0.001	0.007	0.007
INDIAN CREEK	4.20		18OCT79	5-150	CEPHALANTHUS	.	0.002	0.004	0.031	0.076	0.007	0.017	0.137	0.137
INDIAN CREEK	4.20		18OCT79	5-151	CEPHALANTHUS	.	0.001	0.008	0.016	0.034	0.004	0.011	0.074	0.074
INDIAN CREEK	4.20		18OCT79	5-152	CEPHALANTHUS	.	0.002	0.004	0.020	0.046	0.005	0.012	0.089	0.089
INDIAN CREEK	6.70		18OCT79	5-127	CEPHALANTHUS	.	0.001	0.002	0.005	0.010	0.002	0.003	0.023	0.023
INDIAN CREEK	6.70		18OCT79	5-128	CEPHALANTHUS	.	0.001	0.003	0.005	0.012	0.002	0.004	0.027	0.027

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK5 - AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

							TOTAL CONCENTRATIONS OF DDT IN AQUATIC ORGANISMS						—TOTAL DDTR--	
STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	SAMPLE TYPE-SPECIES	WEIGHT (GM)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MIN (UG/G)	MAX (UG/G)
INDIAN CREEK	6.70		16OCT79	5-129	CEPHALANTHUS	.	0.001	0.002	0.004	0.008	0.002	0.003	0.020	0.020
INDIAN CREEK	7.00		18OCT79	5-118	CEPHALANTHUS	.	0.001	0.003	0.021	0.050	0.005	0.007	0.087	0.087
INDIAN CREEK	7.00		18OCT79	5-119	CEPHALANTHUS	.	0.002	0.002	0.004	0.010	0.002	0.002	0.022	0.022
INDIAN CREEK	7.00		16OCT79	5-120	CEPHALANTHUS	.	< 0.001	< 0.002	0.003	0.005	0.001	0.002	0.011	0.014
TENNESSEE RIVER	293.00	LEFT	22OCT79	5-158	CEPHALANTHUS	.	< 0.001	0.002	0.001	0.002	0.001	0.001	0.007	0.008
TENNESSEE RIVER	293.00	LEFT	22OCT79	5-159	CEPHALANTHUS	.	0.002	0.003	0.002	0.003	0.002	0.002	0.014	0.014
TENNESSEE RIVER	293.00	LEFT	22OCT79	5-160	CEPHALANTHUS	.	0.001	0.002	0.001	0.002	0.001	0.003	0.010	0.010
TENNESSEE RIVER	305.10	RIGHT	25OCT79	5-198	CEPHALANTHUS	.	0.001	0.002	0.001	0.004	0.001	0.002	0.011	0.011
TENNESSEE RIVER	305.10	RIGHT	25OCT79	5-199	CEPHALANTHUS	.	0.001	0.003	0.001	0.003	0.001	0.001	0.010	0.010
TENNESSEE RIVER	305.10	RIGHT	25OCT79	5-200	CEPHALANTHUS	.	0.001	0.002	0.001	0.002	0.001	0.001	0.008	0.008
TENNESSEE RIVER	328.50	LEFT	25OCT79	5-204	CEPHALANTHUS	.	0.001	0.002	0.001	0.001	0.001	0.001	0.007	0.007
TENNESSEE RIVER	328.50	LEFT	25OCT79	5-205	CEPHALANTHUS	.	< 0.001	0.002	0.001	0.001	0.001	0.001	0.006	0.007
TENNESSEE RIVER	328.50	LEFT	25OCT79	5-206	CEPHALANTHUS	.	0.001	0.002	0.001	0.001	0.001	0.001	0.007	0.007
TENNESSEE RIVER	359.00	RIGHT	25OCT79	5-210	CEPHALANTHUS	.	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.000	0.007
TENNESSEE RIVER	359.00	RIGHT	25OCT79	5-211	CEPHALANTHUS	.	0.001	0.002	0.001	0.001	0.001	0.001	0.007	0.007
TENNESSEE RIVER	359.00	RIGHT	25OCT79	5-212	CEPHALANTHUS	.	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.000	0.007
H-VILLE SPRING BR	5.60		18OCT79	5-133	DUCKWEED	.	0.002	0.004	0.005	0.013	0.008	0.007	0.039	0.039
H-VILLE SPRING BR	5.60		16OCT79	5-134	DUCKWEED	.	< 0.001	0.018	0.057	0.018	0.031	0.010	0.134	0.135
H-VILLE SPRING BR	5.60		18OCT79	5-135	DUCKWEED	.	0.002	0.004	0.005	0.011	0.005	0.013	0.040	0.040
H-VILLE SPRING BR	2.50		18OCT79	5-148	HIBISCUS	.	0.024	0.049	0.230	0.320	0.061	0.210	0.894	0.894
H-VILLE SPRING BR	2.50		16OCT79	5-149	HIBISCUS	.	0.018	0.096	0.170	0.230	0.045	0.120	0.679	0.679
H-VILLE SPRING BR	4.50		18OCT79	5-139	HIBISCUS	.	0.011	0.028	0.032	0.040	0.010	0.033	0.154	0.154
H-VILLE SPRING BR	4.50		18OCT79	5-140	HIBISCUS	.	0.013	0.082	0.038	0.046	0.012	0.041	0.232	0.232
H-VILLE SPRING BR	4.50		16OCT79	5-141	HIBISCUS	.	0.072	0.450	0.120	0.190	0.036	0.110	0.978	0.978
INDIAN CREEK	4.20		16OCT79	5-153	HIBISCUS	.	0.003	0.004	0.058	0.067	0.014	0.042	0.208	0.208
INDIAN CREEK	4.20		18OCT79	5-154	HIBISCUS	.	0.002	0.003	0.042	0.075	0.009	0.028	0.159	0.159
INDIAN CREEK	4.20		16OCT79	5-155	HIBISCUS	.	0.002	0.006	0.034	0.061	0.008	0.034	0.145	0.145
INDIAN CREEK	6.70		18OCT79	5-124	HIBISCUS	.	0.001	< 0.002	0.010	0.019	0.003	0.005	0.038	0.040
INDIAN CREEK	6.70		18OCT79	5-125	HIBISCUS	.	0.001	0.002	0.014	0.030	0.003	0.007	0.057	0.057
INDIAN CREEK	6.70		16OCT79	5-126	HIBISCUS	.	0.001	0.003	0.019	0.035	0.054	0.007	0.119	0.119
INDIAN CREEK	7.00		18OCT79	5-121	HIBISCUS	.	< 0.001	< 0.002	0.003	0.006	0.002	0.002	0.013	0.016
INDIAN CREEK	7.00		16OCT79	5-122	HIBISCUS	.	0.002	0.004	0.020	0.041	0.007	0.007	0.081	0.081
INDIAN CREEK	7.00		18OCT79	5-123	HIBISCUS	.	0.001	0.002	0.002	0.005	0.001	0.001	0.012	0.012
TENNESSEE RIVER	293.00	LEFT	22OCT79	5-161	HIBISCUS	.	< 0.001	0.002	< 0.001	0.002	0.001	0.002	0.007	0.009
TENNESSEE RIVER	293.00	LEFT	22OCT79	5-162	HIBISCUS	.	< 0.001	< 0.002	< 0.001	< 0.001	0.001	0.001	0.002	0.007
TENNESSEE RIVER	293.00	LEFT	22OCT79	5-163	HIBISCUS	.	< 0.001	0.002	0.001	0.001	0.001	0.001	0.006	0.007
TENNESSEE RIVER	305.10	RIGHT	25OCT79	5-201	HIBISCUS	.	0.002	0.004	0.002	0.005	0.002	0.003	0.018	0.018
TENNESSEE RIVER	305.10	RIGHT	25OCT79	5-202	HIBISCUS	.	0.001	0.003	0.002	0.004	0.003	0.002	0.015	0.015
TENNESSEE RIVER	305.10	RIGHT	25OCT79	5-203	HIBISCUS	.	0.001	0.002	0.002	0.006	0.002	0.003	0.016	0.016
TENNESSEE RIVER	328.50	LEFT	25OCT79	5-207	HIBISCUS	.	< 0.001	0.002	< 0.001	0.001	0.001	0.001	0.005	0.007
TENNESSEE RIVER	326.50	LEFT	25OCT79	5-208	HIBISCUS	.	< 0.001	0.002	0.001	0.001	0.002	0.001	0.007	0.008
TENNESSEE RIVER	328.50	LEFT	25OCT79	5-209	HIBISCUS	.	0.001	0.002	0.001	0.001	0.001	0.001	0.007	0.007
TENNESSEE RIVER	359.00	RIGHT	25OCT79	5-213	HIBISCUS	.	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.000	0.007
TENNESSEE RIVER	359.00	RIGHT	25OCT79	5-214	HIBISCUS	.	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.000	0.007
TENNESSEE RIVER	359.00	RIGHT	25OCT79	5-215	HIBISCUS	.	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	0.001	0.001	0.007

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK5 - AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

							TOTAL CONCENTRATIONS OF DDT IN AQUATIC ORGANISMS						--TOTAL DDTR--	
STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	SAMPLE TYPE-SPECIES	WEIGHT (GM)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MIN (UG/G)	MAX (UG/G)
H-VILLE SPRING BR	4.50		18OCT79	5-142	LEMNA-SPIRODEIA	.	< 0.001	0.410	0.760	1.790	0.240	0.550	3.750	3.751
H-VILLE SPRING BR	4.50		16OCT79	5-143	LEMNA-SPIRODEIA	.	0.270	1.740	1.410	2.610	0.400	1.010	7.440	7.440
FLINT RIVER	22.70	LT. BANK	25OCT79	5-171	SEDIMENT	.	0.014	0.046	0.006	0.012	0.004	0.032	0.114	0.114
FLINT RIVER	22.70	RT. BANK	25OCT79	5-172	SEDIMENT	.	< 0.007	0.012	< 0.005	0.006	< 0.003	0.012	0.030	0.045
LIMESTONE CREEK	18.00	LT. BANK	22OCT79	5-165	SEDIMENT	.	< 0.007	0.020	< 0.005	0.008	< 0.003	0.020	0.048	0.063
LIMESTONE CREEK	18.00	RT. BANK	22OCT79	5-166	SEDIMENT	.	0.006	0.018	< 0.005	0.012	0.004	0.012	0.052	0.057
BARREN FORK CREEK	1.20		24SEP79	5-105C	ZOOPLANKTON	0.110	0.300	0.410	12.000	21.100	4.550	13.600	51.960	51.960
H-VILLE SPRING BR	0.00		25SEP79	5-084	ZOOPLANKTON	0.460	1.410	165	9.660	33.700	3.360	8.030	221.160	221.160
H-VILLE SPRING BR	0.00		25SEP79	5-035	ZOOPLANKTON	0.320	2.350	291	21.900	75.000	7.750	16.100	416.100	416.100
H-VILLE SPRING BR	0.00		25SEP79	5-096	ZOOPLANKTON	0.260	2.700	246	18.700	69.200	6.740	16.300	359.640	359.640
H-VILLE SPRING BR	1.30		25SEP79	5-087C	ZOOPLANKTON	0.400	2.750	264	45.000	109	12.500	31.300	464.550	464.550
H-VILLE SPRING BR	1.30		25SEP79	5-088	ZOOPLANKTON	0.250	6.200	360	70.000	156	19.400	58.000	689.600	689.600
H-VILLE SPRING BR	2.40		24SEP79	5-090C	ZOOPLANKTON	0.360	19.500	326	40.300	200	15.300	38.900	640.000	640.000
H-VILLE SPRING BR	2.40		24SEP79	5-091	ZOOPLANKTON	0.260	19.200	942	46.200	171	13.500	38.500	1230.4	1230.4
H-VILLE SPRING BR	2.40		15DEC79	5M-05	ZOOPLANKTON	0.270	20.000	676	12.800	135	4.850	31.700	880.350	880.350
H-VILLE SPRING BR	2.40		15DEC79	5M-06	ZOOPLANKTON	0.121	21.500	532	8.870	109	4.260	21.700	697.330	697.330
H-VILLE SPRING BR	2.40		15DEC79	5M-07	ZOOPLANKTON	0.422	33.000	1270	23.500	230	7.990	53.500	1617.99	1617.99
H-VILLE SPRING BR	5.37		25SEP79	5-093	ZOOPLANKTON	0.450	22.100	139	4.110	13.300	4.440	12.800	195.750	195.750
H-VILLE SPRING BR	5.37		25SEP79	5-094C	ZOOPLANKTON	0.290	8.280	126	1.900	12.400	1.550	4.830	154.960	154.960
H-VILLE SPRING BR	5.90		25SEP79	5-096C	ZOOPLANKTON	0.340	0.520	7.210	0.340	0.910	0.270	0.410	9.660	9.660
H-VILLE SPRING BR	5.90		15DEC79	5M-13C	ZOOPLANKTON	0.162	< 0.060	1.150	0.100	0.240	0.120	0.060	1.670	1.730
INDIAN CREEK	0.00		5SEP79	5-013C	ZOOPLANKTON	0.280	0.410	1.610	11.800	22.700	3.390	8.210	48.120	48.120
INDIAN CREEK	0.80		15DEC79	5M-14C	ZOOPLANKTON	0.003	0.110	2.130	0.140	0.460	0.060	0.130	3.030	3.030
INDIAN CREEK	4.00		5SEP79	5-011C	ZOOPLANKTON	0.180	0.890	60.600	32.100	63.900	9.730	22.800	190.020	190.020
INDIAN CREEK	4.00		25SEP79	5-102	ZOOPLANKTON	0.210	1.670	82.800	13.800	29.300	5.470	12.700	145.740	145.740
INDIAN CREEK	4.00		25SEP79	5-103C	ZOOPLANKTON	0.260	1.540	133	12.200	27.700	4.910	10.800	190.150	190.150
INDIAN CREEK	4.60		15DEC79	5M-10C	ZOOPLANKTON	0.250	5.810	252	9.230	58.100	3.630	9.890	338.660	338.660
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	5-048C	ZOOPLANKTON	0.300	0.230	1.530	0.930	1.670	0.470	0.900	5.730	5.730
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	5-051C	ZOOPLANKTON	0.260	< 0.100	0.850	0.770	1.350	0.420	0.810	4.200	4.300
TENNESSEE RIVER	289.90	LT. BANK	28SEP79	5-054C	ZOOPLANKTON	0.100	< 0.300	1.500	0.300	1.100	0.400	0.500	3.800	4.100
TENNESSEE RIVER	315.00	RT. BANK	25SEP79	5-057C	ZOOPLANKTON	1.000	< 0.030	0.520	0.130	0.330	0.080	0.140	1.200	1.230
TENNESSEE RIVER	315.00	MIDDLE	25SEP79	5-060C	ZOOPLANKTON	1.300	< 0.020	0.092	0.031	0.092	0.031	0.023	0.269	0.289
TENNESSEE RIVER	315.00	LT. BANK	25SEP79	5-063C	ZOOPLANKTON	0.880	< 0.030	0.080	< 0.020	0.068	< 0.020	0.023	0.171	0.241
TENNESSEE RIVER	345.00	LT. BANK	27SEP79	5-066C	ZOOPLANKTON	1.690	< 0.020	0.059	< 0.010	0.030	0.012	0.012	0.113	0.143
TENNESSEE RIVER	345.00	MIDDLE	27SEP79	5-069C	ZOOPLANKTON	1.000	< 0.030	0.110	0.020	0.050	0.040	0.020	0.240	0.270
TENNESSEE RIVER	345.00	RT. BANK	27SEP79	5-072	ZOOPLANKTON	1.300	< 0.020	0.092	0.039	0.085	0.031	0.023	0.270	0.290
TENNESSEE RIVER	345.00	RT. BANK	27SEP79	5-073	ZOOPLANKTON	1.000	< 0.030	0.050	< 0.020	< 0.020	< 0.020	< 0.010	0.050	0.150
TENNESSEE RIVER	345.00	RT. BANK	27SEP79	5-074	ZOOPLANKTON	1.100	< 0.030	0.046	< 0.020	< 0.020	< 0.030	< 0.010	0.046	0.156
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	5-075C	ZOOPLANKTON	0.320	0.190	0.810	0.190	0.380	0.130	0.130	1.830	1.830
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	5-078C	ZOOPLANKTON	0.400	0.530	7.000	0.480	1.050	0.150	0.350	9.560	9.560
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	5-081C	ZOOPLANKTON	0.210	0.140	1.100	0.190	0.670	0.140	0.190	2.430	2.430

FOOTNOTES:

A. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
B. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK5 - AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	SAMPLE TYPE-SPECIES	----------TOTAL CONCENTRATIONS OF DDT---------- DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	--TOTAL DDTR-- MIN (UG/L)	MAX (UG/L)
BARREN FORK CREEK	1.20		24SEP79	5-016A	PHYTOPLANKTON	< 0.080	< 0.080	0.150	0.260	< 0.040	< 0.040	0.410	0.650
BARREN FORK CREEK	1.20		24SEP79	5-016B	PHYTOPLANKTON	< 0.080	< 0.090	0.170	0.310	< 0.040	0.050	0.530	0.730
BARREN FORK CREEK	1.20		24SEP79	5-016C	PHYTOPLANKTON	< 0.080	< 0.080	0.150	0.270	< 0.040	< 0.040	0.420	0.660
H-VILLE SPRING BR	0.00		25SEP79	5-019A	PHYTOPLANKTON	0.800	1.400	1.920	3.080	0.190	0.280	7.670	7.670
H-VILLE SPRING BR	0.00		25SEP79	5-019B	PHYTOPLANKTON	0.100	0.310	1.180	2.830	0.300	0.480	5.200	5.200
H-VILLE SPRING BR	0.00		25SEP79	5-019C	PHYTOPLANKTON	< 0.080	0.150	1.110	2.230	0.240	0.390	4.120	4.200
H-VILLE SPRING BR	1.30		24SEP79	5-017A	PHYTOPLANKTON	0.100	0.090	1.920	3.790	0.280	0.470	6.650	6.650
H-VILLE SPRING BR	1.30		24SEP79	5-017B	PHYTOPLANKTON	0.110	0.110	1.940	3.900	0.310	0.530	6.900	6.900
H-VILLE SPRING BR	1.30		24SEP79	5-017C	PHYTOPLANKTON	0.100	0.120	2.320	4.340	0.290	0.480	7.650	7.650
H-VILLE SPRING BR	2.40		24SEP79	5-018A	PHYTOPLANKTON	0.470	0.210	3.460	6.440	0.500	1.600	12.680	12.680
H-VILLE SPRING BR	2.40		24SEP79	5-018B	PHYTOPLANKTON	0.190	0.380	3.000	5.610	0.420	0.910	10.510	10.510
H-VILLE SPRING BR	2.40		24SEP79	5-018C	PHYTOPLANKTON	< 0.080	1.340	0.990	4.960	0.340	0.650	8.280	8.360
H-VILLE SPRING BR	5.37		25SEP79	5-020A	PHYTOPLANKTON	< 0.080	0.120	0.840	1.980	0.160	0.220	3.320	3.400
H-VILLE SPRING BR	5.37		25SEP79	5-020B	PHYTOPLANKTON	< 0.080	< 0.080	0.790	2.030	0.150	0.220	3.190	3.350
H-VILLE SPRING BR	5.37		25SEP79	5-020C	PHYTOPLANKTON	< 0.080	0.230	0.770	1.760	0.140	0.210	3.110	3.190
H-VILLE SPRING BR	5.90		25SEP79	5-021A	PHYTOPLANKTON	< 0.080	< 0.060	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
H-VILLE SPRING BR	5.90		25SEP79	5-021B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	0.140	< 0.040	< 0.040	0.140	0.460
H-VILLE SPRING BR	5.90		25SEP79	5-021C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.060	0.090	< 0.040	< 0.040	0.090	0.410
INDIAN CREEK	0.00		5SEP79	5-002A	PHYTOPLANKTON	< 0.080	< 0.080	0.710	1.100	0.130	0.210	2.150	2.310
INDIAN CREEK	0.00		5SEP79	5-002B	PHYTOPLANKTON	< 0.080	0.090	0.710	1.480	0.120	0.160	2.580	2.660
INDIAN CREEK	0.00		5SEP79	5-002C	PHYTOPLANKTON	< 0.080	< 0.080	0.710	1.380	0.120	0.190	2.400	2.560
INDIAN CREEK	0.00		24SEP79	5-015A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.060	0.090	< 0.040	< 0.040	0.090	0.410
INDIAN CREEK	0.00		24SEP79	5-015B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.060	< 0.090	< 0.040	< 0.040	0.000	0.410
INDIAN CREEK	0.00		24SEP79	5-015C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.100	< 0.040	< 0.040	0.000	0.420
INDIAN CREEK	4.00		5SEP79	5-001A	PHYTOPLANKTON	< 0.080	0.090	1.120	2.260	0.220	0.360	4.050	4.130
INDIAN CREEK	4.00		5SEP79	5-001B	PHYTOPLANKTON	< 0.080	0.090	1.180	2.340	0.230	0.360	4.200	4.260
INDIAN CREEK	4.00		5SEP79	5-001C	PHYTOPLANKTON	< 0.080	0.100	1.150	2.240	0.230	0.370	4.090	4.170
INDIAN CREEK	4.00		25SEP79	5-022A	PHYTOPLANKTON	0.180	0.120	0.640	1.980	0.160	0.220	3.500	3.500
INDIAN CREEK	4.00		25SEP79	5-022B	PHYTOPLANKTON	< 0.080	< 0.080	0.790	2.030	0.150	0.220	3.190	3.350
INDIAN CREEK	4.00		25SEP79	5-022C	PHYTOPLANKTON	< 0.080	0.230	0.770	1.760	0.140	0.210	3.110	3.190
TENNESSEE RIVER	299.90	LT. BANK	28SEP79	5-032A	PHYTOPLANKTON	< 0.080	< 0.060	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	LT. BANK	28SEP79	5-032B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	LT. BANK	28SEP79	5-032C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	5-033A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	5-033B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	5-033C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	5-034A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	5-034B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	5-034C	PHYTOPLANKTON	< 0.080	< 0.090	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	LT. BANK	27SEP79	5-023A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	LT. BANK	27SEP79	5-023B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	LT. BANK	27SEP79	5-023C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	MIDDLE	27SEP79	5-024A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.060	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	MIDDLE	27SEP79	5-024B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	MIDDLE	27SEP79	5-024C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	RT. BANK	27SEP79	5-025A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.060	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	RT. BANK	27SEP79	5-025B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.060	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	RT. BANK	27SEP79	5-025C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK5 – AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LAPID	SAMPLE TYPE-SPECIES	----------TOTAL CONCENTRATIONS OF DDT---------- DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	--TOTAL DDTR-- MIN (UG/L)	MAX (UG/L)
TENNESSEE RIVER	345.20	LT. BANK	27SEP79	5-026A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	LT. BANK	27SEP79	5-026B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	LT. BANK	27SEP79	5-026C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	RT. BANK	27SEP79	5-027A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	RT. BANK	27SEP79	5-027B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	RT. BANK	27SEP79	5-027C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	MIDDLE	27SEP79	5-028A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	MIDDLE	27SEP79	5-028B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	MIDDLE	27SEP79	5-028C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	5-029A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	5-029B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	5-029C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	5-030A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	5-030B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	5-030C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	5-031A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	5-031B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	5-031C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
BARREN FORK CREEK	1.20		24SEP79	5-016	WATER	.	.	.	.	.	.	.	.
ELK RIVER	20.70		18OCT79	5-114	WATER	.	.	.	.	.	.	.	.
FLINT RIVER	22.70		25OCT79	5-157	WATER	.	.	.	.	.	.	.	.
FLINT RIVER	22.70		25OCT79	5-170	WATER	0.051	0.020	0.041	0.041	0.041	0.020	0.214	0.214
H-VILLE SPRING BR	0.00		25SEP79	5-019	WATER	.	.	.	.	.	.	.	.
H-VILLE SPRING BR	2.40		15DEC79	5M-01	WATER	.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.37		25SEP79	5-020	WATER	.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.90		25SEP79	5-021	WATER	.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.90		16DEC79	5M-03	WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	0.00		5SEP79	5-002	WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	0.00		24SEP79	5-015	WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	0.60		16DEC79	5M-04	WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	4.00		5SEP79	5-001	WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	4.00		25SEP79	5-022	WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	4.60		15DEC79	5M-02	WATER	.	.	.	.	.	.	.	.
LIMESTONE CREEK	18.00		22OCT79	5-156	WATER	.	.	.	.	.	.	.	.
LIMESTONE CREEK	18.00		22OCT79	5-164	WATER	0.110	0.490	0.020	0.067	0.030	0.044	0.761	0.761
TENNESSEE RIVER	289.90	LT. BANK	28SEP79	5-032	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	5-033	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	5-034	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	315.00	LT. BANK	27SEP79	5-023	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	315.00	MIDDLE	27SEP79	5-024	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	315.00	RT. BANK	27SEP79	5-025	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	345.20	LT. BANK	27SEP79	5-026	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	345.20	RT. BANK	27SEP79	5-027	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	345.20	MIDDLE	27SEP79	5-028	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	5-029	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	5-030	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	5-031	WATER	.	.	.	.	.	.	.	.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK5 - AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

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                                                                    -----------TOTAL CONCENTRATIONS OF DDT----------- --TOTAL DDTR--
                        HORIZONTAL                 SAMPLE           DDT-O,P DDT-P,P DDD-O,P DDD-P,P DDE-O,P DDE-P,P  MIN     MAX
STREAM             MILE LOCATION   DATE    LABID   TYPE-SPECIES     (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)
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FOOTNOTES:
A. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
B. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK5 - AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	SAMPLE TYPE-SPECIES	--------DISSOLVED CONCENTRATIONS OF DDT--------- DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	—TOTAL DDTR— MIN (UG/L)	MAX (UG/L)
BARREN FORK CREEK	1.20		24SEP79	5-016A	PHYTOPLANKTON	< 0.080	< 0.080	0.120	0.220	< 0.040	< 0.040	0.340	0.580
BARREN FORK CREEK	1.20		24SEP79	5-016B	PHYTOPLANKTON	< 0.080	< 0.080	0.100	0.160	< 0.040	< 0.040	0.260	0.520
BARREN FORK CREEK	1.20		24SEP79	5-016C	PHYTOPLANKTON	< 0.080	< 0.080	0.100	0.190	< 0.040	< 0.040	0.290	0.530
H-VILLE SPRING BR	0.00		25SEP79	5-019A	PHYTOPLANKTON	< 0.080	0.520	0.650	1.200	0.050	0.100	2.520	2.600
H-VILLE SPRING BR	0.00		25SEP79	5-019B	PHYTOPLANKTON	< 0.080	< 0.080	0.670	1.290	0.080	0.100	2.140	2.300
H-VILLE SPRING BR	0.00		25SEP79	5-019C	PHYTOPLANKTON	< 0.080	< 0.080	0.680	1.110	0.060	0.070	1.920	2.080
H-VILLE SPRING BR	1.30		24SEP79	5-017A	PHYTOPLANKTON	< 0.080	< 0.080	0.900	1.580	< 0.090	0.110	2.590	2.640
H-VILLE SPRING BR	1.30		24SEP79	5-017B	PHYTOPLANKTON	< 0.080	< 0.080	1.030	1.880	0.110	0.150	3.170	3.330
H-VILLE SPRING BR	1.30		24SEP79	5-017C	PHYTOPLANKTON	< 0.080	< 0.080	0.940	1.730	0.100	0.130	2.900	3.060
H-VILLE SPRING BR	2.40		24SEP79	5-018A	PHYTOPLANKTON	0.120	< 0.080	1.530	2.740	0.160	0.280	4.830	4.910
H-VILLE SPRING BR	2.40		24SEP79	5-018B	PHYTOPLANKTON	0.100	< 0.080	1.670	2.920	0.190	0.330	5.210	5.290
H-VILLE SPRING BR	2.40		24SEP79	5-018C	PHYTOPLANKTON	0.120	< 0.080	1.760	3.190	0.180	0.330	5.600	5.680
H-VILLE SPRING BR	5.37		25SEP79	5-020A	PHYTOPLANKTON	0.090	< 0.080	0.430	0.820	0.070	0.070	1.480	1.560
H-VILLE SPRING BR	5.37		25SEP79	5-020B	PHYTOPLANKTON	0.060	< 0.080	0.430	0.790	0.060	0.060	1.420	1.500
H-VILLE SPRING BR	5.37		25SEP79	5-020C	PHYTOPLANKTON	< 0.080	< 0.080	0.410	0.720	0.050	0.050	1.230	1.390
H-VILLE SPRING BR	5.90		25SEP79	5-021A	PHYTOPLANKTON	< 0.080	0.090	< 0.080	0.130	< 0.040	< 0.040	0.220	0.460
H-VILLE SPRING BR	5.90		25SEP79	5-021B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	0.100	< 0.040	< 0.040	0.100	0.420
H-VILLE SPRING BR	5.90		25SEP79	5-021C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
INDIAN CREEK	0.00		5SEP79	5-002A	PHYTOPLANKTON	< 0.080	< 0.080	0.420	0.780	0.040	0.060	1.300	1.460
INDIAN CREEK	0.00		5SEP79	5-002B	PHYTOPLANKTON	< 0.080	< 0.080	0.420	0.750	0.040	0.060	1.270	1.430
INDIAN CREEK	0.00		5SEP79	5-002C	PHYTOPLANKTON	< 0.080	< 0.080	0.390	0.660	0.040	0.050	1.140	1.300
INDIAN CREEK	0.00		24SEP79	5-015A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
INDIAN CREEK	0.00		24SEP79	5-015B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
INDIAN CREEK	0.00		24SEP79	5-015C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
INDIAN CREEK	4.00		5SEP79	5-001A	PHYTOPLANKTON	< 0.080	< 0.080	0.570	1.070	0.070	0.090	1.800	1.960
INDIAN CREEK	4.00		5SEP79	5-001B	PHYTOPLANKTON	< 0.080	< 0.080	0.640	1.220	0.100	0.090	2.050	2.210
INDIAN CREEK	4.00		5SEP79	5-001C	PHYTOPLANKTON	< 0.080	< 0.080	0.590	1.090	0.090	0.080	1.850	2.010
INDIAN CREEK	4.00		25SEP79	5-022A	PHYTOPLANKTON	0.090	< 0.080	0.430	0.820	0.070	0.070	1.480	1.560
INDIAN CREEK	4.00		25SEP79	5-022B	PHYTOPLANKTON	0.080	< 0.080	0.430	0.790	0.060	0.060	1.420	1.500
INDIAN CREEK	4.00		25SEP79	5-022C	PHYTOPLANKTON	< 0.080	< 0.080	0.410	0.720	0.050	0.050	1.230	1.390
TENNESSEE RIVER	289.90	LT. BANK	28SEP79	5-032A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	LT. BANK	28SEP79	5-032B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	LT. BANK	28SEP79	5-032C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	5-033A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	5-033B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	5-033C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	5-034A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	5-034B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	5-034C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	LT. BANK	27SEP79	5-023A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	LT. BANK	27SEP79	5-023B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	LT. BANK	27SEP79	5-023C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	MIDDLE	27SEP79	5-024A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	MIDDLE	27SEP79	5-024B	PHYTOPLANKTON	0.160	0.180	0.130	0.150	< 0.040	< 0.040	0.620	0.700
TENNESSEE RIVER	315.00	MIDDLE	27SEP79	5-024C	PHYTOPLANKTON	0.140	0.150	0.110	0.130	< 0.040	< 0.040	0.530	0.610
TENNESSEE RIVER	315.00	RT. BANK	27SEP79	5-025A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	RT. BANK	27SEP79	5-025B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	315.00	RT. BANK	27SEP79	5-025C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK5 - AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

						--------DISSOLVED CONCENTRATIONS OF DDT					--------	—TOTAL DDTR—	
STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	SAMPLE TYPE-SPECIES	DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	MIN (UG/L)	MAX (UG/L)
TENNESSEE RIVER	345.20	LT. BANK	27SEP79	5-026A	PHYTOPLANKTON	< 0.080	< 0.060	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	LT. BANK	27SEP79	5-026B	PHYTOPLANKTON	< 0.050	< 0.080	< 0.080	< 0.060	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	LT. BANK	27SEP79	5-026C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	RT. BANK	27SEP79	5-027A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	RT. BANK	27SEP79	5-027B	PHYTOPLANKTON	< 0.060	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	RT. BANK	27SEP79	5-027C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	MIDDLE	27SEP79	5-028A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	MIDDLE	27SEP79	5-028B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345.20	MIDDLE	27SEP79	5-028C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	5-029A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	5-029B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.060	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	5-029C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	5-030A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	5-030B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	5-030C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	5-031A	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	5-031B	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	5-031C	PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
BARREN FORK CREEK	1.20		24SEP79	5-016	WATER	.	.	.	.	.	.	.	.
ELK RIVER	20.70		18OCT79	5-114	WATER	.	.	.	.	.	.	.	.
FLINT RIVER	22.70		25OCT79	5-157	WATER	.	.	.	.	.	.	.	.
FLINT RIVER	22.70		25OCT79	5-170	WATER	.	.	.	.	.	.	.	.
H-VILLE SPRING BR	0.00		25SEP79	5-019	WATER	.	.	.	.	.	.	.	.
H-VILLE SPRING BR	2.40		15DEC79	5H-01	WATER	.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.37		25SEP79	5-020	WATER	.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.90		25SEP79	5-021	WATER	.	.	.	.	.	.	.	.
H-VILLE SPRING BR	5.90		16DEC79	5H-03	WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	0.00		5SEP79	5-002	WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	0.00		24SEP79	5-015	WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	0.80		16DEC79	5H-04	WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	4.00		5SEP79	5-001	WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	4.00		25SEP79	5-022	WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	4.60		15DEC79	5H-02	WATER	.	.	.	.	.	.	.	.
LIMESTONE CREEK	18.00		22OCT79	5-156	WATER	.	.	.	.	.	.	.	.
LIMESTONE CREEK	18.00		22OCT79	5-164	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	289.90	LT. BANK	28SEP79	5-032	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	5-033	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	5-034	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	315.00	LT. BANK	27SEP79	5-023	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	315.00	MIDDLE	27SEP79	5-024	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	315.00	RT. BANK	27SEP79	5-025	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	345.20	LT. BANK	27SEP79	5-026	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	345.20	RT. BANK	27SEP79	5-027	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	345.20	MIDDLE	27SEP79	5-028	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	5-029	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	5-030	WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	5-031	WATER	.	.	.	.	.	.	.	.

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                         ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
                   HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
                                      WHEELER RESERVOIR, ALABAMA

                             TASK5 - AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

                                                                   --------DISSOLVED CONCENTRATIONS OF DDT--------- --TOTAL DDTR--
                         HORIZONTAL             SAMPLE              DDT-O,P DDT-P,P DDD-O,P DDD-P,P DDE-O,P DDE-P,P   MIN     MAX
STREAM             MILE  LOCATION  DATE   LABID TYPE-SPECIES        (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)

    FOOTNOTES:
A. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
B. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.
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ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK5 - AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LAB	LABID	SAMPLE TYPE-SPECIES	NITROGEN TOTAL KJELDAHL	NITROGEN TOTAL NO2+NO3	TOTAL PHOSPHORUS	ORGANIC CARBON TOC	ORGANIC CARBON SOC	SOLIDS DIS	SOLIDS SUS	CA	MG
							(MG/L)								
BARREN FORK CREEK	1.20		24SEP79	STEWART	5-016A	PHYTOPLANKTON	.	.	.	3.4	2.8	.	20	.	.
BARREN FORK CREEK	1.20		24SEP79	STEWART	5-016B	PHYTOPLANKTON	.	.	.	3.5	2.9	.	19	.	.
BARREN FORK CREEK	1.20		24SEP79	STEWART	5-016C	PHYTOPLANKTON	.	.	.	3.5	2.9	.	21	.	.
H-VILLE SPRING BR	0.00		25SEP79	STEWART	5-019A	PHYTOPLANKTON	.	.	.	4.7	3.3	.	20	.	.
H-VILLE SPRING BR	0.00		25SEP79	STEWART	5-019B	PHYTOPLANKTON	.	.	.	4.4	3.8	.	24	.	.
H-VILLE SPRING BR	0.00		25SEP79	STEWART	5-019C	PHYTOPLANKTON	.	.	.	4.3	3.4	.	27	.	.
H-VILLE SPRING BR	1.30		24SEP79	STEWART	5-017A	PHYTOPLANKTON	.	.	.	4.9	3.8	.	20	.	.
H-VILLE SPRING BR	1.30		24SEP79	STEWART	5-017B	PHYTOPLANKTON	.	.	.	4.7	3.7	.	21	.	.
H-VILLE SPRING BR	1.30		24SEP79	STEWART	5-017C	PHYTOPLANKTON	.	.	.	5.0	3.9	.	13	.	.
H-VILLE SPRING BR	2.40		24SEP79	STEWART	5-018A	PHYTOPLANKTON	.	.	.	4.8	3.6	.	20	.	.
H-VILLE SPRING BR	2.40		24SEP79	STEWART	5-018B	PHYTOPLANKTON	.	.	.	4.7	3.7	.	21	.	.
H-VILLE SPRING BR	2.40		24SEP79	STEWART	5-018C	PHYTOPLANKTON	.	.	.	.	.	.	23	.	.
H-VILLE SPRING BR	5.37		25SEP79	STEWART	5-020A	PHYTOPLANKTON	.	.	.	4.5	3.6	.	10	.	.
H-VILLE SPRING BR	5.37		25SEP79	STEWART	5-020B	PHYTOPLANKTON	.	.	.	4.4	3.6	.	7	.	.
H-VILLE SPRING BR	5.37		25SEP79	STEWART	5-020C	PHYTOPLANKTON	.	.	.	4.3	3.4	.	9	.	.
H-VILLE SPRING BR	5.90		25SEP79	STEWART	5-021A	PHYTOPLANKTON	.	.	.	4.2	3.4	.	5	.	.
H-VILLE SPRING BR	5.90		25SEP79	STEWART	5-021B	PHYTOPLANKTON	.	.	.	4.4	3.6	.	4	.	.
H-VILLE SPRING BR	5.90		25SEP79	STEWART	5-021C	PHYTOPLANKTON	.	.	.	4.4	3.6	.	5	.	.
INDIAN CREEK	0.00		5SEP79	STEWART	5-002A	PHYTOPLANKTON	.	.	.	4.6	3.4	.	24	.	.
INDIAN CREEK	0.00		5SEP79	STEWART	5-002B	PHYTOPLANKTON	.	.	.	4.4	3.9	.	22	.	.
INDIAN CREEK	0.00		5SEP79	STEWART	5-002C	PHYTOPLANKTON	.	.	.	4.3	3.4	.	23	.	.
INDIAN CREEK	0.00		24SEP79	STEWART	5-015A	PHYTOPLANKTON	.	.	.	2.5	1.8	.	8	.	.
INDIAN CREEK	0.00		24SEP79	STEWART	5-015B	PHYTOPLANKTON	.	.	.	2.4	2.0	.	8	.	.
INDIAN CREEK	0.00		24SEP79	STEWART	5-015C	PHYTOPLANKTON	.	.	.	2.5	2.1	.	9	.	.
INDIAN CREEK	4.00		5SEP79	STEWART	5-001A	PHYTOPLANKTON	.	.	.	5.0	4.4	.	33	.	.
INDIAN CREEK	4.00		5SEP79	STEWART	5-001B	PHYTOPLANKTON	.	.	.	4.8	3.5	.	33	.	.
INDIAN CREEK	4.00		5SEP79	STEWART	5-001C	PHYTOPLANKTON	.	.	.	4.3	3.4	.	33	.	.
INDIAN CREEK	4.00		25SEP79	STEWART	5-022A	PHYTOPLANKTON	.	.	.	4.5	3.5	.	19	.	.
INDIAN CREEK	4.00		25SEP79	STEWART	5-022B	PHYTOPLANKTON	.	.	.	5.0	3.4	.	24	.	.
INDIAN CREEK	4.00		25SEP79	STEWART	5-022C	PHYTOPLANKTON	.	.	.	4.3	3.4	.	24	.	.
TENNESSEE RIVER	289.90	LT. BANK	28SEP79	STEWART	5-032A	PHYTOPLANKTON	.	.	.	2.9	2.2	.	16	.	.
TENNESSEE RIVER	289.90	LT. BANK	28SEP79	STEWART	5-032B	PHYTOPLANKTON	.	.	.	2.9	1.9	.	15	.	.
TENNESSEE RIVER	289.90	LT. BANK	28SEP79	STEWART	5-032C	PHYTOPLANKTON	.	.	.	3.0	2.2	.	17	.	.
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	STEWART	5-033A	PHYTOPLANKTON	.	.	.	2.8	2.0	.	14	.	.
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	STEWART	5-033B	PHYTOPLANKTON	.	.	.	2.6	2.1	.	14	.	.
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	STEWART	5-033C	PHYTOPLANKTON	.	.	.	2.7	2.0	.	15	.	.
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	STEWART	5-034A	PHYTOPLANKTON	.	.	.	2.5	1.8	.	10	.	.
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	STEWART	5-034B	PHYTOPLANKTON	.	.	.	2.3	1.6	.	12	.	.
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	STEWART	5-034C	PHYTOPLANKTON	.	.	.	2.5	1.8	.	13	.	.
TENNESSEE RIVER	315.00	LT. BANK	27SEP79	STEWART	5-023A	PHYTOPLANKTON	.	.	.	2.6	1.9	.	12	.	.
TENNESSEE RIVER	315.00	LT. BANK	27SEP79	STEWART	5-023B	PHYTOPLANKTON	.	.	.	3.4	2.7	.	12	.	.
TENNESSEE RIVER	315.00	LT. BANK	27SEP79	STEWART	5-023C	PHYTOPLANKTON	.	.	.	2.5	2.1	.	9	.	.
TENNESSEE RIVER	315.00	MIDDLE	27SEP79	STEWART	5-024A	PHYTOPLANKTON	.	.	.	2.5	2.1	.	8	.	.
TENNESSEE RIVER	315.00	MIDDLE	27SEP79	STEWART	5-024B	PHYTOPLANKTON	.	.	.	2.5	2.1	.	9	.	.
TENNESSEE RIVER	315.00	MIDDLE	27SEP79	STEWART	5-024C	PHYTOPLANKTON	.	.	.	2.7	2.3	.	9	.	.
TENNESSEE RIVER	315.00	RT. BANK	27SEP79	STEWART	5-025A	PHYTOPLANKTON	.	.	.	2.9	2.4	.	9	.	.
TENNESSEE RIVER	315.00	RT. BANK	27SEP79	STEWART	5-025B	PHYTOPLANKTON	.	.	.	2.4	1.8	.	9	.	.
TENNESSEE RIVER	315.00	RT. BANK	27SEP79	STEWART	5-025C	PHYTOPLANKTON	.	.	.	2.4	1.8	.	9	.	.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK5 - AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LAB	LAB ID	SAMPLE TYPE-SPECIES	----NITROGEN---- TOTAL KJELDAHL	TOTAL NO2+NO3	TOTAL PHOSPHORUS	ORGANIC CARBON TOC	SOC	SOLIDS DIS	SUS	CA	MG
							(MG/L)								
TENNESSEE RIVER	345.20	LT. BANK	27SEP79	STEWART	5-026A	PHYTOPLANKTON	.	.	.	2.4	1.9	.	13	.	.
TENNESSEE RIVER	345.20	LT. BANK	27SEP79	STEWART	5-026B	PHYTOPLANKTON	.	.	.	2.4	1.8	.	11	.	.
TENNESSEE RIVER	345.20	LT. BANK	27SEP79	STEWART	5-026C	PHYTOPLANKTON	.	.	.	2.3	1.7	.	11	.	.
TENNESSEE RIVER	345.20	RT. BANK	27SEP79	STEWART	5-027A	PHYTOPLANKTON	.	.	.	2.4	1.7	.	17	.	.
TENNESSEE RIVER	345.20	RT. BANK	27SEP79	STEWART	5-027B	PHYTOPLANKTON	.	.	.	2.6	1.8	.	17	.	.
TENNESSEE RIVER	345.20	RT. BANK	27SEP79	STEWART	5-027C	PHYTOPLANKTON	.	.	.	2.4	1.7	.	16	.	.
TENNESSEE RIVER	345.20	MIDDLE	27SEP79	STEWART	5-028A	PHYTOPLANKTON	.	.	.	2.6	2.0	.	8	.	.
TENNESSEE RIVER	345.20	MIDDLE	27SEP79	STEWART	5-028B	PHYTOPLANKTON	.	.	.	2.4	2.0	.	9	.	.
TENNESSEE RIVER	345.20	MIDDLE	27SEP79	STEWART	5-028C	PHYTOPLANKTON	.	.	.	2.4	1.9	.	9	.	.
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	STEWART	5-029A	PHYTOPLANKTON	.	.	.	2.4	1.7	.	7	.	.
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	STEWART	5-029B	PHYTOPLANKTON	.	.	.	2.5	1.8	.	8	.	.
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	STEWART	5-029C	PHYTOPLANKTON	.	.	.	2.9	1.9	.	7	.	.
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	STEWART	5-030A	PHYTOPLANKTON	.	.	.	2.8	2.1	.	10	.	.
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	STEWART	5-030B	PHYTOPLANKTON	.	.	.	2.6	1.9	.	10	.	.
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	STEWART	5-030C	PHYTOPLANKTON	.	.	.	2.7	1.7	.	11	.	.
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	STEWART	5-031A	PHYTOPLANKTON	.	.	.	4.0	3.0	.	11	.	.
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	STEWART	5-031B	PHYTOPLANKTON	.	.	.	2.5	1.8	.	10	.	.
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	STEWART	5-031C	PHYTOPLANKTON	.	.	.	2.8	1.8	.	11	.	.
BARREN FORK CREEK	1.20		24SEP79	STEWART	5-016	WATER	0.41	0.18	0.07	.	.	.	.	28	4
ELK RIVER	20.70		18OCT79	STEWART	5-114	WATER	.	.	.	.	.	130	33	.	.
FLINT RIVER	22.70		25OCT79	STEWART	5-157	WATER	.	.	.	.	.	100	5	.	.
FLINT RIVER	22.70		25OCT79	STEWART	5-170	WATER	.	.	.	.	.	.	.	.	.
H-VILLE SPRING BR	0.00		25SEP79	STEWART	5-019	WATER	1.60	0.73	0.81	.	.	.	.	45	5
H-VILLE SPRING BR	2.40		15DEC79	STEWART	5M-01	WATER	.	.	.	.	.	.	48	.	.
H-VILLE SPRING BR	5.37		25SEP79	STEWART	5-020	WATER	4.40	1.10	2.60	.	.	.	.	48	5
H-VILLE SPRING BR	5.90		25SEP79	STEWART	5-021	WATER	4.00	1.10	3.00	.	.	.	.	48	5
H-VILLE SPRING BR	5.90		16DEC79	STEWART	5M-03	WATER	.	.	.	.	.	.	15	.	.
INDIAN CREEK	0.00		5SEP79	STEWART	5-002	WATER	0.27	0.45	0.23	.	.	.	.	26	3
INDIAN CREEK	0.00		24SEP79	STEWART	5-015	WATER	0.24	0.32	0.04	.	.	.	.	22	5
INDIAN CREEK	0.80		16DEC79	STEWART	5M-04	WATER	.	.	.	.	.	.	32	.	.
INDIAN CREEK	4.00		5SEP79	STEWART	5-001	WATER	0.37	0.50	0.39	.	.	.	.	34	3
INDIAN CREEK	4.00		25SEP79	STEWART	5-022	WATER	.	.	.	.	.	.	.	.	.
INDIAN CREEK	4.60		15DEC79	STEWART	5M-02	WATER	.	.	.	.	.	.	60	.	.
LIMESTONE CREEK	18.00		22OCT79	STEWART	5-156	WATER	.	.	.	.	.	70	1	.	.
LIMESTONE CREEK	18.00		22OCT79	STEWART	5-164	WATER	.	.	.	.	.	.	.	.	.
TENNESSEE RIVER	289.90	LT. BANK	28SEP79	STEWART	5-032	WATER	0.20	0.33	0.05	.	.	.	.	21	5
TENNESSEE RIVER	289.90	MIDDLE	28SEP79	STEWART	5-033	WATER	0.14	0.33	0.04	.	.	.	.	18	5
TENNESSEE RIVER	289.90	RT. BANK	28SEP79	STEWART	5-034	WATER	0.20	0.37	0.04	.	.	.	.	20	5
TENNESSEE RIVER	315.00	LT. BANK	27SEP79	STEWART	5-023	WATER	0.18	0.34	0.04	.	.	.	.	22	5
TENNESSEE RIVER	315.00	MIDDLE	27SEP79	STEWART	5-024	WATER	0.35	0.36	0.05	.	.	.	.	22	5
TENNESSEE RIVER	315.00	RT. BANK	27SEP79	STEWART	5-025	WATER	0.18	0.36	0.04	.	.	.	.	22	5
TENNESSEE RIVER	345.20	LT. BANK	27SEP79	STEWART	5-026	WATER	0.16	0.32	0.03	.	.	.	.	26	5
TENNESSEE RIVER	345.20	RT. BANK	27SEP79	STEWART	5-027	WATER	0.18	0.31	0.04	.	.	.	.	28	5
TENNESSEE RIVER	345.20	MIDDLE	27SEP79	STEWART	5-028	WATER	0.20	0.31	0.03	.	.	.	.	20	5
TENNESSEE RIVER	350.00	RT. BANK	27SEP79	STEWART	5-029	WATER	0.17	0.31	0.04	.	.	.	.	18	5
TENNESSEE RIVER	350.00	MIDDLE	27SEP79	STEWART	5-030	WATER	0.18	0.30	0.03	.	.	.	.	18	5
TENNESSEE RIVER	350.00	LT. BANK	27SEP79	STEWART	5-031	WATER	0.16	0.29	0.03	.	.	.	.	16	5

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK5 - AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LAB	LABID	SAMPLE TYPE-SPECIES	----NITROGEN----		TOTAL PHOSPHORUS	ORGANIC CARBON		SOLIDS		CA	MG
							TOTAL KJELDAHL	TOTAL NO2+NO3		TOC	SOC	DIS	SUS		
									(MG/L)						

FOOTNOTES:

TOTAL VOLATILE SUSPENDED SOLIDS FOR SAMPLES SM-01, SM-03, AND SM-04 WERE RESPECTIVELY 9, 5, AND 7 MG/L.

Table 5-4A

OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN SAMPLES COLLECTED AFTER A LARGE RAINFALL EVENT-SEPTEMBER 5, 1979
(AVERAGE NUMBER/LITER)

Taxa	Indian Creek Mile	
	4.0	0.0
Chrysophyta		
Achnanthes sp.	4,673	-[a]
Characiopsis sp.	132,388	71,645
Cyclotella sp.	-	3,115
Cymbella sp.	3,115	4,673
Dinobryon sp.	6,230	-
Gomphonema sp.	1,558	-
Melosira sp.	1,820,718	1,227,310
Navicula sp.	9.345	4,673
Nitzschia sp.	-	1,558
Ophiocytium sp.	1,558	1,558
Stephanodiscus sp.	18,690	14,018
Synedra sp.	144,848	115,255
Chlorophyta		
Actinastrum sp.	38,938	12,460
Ankistrodesmus sp.	51,398	68,530
Botryococcus sp.	9,345	90,335
Bracteacoccus sp.	4,673	10,903
Chlamydomonas sp.	473,480	531,108
Chlorella sp.	7,788	14,018
Chlorogonium sp.	-	21,805
Chodatella sp.	63,858	24,920
Closteriopsis sp.	34,265	14,018
Crucigenia sp.	126,158	129,273
Dictyosphaerium sp.	31,150	6,230
Elakatothrix sp.	12,460	3,115
Eudorina sp.	-	4,673
Gloeoactinium sp.	9,345	12,460
Golenkinia sp.	4,673	7,788
Gonium sp.	-	12,460
Kirchneriella sp.	126,158	133,945
Micractinium sp.	45,168	28,035
Oocystis sp.	37,380	23,363
Pandorina sp.	-	24,920
Pediastrum sp.	6,230	52,955
Planktosphaeria sp.	45,168	62,300
Polyedriopsis sp.	-	1,558
Protococcus sp.	46,725	269,448
Pteromonas sp.	1,558	3,115
Pyramimonas sp.	-	3,115

Table 5-4A

OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN SAMPLES COLLECTED AFTER A LARGE RAINFALL EVENT-SEPTEMBER 5, 1979

(AVERAGE NUMBER/LITER)

(continued)

Taxa	Indian Creek Mile 4.0	Indian Creek Mile 0.0
Chlorophyta (cont)		
Quadrigula sp.	-	6,230
Scenedesmus sp.	685,300	764,733
Schroederia sp.	14,018	7,788
Selenastrum sp.	59,185	77,875
Tetraedron sp.	48,283	43,610
Tetrastrum sp.	12,460	6,230
Treubaria sp.	-	3,115
Unidentified (*Treubaria*?)	1,558	1,558
Cryptophyta		
Cryptomonas sp.	32,708	68,530
Cyanophyta		
Anabaena sp.	-	28,035
Anacystis sp.	286,580	274,120
Chroococcus sp.	40,495	99,680
Dactylococcopsis sp.	138,618	93,450
Eucapsis sp.	-	12,460
Gloeothece sp.	-	20,248
Lyngbya sp.	-	3,115
Merismopedia sp.	11,561,323	10,690,680
Oscillatoria sp.	546,683	135,503
Spirulina sp.	17,133	20,248
Euglenophyta		
Euglena sp.	74,760	404,950
Phacus sp.	3,115	3,115
Trachelomonas sp.	6,230	6,230

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a. Taxa not found.

Table 5-4B

PHYTOPLANKTON COMPOSITION
REPLICATE ANALYSIS RESULTS AND
CALCULATED MEANS -
RAINFALL EVENT SAMPLING

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                              DDT TASK 5  PHYTOPLANKTON LISTING           9:53 WEDNESDAY, FEBRUARY 27, 1980    1

---------------------------------- RIVER=INDIAN CREEK   RIV_MILE=000,0   SAM_LOC=AJ   DATE=79-09-05 ---------------------------------

                              TAXON                 GROUP            MEAN

                              ACTINASTRUM           CHLOROPHYTA      12460
                              ANKISTRODESMUS        CHLOROPHYTA      68530
                              BOTRYOCOCCUS          CHLOROPHYTA      90335
                              BRACTEACOCCUS         CHLOROPHYTA      10902
                              CHLAMYDOMONAS         CHLOROPHYTA     531107
                              CHLORELLA             CHLOROPHYTA      14017
                              CHLOROGONIUM          CHLOROPHYTA      21805
                              CHODATELLA            CHLOROPHYTA      24920
                              CLOSTERIOPSIS         CHLOROPHYTA      14017
                              CRUCIGENIA            CHLOROPHYTA     129272
                              DICTYOSPHAERIUM       CHLOROPHYTA       6230
                              ELAKATOTHRIX          CHLOROPHYTA       3115
                              EUDORINA              CHLOROPHYTA       4672
                              GLOEOACTINIUM         CHLOROPHYTA      12460
                              GOLENKINIA            CHLOROPHYTA       7787
                              GONIUM                CHLOROPHYTA      12460
                              KIRCHNERIELLA         CHLOROPHYTA     133945
                              MICRACTINIUM          CHLOROPHYTA      28035
                              OOCYSTIS              CHLOROPHYTA      23362
                              PANDORINA             CHLOROPHYTA      24920
                              PEDIASTRUM            CHLOROPHYTA      52955
                              PLANKTOSPHAERIA       CHLOROPHYTA      62300
                              POLYEDRIOPSIS         CHLOROPHYTA       1557
                              PROTOCOCCUS           CHLOROPHYTA     269447
                              PTEROMONAS            CHLOROPHYTA       3115
                              PYRAMIMONAS           CHLOROPHYTA       3115
                              QUADRIGULA            CHLOROPHYTA       6230
                              SCENEDESMUS           CHLOROPHYTA     764732
                              SCHROEDERIA           CHLOROPHYTA       7787
                              SELENASTRUM           CHLOROPHYTA      77875
                              TETRAEDRON            CHLOROPHYTA      43610
                              TETRASTRUM            CHLOROPHYTA       6230
                              TREUBARIA             CHLOROPHYTA       3115
                              UNID GREEN #1         CHLOROPHYTA       1557
                              CHARACIOPSIS          CHRYSOPHYTA      71645
                              CYCLOTELLA            CHRYSOPHYTA       3115
                              CYMBELLA              CHRYSOPHYTA       4672
                              MELOSIRA              CHRYSOPHYTA    1227310
                              NAVICULA              CHRYSOPHYTA       4672
                              NITZSCHIA             CHRYSOPHYTA       1557
                              OPHIOCYTIUM           CHRYSOPHYTA       1557
                              STEPHANODISCUS        CHRYSOPHYTA      14017
                              SYNEDRA               CHRYSOPHYTA     115255
                              CRYPTOMONAS           CRYPTOPHYTA      68530
                              ANABAENA              CYANOPHYTA       28035
                              ANACYSTIS             CYANOPHYTA      274120
                              CHROOCOCCUS           CYANOPHYTA       99680
                              DACTYLOCOCCOPSIS      CYANOPHYTA       93450
                              EUCAPSIS              CYANOPHYTA       12460
                              GLOEOTHECE            CYANOPHYTA       20247
                              LYNGBYA               CYANOPHYTA        3115
                              MERISMOPEDIA          CYANOPHYTA    10690680
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                         DDT TASK 5  PHYTOPLANKTON LISTING            9:53 WEDNESDAY, FEBRUARY 27, 1980   2

-------------------------------- RIVER=INDIAN CREEK   RIV_MILE=000.0   SAM_LOC=AJ   DATE=79-09-05 --------------------------------

                     TAXON            GROUP             MEAN

                     OSCILLATORIA     CYANOPHYTA       135502
                     SPIRULINA        CYANOPHYTA        20247
                     EUGLENA          EUGLENOPHYTA     404950
                     PHACUS           EUGLENOPHYTA       3115
                     TRACHELOMONAS    EUGLENOPHYTA       6230
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                                   DOT TASK 5  PHYTOPLANKTON LISTING                                          1
------------------------ RIVER=INDIAN CREEK   RIV_MILE=000.0   SAM_LOC=AJ   DATE=79-09-05   REP_NUM=1 ------------------------

                          TAXON                   GROUP                NUM

                          ACTINASTRUM             CHLOROPHYTA        24920
                          ANKISTRODESMUS          CHLOROPHYTA        56070
                          BOTRYOCOCCUS            CHLOROPHYTA       180670
                          BRACTEACOCCUS           CHLOROPHYTA         9345
                          CHLAMYDOMONAS           CHLOROPHYTA       314615
                          CHLORELLA               CHLOROPHYTA         9345
                          CHLOROGONIUM            CHLOROPHYTA        40495
                          CHODATELLA              CHLOROPHYTA        12460
                          CRUCIGENIA              CHLOROPHYTA       183785
                          GLOEDACTINIUM           CHLOROPHYTA        12460
                          GOLENKINIA              CHLOROPHYTA         6230
                          KIRCHNERIELLA           CHLOROPHYTA        68530
                          MICRACTINIUM            CHLOROPHYTA        56070
                          OOCYSTIS                CHLOROPHYTA        18690
                          PANDORINA               CHLOROPHYTA        49840
                          PEDIASTRUM              CHLOROPHYTA        49840
                          PLANKTOSPHAERIA         CHLOROPHYTA       112140
                          POLYEDRIOPSIS           CHLOROPHYTA         3115
                          PYRAMIMONAS             CHLOROPHYTA         6230
                          QUADRIGULA              CHLOROPHYTA        12460
                          SCENEDESMUS             CHLOROPHYTA       716450
                          SCHROEDERIA             CHLOROPHYTA        12460
                          SELENASTRUM             CHLOROPHYTA        87220
                          TETRAEDRON              CHLOROPHYTA        24920
                          TREUBARIA               CHLOROPHYTA         6230
                          CHARACIOPSIS            CHRYSOPHYTA        18690
                          CYCLOTELLA              CHRYSOPHYTA         6230
                          CYMBELLA                CHRYSOPHYTA         6230
                          MELOSIRA                CHRYSOPHYTA      1186815
                          NAVICULA                CHRYSOPHYTA         9345
                          NITZSCHIA               CHRYSOPHYTA         3115
                          OPHIOCYTIUM             CHRYSOPHYTA         3115
                          STEPHANODISCUS          CHRYSOPHYTA        15575
                          SYNEDRA                 CHRYSOPHYTA       137060
                          CRYPTOMONAS             CRYPTOPHYTA        12460
                          ANACYSTIS               CYANOPHYTA        432985
                          CHROOCOCCUS             CYANOPHYTA        124600
                          DACTYLOCOCCOPSIS        CYANOPHYTA         87220
                          MERISMOPEDIA            CYANOPHYTA      10133095
                          OSCILLATORIA            CYANOPHYTA        112140
                          SPIRULINA               CYANOPHYTA         18690
                          EUGLENA                 EUGLENOPHYTA      373800
                          PHACUS                  EUGLENOPHYTA        3115
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                              DDT TASK 5  PHYTOPLANKTON LISTING

------------------------- RIVER=INDIAN CREEK   RIV_MILE=000.0   SAM_LOC=AJ   DATE=79-09-05   REP_NUM=2 -------------------------

                         TAXON                 GROUP               NUM

                         ANKISTRODESMUS        CHLOROPHYTA        80990
                         BRACTEACOCCUS         CHLOROPHYTA        12460
                         CHLAMYDOMONAS         CHLOROPHYTA       747600
                         CHLORELLA             CHLOROPHYTA        18690
                         CHLOROGONIUM          CHLOROPHYTA         3115
                         CHODATELLA            CHLOROPHYTA        37380
                         CLOSTERIOPSIS         CHLOROPHYTA        28035
                         CRUCIGENIA            CHLOROPHYTA        74760
                         DICTYOSPHAERIUM       CHLOROPHYTA        12460
                         ELAKATOTHRIX          CHLOROPHYTA         6230
                         EUDORINA              CHLOROPHYTA         9345
                         GLOEOACTINIUM         CHLOROPHYTA        12460
                         GOLENKINIA            CHLOROPHYTA         9345
                         GONIUM                CHLOROPHYTA        24920
                         KIRCHNERIELLA         CHLOROPHYTA       199360
                         OOCYSTIS              CHLOROPHYTA        28035
                         PEDIASTRUM            CHLOROPHYTA        56070
                         PLANKTOSPHAERIA       CHLOROPHYTA        12460
                         PROTOCOCCUS           CHLOROPHYTA       538695
                         PTEROMONAS            CHLOROPHYTA         6230
                         SCENEDESMUS           CHLOROPHYTA       813015
                         SCHROEDERIA           CHLOROPHYTA         3115
                         SELENASTRUM           CHLOROPHYTA        68530
                         TETRAEDRON            CHLOROPHYTA        62300
                         TETRASTRUM            CHLOROPHYTA        12460
                         UNID GREEN #1         CHLOROPHYTA         3115
                         CHARACIOPSIS          CHRYSOPHYTA       124600
                         CYMBELLA              CHRYSOPHYTA         3115
                         MELOSIRA              CHRYSOPHYTA      1267805
                         STEPHANODISCUS        CHRYSOPHYTA        12460
                         SYNEDRA               CHRYSOPHYTA        93450
                         CRYPTOMONAS           CRYPTOPHYTA       124600
                         ANABAENA              CYANOPHYTA         56070
                         ANACYSTIS             CYANOPHYTA        115255
                         CHROOCOCCUS           CYANOPHYTA         74760
                         DACTYLOCOCCOPSIS      CYANOPHYTA         99680
                         EUCAPSIS              CYANOPHYTA         24920
                         GLOEOTHECE            CYANOPHYTA         40495
                         LYNGBYA               CYANOPHYTA          6230
                         MERISMOPEDIA          CYANOPHYTA      11248265
                         OSCILLATORIA          CYANOPHYTA        158865
                         SPIRULINA             CYANOPHYTA         21805
                         EUGLENA               EUGLENOPHYTA      436100
                         PHACUS                EUGLENOPHYTA        3115
                         TRACHELOMONAS         EUGLENOPHYTA       12460
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                              ODT TASK 5  PHYTOPLANKTON LISTING          9153 WEDNESDAY, FEBRUARY 27, 1980   3
----------------------------------- RIVER=INDIAN CREEK   RIV_MILE=004.0   SAM_LOC=AJ   DATE=79-09-05 -----------------------------------

                  TAXON                GROUP              MEAN

                  ACTINASTRUM          CHLOROPHYTA       38937
                  ANKISTRODESMUS       CHLOROPHYTA       51397
                  BOTRYOCOCCUS         CHLOROPHYTA        9345
                  BRACTEACOCCUS        CHLOROPHYTA        4672
                  CHLAMYDOMONAS        CHLOROPHYTA      473480
                  CHLORELLA            CHLOROPHYTA        7787
                  CHODATELLA           CHLOROPHYTA       63857
                  CLOSTERIOPSIS        CHLOROPHYTA       34265
                  CRUCIGENIA           CHLOROPHYTA      126157
                  DICTYOSPHAERIUM      CHLOROPHYTA       31150
                  ELAKATOTHRIX         CHLOROPHYTA       12460
                  GLOEOACTINIUM        CHLOROPHYTA        9345
                  GOLENKINIA           CHLOROPHYTA        4672
                  KIRCHNERIELLA        CHLOROPHYTA      126157
                  MICRACTINIUM         CHLOROPHYTA       45167
                  OOCYSTIS             CHLOROPHYTA       37380
                  PEDIASTRUM           CHLOROPHYTA        6230
                  PLANKTOSPHAERIA      CHLOROPHYTA       45167
                  PROTOCOCCUS          CHLOROPHYTA       46725
                  PTEROMONAS           CHLOROPHYTA        1557
                  SCENEDESMUS          CHLOROPHYTA      685300
                  SCHROEDERIA          CHLOROPHYTA       14017
                  SELENASTRUM          CHLOROPHYTA       59185
                  TETRAEDRON           CHLOROPHYTA       48282
                  TETRASTRUM           CHLOROPHYTA       12460
                  TREUBARIA            CHLOROPHYTA        1557
                  ACHNANTHES           CHRYSOPHYTA        4672
                  CHARACIOPSIS         CHRYSOPHYTA      132387
                  CYMBELLA             CHRYSOPHYTA        3115
                  DINOBRYON            CHRYSOPHYTA        6230
                  GOMPHONEMA           CHRYSOPHYTA        1557
                  MELOSIRA             CHRYSOPHYTA     1820717
                  NAVICULA             CHRYSOPHYTA        9345
                  OPHIOCYTIUM          CHRYSOPHYTA        1557
                  STEPHANODISCUS       CHRYSOPHYTA       18690
                  SYNEDRA              CHRYSOPHYTA      144847
                  CRYPTOMONAS          CRYPTOPHYTA       32707
                  ANACYSTIS            CYANOPHYTA       286580
                  CHROOCOCCUS          CYANOPHYTA        40495
                  DACTYLOCOCCOPSIS     CYANOPHYTA       138617
                  MERISMOPEDIA         CYANOPHYTA     11561322
                  OSCILLATORIA         CYANOPHYTA       546682
                  SPIRULINA            CYANOPHYTA        17132
                  EUGLENA              EUGLENOPHYTA      74760
                  PHACUS               EUGLENOPHYTA       3115
                  TRACHELOMONAS        EUGLENOPHYTA       6230
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                                   DDT TASK 5  PHYTOPLANKTON LISTING                                          3
------------------------- RIVER=INDIAN CREEK   RIV_MILE=004.0   SAM_LOC=AJ   DATE=79-09-05   REP_NUM=1 -------------------------

                        TAXON                GROUP                NUM

                        ACTINASTRUM          CHLOROPHYTA        28035
                        ANKISTRODESMUS       CHLOROPHYTA        52955
                        BRACTEACOCCUS        CHLOROPHYTA         6230
                        CHLAMYDOMONAS        CHLOROPHYTA       423640
                        CHLORELLA            CHLOROPHYTA         6230
                        CHODATELLA           CHLOROPHYTA        59185
                        CLOSTERIOPSIS        CHLOROPHYTA        34265
                        CRUCIGENIA           CHLOROPHYTA        99680
                        DICTYOSPHAERIUM      CHLOROPHYTA        12460
                        ELAKATOTHRIX         CHLOROPHYTA        18690
                        GOLENKINIA           CHLOROPHYTA         6230
                        KIRCHNERIELLA        CHLOROPHYTA       118370
                        MICRACTINIUM         CHLOROPHYTA        62300
                        OOCYSTIS             CHLOROPHYTA        37380
                        PLANKTOSPHAERIA      CHLOROPHYTA        65415
                        PROTOCOCCUS          CHLOROPHYTA        68530
                        PTEROMONAS           CHLOROPHYTA         3115
                        SCENEDESMUS          CHLOROPHYTA       710220
                        SCHROEDERIA          CHLOROPHYTA         6230
                        SELENASTRUM          CHLOROPHYTA        71645
                        TETRAEDRON           CHLOROPHYTA        34265
                        ACHNANTHES           CHRYSOPHYTA         3115
                        CHARACIOPSIS         CHRYSOPHYTA       165095
                        CYMBELLA             CHRYSOPHYTA         6230
                        DINOBRYON            CHRYSOPHYTA         9345
                        GOMPHONEMA           CHRYSOPHYTA         3115
                        MELOSIRA             CHRYSOPHYTA      1678985
                        NAVICULA             CHRYSOPHYTA         6230
                        OPHIOCYTIUM          CHRYSOPHYTA         3115
                        STEPHANODISCUS       CHRYSOPHYTA        15575
                        SYNEDRA              CHRYSOPHYTA       143290
                        CRYPTOMONAS          CRYPTOPHYTA        31150
                        ANACYSTIS            CYANOPHYTA        358225
                        CHROOCOCCUS          CYANOPHYTA         80990
                        DACTYLOCOCCOPSIS     CYANOPHYTA        171325
                        MERISMOPEDIA         CYANOPHYTA      12621980
                        OSCILLATORIA         CYANOPHYTA        560700
                        SPIRULINA            CYANOPHYTA         12460
                        EUGLENA              EUGLENOPHYTA       77875
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                              DOT TASK 5  PHYTOPLANKTON LISTING

-------------------------- RIVER=INDIAN CREEK   RIV_MILE=004,0   SAM_LOC=AJ   DATE=79-09-05   REP_NUM=2 --------------------------

                 TAXON                  GROUP                NUM

                 ACTINASTRUM            CHLOROPHYTA        49840
                 ANKISTRODESMUS         CHLOROPHYTA        49840
                 BOTRYOCOCCUS           CHLOROPHYTA        18690
                 BRACTEACOCCUS          CHLOROPHYTA         3115
                 CHLAMYDOMONAS          CHLOROPHYTA       523320
                 CHLORELLA              CHLOROPHYTA         9345
                 CHODATELLA             CHLOROPHYTA        68530
                 CLOSTERIOPSIS          CHLOROPHYTA        34265
                 CRUCIGENIA             CHLOROPHYTA       152635
                 DICTYOSPHAERIUM        CHLOROPHYTA        49840
                 ELAKATOTHRIX           CHLOROPHYTA         6230
                 GLOEOACTINIUM          CHLOROPHYTA        18690
                 GOLENKINIA             CHLOROPHYTA         3115
                 KIRCHNERIELLA          CHLOROPHYTA       133945
                 MICRACTINIUM           CHLOROPHYTA        28035
                 OOCYSTIS               CHLOROPHYTA        37380
                 PEDIASTRUM             CHLOROPHYTA        12460
                 PLANKTOSPHAERIA        CHLOROPHYTA        24920
                 PROTOCOCCUS            CHLOROPHYTA        24920
                 SCENEDESMUS            CHLOROPHYTA       660380
                 SCHROEDERIA            CHLOROPHYTA        21805
                 SELENASTRUM            CHLOROPHYTA        46725
                 TETRAEDRON             CHLOROPHYTA        62300
                 TETRASTRUM             CHLOROPHYTA        24920
                 TREUBARIA              CHLOROPHYTA         3115
                 ACHNANTHES             CHRYSOPHYTA         6230
                 CHARACIOPSIS           CHRYSOPHYTA        99680
                 DINOBRYON              CHRYSOPHYTA         3115
                 MELOSIRA               CHRYSOPHYTA      1962450
                 NAVICULA               CHRYSOPHYTA        12460
                 STEPHANODISCUS         CHRYSOPHYTA        21805
                 SYNEDRA                CHRYSOPHYTA       146405
                 CRYPTOMONAS            CRYPTOPHYTA        34265
                 ANACYSTIS              CYANOPHYTA        214935
                 DACTYLOCOCCOPSIS       CYANOPHYTA        105910
                 MERISMOPEDIA           CYANOPHYTA      10500665
                 OSCILLATORIA           CYANOPHYTA        532665
                 SPIRULINA              CYANOPHYTA         21805
                 EUGLENA                EUGLENOPHYTA       71645
                 PHACUS                 EUGLENOPHYTA        6230
                 TRACHELOMONAS          EUGLENOPHYTA       12460
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Table 5-5A

OCCURRENCE AND ABUNDANCE OF ZOOPLANKTON TAXA IN SAMPLES COLLECTED AFTER A LARGE RAINFALL EVENT - SEPTEMBER 5, 1979

(AVERAGE NUMBER/METER^3)

	Indian Creek Mile	
	4.0	0.0
Rotifera		
Asplanchna herricki	63	-[a]
A. amphora	104	288
A. spp.	299	-
Bdelloidea sp.	-	1,434
Beauchampiella sp.	67	26
Brachionus angularis	2,366	1,503
B. bennini	-	108
B. bidentata	83	1,092
B. budapestinensis	42	204
B. calyciflorus	1,140	5,514
B. caudatus	12,309	3,553
B. havanaensis	241	51
B. nilsoni	21	-
B. quadridentatus	745	3,819
B. urceolaris	-	159
Cephalodella sp.	46	-
Conochiloides sp.	108	240
Conochilus hippocrepis	279	975
C. unicornis	-	88
Epiphanes macroura	279	200
Euchlanis sp.	67	108
Filinia limnetica	-	31
F. longiseta	212	204
Hexartha sp.	-	164
Kellicottia bostoniensis	42	-
Keratella cochlearis	21	-
Lecane spp.	1,244	1,437
L. leontina	-	26
Monostyla sp.	137	88
M. bulla	-	144
M. ventralis	-	62
Platyias patulus	420	2,742
P. quadricornis	42	77
Polyartha sp.	42	-
Synchaeta sp.	104	-
S. stylata	-	102
Testudinella sp.	104	482
Trichocerca sp.	92	31
Trichotria sp.	21	31
Contracted Rotifera	325	262

Table 5-5A

OCCURRENCE AND ABUNDANCE OF ZOOPLANKTON TAXA IN SAMPLES COLLECTED AFTER A LARGE RAINFALL EVENT - SEPTEMBER 5, 1979

(AVERAGE NUMBER/METER^3)
(continued)

	Indian Creek Mile	
	4.0	0.0
Cladocera		
Bosmina longirostris	183	661
Bosminopsis sp.	-	358
C. spp. (immature)	-	26
Diaphanosoma leuchtenbergianum	-	133
M. spp. (immature)	-	51
Copepoda		
Calanoid (immature)	21	26
Cyclopoid (immature)	591	970
Tropocyclops prasinus	-	51
Nauplii	3,360	4,095

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a. Taxa not found.

Table 5-5B

ZOOPLANKTON COMPOSITION
REPLICATE ANALYSIS RESULTS AND
CALCULATED MEANS -
RAINFALL EVENT SAMPLING

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                                                   SEPTEMBER 5, 1979                                                   1

------------------------- RIVER=INDIAN CREEK   YEAR=79   RIV_MILE=000.0   SAM_LOC=AJ   MN=09   REP_NUM=1 -------------------------

                          TAXON                               GROUP       NUM

                          BOSMINA LONGIROSTRIS                CLADOCERA    764
                          BOSMINOPSIS SP.                     CLADOCERA    407
                          CERIODAPHNIA IMM.                   CLADOCERA     51
                          DIAPHANOSOMA LEUCHTENBERGIANUM      CLADOCERA    204
                          MOINA IMM.                          CLADOCERA    102
                          CALANOIDA IMM.                      COPEPODA      51
                          CYCLOPOIDA IMM.                     COPEPODA     764
                          NAUPLII                             COPEPODA    3056
                          TROPOCYCLOPS PRASINUS               COPEPODA     102
                          ASPLANCHNA AMPHORA                  ROTIFERA     204
                          BDELLOIDEA                          ROTIFERA     764
                          BEUCHAMPIELLA SP.                   ROTIFERA      51
                          BRACHIONUS ANGULARIS                ROTIFERA    1273
                          BRACHIONUS BENNINI                  ROTIFERA     153
                          BRACHIONUS BIDENTATA                ROTIFERA     204
                          BRACHIONUS BUDAPESTINENSIS          ROTIFERA     407
                          BRACHIONUS CALYCIFLORUS             ROTIFERA    5398
                          BRACHIONUS CAUDATUS                 ROTIFERA    4074
                          BRACHIONUS HAVANAENSIS              ROTIFERA     102
                          BRACHIONUS QUADRIDENTATUS           ROTIFERA    3616
                          BRACHIONUS URCEOLARIS               ROTIFERA     255
                          CONOCHILOIDES SP.                   ROTIFERA     356
                          CONOCHILUS HIPPOCREPIS              ROTIFERA     713
                          CONOCHILUS UNICORNIS                ROTIFERA      51
                          CONTRACTED ROTIFERA                 ROTIFERA     153
                          EPIPHANES MACROURUS                 ROTIFERA     153
                          EUCHLANIS SP.                       ROTIFERA     153
                          FILINIA LONGISETA                   ROTIFERA     407
                          HEXARTHRA SP.                       ROTIFERA     204
                          LECANE LEONTINA                     ROTIFERA      51
                          LECANE SP.                          ROTIFERA    1884
                          MONOSTYLA BULLA                     ROTIFERA     102
                          MONOSTYLA SP.                       ROTIFERA      51
                          PLATYIAS PATULUS                    ROTIFERA    3565
                          PLATYIAS QUADRICORNIS               ROTIFERA     153
                          SYNCHAETA STYLATA                   ROTIFERA     204
                          TESTUDINELLA SP.                    ROTIFERA     407
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                                         OCT TASK 5 ZOOPLANKTON CALCULATIONS                                              1
                                               SEPTEMBER 5, 1979

------------------------------- YEAR=79   RIVER=INDIAN CREEK   RIV_MILE=000.0   SAM_LOC=AJ   MN=09 -------------------------------

                       TAXON                                       GROUP       MEAN

                       BOSMINA LONGIROSTRIS                      CLADOCERA     660
                       BOSMINOPSIS SP.                           CLADOCERA     358
                       CERIODAPHNIA IMM.                         CLADOCERA      25
                       DIAPHANOSOMA LEUCHTENBERGIANUM            CLADOCERA     133
                       MOINA IMM.                                CLADOCERA      51
                       CALANOIDA IMM.                            COPEPODA       25
                       CYCLOPOIDA IMM.                           COPEPODA      959
                       ERGASILUS SP.                             COPEPODA       31
                       NAUPLII                                   COPEPODA     4095
                       TROPOCYCLOPS PRASINUS                     COPEPODA       51
                       ASPLANCHNA AMPHORA                        ROTIFERA      287
                       BDELLOIDEA                                ROTIFERA     1433
                       BEUCHAMPIELLA SP.                         ROTIFERA       25
                       BRACHIONUS ANGULARIS                      ROTIFERA     1502
                       BRACHIONUS BENNINI                        ROTIFERA      107
                       BRACHIONUS BIDENTATA                      ROTIFERA     1091
                       BRACHIONUS BUDAPESTINENSIS                ROTIFERA      203
                       BRACHIONUS CALYCIFLORUS                   ROTIFERA     5513
                       BRACHIONUS CAUDATUS                       ROTIFERA     3552
                       BRACHIONUS HAVANAENSIS                    ROTIFERA       51
                       BRACHIONUS QUADRIDENTATUS                 ROTIFERA     3818
                       BRACHIONUS URCEOLARIS                     ROTIFERA      158
                       CONOCHILOIDES SP.                         ROTIFERA      240
                       CONOCHILUS HIPPOCREPIS                    ROTIFERA      975
                       CONOCHILUS UNICORNIS                      ROTIFERA       87
                       CONTRACTED ROTIFERA                       ROTIFERA      262
                       EPIPHANES MACROURUS                       ROTIFERA      200
                       EUCHLANIS SP.                             ROTIFERA      107
                       FILINIA LIMNETICA                         ROTIFERA       31
                       FILINIA LONGISETA                         ROTIFERA      203
                       HEXARTHRA SP.                             ROTIFERA      164
                       LECANE LEONTINA                           ROTIFERA       25
                       LECANE SP.                                ROTIFERA     1437
                       MONOSTYLA BULLA                           ROTIFERA      144
                       MONOSTYLA SP.                             ROTIFERA       87
                       MYTILINA VENTRALIS                        ROTIFERA       62
                       PLATYIAS PATULUS                          ROTIFERA     2741
                       PLATYIAS QUADRICORNIS                     ROTIFERA       76
                       SYNCHAETA STYLATA                         ROTIFERA      102
                       TESTUDINELLA SP.                          ROTIFERA      482
                       TRICHOCERCA SP.                           ROTIFERA       31
                       TRICHOTRIA SP.                            ROTIFERA       31
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------------------------- RIVER=INDIAN CREEK   YEAR=79   RIV_MILE=000.0   SAM_LOC=AJ   MN=09   REP_NUM=2 -------------------------

                         TAXON                               GROUP        NUM

                         BOSMINA LONGIROSTRIS                CLADOCERA     557
                         BOSMINOPSIS SP.                     CLADOCERA     309
                         DIAPHANOSOMA LEUCHTENBERGIANUM      CLADOCERA      62
                         CYCLOPOIDA IMM.                     COPEPODA     1175
                         ERGASILUS SP.                       COPEPODA       62
                         NAUPLII                             COPEPODA     5134
                         ASPLANCHNA AMPHORA                  ROTIFERA      371
                         BDELLOIDEA                          ROTIFERA     2103
                         BRACHIONUS ANGULARIS                ROTIFERA     1732
                         BRACHIONUS BENNINI                  ROTIFERA       62
                         BRACHIONUS BIDENTATA                ROTIFERA     1979
                         BRACHIONUS CALYCIFLORUS             ROTIFERA     5629
                         BRACHIONUS CAUDATUS                 ROTIFERA     3031
                         BRACHIONUS QUADRIDENTATUS           ROTIFERA     4021
                         BRACHIONUS URCEOLARIS               ROTIFERA       62
                         CONOCHILOIDES SP.                   ROTIFERA      124
                         CONOCHILUS HIPPOCREPIS              ROTIFERA     1237
                         CONOCHILUS UNICORNIS                ROTIFERA      124
                         CONTRACTED ROTIFERA                 ROTIFERA      371
                         EPIPHANES MACROURUS                 ROTIFERA      247
                         EUCHLANIS SP.                       ROTIFERA       62
                         FILINIA LIMNETICA                   ROTIFERA       62
                         HEXARTHRA SP.                       ROTIFERA      124
                         LECANE SP.                          ROTIFERA      990
                         MONOSTYLA BULLA                     ROTIFERA      186
                         MONOSTYLA SP.                       ROTIFERA      124
                         MYTILINA VENTRALIS                  ROTIFERA      124
                         PLATYIAS PATULUS                    ROTIFERA     1918
                         TESTUDINELLA SP.                    ROTIFERA      557
                         TRICHOCERCA SP.                     ROTIFERA       62
                         TRICHOTRIA SP.                      ROTIFERA       62
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                                        DOT TASK 5 ZOOPLANKTON CALCULATIONS                                        2
                                               SEPTEMBER 5, 1979

------------------------------- YEAR=79   RIVER=INDIAN CREEK   RIV_MILE=004.0   SAM_LOC=AJ   MN=09 -------------------------------

                        TAXON                              GROUP        MEAN

                        BOSMINA LONGIROSTRIS               CLADOCERA     183
                        CALANOIDA IMM.                     COPEPODA       21
                        CYCLOPOIDA IMM.                    COPEPODA      590
                        NAUPLII                            COPEPODA     3360
                        ASPLANCHNA AMPHORA                 ROTIFERA      104
                        ASPLANCHNA HERRICKI                ROTIFERA       62
                        ASPLANCHNA SP.                     ROTIFERA      228
                        BEUCHAMPIELLA SP.                  ROTIFERA       66
                        BRACHIONUS ANGULARIS               ROTIFERA     2366
                        BRACHIONUS BIDENTATA               ROTIFERA       83
                        BRACHIONUS BUDAPESTINENSIS         ROTIFERA       41
                        BRACHIONUS CALYCIFLORUS            ROTIFERA     1139
                        BRACHIONUS CAUDATUS                ROTIFERA    12309
                        BRACHIONUS HAVANAENSIS             ROTIFERA      241
                        BRACHIONUS NILSONI                 ROTIFERA       21
                        BRACHIONUS QUADRIDENTATUS          ROTIFERA      744
                        CEPHALODELLA SP.                   ROTIFERA       45
                        CONOCHILOIDES SP.                  ROTIFERA      108
                        CONOCHILUS HIPPOCREPIS             ROTIFERA      279
                        CONTRACTED ROTIFERA                ROTIFERA      324
                        EPIPHANES MACROURUS                ROTIFERA      279
                        EUCHLANIS SP.                      ROTIFERA       66
                        FILINIA LONGISETA                  ROTIFERA      212
                        KELLICOTTIA BOSTONIENSIS           ROTIFERA       41
                        KERATELLA COCHLEARIS               ROTIFERA       21
                        LECANE SP.                         ROTIFERA     1243
                        MONOSTYLA SP.                      ROTIFERA      137
                        PLATYIAS PATULUS                   ROTIFERA      420
                        PLATYIAS QUADRICORNIS              ROTIFERA       41
                        POLYARTHRA SP.                     ROTIFERA       41
                        SYNCHAETA SP.                      ROTIFERA      104
                        TESTUDINELLA SP.                   ROTIFERA      104
                        TRICHOCERCA SP.                    ROTIFERA       91
                        TRICHOTRIA SP.                     ROTIFERA       21
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------------------------- RIVER=INDIAN CREEK   YEAR=79   RIV_MILE=004.0   SAM_LOC=AJ   MN=09   REP_NUM=1 -------------------------

                         TAXON                         GROUP        NUM

                         BOSMINA LONGIROSTRIS         CLADOCERA     366
                         CYCLOPOIDA IMM.              COPEPODA      640
                         NAUPLII                      COPEPODA     4390
                         ASPLANCHNA SP.               ROTIFERA      457
                         BEUCHAMPIELLA SP.            ROTIFERA       91
                         BRACHIONUS ANGULARIS         ROTIFERA     3567
                         BRACHIONUS CALYCIFLORUS      ROTIFERA      823
                         BRACHIONUS CAUDATUS          ROTIFERA    16463
                         BRACHIONUS HAVANAENSIS       ROTIFERA      274
                         BRACHIONUS QUADRIDENTATUS    ROTIFERA      366
                         CEPHALODELLA SP.             ROTIFERA       91
                         CONOCHILOIDES SP.            ROTIFERA       91
                         CONOCHILUS HIPPOCREPIS       ROTIFERA      183
                         CONTRACTED ROTIFERA          ROTIFERA      274
                         EPIPHANES MACROURUS          ROTIFERA      183
                         EUCHLANIS SP.                ROTIFERA       91
                         FILINIA LONGISETA            ROTIFERA       91
                         LECANE SP.                   ROTIFERA     1280
                         MONOSTYLA SP.                ROTIFERA      274
                         PLATYIAS PATULUS             ROTIFERA      549
                         TRICHOCERCA SP.              ROTIFERA      183
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                                     SEPTEMBER 5, 1979

------------------------- RIVER=INDIAN CREEK   YEAR=79   RIV_MILE=004.0   SAM_LOC=AJ   MN=09   REP_NUM=2 -------------------------

                    TAXON                              GROUP        NUM

                    CALANOIDA IMM.                     COPEPODA       42
                    CYCLOPOIDA IMM.                    COPEPODA      541
                    NAUPLII                            COPEPODA     2330
                    ASPLANCHNA AMPHORA                 ROTIFERA      208
                    ASPLANCHNA HERRICKI                ROTIFERA      125
                    BFUCHAMPIELLA SP.                  ROTIFERA       42
                    BRACHIONUS ANGULARIS               ROTIFERA     1165
                    BRACHIONUS BIDENTATA               ROTIFERA      166
                    BRACHIONUS BUDAPESTINENSIS         ROTIFERA       83
                    BRACHIONUS CALYCIFLORUS            ROTIFERA     1456
                    BRACHIONUS CAUDATUS                ROTIFERA     8155
                    BRACHIONUS HAVANAENSIS             ROTIFERA      208
                    BRACHIONUS NILSONI                 ROTIFERA       42
                    BRACHIONUS QUADRIDENTATUS          ROTIFERA     1123
                    CONOCHILOIDES SP.                  ROTIFERA      125
                    CONOCHILUS HIPPOCREPIS             ROTIFERA      375
                    CONTRACTED ROTIFERA                ROTIFERA      375
                    EPIPHANES MACROURUS                ROTIFERA      375
                    EUCHLANIS SP.                      ROTIFERA       42
                    FILINIA LONGISETA                  ROTIFERA      333
                    KELLICOTTIA BOSTONIENSIS           ROTIFERA       83
                    KERATELLA COCHLEARIS               ROTIFERA       42
                    LECANE SP.                         ROTIFERA     1207
                    PLATYIAS PATULUS                   ROTIFERA      291
                    PLATYIAS QUADRICORNIS              ROTIFERA       83
                    POLYARTHRA SP.                     ROTIFERA       83
                    SYNCHAETA SP.                      ROTIFERA      208
                    TESTUDINELLA SP.                   ROTIFERA      208
                    TRICHOTRIA SP.                     ROTIFERA       42
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Table 5-6

IN SITU AND FIELD DETERMINED WATER QUALITY PARAMETERS DURING LATE SUMMER/EARLY FALL

STATION	DATE	TIME	DEPTH (m)	TEMP °C	DO mg/l	CONDUCTIVITY µmhos/cm	pH	TOTAL ALKALINITY mg/l
TRM 350.0 LOB	9/27/79	1555	0.3	22.5	7.9	175	7.6	-
(Secchi disk reading - 1.0 m)			0.5	22.5	7.9	175	7.6	17
			1.0	22.5	7.9	175	7.6	-
			1.5	22.5	7.9	175	7.6	-
			2.0	22.5	7.9	175	7.6	-
			2.5	22.5	7.9	175	7.6	-
			3.0	22.5	7.9	175	7.6	-
			3.5	22.5	7.9	175	7.6	-
			4.0	22.5	7.9	175	7.6	-
			4.5	22.5	7.9	175	7.6	-
			5.0	22.5	7.9	175	7.6	-
			5.5	22.5	7.9	175	7.6	-
			6.0	22.5	7.9	175	7.6	-
TRM 350.0 MC	9/27/79	1415	0.3	22.5	8.0	175	7.5	-
(Secchi disk reading - 1.0 m)			0.5	22.5	7.8	175	7.5	17
			1.0	22.5	7.8	175	7.5	-
			1.5	22.5	7.8	175	7.5	-
			2.0	22.5	7.8	175	7.5	-
			2.5	22.5	7.8	175	7.5	-
			3.0	22.5	7.8	175	7.5	-
			3.5	22.5	7.7	175	7.5	-
			4.0	22.5	7.7	175	7.5	-
			4.5	22.5	7.7	175	7.5	-
			5.0	22.5	7.7	175	7.5	-
TRM 350.0 ROB	9/27/79	1145	0.3	23.0	7.4	180	7.6	-
(Secchi disk reading - 1.25 m)			0.5	23.0	7.4	180	7.6	18
			1.0	22.5	7.4	180	7.6	-
			1.5	22.5	7.4	180	7.6	-
			2.0	22.5	7.4	180	7.6	-
			2.5	22.5	7.4	180	7.6	-
			3.0	22.5	7.4	180	7.6	-
			3.5	22.5	7.4	180	7.6	-
			4.0	22.5	7.4	180	7.6	-
			4.5	22.5	7.4	180	7.6	-
			5.0	22.5	7.4	180	7.6	-
			5.5	22.5	7.4	180	7.6	-
			6.0	22.5	7.4	180	7.6	-
			6.5	22.5	7.4	180	7.6	-
			7.0	22.5	7.4	180	7.6	-
			7.5	22.5	7.4	180	7.6	-

Table 5-6

IN SITU AND FIELD DETERMINED WATER QUALITY PARAMETERS DURING LATE SUMMER/EARLY FALL

(continued)

STATION	DATE	TIME	DEPTH (m)	TEMP °C	DO mg/l	CONDUCTIVITY µmhos/cm	pH	TOTAL ALKALINITY mg/l
TRM 350.0 ROB	9/27/79	1145	8.0	22.5	7.4	180	7.5	-
(cont)			8.5	22.5	7.4	180	7.5	-
			9.0	22.5	7.4	180	7.5	-
			9.5	22.5	7.4	180	7.5	-
			10.0	22.5	7.4	180	7.5	-
			10.5	22.5	7.4	180	7.5	-
			11.0	22.5	7.4	180	7.5	-
			11.5	22.5	7.4	180	7.5	-
			12.0	22.5	7.4	180	7.5	-
			12.5	22.5	7.4	180	7.5	-
			13.0	22.5	7.4	180	7.5	-
			13.5	22.5	7.4	180	7.5	-
			14.0	22.5	7.4	180	7.5	-
			14.5	22.5	7.4	180	7.5	-
			15.0	22.5	7.4	180	7.5	-
			15.5	22.5	7.4	180	7.5	-
			16.0	22.5	7.4	180	7.5	-
			16.5	22.5	7.4	180	7.5	-
			17.0	22.5	7.4	180	7.5	-
TRM 345.2 LOB	9/27/79	1350	0.5	24.0	8.3	200	7.3	18
(Secchi disk reading - 1.0 m)			1.0	24.0	8.3	200	7.3	-
			1.5	24.0	8.2	200	7.2	-
			2.0	24.0	8.2	200	7.2	-
			2.5	24.0	8.1	200	7.2	-
			3.0	24.0	8.0	200	7.4	-
			3.5	24.0	8.0	200	7.4	-
			4.0	24.0	8.0	200	7.6	-
			4.5	24.0	8.0	200	7.6	-
			5.0	24.0	7.9	200	7.7	-
			5.5	23.0	7.9	200	7.7	-
TRM 345.2 MID	9/27/79	1035	0.5	24.0	8.2	200	7.6	-
(Secchi disk reading - 1.0 m)			1.0	24.0	8.1	200	7.6	-
			1.5	24.0	8.0	200	7.6	-
			2.0	24.0	8.0	200	7.6	-
			2.5	24.0	8.0	200	7.6	-
			3.0	24.0	7.9	200	7.6	-
			3.5	24.5	7.9	200	7.6	-
			4.0	24.5	7.9	200	7.6	-
			4.5	24.0	7.9	200	7.6	-
			5.0	24.0	7.9	200	7.6	-
			5.5	24.0	7.9	200	7.5	-
			6.0	24.0	7.9	200	7.5	-

Table 5-6

IN SITU AND FIELD DETERMINED WATER QUALITY PARAMETERS DURING LATE SUMMER/EARLY FALL

(continued)

STATION	DATE	TIME	DEPTH (m)	TEMP °C	DO mg/l	CONDUCTIVITY µmhos/cm	pH	TOTAL ALKALINITY mg/l
TRM 345.2 ROB	9/27/79	1245	0.5	24.0	8.5	200	6.9	25
(Secchi disk reading - 1.0 m)			1.0	24.0	8.3	200	6.9	-
			1.5	23.0	8.2	200	6.8	-
			2.0	23.0	8.1	200	7.0	-
			2.5	23.0	8.0	200	7.0	-
			3.0	23.0	8.0	200	7.2	-
			3.5	23.0	7.9	200	7.4	-
			4.0	23.0	7.9	200	7.6	-
			4.5	23.0	7.9	200	7.6	-
			5.0	23.0	7.9	200	7.6	-
			5.5	23.0	7.9	200	7.6	-
HSBM 5.9	9/25/79	1615	0.3	21.0	1.4	400	7.0	46
(Secchi disk reading - 1.25 m)			0.5	21.0	1.3	400	7.0	-
			1.0	21.0	1.3	400	7.0	-
HSBM 5.37	9/25/79	1400	0.3	21.0	1.4	400	7.1	45
(Secchi disk reading - 1.25 m)			0.5	21.0	1.4	400	7.1	-
			1.0	21.0	1.4	400	7.1	-
HSBM 2.4	9/24/79	1000	0.3	21.5	4.6	500	7.2	30
(Secchi disk reading - 0.4 m)			0.5	21.0	4.0	500	7.2	-
			1.0	21.0	4.0	500	7.2	-
			1.5	21.0	3.8	500	7.2	-
HSBM 1.3	9/24/79	1500	0.3	23.0	18.0	300	8.2	41
(Secchi disk reading - 0.3 m)			0.5	23.0	13.8	300	8.1	-
			1.0	22.5	9.4	300	7.5	-
			1.5	22.0	6.2	300	7.3	-
			2.0	21.5	4.7	300	7.2	-
HSBM 0.0	9/25/79	0930	0.3	21.0	8.7	320	7.5	38
(Secchi disk reading - 0.4 m)			0.5	20.5	8.6	320	7.5	-
			1.0	20.5	8.5	320	7.4	-
			1.5	20.5	8.1	320	7.4	-
			2.0	20.5	8.2	320	7.4	-
ICM 4.0	9/25/79	1025	0.5	22.0	13.0	360	8.1	39
(Secchi disk reading - 0.25 m)			1.0	22.0	13.0	360	8.2	-
			1.5	22.0	13.0	360	8.2	-

Table 5-6

IN SITU AND FIELD DETERMINED WATER QUALITY PARAMETERS DURING LATE SUMMER/EARLY FALL
(continued)

STATION	DATE	TIME	DEPTH (m)	TEMP °C	DO mg/l	CONDUCTIVITY μmhos/cm	pH	TOTAL ALKALINITY mg/l
ICM 0.0	9/24/79	1500	0.1	22.5	7.1	240	7.3	35
(Secchi disk reading - 1.25 m)			1.0	22.5	6.9	230	7.2	-
			1.5	22.5	6.9	230	7.2	-
			2.0	22.5	6.9	230	7.3	-
			2.5	22.5	6.9	230	7.3	-
			3.0	22.5	6.8	230	7.3	-
			3.5	22.5	6.9	230	7.1	-
			4.0	22.5	6.9	230	7.3	-
			4.5	22.5	6.9	230	7.1	-
			5.0	22.5	6.7	230	7.1	-
			5.5	22.5	6.6	230	7.0	-
			6.0	22.5	6.7	230	7.0	-
			6.5	22.5	6.7	230	7.0	-
BFCM 1.2	9/24/79	1200	0.1	23.0	7.8	280	6.0	45
(Secchi disk reading - 0.5 m)			0.5	22.0	7.1	280	5.9	-
			1.0	22.0	6.9	280	5.9	-
			1.5	22.0	8.4	240	6.5	-
TRM 315.0 LOB	9/25/79	1717	0.1	24.0	9.0	220	6.5	20
(Secchi disk reading - 0.5 m)			1.0	24.0	9.0	220	6.5	-
			1.5	24.0	9.0	220	6.6	-
			2.0	24.0	9.0	220	6.6	-
			2.5	24.0	9.0	220	6.6	-
			3.0	24.0	9.0	220	6.6	-
			3.5	24.0	9.0	220	6.6	-
			4.0	24.0	9.0	220	6.6	-
			4.5	24.0	9.0	220	6.6	-
			5.0	24.0	9.0	220	6.8	-
			5.5	24.0	9.0	220	6.8	-
TRM 315.0 MC	9/25/79	1529	0.5	24.0	9.2	220	6.9	22
(Secchi disk reading - 1.0 m)			1.0	24.0	9.1	220	6.9	-
			1.5	24.0	9.1	220	7.0	-
			2.0	24.0	9.1	220	7.0	-
			2.5	24.0	9.1	220	6.9	-
			3.0	24.0	9.0	220	6.9	-
			3.5	24.0	9.0	220	6.9	-
			4.0	24.0	9.0	220	6.9	-
			4.5	24.0	9.0	220	6.9	-
			5.0	24.0	9.0	220	6.8	-
			5.5	24.0	9.0	220	6.8	-
			6.0	24.0	9.0	220	6.8	-
			6.5	24.0	9.0	220	6.8	-

Table 5-6

IN SITU AND FIELD DETERMINED WATER QUALITY PARAMETERS DURING LATE SUMMER/EARLY FALL
(continued)

STATION	DATE	TIME	DEPTH (m)	TEMP °C	DO mg/l	CONDUCTIVITY µmhos/cm	pH	TOTAL ALKALINITY mg/l
TRM 315.0 ROB	9/25/79	1320	0.5	24.0	9.9	220	6.4	20
(Secchi disk reading - 1.0 m)			1.0	25.0	9.6	220	6.4	-
			1.5	25.0	9.6	220	6.3	-
			2.0	24.5	9.5	220	6.3	-
			2.5	24.5	9.4	220	6.5	-
			3.0	24.5	9.4	220	6.5	-
			3.5	24.0	9.3	220	6.5	-
			4.0	24.0	9.3	220	6.5	-
			4.5	23.0	9.2	220	6.5	-
			5.0	23.0	9.2	220	6.5	-
			5.5	23.0	9.1	220	6.5	-
			6.0	23.0	9.1	220	6.5	-
			6.5	23.0	9.1	220	6.5	-
TRM 289.9 LOB	9/28/79	1400	0.5	22.0	7.9	210	6.8	-
(Secchi disk reading not taken)			1.0	22.5	7.7	210	6.8	19
			1.5	22.5	7.6	210	6.8	-
			2.0	22.5	7.6	210	6.8	-
			2.5	22.5	7.6	210	6.8	-
			3.0	22.0	7.5	210	6.8	-
			3.5	22.0	7.6	210	6.8	-
			4.0	22.0	7.5	210	6.8	-
TRM 289.9 MC	9/28/79	1010	0.5	22.0	8.4	210	6.8	-
(Secchi disk reading not taken)			1.0	22.0	8.2	210	6.8	36
			1.5	22.0	8.2	210	6.8	-
			2.0	23.0	8.1	210	6.8	-
			2.5	23.0	8.0	210	6.8	-
			3.0	23.0	8.0	210	6.8	-
			3.5	23.0	8.0	210	6.8	-
			4.0	23.0	8.0	210	6.8	-
			4.5	23.0	7.9	210	6.8	-
			5.0	23.0	7.9	210	6.8	-
			5.5	22.5	7.9	210	6.8	-
			6.0	22.0	7.8	210	6.8	-
			6.5	22.0	7.8	210	6.8	-

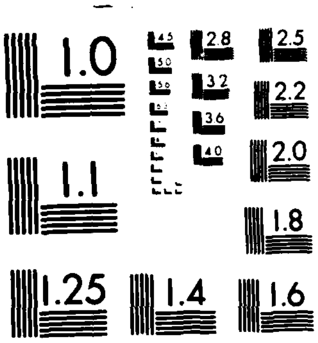
Table 5-6

IN SITU AND FIELD DETERMINED WATER QUALITY PARAMETERS DURING LATE SUMMER/EARLY FALL
(continued)

STATION	DATE	TIME	DEPTH (m)	TEMP °C	DO mg/l	CONDUCTIVITY µmhos/cm	pH	TOTAL ALKALINITY mg/l
TRM 289.9 ROB	9/28/79	0915	0.5	22.0	9.1	180	6.9	-
(Secchi disk reading - 1.0 m)			1.0	22.5	8.5	180	6.9	18
			1.5	22.5	8.3	180	6.9	-
			2.0	22.5	8.2	180	6.9	-
			2.5	22.5	8.2	180	6.9	-
			3.0	22.5	8.1	180	6.9	-
			3.5	22.5	8.0	180	6.9	-
			4.0	22.5	8.0	190	6.9	-

AD-A128 024 ENGINEERING AND ENVIRONMENTAL STUDY OF DDT
CONTAMINATION OF HUNTSVILLE SP..(U) WATER AND AIR
RESEARCH INC GAINESVILLE FL J H SULLIVAN ET AL. NOV 80
UNCLASSIFIED DACW01-79-C-0224 F/G 13/3 NL

5/8



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Table 5-7B

PHYTOPLANKTON COMPOSITION

REPLICATE ANALYSIS RESULTS AND

CALCULATED MEANS -

LATE SUMMER/EARLY FALL SAMPLING

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-------------------------------- RIVER=INDIAN CREEK   RIV_MILE=000.0   SAM_LOC=AJ   DATE=79-09-24 --------------------------------

TAXON                GROUP            MEAN

ACTINASTRUM          CHLOROPHYTA      548064
ANKISTRODESMUS       CHLOROPHYTA       99648
BRACTEACOCCUS        CHLOROPHYTA       31140
CARTERIA             CHLOROPHYTA        3114
CHLAMYDOMONAS        CHLOROPHYTA      778500
CHLORELLA            CHLOROPHYTA      822096
CHLOROCOCCUM         CHLOROPHYTA       21798
CHLOROGONIUM         CHLOROPHYTA       21798
CHODATELLA           CHLOROPHYTA      214866
CLOSTERIOPSIS        CHLOROPHYTA        3114
COELASTRUM           CHLOROPHYTA       68508
CRUCIGENIA           CHLOROPHYTA      351882
DACTYLOCOCCUS        CHLOROPHYTA       12456
DICTYOSPHAERIUM      CHLOROPHYTA       37368
GLOEOACTINIUM        CHLOROPHYTA       12456
GOLENKINIA           CHLOROPHYTA       37368
GONIUM               CHLOROPHYTA       34254
KIRCHNERIELLA        CHLOROPHYTA      292716
MICRACTINIUM         CHLOROPHYTA      242892
PEDIASTRUM           CHLOROPHYTA      102762
PROTOCOCCUS          CHLOROPHYTA      211752
PTEROMONAS           CHLOROPHYTA        9342
PYRAMIMONAS          CHLOROPHYTA       34254
ROYA                 CHLOROPHYTA        3114
SCENEDESMUS          CHLOROPHYTA     1488492
SCHROEDERIA          CHLOROPHYTA      137016
SELENASTRUM          CHLOROPHYTA      354996
TETRAEDRON           CHLOROPHYTA      115218
TETRASTRUM           CHLOROPHYTA       68508
TREUBARIA            CHLOROPHYTA        9342
TROCHISCIA           CHLOROPHYTA       65394
UNID GREEN #1        CHLOROPHYTA        3114
ACHNANTHES           CHRYSOPHYTA      137016
CHARACIOPSIS         CHRYSOPHYTA      180612
CYMBELLA             CHRYSOPHYTA        3114
DIATOMA              CHRYSOPHYTA        3114
FRAGILARIA           CHRYSOPHYTA        3114
MELOSIRA             CHRYSOPHYTA    16080696
NAVICULA             CHRYSOPHYTA       74736
NITZSCHIA            CHRYSOPHYTA        3114
OPHIOCYTIUM          CHRYSOPHYTA       12456
RHOICOSPHENIA        CHRYSOPHYTA        3114
STEPHANODISCUS       CHRYSOPHYTA     1036962
SURIRELLA            CHRYSOPHYTA        3114
SYNEDRA              CHRYSOPHYTA      345654
CRYPTOMONAS          CRYPTOPHYTA      140130
ANABAENA             CYANOPHYTA        74736
ANACYSTIS            CYANOPHYTA       734904
APHANOTHECE          CYANOPHYTA       379908
DACTYLOCOCCOPSIS     CYANOPHYTA       663282
GLOEOTHECE           CYANOPHYTA        12456
MERISMOPEDIA         CYANOPHYTA     27428112
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                         DDT TASK 5  PHYTOPLANKTON LISTING              8:55 TUESDAY, FEBRUARY 26, 1980   11

---------------------------------- RIVER=INDIAN CREEK   RIV_MILE=000.0   SAM_LOC=AJ   DATE=79-09-24 ----------------------------------

                                 TAXON                     GROUP            MEAN

                                 OSCILLATORIA              CYANOPHYTA      115218
                                 OSCILLATORIA (SPIRAL)     CYANOPHYTA       52938
                                 SPIRULINA                 CYANOPHYTA       24912
                                 CRYPTOGLENA               EUGLENOPHYTA      9342
                                 EUGLENA                   EUGLENOPHYTA    202410
                                 PHACUS                    EUGLENOPHYTA      9342
                                 TRACHELOMONAS             EUGLENOPHYTA     24912
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                                         DDT TASK 5  PHYTOPLANKTON LISTING              8155 TUESDAY, FEBRUARY 26, 1980   12

---------------------------------- RIVER=INDIAN CREEK   RIV_MILE=004.0   SAM_LOC=AJ   DATE=79-09-25 ----------------------------------

                                      TAXON                       GROUP                MEAN

                                      ACTINASTRUM                 CHLOROPHYTA        541836
                                      ANKISTRODESMUS              CHLOROPHYTA        221094
                                      BRACTEACOCCUS               CHLOROPHYTA        155700
                                      CHLAMYDOMONAS               CHLOROPHYTA        865692
                                      CHLORELLA                   CHLOROPHYTA        806526
                                      CHLOROGONIUM                CHLOROPHYTA         12456
                                      CHODATELLA                  CHLOROPHYTA        186840
                                      CLOSTERIOPSIS               CHLOROPHYTA          6228
                                      CLOSTERIUM                  CHLOROPHYTA          3114
                                      COELASTRUM                  CHLOROPHYTA         59166
                                      CRUCIGENIA                  CHLOROPHYTA        386136
                                      DICTYOSPHAERIUM             CHLOROPHYTA         24912
                                      ELAKATOTHRIX                CHLOROPHYTA         15570
                                      EUDORINA                    CHLOROPHYTA         24912
                                      GLOEOACTINIUM               CHLOROPHYTA         18684
                                      GOLENKINIA                  CHLOROPHYTA         43596
                                      KIRCHNERIELLA               CHLOROPHYTA         43596
                                      MICRACTINIUM                CHLOROPHYTA        152586
                                      OOCYSTIS                    CHLOROPHYTA         34254
                                      PEDIASTRUM                  CHLOROPHYTA        146358
                                      PLANKTOSPHAERIA             CHLOROPHYTA         49824
                                      PROTOCOCCUS                 CHLOROPHYTA        280260
                                      PTEROMONAS                  CHLOROPHYTA          3114
                                      PYRAMIMONAS                 CHLOROPHYTA         18684
                                      ROYA                        CHLOROPHYTA          6228
                                      SCENEDESMUS                 CHLOROPHYTA       2260764
                                      SCHROEDERIA                 CHLOROPHYTA        161928
                                      SELENASTRUM                 CHLOROPHYTA        292716
                                      TETRAEDRON                  CHLOROPHYTA        121446
                                      TETRASTRUM                  CHLOROPHYTA        292716
                                      TREUBARIA                   CHLOROPHYTA         18684
                                      TROCHISCIA                  CHLOROPHYTA         15570
                                      ACHNANTHES                  CHRYSOPHYTA         65394
                                      CHARACIOPSIS                CHRYSOPHYTA        189954
                                      CYCLOTELLA                  CHRYSOPHYTA          3114
                                      DICHOTOMOCOCCUS             CHRYSOPHYTA         15570
                                      MELOSIRA                    CHRYSOPHYTA      32862042
                                      NAVICULA                    CHRYSOPHYTA         37368
                                      NITZSCHIA                   CHRYSOPHYTA          3114
                                      STEPHANODISCUS              CHRYSOPHYTA        865692
                                      SYNEDRA                     CHRYSOPHYTA        473328
                                      CRYPTOMONAS                 CRYPTOPHYTA        233550
                                      ANABAENA                    CYANOPHYTA          96534
                                      ANACYSTIS                   CYANOPHYTA         984024
                                      DACTYLOCOCCOPSIS            CYANOPHYTA         937314
                                      LYNGBYA                     CYANOPHYTA           6228
                                      MERISMOPEDIA                CYANOPHYTA       91558498
                                      OSCILLATORIA                CYANOPHYTA          71622
                                      OSCILLATORIA (SPIRAL)       CYANOPHYTA          15570
                                      SPIRULINA                   CYANOPHYTA           6228
                                      CRYPTOGLENA                 EUGLENOPHYTA        37368
                                      EUGLENA                     EUGLENOPHYTA        59166
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                                        DDT TASK 5  PHYTOPLANKTON LISTING               8:55 TUESDAY, FEBRUARY 26, 1980   13
------------------------------------ RIVER=INDIAN CREEK   RIV_MILE=004.0   SAM_LOC=AJ   DATE=79-09-25 ------------------------------------
                                         TAXON        GROUP          MEAN

                                         PHACUS    EUGLENOPHYTA      9342
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------------------------- RIVER=INDIAN CREEK   RIV_MILE=000.0   SAM_LOC=AJ   DATE=79-09-24   REP_NUM=1 -------------------------

                         TAXON                       GROUP                NUM

                         ACTINASTRUM                 CHLOROPHYTA        308286
                         ANKISTRODESMUS              CHLOROPHYTA        102762
                         BRACTEACOCCUS               CHLOROPHYTA         93420
                         CHLAMYDOMONAS               CHLOROPHYTA       1167750
                         CHLORELLA                   CHLOROPHYTA       1055646
                         CHLOROGONIUM                CHLOROPHYTA         18684
                         CHODATELLA                  CHLOROPHYTA        186840
                         CLOSTERIOPSIS               CHLOROPHYTA          9342
                         CRUCIGENIA                  CHLOROPHYTA        457758
                         DACTYLOCOCCUS               CHLOROPHYTA         37368
                         GLOEOACTINIUM               CHLOROPHYTA         37368
                         GONIUM                      CHLOROPHYTA        102762
                         KIRCHNERIELLA               CHLOROPHYTA        448416
                         MICRACTINIUM                CHLOROPHYTA        261576
                         PEDIASTRUM                  CHLOROPHYTA        224208
                         PROTOCOCCUS                 CHLOROPHYTA        270918
                         PTEROMONAS                  CHLOROPHYTA         28026
                         PYRAMIMONAS                 CHLOROPHYTA         37368
                         ROYA                        CHLOROPHYTA          9342
                         SCENEDESMUS                 CHLOROPHYTA       1578798
                         SCHROEDERIA                 CHLOROPHYTA        140130
                         SELENASTRUM                 CHLOROPHYTA        401706
                         TETRAEDRON                  CHLOROPHYTA        158814
                         TREUBARIA                   CHLOROPHYTA          9342
                         TROCHISCIA                  CHLOROPHYTA         28026
                         ACHNANTHES                  CHRYSOPHYTA        233550
                         CHARACIOPSIS                CHRYSOPHYTA        196182
                         DIATOMA                     CHRYSOPHYTA          9342
                         MELOSIRA                    CHRYSOPHYTA      18992286
                         NAVICULA                    CHRYSOPHYTA         56052
                         NITZSCHIA                   CHRYSOPHYTA          9342
                         OPHIOCYTIUM                 CHRYSOPHYTA         37368
                         STEPHANODISCUS              CHRYSOPHYTA        868806
                         SURIRELLA                   CHRYSOPHYTA          9342
                         SYNEDRA                     CHRYSOPHYTA        485784
                         CRYPTOMONAS                 CRYPTOPHYTA        177498
                         ANABAENA                    CYANOPHYTA          93420
                         ANACYSTIS                   CYANOPHYTA         962226
                         APHANOTHECE                 CYANOPHYTA         149472
                         DACTYLOCOCCOPSIS            CYANOPHYTA         794070
                         MERISMOPEDIA                CYANOPHYTA       36714060
                         OSCILLATORIA                CYANOPHYTA         121446
                         OSCILLATORIA (SPIRAL)       CYANOPHYTA          46710
                         SPIRULINA                   CYANOPHYTA          46710
                         CRYPTOGLENA                 EUGLENOPHYTA         9342
                         EUGLENA                     EUGLENOPHYTA       158814
                         PHACUS                      EUGLENOPHYTA         9342
                         TRACHELOMONAS               EUGLENOPHYTA        18684
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                                        DOT TASK 5  PHYTOPLANKTON LISTING                13:54 FRIDAY, FEBRUARY 22, 1980   20

------------------------- RIVER=INDIAN CREEK   RIV_MILE=000,0   SAM_LOC=AJ   DATE=79-09-24   REP_NUM=2 -------------------------

                                  TAXON                       GROUP              NUM

                                  ACTINASTRUM                 CHLOROPHYTA        887490
                                  ANKISTRODESMUS              CHLOROPHYTA         84078
                                  CARTERIA                    CHLOROPHYTA          9342
                                  CHLAMYDOMONAS               CHLOROPHYTA        457758
                                  CHLORELLA                   CHLOROPHYTA        756702
                                  CHLOROGONIUM                CHLOROPHYTA         46710
                                  CHODATELLA                  CHLOROPHYTA        177498
                                  COELASTRUM                  CHLOROPHYTA        140130
                                  CRUCIGENIA                  CHLOROPHYTA        336312
                                  DICTYOSPHAERIUM             CHLOROPHYTA         74736
                                  GOLENKINIA                  CHLOROPHYTA         65394
                                  KIRCHNERIELLA               CHLOROPHYTA        224208
                                  MICRACTINIUM                CHLOROPHYTA        298944
                                  PROTOCOCCUS                 CHLOROPHYTA        364338
                                  PYRAMIMONAS                 CHLOROPHYTA         18684
                                  SCENEDESMUS                 CHLOROPHYTA       1700244
                                  SCHROEDERIA                 CHLOROPHYTA        186840
                                  SELENASTRUM                 CHLOROPHYTA        242892
                                  TETRAEDRON                  CHLOROPHYTA         74736
                                  TETRASTRUM                  CHLOROPHYTA         37368
                                  TREUBARIA                   CHLOROPHYTA          9342
                                  TROCHISCIA                  CHLOROPHYTA         93420
                                  UNID GREEN #1               CHLOROPHYTA          9342
                                  ACHNANTHES                  CHRYSOPHYTA        112104
                                  CHARACIOPSIS                CHRYSOPHYTA        112104
                                  CYMBELLA                    CHRYSOPHYTA          9342
                                  MELOSIRA                    CHRYSOPHYTA      17105202
                                  NAVICULA                    CHRYSOPHYTA         74736
                                  STEPHANODISCUS              CHRYSOPHYTA       1195776
                                  SYNEDRA                     CHRYSOPHYTA        420390
                                  CRYPTOMONAS                 CRYPTOPHYTA         84078
                                  ANABAENA                    CYANOPHYTA         130788
                                  ANACYSTIS                   CYANOPHYTA        1149066
                                  APHANOTHECE                 CYANOPHYTA         990252
                                  DACTYLOCOCCOPSIS            CYANOPHYTA         635256
                                  GLOEOTHECE                  CYANOPHYTA          37368
                                  MERISMOPEDIA                CYANOPHYTA       27736398
                                  OSCILLATORIA                CYANOPHYTA          93420
                                  OSCILLATORIA (SPIRAL)       CYANOPHYTA          74736
                                  SPIRULINA                   CYANOPHYTA          28026
                                  CRYPTOGLENA                 EUGLENOPHYTA         9342
                                  EUGLENA                     EUGLENOPHYTA       261576
                                  PHACUS                      EUGLENOPHYTA        18684
                                  TRACHELOMONAS               EUGLENOPHYTA        28026
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                                   DDT TASK 5  PHYTOPLANKTON LISTING             13:54 FRIDAY, FEBRUARY 22, 1980   21

-------------------------- RIVER=INDIAN CREEK   RIV_MILE=000.0   SAM_LOC=AJ   DATE=79-09-24   REP_NUM=3 --------------------------

                               TAXON                       GROUP                NUM

                               ACTINASTRUM                 CHLOROPHYTA       448416
                               ANKISTRODESMUS              CHLOROPHYTA       112104
                               CHLAMYDOMONAS               CHLOROPHYTA       709992
                               CHLORELLA                   CHLOROPHYTA       653940
                               CHLOROCOCCUM                CHLOROPHYTA        65394
                               CHODATELLA                  CHLOROPHYTA       280260
                               COELASTRUM                  CHLOROPHYTA        65394
                               CRUCIGENIA                  CHLOROPHYTA       261576
                               DICTYOSPHAERIUM             CHLOROPHYTA        37368
                               GOLENKINIA                  CHLOROPHYTA        46710
                               KIRCHNERIELLA               CHLOROPHYTA       205524
                               MICRACTINIUM                CHLOROPHYTA       168156
                               PEDIASTRUM                  CHLOROPHYTA        84078
                               PYRAMIMONAS                 CHLOROPHYTA        46710
                               SCENEDESMUS                 CHLOROPHYTA      1186434
                               SCHROEDERIA                 CHLOROPHYTA        84078
                               SELENASTRUM                 CHLOROPHYTA       420390
                               TETRAEDRON                  CHLOROPHYTA       112104
                               TETRASTRUM                  CHLOROPHYTA       168156
                               TREUBARIA                   CHLOROPHYTA         9342
                               TROCHISCIA                  CHLOROPHYTA        74736
                               ACHNANTHES                  CHRYSOPHYTA        65394
                               CHARACIOPSIS                CHRYSOPHYTA       233550
                               FRAGILARIA                  CHRYSOPHYTA         9342
                               MELOSIRA                    CHRYSOPHYTA     12144600
                               NAVICULA                    CHRYSOPHYTA        93420
                               RHOICOSPHENIA               CHRYSOPHYTA         9342
                               STEPHANODISCUS              CHRYSOPHYTA      1046304
                               SYNEDRA                     CHRYSOPHYTA       130788
                               CRYPTOMONAS                 CRYPTOPHYTA       158814
                               ANACYSTIS                   CYANOPHYTA         93420
                               DACTYLOCOCCOPSIS            CYANOPHYTA        560520
                               MERISMOPEDIA                CYANOPHYTA      17833878
                               OSCILLATORIA                CYANOPHYTA        130788
                               OSCILLATORIA (SPIRAL)       CYANOPHYTA         37368
                               CRYPTOGLENA                 EUGLENOPHYTA        9342
                               EUGLENA                     EUGLENOPHYTA      186840
                               TRACHELOMONAS               EUGLENOPHYTA       28026
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                              DDT TASK 5  PHYTOPLANKTON LISTING                13:54 FRIDAY, FEBRUARY 22, 1980   22

------------------------- RIVER=INDIAN CREEK   RIV_MILE=004.0   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=1 -------------------------

                    TAXON                       GROUP                NUM

                    ACTINASTRUM                 CHLOROPHYTA       429732
                    ANKISTRODESMUS              CHLOROPHYTA       233550
                    BRACTEACOCCUS               CHLOROPHYTA       112104
                    CHLAMYDOMONAS               CHLOROPHYTA      1008936
                    CHLORELLA                   CHLOROPHYTA       868806
                    CHLOROGONIUM                CHLOROPHYTA        28026
                    CHODATELLA                  CHLOROPHYTA       168156
                    CLOSTERIOPSIS               CHLOROPHYTA         9342
                    CRUCIGENIA                  CHLOROPHYTA       298944
                    DICTYOSPHAERIUM             CHLOROPHYTA        37368
                    ELAKATOTHRIX                CHLOROPHYTA        46710
                    EUDORINA                    CHLOROPHYTA        74736
                    GLOEOACTINIUM               CHLOROPHYTA        56052
                    GOLENKINIA                  CHLOROPHYTA        18684
                    KIRCHNERIELLA               CHLOROPHYTA        74736
                    MICRACTINIUM                CHLOROPHYTA       102762
                    OOCYSTIS                    CHLOROPHYTA        18684
                    PEDIASTRUM                  CHLOROPHYTA       373680
                    PROTOCOCCUS                 CHLOROPHYTA       354996
                    PTEROMONAS                  CHLOROPHYTA         9342
                    PYRAMIMONAS                 CHLOROPHYTA        46710
                    ROYA                        CHLOROPHYTA         9342
                    SCENEDESMUS                 CHLOROPHYTA      2335500
                    SCHROEDERIA                 CHLOROPHYTA       140130
                    SELENASTRUM                 CHLOROPHYTA       383022
                    TETRAEDRON                  CHLOROPHYTA       102762
                    TETRASTRUM                  CHLOROPHYTA       541836
                    TREUBARIA                   CHLOROPHYTA         9342
                    TROCHISCIA                  CHLOROPHYTA        18684
                    ACHNANTHES                  CHRYSOPHYTA        56052
                    CHARACIOPSIS                CHRYSOPHYTA       168156
                    MELOSIRA                    CHRYSOPHYTA     37097082
                    NAVICULA                    CHRYSOPHYTA        65394
                    NITZSCHIA                   CHRYSOPHYTA         9342
                    STEPHANODISCUS              CHRYSOPHYTA      1064988
                    SYNEDRA                     CHRYSOPHYTA       532494
                    CRYPTOMONAS                 CRYPTOPHYTA       326970
                    ANABAENA                    CYANOPHYTA        140130
                    ANACYSTIS                   CYANOPHYTA        401706
                    DACTYLOCOCCOPSIS            CYANOPHYTA       1027620
                    LYNGBYA                     CYANOPHYTA         18684
                    MERISMOPEDIA                CYANOPHYTA      39740868
                    OSCILLATORIA                CYANOPHYTA         84078
                    OSCILLATORIA (SPIRAL)       CYANOPHYTA          9342
                    SPIRULINA                   CYANOPHYTA         18684
                    CRYPTOGLENA                 EUGLENOPHYTA       37368
                    EUGLENA                     EUGLENOPHYTA       84078
                    PHACUS                      EUGLENOPHYTA        9342
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                                        DDT TASK 5  PHYTOPLANKTON LISTING            13:54 FRIDAY, FEBRUARY 22, 1980   23

------------------------------ RIVER=INDIAN CREEK   RIV_MILE=004,0   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=2 ------------------------------

                               TAXON                        GROUP                NUM

                               ACTINASTRUM                  CHLOROPHYTA       691308
                               ANKISTRODESMUS               CHLOROPHYTA       298944
                               BRACTEACOCCUS                CHLOROPHYTA       270918
                               CHLAMYDOMONAS                CHLOROPHYTA       859464
                               CHLORELLA                    CHLOROPHYTA       719334
                               CHODATELLA                   CHLOROPHYTA       214866
                               CLOSTERIOPSIS                CHLOROPHYTA         9342
                               CLOSTERIUM                   CHLOROPHYTA         9342
                               COELASTRUM                   CHLOROPHYTA       149472
                               CRUCIGENIA                   CHLOROPHYTA       373680
                               DICTYOSPHAERIUM              CHLOROPHYTA        18684
                               GOLENKINIA                   CHLOROPHYTA        56052
                               KIRCHNERIELLA                CHLOROPHYTA        28026
                               MICRACTINIUM                 CHLOROPHYTA       298944
                               OOCYSTIS                     CHLOROPHYTA        46710
                               PEDIASTRUM                   CHLOROPHYTA        65394
                               PLANKTOSPHAERIA              CHLOROPHYTA        74736
                               PROTOCOCCUS                  CHLOROPHYTA       411048
                               PYRAMIMONAS                  CHLOROPHYTA         9342
                               ROYA                         CHLOROPHYTA         9342
                               SCENEDESMUS                  CHLOROPHYTA      2129976
                               SCHROEDERIA                  CHLOROPHYTA       149472
                               SELENASTRUM                  CHLOROPHYTA       298944
                               TETRAEDRON                   CHLOROPHYTA       140130
                               TETRASTRUM                   CHLOROPHYTA       336312
                               TREUBARIA                    CHLOROPHYTA         9342
                               TROCHISCIA                   CHLOROPHYTA         9342
                               ACHNANTHES                   CHRYSOPHYTA        37368
                               CHARACIOPSIS                 CHRYSOPHYTA       102762
                               CYCLOTELLA                   CHRYSOPHYTA         9342
                               DICHOTOMOCOCCUS              CHRYSOPHYTA        46710
                               MELOSIRA                     CHRYSOPHYTA     32790420
                               NAVICULA                     CHRYSOPHYTA        37368
                               STEPHANODISCUS               CHRYSOPHYTA       868806
                               SYNEDRA                      CHRYSOPHYTA       569862
                               CRYPTOMONAS                  CRYPTOPHYTA       224208
                               ANABAENA                     CYANOPHYTA        149472
                               ANACYSTIS                    CYANOPHYTA       1457352
                               DACTYLOCOCCOPSIS             CYANOPHYTA        924858
                               MERISMOPEDIA                 CYANOPHYTA      76865976
                               OSCILLATORIA                 CYANOPHYTA         74736
                               OSCILLATORIA (SPIRAL)        CYANOPHYTA          9342
                               EUGLENA                      EUGLENOPHYTA       65394
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                                 DDT TASK 5  PHYTOPLANKTON LISTING                    13:54 FRIDAY, FEBRUARY 22, 1980   24

--------------------------- RIVER=INDIAN CREEK   RIV_MILE=004.0   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=3 ----------------------------

                               TAXON                      GROUP              NUM

                               ACTINASTRUM                CHLOROPHYTA       504468
                               ANKISTRODESMUS             CHLOROPHYTA       130788
                               BRACTEACOCCUS              CHLOROPHYTA        84078
                               CHLAMYDOMONAS              CHLOROPHYTA       728676
                               CHLORELLA                  CHLOROPHYTA       831438
                               CHLOROGONIUM               CHLOROPHYTA         9342
                               CHODATELLA                 CHLOROPHYTA       177498
                               COELASTRUM                 CHLOROPHYTA        28026
                               CRUCIGENIA                 CHLOROPHYTA       485784
                               DICTYOSPHAERIUM            CHLOROPHYTA        18684
                               GOLENKINIA                 CHLOROPHYTA        56052
                               KIRCHNERIELLA              CHLOROPHYTA        28026
                               MICRACTINIUM               CHLOROPHYTA        56052
                               OOCYSTIS                   CHLOROPHYTA        37368
                               PLANKTOSPHAERIA            CHLOROPHYTA        74736
                               PROTOCOCCUS                CHLOROPHYTA        74736
                               SCENEDESMUS                CHLOROPHYTA      2316816
                               SCHROEDERIA                CHLOROPHYTA       196182
                               SELENASTRUM                CHLOROPHYTA       196182
                               TETRAEDRON                 CHLOROPHYTA       121446
                               TREUBARIA                  CHLOROPHYTA        37368
                               TROCHISCIA                 CHLOROPHYTA        18684
                               ACHNANTHES                 CHRYSOPHYTA       102762
                               CHARACIOPSIS               CHRYSOPHYTA       298944
                               MELOSIRA                   CHRYSOPHYTA     28698624
                               NAVICULA                   CHRYSOPHYTA         9342
                               STEPHANODISCUS             CHRYSOPHYTA       663282
                               SYNEDRA                    CHRYSOPHYTA       317628
                               CRYPTOMONAS                CRYPTOPHYTA       149472
                               ANACYSTIS                  CYANOPHYTA       1093014
                               DACTYLOCOCCOPSIS           CYANOPHYTA        859464
                               MERISMOPEDIA               CYANOPHYTA      38068650
                               OSCILLATORIA               CYANOPHYTA         56052
                               OSCILLATORIA (SPIRAL)      CYANOPHYTA         28026
                               CRYPTOGLENA                EUGLENOPHYTA       74736
                               EUGLENA                    EUGLENOPHYTA       28026
                               PHACUS                     EUGLENOPHYTA       18684
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                                          DDT TASK 5  PHYTOPLANKTON LISTING                8:55 TUESDAY, FEBRUARY 26, 1980   1

------------------------------- RIVER=BARREN FORK CREEK   RIV_MILE=001.2   SAM_LOC=AJ   DATE=79-09-24 -------------------------------

                                     TAXON                      GROUP               MEAN

                                     ACTINASTRUM                CHLOROPHYTA       205590
                                     ANKISTRODESMUS             CHLOROPHYTA        76836
                                     BRACTEACOCCUS              CHLOROPHYTA         1038
                                     CHLAMYDOMONAS              CHLOROPHYTA       742408
                                     CHLORELLA                  CHLOROPHYTA       258545
                                     CHLOROGONIUM               CHLOROPHYTA        12460
                                     CHODATELLA                 CHLOROPHYTA        28035
                                     CLOSTERIUM                 CHLOROPHYTA         1038
                                     COELASTRUM                 CHLOROPHYTA        74760
                                     CRUCIGENIA                 CHLOROPHYTA       220126
                                     ELAKATOTHRIX               CHLOROPHYTA         2076
                                     EUDORINA                   CHLOROPHYTA        16613
                                     FRANCEIA                   CHLOROPHYTA         1038
                                     GLOEOACTINIUM              CHLOROPHYTA        33226
                                     GOLENKINIA                 CHLOROPHYTA        22843
                                     HYALOTHECA                 CHLOROPHYTA         1038
                                     KIRCHNERIELLA              CHLOROPHYTA       120446
                                     MICRACTINIUM               CHLOROPHYTA        19728
                                     OOCYSTIS                   CHLOROPHYTA         8306
                                     PEDIASTRUM                 CHLOROPHYTA        63338
                                     PROTOCOCCUS                CHLOROPHYTA       148481
                                     PTEROMONAS                 CHLOROPHYTA         3115
                                     PYRAMIMONAS                CHLOROPHYTA         6230
                                     QUADRIGULA                 CHLOROPHYTA        11421
                                     SCENEDESMUS                CHLOROPHYTA       936576
                                     SCHROEDERIA                CHLOROPHYTA        20766
                                     SELENASTRUM                CHLOROPHYTA       161980
                                     TETRAEDRON                 CHLOROPHYTA        59185
                                     TETRASTRUM                 CHLOROPHYTA        74760
                                     TREUBARIA                  CHLOROPHYTA        12460
                                     TROCHISCIA                 CHLOROPHYTA       268928
                                     UNID GREEN #1              CHLOROPHYTA         6230
                                     ACHNANTHES                 CHRYSOPHYTA        28035
                                     CHAETOCEROS                CHRYSOPHYTA         8306
                                     CHARACIOPSIS               CHRYSOPHYTA        45686
                                     CYMBELLA                   CHRYSOPHYTA         4153
                                     DINOBRYON                  CHRYSOPHYTA         4153
                                     GYROSIGMA                  CHRYSOPHYTA         2076
                                     MELOSIRA                   CHRYSOPHYTA      5315228
                                     NAVICULA                   CHRYSOPHYTA       124600
                                     OPHIOCYTIUM                CHRYSOPHYTA        28035
                                     STEPHANODISCUS             CHRYSOPHYTA       255430
                                     SURIRELLA                  CHRYSOPHYTA         3115
                                     SYNEDRA                    CHRYSOPHYTA       275158
                                     CRYPTOMONAS                CRYPTOPHYTA        49840
                                     ANABAENA                   CYANOPHYTA          2076
                                     ANACYSTIS                  CYANOPHYTA        516051
                                     DACTYLOCOCCOPSIS           CYANOPHYTA        200398
                                     MERISMOPEDIA               CYANOPHYTA       6443896
                                     OSCILLATORIA               CYANOPHYTA         26996
                                     OSCILLATORIA (SPIRAL)      CYANOPHYTA         12460
                                     SYNECHOCOCCUS              CYANOPHYTA          2076
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                                   DDT TASK 5  PHYTOPLANKTON LISTING              8:55 TUESDAY, FEBRUARY 26, 1980    2

------------------------------ RIVER=BARREN FORK CREEK   RIV_MILE=001.2   SAM_LOC=AJ   DATE=79-09-24 ------------------------------

                                  TAXON             GROUP              MEAN

                                  CRYPTOGLENA       EUGLENOPHYTA      14536
                                  EUGLENA           EUGLENOPHYTA     181708
                                  PHACUS            EUGLENOPHYTA       6230
                                  TRACHELOMONAS     EUGLENOPHYTA      42571
                                  GYMNODINIUM       PYRROPHYTA         6230
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                                        DDT TASK 5  PHYTOPLANKTON LISTING                 13:54 FRIDAY, FEBRUARY 22, 1960     1
---------------------- RIVER=BARREN FORK CREEK    RIV_MILE=001.2    SAM_LOC=AJ    DATE=79-09-24    REP_NUM=1 ------------------------

                                   TAXON                    GROUP              NUM

                                   ACTINASTRUM              CHLOROPHYTA       180670
                                   ANKISTRODESMUS           CHLOROPHYTA        56070
                                   CHLAMYDOMONAS            CHLOROPHYTA      1018605
                                   CHLORELLA                CHLOROPHYTA       289695
                                   CHLOROGONIUM             CHLOROPHYTA         6230
                                   CHODATELLA               CHLOROPHYTA        40495
                                   CLOSTERIUM               CHLOROPHYTA         3115
                                   COELASTRUM               CHLOROPHYTA        49840
                                   CRUCIGENIA               CHLOROPHYTA       295925
                                   ELAKATOTHRIX             CHLOROPHYTA         6230
                                   EUDORINA                 CHLOROPHYTA        12460
                                   GLOEOACTINIUM            CHLOROPHYTA        31150
                                   GOLENKINIA               CHLOROPHYTA        34265
                                   KIRCHNERIELLA            CHLOROPHYTA       130830
                                   MICRACTINIUM             CHLOROPHYTA        18690
                                   OOCYSTIS                 CHLOROPHYTA         9345
                                   PEDIASTRUM               CHLOROPHYTA       143290
                                   PROTOCOCCUS              CHLOROPHYTA       124600
                                   PYRAMIMONAS              CHLOROPHYTA         6230
                                   QUADRIGULA               CHLOROPHYTA        21805
                                   SCENEDESMUS              CHLOROPHYTA       956305
                                   SCHROEDERIA              CHLOROPHYTA        24920
                                   SELENASTRUM              CHLOROPHYTA       224280
                                   TETRAEDRON               CHLOROPHYTA        71645
                                   TETRASTRUM               CHLOROPHYTA        62300
                                   TREUBARIA                CHLOROPHYTA        15575
                                   TROCHISCIA               CHLOROPHYTA       186900
                                   UNID GREEN #1            CHLOROPHYTA         9345
                                   ACHNANTHES               CHRYSOPHYTA        15575
                                   CHAETOCEROS              CHRYSOPHYTA        24920
                                   CHARACIOPSIS             CHRYSOPHYTA       105910
                                   CYMBELLA                 CHRYSOPHYTA         3115
                                   DINOBRYON                CHRYSOPHYTA         6230
                                   MELOSIRA                 CHRYSOPHYTA      6015065
                                   NAVICULA                 CHRYSOPHYTA       140175
                                   OPHIOCYTIUM              CHRYSOPHYTA        43610
                                   STEPHANODISCUS           CHRYSOPHYTA       311500
                                   SURIRELLA                CHRYSOPHYTA         3115
                                   SYNEDRA                  CHRYSOPHYTA       261660
                                   CRYPTOMONAS              CRYPTOPHYTA       143290
                                   ANABAENA                 CYANOPHYTA          6230
                                   ANACYSTIS                CYANOPHYTA       1118285
                                   DACTYLOCOCCOPSIS         CYANOPHYTA        280350
                                   MERISMOPEDIA             CYANOPHYTA       6096055
                                   OSCILLATORIA             CYANOPHYTA         37380
                                   OSCILLATORIA (SPIRAL)    CYANOPHYTA         24920
                                   SYNECHOCOCCUS            CYANOPHYTA          6230
                                   CRYPTOGLENA              EUGLENOPHYTA       37380
                                   EUGLENA                  EUGLENOPHYTA      261660
                                   PHACUS                   EUGLENOPHYTA        3115
                                   TRACHELOMONAS            EUGLENOPHYTA       37380
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                                DDT TASK 5  PHYTOPLANKTON LISTING                13:54 FRIDAY, FEBRUARY 22, 1980    2

---------------------- RIVER=BARREN FORK CREEK   RIV_MILE=001.2   SAM_LOC=AJ   DATE=79-09-24   REP_NUM=2 ----------------------

                TAXON                      GROUP               NUM

                ACTINASTRUM                CHLOROPHYTA      196245
                ANKISTRODESMUS             CHLOROPHYTA      112140
                CHLAMYDOMONAS              CHLOROPHYTA      722680
                CHLORELLA                  CHLOROPHYTA      327075
                CHLOROGONIUM               CHLOROPHYTA       15575
                CHODATELLA                 CHLOROPHYTA       18690
                COELASTRUM                 CHLOROPHYTA       24920
                CRUCIGENIA                 CHLOROPHYTA      137060
                EUDORINA                   CHLOROPHYTA       12460
                FRANCEIA                   CHLOROPHYTA        3115
                GLOEDACTINIUM              CHLOROPHYTA       18690
                GOLENKINIA                 CHLOROPHYTA       18690
                HYALOTHECA                 CHLOROPHYTA        3115
                KIRCHNERIELLA              CHLOROPHYTA      121485
                MICRACTINIUM               CHLOROPHYTA       40495
                OOCYSTIS                   CHLOROPHYTA       12460
                PROTOCOCCUS                CHLOROPHYTA      158865
                PTEROMONAS                 CHLOROPHYTA        6230
                PYRAMIMONAS                CHLOROPHYTA        3115
                SCENEDESMUS                CHLOROPHYTA     1003030
                SCHROEDERIA                CHLOROPHYTA       18690
                SELENASTRUM                CHLOROPHYTA      127715
                TETRAEDRON                 CHLOROPHYTA       43610
                TETRASTRUM                 CHLOROPHYTA       87220
                TREUBARIA                  CHLOROPHYTA       12460
                TROCHISCIA                 CHLOROPHYTA      289695
                UNID GREEN #1              CHLOROPHYTA        6230
                ACHNANTHES                 CHRYSOPHYTA       40495
                CHARACIOPSIS               CHRYSOPHYTA        9345
                CYMBELLA                   CHRYSOPHYTA        6230
                DINOBRYON                  CHRYSOPHYTA        3115
                GYROSIGMA                  CHRYSOPHYTA        6230
                MELOSIRA                   CHRYSOPHYTA     6046215
                NAVICULA                   CHRYSOPHYTA       80990
                OPHIOCYTIUM                CHRYSOPHYTA       34265
                STEPHANODISCUS             CHRYSOPHYTA      252315
                SURIRELLA                  CHRYSOPHYTA        3115
                SYNEDRA                    CHRYSOPHYTA      376915
                CRYPTOMONAS                CRYPTOPHYTA        6230
                ANACYSTIS                  CYANOPHYTA        59185
                DACTYLOCOCCOPSIS           CYANOPHYTA       118370
                MERISMOPEDIA               CYANOPHYTA      7036785
                OSCILLATORIA               CYANOPHYTA        12460
                OSCILLATORIA (SPIRAL)      CYANOPHYTA         9345
                CRYPTOGLENA                EUGLENOPHYTA       3115
                EUGLENA                    EUGLENOPHYTA     140175
                PHACUS                     EUGLENOPHYTA       9345
                TRACHELOMONAS              EUGLENOPHYTA      40495
                GYMNODINIUM                PYRROPHYTA        18690
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                              DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980    3

---------------------- RIVER=BARREN FORK CREEK   RIV_MILE=001.2   SAM_LOC=AJ   DATE=79-09-24   REP_NUM=3 -----------------------

                                TAXON                      GROUP             NUM

                                ACTINASTRUM                CHLOROPHYTA      239855
                                ANKISTRODESMUS             CHLOROPHYTA       62300
                                BRACTEACOCCUS              CHLOROPHYTA        3115
                                CHLAMYDOMONAS              CHLOROPHYTA      485940
                                CHLORELLA                  CHLOROPHYTA      158865
                                CHLOROGONIUM               CHLOROPHYTA       15575
                                CHODATELLA                 CHLOROPHYTA       24920
                                COELASTRUM                 CHLOROPHYTA      149520
                                CRUCIGENIA                 CHLOROPHYTA      227395
                                EUDORINA                   CHLOROPHYTA       24920
                                GLOEOACTINIUM              CHLOROPHYTA       49840
                                GOLENKINIA                 CHLOROPHYTA       15575
                                KIRCHNERIELLA              CHLOROPHYTA      109025
                                OOCYSTIS                   CHLOROPHYTA        3115
                                PEDIASTRUM                 CHLOROPHYTA       46725
                                PROTOCOCCUS                CHLOROPHYTA      161980
                                PTEROMONAS                 CHLOROPHYTA        3115
                                PYRAMIMONAS                CHLOROPHYTA        9345
                                QUADRIGULA                 CHLOROPHYTA       12460
                                SCENEDESMUS                CHLOROPHYTA      850395
                                SCHROEDERIA                CHLOROPHYTA       18690
                                SELENASTRUM                CHLOROPHYTA      133945
                                TETRAEDRON                 CHLOROPHYTA       62300
                                TETRASTRUM                 CHLOROPHYTA       74760
                                TREUBARIA                  CHLOROPHYTA        9345
                                TROCHISCIA                 CHLOROPHYTA      330190
                                UNID GREEN #1              CHLOROPHYTA        3115
                                ACHNANTHES                 CHRYSOPHYTA       28035
                                CHARACIOPSIS               CHRYSOPHYTA       21805
                                CYMBELLA                   CHRYSOPHYTA        3115
                                DINOBRYON                  CHRYSOPHYTA        3115
                                MELOSIRA                   CHRYSOPHYTA     3884405
                                NAVICULA                   CHRYSOPHYTA      152635
                                OPHIOCYTIUM                CHRYSOPHYTA        6230
                                STEPHANODISCUS             CHRYSOPHYTA      202475
                                SURIRELLA                  CHRYSOPHYTA        3115
                                SYNEDRA                    CHRYSOPHYTA      186900
                                ANACYSTIS                  CYANOPHYTA       370685
                                DACTYLOCOCCOPSIS           CYANOPHYTA       202475
                                MERISMOPEDIA               CYANOPHYTA      6198850
                                OSCILLATORIA               CYANOPHYTA        31150
                                OSCILLATORIA (SPIRAL)      CYANOPHYTA         3115
                                CRYPTOGLENA                EUGLENOPHYTA       3115
                                EUGLENA                    EUGLENOPHYTA     143290
                                PHACUS                     EUGLENOPHYTA       6230
                                TRACHELOMONAS              EUGLENOPHYTA      49840
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                                DDT TASK 5  PHYTOPLANKTON LISTING             8155 TUESDAY, FEBRUARY 26, 1980    3
---------------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=000.0   SAM_LOC=AJ   DATE=79-09-25 ---------------------------

                       TAXON                     GROUP            MEAN

                       ACTINASTRUM               CHLOROPHYTA     12460
                       ANKISTRODESMUS            CHLOROPHYTA      5191
                       BOTRYOCOCCUS              CHLOROPHYTA      8306
                       BRACTEACOCCUS             CHLOROPHYTA      3115
                       CHLAMYDOMONAS             CHLOROPHYTA    174440
                       CHLORELLA                 CHLOROPHYTA      2076
                       CHLOROCOCCUM              CHLOROPHYTA      6230
                       CHLOROGONIUM              CHLOROPHYTA      6230
                       CHODATELLA                CHLOROPHYTA      5191
                       CLOSTERIDIUM              CHLOROPHYTA      1038
                       DICTYOSPHAERIUM           CHLOROPHYTA     30111
                       GOLENKINIA                CHLOROPHYTA     15575
                       GONIUM                    CHLOROPHYTA     14536
                       KIRCHNERIELLA             CHLOROPHYTA     11421
                       MICRACTINIUM              CHLOROPHYTA      2076
                       PEDIASTRUM                CHLOROPHYTA      8306
                       PROTOCOCCUS               CHLOROPHYTA     43610
                       PYRAMIMONAS               CHLOROPHYTA      1038
                       ROYA                      CHLOROPHYTA      3115
                       SCENEDESMUS               CHLOROPHYTA    103833
                       SCHROEDERIA               CHLOROPHYTA      6230
                       SELENASTRUM               CHLOROPHYTA      1038
                       TETRAEDRON                CHLOROPHYTA      4153
                       TROCHISCIA                CHLOROPHYTA     12460
                       UNID GREEN #1             CHLOROPHYTA      1038
                       ACHNANTHES                CHRYSOPHYTA      4153
                       CHAETOCEROS               CHRYSOPHYTA     12460
                       CHARACIOPSIS              CHRYSOPHYTA      4153
                       GYROSIGMA                 CHRYSOPHYTA      1038
                       MELOSIRA                  CHRYSOPHYTA    548240
                       NAVICULA                  CHRYSOPHYTA     15575
                       STEPHANODISCUS            CHRYSOPHYTA     11421
                       SYNEDRA                   CHRYSOPHYTA     36341
                       CRYPTOMONAS               CRYPTOPHYTA     12460
                       ANABAENA                  CYANOPHYTA     271005
                       ANACYSTIS                 CYANOPHYTA     207666
                       CHROOCOCCUS               CYANOPHYTA       4153
                       DACTYLOCOCCOPSIS          CYANOPHYTA       8306
                       LYNGBYA                   CYANOPHYTA       1038
                       MERISMOPEDIA              CYANOPHYTA     739293
                       OSCILLATORIA              CYANOPHYTA       7268
                       OSCILLATORIA (SPIRAL)     CYANOPHYTA       1038
                       CRYPTOGLENA               EUGLENOPHYTA     6230
                       EUGLENA                   EUGLENOPHYTA    30111
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                                   DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980    4
------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=000.0   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=1 -------------------

                                   TAXON                GROUP              NUM

                                   ANKISTRODESMUS       CHLOROPHYTA       9345
                                   BRACTEACOCCUS        CHLOROPHYTA       3115
                                   CHLAMYDOMONAS        CHLOROPHYTA     168210
                                   CHLORELLA            CHLOROPHYTA       3115
                                   CHLOROGONIUM         CHLOROPHYTA       6230
                                   DICTYOSPHAERIUM      CHLOROPHYTA      77875
                                   GOLENKINIA           CHLOROPHYTA      15575
                                   KIRCHNERIELLA        CHLOROPHYTA       9345
                                   ROYA                 CHLOROPHYTA       6230
                                   SCENEDESMUS          CHLOROPHYTA      87220
                                   SCHROEDERIA          CHLOROPHYTA      12460
                                   SELENASTRUM          CHLOROPHYTA       3115
                                   TETRAEDRON           CHLOROPHYTA       6230
                                   TROCHISCIA           CHLOROPHYTA       6230
                                   ACHNANTHES           CHRYSOPHYTA       3115
                                   CHAETOCEROS          CHRYSOPHYTA      24920
                                   CHARACIOPSIS         CHRYSOPHYTA       6230
                                   MELOSIRA             CHRYSOPHYTA     538895
                                   NAVICULA             CHRYSOPHYTA      15575
                                   STEPHANODISCUS       CHRYSOPHYTA      12460
                                   SYNEDRA              CHRYSOPHYTA      62300
                                   CRYPTOMONAS          CRYPTOPHYTA      12460
                                   ANABAENA             CYANOPHYTA      283465
                                   ANACYSTIS            CYANOPHYTA       59185
                                   CHROOCOCCUS          CYANOPHYTA       12460
                                   DACTYLOCOCCOPSIS     CYANOPHYTA       18690
                                   MERISMOPEDIA         CYANOPHYTA      230510
                                   OSCILLATORIA         CYANOPHYTA        3115
                                   EUGLENA              EUGLENOPHYTA     31150
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                               DDT TASK 5  PHYTOPLANKTON LISTING            13:54 FRIDAY, FEBRUARY 22, 1980    5

-------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=000.0   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=2 --------------------

                       TAXON                      GROUP              NUM

                       ACTINASTRUM                CHLOROPHYTA      12460
                       ANKISTRODESMUS             CHLOROPHYTA       3115
                       BRACTEACOCCUS              CHLOROPHYTA       3115
                       CHLAMYDOMONAS              CHLOROPHYTA     277235
                       CHLOROGONIUM               CHLOROPHYTA      12460
                       CHODATELLA                 CHLOROPHYTA       6230
                       GOLENKINIA                 CHLOROPHYTA      15575
                       GONIUM                     CHLOROPHYTA      43610
                       KIRCHNERIELLA              CHLOROPHYTA      15575
                       MICRACTINIUM               CHLOROPHYTA       6230
                       PROTOCOCCUS                CHLOROPHYTA      96565
                       PYRAMIMONAS                CHLOROPHYTA       3115
                       SCENEDESMUS                CHLOROPHYTA      90335
                       TETRAEDRON                 CHLOROPHYTA       6230
                       TROCHISCIA                 CHLOROPHYTA      18690
                       ACHNANTHES                 CHRYSOPHYTA       3115
                       CHAETOCEROS                CHRYSOPHYTA      12460
                       GYROSIGMA                  CHRYSOPHYTA       3115
                       MELOSIRA                   CHRYSOPHYTA     560700
                       NAVICULA                   CHRYSOPHYTA      18690
                       STEPHANODISCUS             CHRYSOPHYTA      12460
                       SYNEDRA                    CHRYSOPHYTA      34265
                       CRYPTOMONAS                CRYPTOPHYTA      12460
                       ANABAENA                   CYANOPHYTA      420525
                       ANACYSTIS                  CYANOPHYTA      261660
                       DACTYLOCOCCOPSIS           CYANOPHYTA        3115
                       LYNGBYA                    CYANOPHYTA        3115
                       MERISMOPEDIA               CYANOPHYTA     1021720
                       OSCILLATORIA               CYANOPHYTA        9345
                       OSCILLATORIA (SPIRAL)      CYANOPHYTA        3115
                       EUGLENA                    EUGLENOPHYTA     56070
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                     DDT TASK 5  PHYTOPLANKTON LISTING             13:54 FRIDAY, FEBRUARY 22, 1980    6

-------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=000.0   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=3 --------------------

                     TAXON                GROUP                NUM

                     ACTINASTRUM          CHLOROPHYTA        24920
                     ANKISTRODESMUS       CHLOROPHYTA         3115
                     BOTRYOCOCCUS         CHLOROPHYTA        24920
                     BRACTEACOCCUS        CHLOROPHYTA         3115
                     CHLAMYDOMONAS        CHLOROPHYTA        77875
                     CHLORELLA            CHLOROPHYTA         3115
                     CHLOROCOCCUM         CHLOROPHYTA        18690
                     CHODATELLA           CHLOROPHYTA         9345
                     CLOSTERIDIUM         CHLOROPHYTA         3115
                     DICTYOSPHAERIUM      CHLOROPHYTA        12460
                     GOLENKINIA           CHLOROPHYTA        15575
                     KIRCHNERIELLA        CHLOROPHYTA         9345
                     PEDIASTRUM           CHLOROPHYTA        24920
                     PROTOCOCCUS          CHLOROPHYTA        34265
                     ROYA                 CHLOROPHYTA         3115
                     SCENEDESMUS          CHLOROPHYTA       133945
                     SCHROEDERIA          CHLOROPHYTA         6230
                     TROCHISCIA           CHLOROPHYTA        12460
                     UNID GREEN #1        CHLOROPHYTA         3115
                     ACHNANTHES           CHRYSOPHYTA         6230
                     CHARACIOPSIS         CHRYSOPHYTA         6230
                     MELOSIRA             CHRYSOPHYTA       545125
                     NAVICULA             CHRYSOPHYTA        12460
                     STEPHANODISCUS       CHRYSOPHYTA         9345
                     SYNEDRA              CHRYSOPHYTA        12460
                     CRYPTOMONAS          CRYPTOPHYTA        12460
                     ANABAENA             CYANOPHYTA        109025
                     ANACYSTIS            CYANOPHYTA        302155
                     DACTYLOCOCCOPSIS     CYANOPHYTA          3115
                     MERISMOPEDIA         CYANOPHYTA        965650
                     OSCILLATORIA         CYANOPHYTA          9345
                     CRYPTOGLENA          EUGLENOPHYTA       18690
                     EUGLENA              EUGLENOPHYTA        3115
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------------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=001.3   SAM_LOC=AD   DATE=79-09-24 -------------------------

                    TAXON                       GROUP              MEAN

                    ACTINASTRUM                 CHLOROPHYTA      566748
                    ANKISTRODESMUS              CHLOROPHYTA      330084
                    BRACTEACOCCUS               CHLOROPHYTA       28026
                    CHLAMYDOMONAS               CHLOROPHYTA     8706744
                    CHLORELLA                   CHLOROPHYTA     1202004
                    CHLOROGONIUM                CHLOROPHYTA       15570
                    CHODATELLA                  CHLOROPHYTA      211752
                    CLOSTERIOPSIS               CHLOROPHYTA       28026
                    CLOSTERIUM                  CHLOROPHYTA       12456
                    COELASTRUM                  CHLOROPHYTA       49824
                    COSMARIUM                   CHLOROPHYTA        6228
                    CRUCIGENIA                  CHLOROPHYTA      653940
                    DICTYOSPHAERIUM             CHLOROPHYTA       87192
                    EUDORINA                    CHLOROPHYTA      373680
                    GLOEOACTINIUM               CHLOROPHYTA       49824
                    GOLENKINIA                  CHLOROPHYTA       93420
                    GONIUM                      CHLOROPHYTA       24912
                    HYALOTHECA                  CHLOROPHYTA        6228
                    KIRCHNERIELLA               CHLOROPHYTA       99648
                    MICRACTINIUM                CHLOROPHYTA       37368
                    OOCYSTIS                    CHLOROPHYTA      124560
                    PANDORINA                   CHLOROPHYTA       99648
                    PROTOCOCCUS                 CHLOROPHYTA      597888
                    PYRAMIMONAS                 CHLOROPHYTA        9342
                    SCENEDESMUS                 CHLOROPHYTA     2391552
                    SCHROEDERIA                 CHLOROPHYTA       46710
                    SELENASTRUM                 CHLOROPHYTA      738018
                    TETRAEDRON                  CHLOROPHYTA      124560
                    TETRASTRUM                  CHLOROPHYTA       99648
                    TREUBARIA                   CHLOROPHYTA        3114
                    UNID GREEN #1               CHLOROPHYTA        3114
                    ACHNANTHES                  CHRYSOPHYTA       12456
                    CHARACIOPSIS                CHRYSOPHYTA      217980
                    COCCONEIS                   CHRYSOPHYTA        3114
                    CYMBELLA                    CHRYSOPHYTA       12456
                    MELOSIRA                    CHRYSOPHYTA    28387224
                    NAVICULA                    CHRYSOPHYTA      180612
                    STEPHANODISCUS              CHRYSOPHYTA     1367046
                    SYNEDRA                     CHRYSOPHYTA      843894
                    UNID CHRYSOPHYTE # 1        CHRYSOPYTA         3114
                    CRYPTOMONAS                 CRYPTOPHYTA       80964
                    ANACYSTIS                   CYANOPHYTA      1173978
                    APHANOCAPSA                 CYANOPHYTA       124560
                    DACTYLOCOCCOPSIS            CYANOPHYTA      1189548
                    MERISMOPEDIA                CYANOPHYTA     57512466
                    OSCILLATORIA                CYANOPHYTA       274032
                    OSCILLATORIA (SPIRAL)       CYANOPHYTA         6228
                    RAPHIDIOPSIS                CYANOPHYTA         6228
                    SPIRULINA                   CYANOPHYTA         9342
                    CRYPTOGLENA                 EUGLENOPHYTA      37368
                    EUGLENA                     EUGLENOPHYTA    2226510
                    PHACUS                      EUGLENOPHYTA      31140
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                              DDT TASK 5  PHYTOPLANKTON LISTING              8:55 TUESDAY, FEBRUARY 26, 1980    5
--------------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=001.3   SAM_LOC=AO   DATE=79-09-24 --------------------------

                                TAXON           GROUP         MEAN

                             TRACHELOMONAS    EUGLENOPHYTA    59166
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                                    DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980    7

-------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=001.3   SAM_LOC=AO   DATE=79-09-24   REP_NUM=1 --------------------

                                 TAXON                 GROUP                NUM

                                 ACTINASTRUM           CHLOROPHYTA       467100
                                 ANKISTRODESMUS        CHLOROPHYTA       373680
                                 BRACTEACOCCUS         CHLOROPHYTA        84078
                                 CHLAMYDOMONAS         CHLOROPHYTA      7623072
                                 CHLORELLA             CHLOROPHYTA      1625508
                                 CHODATELLA            CHLOROPHYTA       261576
                                 CLOSTERIOPSIS         CHLOROPHYTA        18684
                                 CLOSTERIUM            CHLOROPHYTA        18684
                                 COELASTRUM            CHLOROPHYTA       149472
                                 COSMARIUM             CHLOROPHYTA         9342
                                 CRUCIGENIA            CHLOROPHYTA       840780
                                 DICTYOSPHAERIUM       CHLOROPHYTA       149472
                                 EUDORINA              CHLOROPHYTA       224208
                                 GOLENKINIA            CHLOROPHYTA       112104
                                 HYALOTHECA            CHLOROPHYTA        18684
                                 KIRCHNERIELLA         CHLOROPHYTA       112104
                                 MICRACTINIUM          CHLOROPHYTA        18684
                                 PROTOCOCCUS           CHLOROPHYTA       504468
                                 SCENEDESMUS           CHLOROPHYTA      2858652
                                 SCHROEDERIA           CHLOROPHYTA        74736
                                 SELENASTRUM           CHLOROPHYTA      1270512
                                 TETRAEDRON            CHLOROPHYTA       205524
                                 TETRASTRUM            CHLOROPHYTA        74736
                                 CHARACIOPSIS          CHRYSOPHYTA       112104
                                 COCCONEIS             CHRYSOPHYTA         9342
                                 CYMBELLA              CHRYSOPHYTA        18684
                                 MELOSIRA              CHRYSOPHYTA     31912272
                                 NAVICULA              CHRYSOPHYTA       224208
                                 STEPHANODISCUS        CHRYSOPHYTA      1233144
                                 SYNEDRA               CHRYSOPHYTA      1111698
                                 CRYPTOMONAS           CRYPTOPHYTA        93420
                                 ANACYSTIS             CYANOPHYTA       1214460
                                 APHANOCAPSA           CYANOPHYTA        373680
                                 DACTYLOCOCCOPSIS      CYANOPHYTA       1513404
                                 MERISMOPEDIA          CYANOPHYTA      55566216
                                 OSCILLATORIA          CYANOPHYTA        205524
                                 RAPHIDIOPSIS          CYANOPHYTA         18684
                                 CRYPTOGLENA           EUGLENOPHYTA       37368
                                 EUGLENA               EUGLENOPHYTA     1167750
                                 PHACUS                EUGLENOPHYTA       18684
                                 TRACHELOMONAS         EUGLENOPHYTA       37368
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                                    DDT TASK 5  PHYTOPLANKTON LISTING            13:54 FRIDAY, FEBRUARY 22, 1980    8

------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=001.3   SAM_LOC=AD   DATE=79-09-24   REP_NUM=2 -------------------

                         TAXON                      GROUP              NUM

                         ACTINASTRUM                CHLOROPHYTA     597888
                         ANKISTRODESMUS             CHLOROPHYTA     373680
                         CHLAMYDOMONAS              CHLOROPHYTA    1132204
                         CHLORELLA                  CHLOROPHYTA    1195776
                         CHLOROGONIUM               CHLOROPHYTA      18684
                         CHODATELLA                 CHLOROPHYTA     186840
                         CLOSTERIOPSIS              CHLOROPHYTA      65394
                         CLOSTERIUM                 CHLOROPHYTA      18684
                         CRUCIGENIA                 CHLOROPHYTA     597888
                         DICTYOSPHAERIUM            CHLOROPHYTA      37368
                         EUDORINA                   CHLOROPHYTA     896832
                         GLOEDACTINIUM              CHLOROPHYTA     149472
                         GOLENKINIA                 CHLOROPHYTA      37368
                         KIRCHNERIELLA              CHLOROPHYTA      74736
                         MICRACTINIUM               CHLOROPHYTA      18684
                         OOCYSTIS                   CHLOROPHYTA     224208
                         PROTOCOCCUS                CHLOROPHYTA     709992
                         PYRAMIMONAS                CHLOROPHYTA      28026
                         SCENEDESMUS                CHLOROPHYTA    2597076
                         SELENASTRUM                CHLOROPHYTA     943542
                         TETRAEDRON                 CHLOROPHYTA     168156
                         TETRASTRUM                 CHLOROPHYTA     224208
                         TREUBARIA                  CHLOROPHYTA       9342
                         UNID GREEN #1              CHLOROPHYTA       9342
                         ACHNANTHES                 CHRYSOPHYTA      37368
                         CHARACIOPSIS               CHRYSOPHYTA     411048
                         MELOSIRA                   CHRYSOPHYTA   28268892
                         NAVICULA                   CHRYSOPHYTA     130788
                         STEPHANODISCUS             CHRYSOPHYTA    1419984
                         SYNEDRA                    CHRYSOPHYTA     597888
                         UNID CHRYSOPHYTE # 1       CHRYSOPYTA        9342
                         CRYPTOMONAS                CRYPTOPHYTA     140130
                         ANACYSTIS                  CYANOPHYTA      177498
                         DACTYLOCOCCOPSIS           CYANOPHYTA      952884
                         MERISMOPEDIA               CYANOPHYTA    57752244
                         OSCILLATORIA               CYANOPHYTA      289602
                         OSCILLATORIA (SPIRAL)      CYANOPHYTA       18684
                         SPIRULINA                  CYANOPHYTA       28026
                         CRYPTOGLENA                EUGLENOPHYTA     56052
                         EUGLENA                    EUGLENOPHYTA   2671812
                         PHACUS                     EUGLENOPHYTA     37368
                         TRACHELOMONAS              EUGLENOPHYTA     65394
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                                DDT TASK 5  PHYTOPLANKTON LISTING               13:54 FRIDAY, FEBRUARY 22, 1980    9

-------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=001.3   SAM_LOC=AC   DATE=79-09-24   REP_NUM=3 --------------------

                              TAXON                 GROUP                 NUM

                              ACTINASTRUM           CHLOROPHYTA        635256
                              ANKISTRODESMUS        CHLOROPHYTA        242892
                              CHLAMYDOMONAS         CHLOROPHYTA       7174656
                              CHLORELLA             CHLOROPHYTA        784728
                              CHLOROGONIUM          CHLOROPHYTA         28026
                              CHODATELLA            CHLOROPHYTA        186840
                              COSMARIUM             CHLOROPHYTA          9342
                              CRUCIGENIA            CHLOROPHYTA        523152
                              DICTYOSPHAERIUM       CHLOROPHYTA         74736
                              GOLENKINIA            CHLOROPHYTA        130788
                              GONIUM                CHLOROPHYTA         74736
                              KIRCHNERIELLA         CHLOROPHYTA        112104
                              MICRACTINIUM          CHLOROPHYTA         74736
                              OOCYSTIS              CHLOROPHYTA        149472
                              PANDORINA             CHLOROPHYTA        298944
                              PROTOCOCCUS           CHLOROPHYTA        579204
                              SCENEDESMUS           CHLOROPHYTA       1718928
                              SCHROEDERIA           CHLOROPHYTA         65394
                              CHARACIOPSIS          CHRYSOPHYTA        130788
                              CYMBELLA              CHRYSOPHYTA         18684
                              MELOSIRA              CHRYSOPHYTA      24980508
                              NAVICULA              CHRYSOPHYTA        186840
                              STEPHANODISCUS        CHRYSOPHYTA       1448010
                              SYNEDRA               CHRYSOPHYTA        822096
                              CRYPTOMONAS           CRYPTOPHYTA          9342
                              ANACYSTIS             CYANOPHYTA        2129976
                              DACTYLOCOCCOPSIS      CYANOPHYTA        1102356
                              MERISMOPEDIA          CYANOPHYTA       59218938
                              OSCILLATORIA          CYANOPHYTA         326970
                              CRYPTOGLENA           EUGLENOPHYTA        18684
                              EUGLENA               EUGLENOPHYTA      2839968
                              PHACUS                EUGLENOPHYTA        37368
                              TRACHELOMONAS         EUGLENOPHYTA        74736
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------------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=002.4   SAM_LOC=AJ   DATE=79-09-24 -------------------------

              TAXON                        GROUP              MEAN

              ACTINASTRUM                  CHLOROPHYTA       56070
              ANKISTRODESMUS               CHLOROPHYTA       47763
              CHLAMYDOMONAS                CHLOROPHYTA      386260
              CHLORELLA                    CHLOROPHYTA      124600
              CHLOROGONIUM                 CHLOROPHYTA       15575
              CHODATELLA                   CHLOROPHYTA       60223
              CLOSTERIDIUM                 CHLOROPHYTA        2076
              CLOSTERIOPSIS                CHLOROPHYTA        8306
              COSMARIUM                    CHLOROPHYTA        1038
              CRUCIGENIA                   CHLOROPHYTA       49840
              DICTYOSPHAERIUM              CHLOROPHYTA       13498
              EUDORINA                     CHLOROPHYTA        4153
              GLOEOACTINIUM                CHLOROPHYTA        7268
              GOLENKINIA                   CHLOROPHYTA       15575
              KIRCHNERIELLA                CHLOROPHYTA       56070
              MICRACTINIUM                 CHLOROPHYTA       22843
              OOCYSTIS                     CHLOROPHYTA        3115
              PROTOCOCCUS                  CHLOROPHYTA       55031
              PTEROMONAS                   CHLOROPHYTA        1038
              PYRAMIMONAS                  CHLOROPHYTA        1038
              SCENEDESMUS                  CHLOROPHYTA      371723
              SCHROEDERIA                  CHLOROPHYTA        7268
              SELENASTRUM                  CHLOROPHYTA       72683
              TETRAEDRON                   CHLOROPHYTA       22843
              TETRASTRUM                   CHLOROPHYTA       20766
              TREUBARIA                    CHLOROPHYTA        2076
              TROCHISCIA                   CHLOROPHYTA        1038
              ACHNANTHES                   CHRYSOPHYTA       17651
              CHARACIOPSIS                 CHRYSOPHYTA       19728
              COCCONEIS                    CHRYSOPHYTA        1038
              CYMBELLA                     CHRYSOPHYTA        7268
              FRAGILARIA                   CHRYSOPHYTA       12460
              GOMPHONEMA                   CHRYSOPHYTA        2076
              GYROSIGMA                    CHRYSOPHYTA        1038
              MELOSIRA                     CHRYSOPHYTA     1271958
              NAVICULA                     CHRYSOPHYTA       63338
              NITZSCHIA                    CHRYSOPHYTA        3115
              RHOICOSPHENIA                CHRYSOPHYTA        1038
              STEPHANODISCUS               CHRYSOPHYTA      509821
              SYNEDRA                      CHRYSOPHYTA      126676
              CRYPTOMONAS                  CRYPTOPHYTA        3115
              ANACYSTIS                    CYANOPHYTA       438176
              CHROOCOCCUS                  CYANOPHYTA         2076
              DACTYLOCOCCOPSIS             CYANOPHYTA       129791
              LYNGBYA                      CYANOPHYTA         1038
              MERISMOPEDIA                 CYANOPHYTA      3561483
              OSCILLATORIA                 CYANOPHYTA        40495
              OSCILLATORIA (SPIRAL)        CYANOPHYTA        14536
              RAPHIDIOPSIS                 CYANOPHYTA         4153
              SPIRULINA                    CYANOPHYTA         5191
              CRYPTOGLENA                  EUGLENOPHYTA       2076
              EUGLENA                      EUGLENOPHYTA      97603
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                                   DDT TASK 5  PHYTOPLANKTON LISTING              8155 TUESDAY, FEBRUARY 26, 1980    7
-------------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=002.4   SAM_LOC=AJ   DATE=79-09-24 --------------------------

                                  TAXON           GROUP          MEAN

                                  PHACUS          EUGLENOPHYTA   4153
                                  TRACHELOMONAS   EUGLENOPHYTA   4153
                                  GYMNODINIUM     PYRROPHYTA     2076
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-------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=002.4   SAM_LOC=AJ   DATE=79-09-24   REP_NUM=1 --------------------

                  TAXON                    GROUP               NUM

                  ACTINASTRUM              CHLOROPHYTA        99680
                  ANKISTRODESMUS           CHLOROPHYTA        52955
                  CHLAMYDOMONAS            CHLOROPHYTA       277235
                  CHLORELLA                CHLOROPHYTA       124600
                  CHLOROGONIUM             CHLOROPHYTA        28035
                  CHODATELLA               CHLOROPHYTA        34265
                  CLOSTERIDIUM             CHLOROPHYTA         6230
                  CLOSTERIOPSIS            CHLOROPHYTA         3115
                  CRUCIGENIA               CHLOROPHYTA        62300
                  DICTYOSPHAERIUM          CHLOROPHYTA        15575
                  EUDORINA                 CHLOROPHYTA        12460
                  GOLENKINIA               CHLOROPHYTA        12460
                  KIRCHNERIELLA            CHLOROPHYTA        43610
                  MICRACTINIUM             CHLOROPHYTA        31150
                  OOCYSTIS                 CHLOROPHYTA         9345
                  PROTOCOCCUS              CHLOROPHYTA        56070
                  SCENEDESMUS              CHLOROPHYTA       392490
                  SCHROEDERIA              CHLOROPHYTA        12460
                  SELENASTRUM              CHLOROPHYTA        34265
                  TETRAEDRON               CHLOROPHYTA         9345
                  TETRASTRUM               CHLOROPHYTA        37380
                  TREUBARIA                CHLOROPHYTA         3115
                  ACHNANTHES               CHRYSOPHYTA        28035
                  CHARACIOPSIS             CHRYSOPHYTA         9345
                  CYMBELLA                 CHRYSOPHYTA        12460
                  MELOSIRA                 CHRYSOPHYTA      1055985
                  NAVICULA                 CHRYSOPHYTA        56070
                  STEPHANODISCUS           CHRYSOPHYTA       414295
                  SYNEDRA                  CHRYSOPHYTA       152635
                  CRYPTOMONAS              CRYPTOPHYTA         3115
                  ANACYSTIS                CYANOPHYTA        358225
                  CHROOCOCCUS              CYANOPHYTA          6230
                  DACTYLOCOCCOPSIS         CYANOPHYTA        102795
                  MERISMOPEDIA             CYANOPHYTA       2731855
                  OSCILLATORIA             CYANOPHYTA         59185
                  OSCILLATORIA (SPIRAL)    CYANOPHYTA         12460
                  SPIRULINA                CYANOPHYTA          9345
                  EUGLENA                  EUGLENOPHYTA      140175
                  PHACUS                   EUGLENOPHYTA        6230
                  TRACHELOMONAS            EUGLENOPHYTA        6230
                  GYMNODINIUM              PYRROPHYTA          3115
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                              DDT TASK 5  PHYTOPLANKTON LISTING             13:54 FRIDAY, FEBRUARY 22, 1980   11

-------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=002.4   SAM_LOC=AJ   DATE=79-09-24   REP_NUM=2 --------------------

                     TAXON                      GROUP           NUM

                     ACTINASTRUM                CHLOROPHYTA       68530
                     ANKISTRODESMUS             CHLOROPHYTA       43610
                     CHLAMYDOMONAS              CHLOROPHYTA      467250
                     CHLORELLA                  CHLOROPHYTA      137060
                     CHLOROGONIUM               CHLOROPHYTA       15575
                     CHODATELLA                 CHLOROPHYTA       80990
                     CLOSTERIOPSIS              CHLOROPHYTA       18690
                     CRUCIGENIA                 CHLOROPHYTA       62300
                     DICTYOSPHAERIUM            CHLOROPHYTA       24920
                     GLOEOACTINIUM              CHLOROPHYTA       15575
                     GOLENKINIA                 CHLOROPHYTA       12460
                     KIRCHNERIELLA              CHLOROPHYTA       71645
                     MICRACTINIUM               CHLOROPHYTA       18690
                     PROTOCOCCUS                CHLOROPHYTA       59185
                     PTEROMONAS                 CHLOROPHYTA        3115
                     PYRAMIMONAS                CHLOROPHYTA        3115
                     SCENEDESMUS                CHLOROPHYTA      479710
                     SCHROEDERIA                CHLOROPHYTA        3115
                     SELENASTRUM                CHLOROPHYTA      105910
                     TETRAEDRON                 CHLOROPHYTA       40495
                     TROCHISCIA                 CHLOROPHYTA        3115
                     ACHNANTHES                 CHRYSOPHYTA        3115
                     CHARACIOPSIS               CHRYSOPHYTA       31150
                     CYMBELLA                   CHRYSOPHYTA        6230
                     GOMPHONEMA                 CHRYSOPHYTA        3115
                     GYROSIGMA                  CHRYSOPHYTA        3115
                     MELOSIRA                   CHRYSOPHYTA     1404865
                     NAVICULA                   CHRYSOPHYTA       62300
                     NITZSCHIA                  CHRYSOPHYTA        3115
                     RHOICOSPHENIA              CHRYSOPHYTA        3115
                     STEPHANODISCUS             CHRYSOPHYTA      492170
                     SYNEDRA                    CHRYSOPHYTA      227395
                     ANACYSTIS                  CYANOPHYTA       348860
                     DACTYLOCOCCOPSIS           CYANOPHYTA       171325
                     LYNGBYA                    CYANOPHYTA         3115
                     MERISMOPEDIA               CYANOPHYTA      3326820
                     OSCILLATORIA (SPIRAL)      CYANOPHYTA        21805
                     RAPHIDIOPSIS               CYANOPHYTA         3115
                     SPIRULINA                  CYANOPHYTA         6230
                     CRYPTOGLENA                EUGLENOPHYTA       6230
                     EUGLENA                    EUGLENOPHYTA      99680
                     TRACHELOMONAS              EUGLENOPHYTA       3115
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-------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=002.4   SAM_LOC=AJ   DATE=79-09-24   REP_NUM=3 --------------------

                  TAXON                   GROUP              NUM

                  ANKISTRODESMUS          CHLOROPHYTA        46725
                  CHLAMYDOMONAS           CHLOROPHYTA       414295
                  CHLORELLA               CHLOROPHYTA       112140
                  CHLOROGONIUM            CHLOROPHYTA         3115
                  CHODATELLA              CHLOROPHYTA        65415
                  CLOSTERIOPSIS           CHLOROPHYTA         3115
                  COSMARIUM               CHLOROPHYTA         3115
                  CRUCIGENIA              CHLOROPHYTA        24920
                  GLOEOACTINIUM           CHLOROPHYTA         6230
                  GOLENKINIA              CHLOROPHYTA        21805
                  KIRCHNERIELLA           CHLOROPHYTA        52955
                  MICRACTINIUM            CHLOROPHYTA        18690
                  PROTOCOCCUS             CHLOROPHYTA        49840
                  SCENEDESMUS             CHLOROPHYTA       242970
                  SCHROEDERIA             CHLOROPHYTA         6230
                  SELENASTRUM             CHLOROPHYTA        77875
                  TETRAEDRON              CHLOROPHYTA        18690
                  TETRASTRUM              CHLOROPHYTA        24920
                  TREUBARIA               CHLOROPHYTA         3115
                  ACHNANTHES              CHRYSOPHYTA        21805
                  CHARACIOPSIS            CHRYSOPHYTA        18690
                  COCCONEIS               CHRYSOPHYTA         3115
                  CYMBELLA                CHRYSOPHYTA         3115
                  FRAGILARIA              CHRYSOPHYTA        37380
                  GOMPHONEMA              CHRYSOPHYTA         3115
                  MELOSIRA                CHRYSOPHYTA      1355025
                  NAVICULA                CHRYSOPHYTA        71645
                  NITZSCHIA               CHRYSOPHYTA         6230
                  STEPHANODISCUS          CHRYSOPHYTA       623000
                  CRYPTOMONAS             CRYPTOPHYTA         6230
                  ANACYSTIS               CYANOPHYTA        607425
                  DACTYLOCOCCOPSIS        CYANOPHYTA        115255
                  MERISMOPEDIA            CYANOPHYTA       4625775
                  OSCILLATORIA            CYANOPHYTA         62300
                  OSCILLATORIA (SPIRAL)   CYANOPHYTA          9345
                  RAPHIDIOPSIS            CYANOPHYTA          9345
                  EUGLENA                 EUGLENOPHYTA       52955
                  PHACUS                  EUGLENOPHYTA        6230
                  TRACHELOMONAS           EUGLENOPHYTA        3115
                  GYMNODINIUM             PYRROPHYTA          3115
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                      DDT TASK 5  PHYTOPLANKTON LISTING             8155 TUESDAY, FEBRUARY 26, 1980   9

------------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=05.37   SAM_LOC=AJ   DATE=79-09-25 -------------------------

                TAXON                    GROUP              MEAN

                ANKISTRODESMUS           CHLOROPHYTA        7268
                CHLAMYDOMONAS            CHLOROPHYTA       76836
                CHODATELLA               CHLOROPHYTA        1038
                CLOSTERIOPSIS            CHLOROPHYTA        1038
                CRUCIGENIA               CHLOROPHYTA        8306
                GOLENKINIA               CHLOROPHYTA        1038
                KIRCHNERIELLA            CHLOROPHYTA        1038
                PLANKTOSPHAERIA          CHLOROPHYTA       33226
                PTEROMONAS               CHLOROPHYTA        1038
                SCENEDESMUS              CHLOROPHYTA       22843
                SCHROEDERIA              CHLOROPHYTA        2076
                SELENASTRUM              CHLOROPHYTA        6230
                TETRAEDRON               CHLOROPHYTA        7268
                ACHNANTHES               CHRYSOPHYTA        5191
                ASTERIONELLA             CHRYSOPHYTA        7268
                CHARACIOPSIS             CHRYSOPHYTA        6230
                COCCONEIS                CHRYSOPHYTA        1038
                CYMBELLA                 CHRYSOPHYTA       10383
                FRAGILARIA               CHRYSOPHYTA       10383
                GOMPHONEMA               CHRYSOPHYTA        1038
                MELOSIRA                 CHRYSOPHYTA      890890
                NAVICULA                 CHRYSOPHYTA       35303
                NITZSCHIA                CHRYSOPHYTA       11421
                STEPHANODISCUS           CHRYSOPHYTA        2076
                SYNEDRA                  CHRYSOPHYTA       40495
                CRYPTOMONAS              CRYPTOPHYTA        1038
                ANACYSTIS                CYANOPHYTA       130830
                CHROOCOCCUS              CYANOPHYTA        19728
                DACTYLOCOCCOPSIS         CYANOPHYTA        15575
                MERISMOPEDIA             CYANOPHYTA       519166
                OSCILLATORIA             CYANOPHYTA        43610
                OSCILLATORIA (SPIRAL)    CYANOPHYTA         7268
                RAPHIDIOPSIS             CYANOPHYTA         1038
                SPIRULINA                CYANOPHYTA         2076
                EUGLENA                  EUGLENOPHYTA      24920
                PHACUS                   EUGLENOPHYTA       1038
                TRACHELOMONAS            EUGLENOPHYTA       2076
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                                          DDT TASK 5  PHYTOPLANKTON LISTING             13:54 FRIDAY, FEBRUARY 22, 1980   16

-------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=05.37   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=1 --------------------

                                     TAXON                      GROUP                NUM

                                     ANKISTRODESMUS             CHLOROPHYTA          6230
                                     CHLAMYDOMONAS              CHLOROPHYTA         99680
                                     CLOSTERIOPSIS              CHLOROPHYTA          3115
                                     CRUCIGENIA                 CHLOROPHYTA         12460
                                     GOLENKINIA                 CHLOROPHYTA          3115
                                     SCENEDESMUS                CHLOROPHYTA         37380
                                     SCHROEDERIA                CHLOROPHYTA          3115
                                     SELENASTRUM                CHLOROPHYTA          9345
                                     TETRAEDRON                 CHLOROPHYTA          9345
                                     ACHNANTHES                 CHRYSOPHYTA         12460
                                     CHARACIOPSIS               CHRYSOPHYTA          6230
                                     CYMBELLA                   CHRYSOPHYTA          9345
                                     MELOSIRA                   CHRYSOPHYTA          9345
                                     NAVICULA                   CHRYSOPHYTA         40495
                                     NITZSCHIA                  CHRYSOPHYTA         28035
                                     STEPHANODISCUS             CHRYSOPHYTA          3115
                                     SYNEDRA                    CHRYSOPHYTA         21805
                                     CRYPTOMONAS                CRYPTOPHYTA          3115
                                     ANACYSTIS                  CYANOPHYTA         339535
                                     CHROOCOCCUS                CYANOPHYTA          31150
                                     DACTYLOCOCCOPSIS           CYANOPHYTA          15575
                                     MERISMOPEDIA               CYANOPHYTA         249200
                                     OSCILLATORIA               CYANOPHYTA          46725
                                     OSCILLATORIA (SPIRAL)      CYANOPHYTA           6230
                                     EUGLENA                    EUGLENOPHYTA        28035
                                     PHACUS                     EUGLENOPHYTA         3115
                                     TRACHELOMONAS              EUGLENOPHYTA         3115
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                                   DOT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   17

--------------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=05.37   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=2 ---------------------------

                           TAXON                     GROUP              NUM

                           ANKISTRODESMUS            CHLOROPHYTA       12460
                           CHLAMYDOMONAS             CHLOROPHYTA       49840
                           CRUCIGENIA                CHLOROPHYTA       12460
                           SCENEDESMUS               CHLOROPHYTA       18690
                           SCHROEDERIA               CHLOROPHYTA        3115
                           SELENASTRUM               CHLOROPHYTA        6230
                           TETRAEDRON                CHLOROPHYTA        6230
                           ASTERIONELLA              CHRYSOPHYTA       21805
                           CHARACIOPSIS              CHRYSOPHYTA        6230
                           COCCONEIS                 CHRYSOPHYTA        3115
                           CYMBELLA                  CHRYSOPHYTA       18690
                           FRAGILARIA                CHRYSOPHYTA       31150
                           GOMPHONEMA                CHRYSOPHYTA        3115
                           MELOSIRA                  CHRYSOPHYTA     2653980
                           NAVICULA                  CHRYSOPHYTA       56070
                           NITZSCHIA                 CHRYSOPHYTA        3115
                           STEPHANODISCUS            CHRYSOPHYTA        3115
                           SYNEDRA                   CHRYSOPHYTA       74760
                           ANACYSTIS                 CYANOPHYTA        52955
                           CHROOCOCCUS               CYANOPHYTA         3115
                           DACTYLOCOCCOPSIS          CYANOPHYTA         6230
                           MERISMOPEDIA              CYANOPHYTA       784980
                           OSCILLATORIA              CYANOPHYTA        46725
                           OSCILLATORIA (SPIRAL)     CYANOPHYTA        12460
                           RAPHIDIOPSIS              CYANOPHYTA         3115
                           EUGLENA                   EUGLENOPHYTA      34265
                           TRACHELOMONAS             EUGLENOPHYTA       3115
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                                    DOT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   18
-------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=05.37   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=3 --------------------
                                     TAXON                   GROUP             NUM

                                     ANKISTRODESMUS          CHLOROPHYTA       3115
                                     CHLAMYDOMONAS           CHLOROPHYTA      80990
                                     CHODATELLA              CHLOROPHYTA       3115
                                     KIRCHNERIELLA           CHLOROPHYTA       3115
                                     PLANKTOSPHAERIA         CHLOROPHYTA      99680
                                     PTEROMONAS              CHLOROPHYTA       3115
                                     SCENEDESMUS             CHLOROPHYTA      12460
                                     SELENASTRUM             CHLOROPHYTA       3115
                                     TETRAEDRON              CHLOROPHYTA       6230
                                     ACHNANTHES              CHRYSOPHYTA       3115
                                     CHARACIOPSIS            CHRYSOPHYTA       6230
                                     CYMBELLA                CHRYSOPHYTA       3115
                                     MELOSIRA                CHRYSOPHYTA       9345
                                     NAVICULA                CHRYSOPHYTA       9345
                                     NITZSCHIA               CHRYSOPHYTA       3115
                                     SYNEDRA                 CHRYSOPHYTA      24920
                                     CHROOCOCCUS             CYANOPHYTA       24920
                                     DACTYLOCOCCOPSIS        CYANOPHYTA       24920
                                     MERISMOPEDIA            CYANOPHYTA      323320
                                     OSCILLATORIA            CYANOPHYTA       37380
                                     OSCILLATORIA (SPIRAL)   CYANOPHYTA        3115
                                     SPIRULINA               CYANOPHYTA        6230
                                     EUGLENA                 EUGLENOPHYTA     12460
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                                    DDT TASK 5  PHYTOPLANKTON LISTING              8:55 TUESDAY, FEBRUARY 26, 1980   8
------------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=005.9   SAM_LOC=AJ   DATE=79-09-25 -------------------------
                                   TAXON                     GROUP              MEAN

                                   ANKISTRODESMUS            CHLOROPHYTA        8306
                                   CHLAMYDOMONAS             CHLOROPHYTA       86181
                                   CLOSTERIOPSIS             CHLOROPHYTA        1038
                                   CLOSTERIUM                CHLOROPHYTA        1038
                                   COSMARIUM                 CHLOROPHYTA        2076
                                   CRUCIGENIA                CHLOROPHYTA        4153
                                   DICTYOSPHAERIUM           CHLOROPHYTA       14536
                                   GOLENKINIA                CHLOROPHYTA        1038
                                   GONIUM                    CHLOROPHYTA        4153
                                   KIRCHNERIELLA             CHLOROPHYTA        4153
                                   PROTOCOCCUS               CHLOROPHYTA        8306
                                   SCENEDESMUS               CHLOROPHYTA       43610
                                   SELENASTRUM               CHLOROPHYTA        6230
                                   ACHNANTHES                CHRYSOPHYTA        4153
                                   CHARACIOPSIS              CHRYSOPHYTA       14536
                                   CYMBELLA                  CHRYSOPHYTA        2076
                                   MELOSIRA                  CHRYSOPHYTA      288656
                                   NAVICULA                  CHRYSOPHYTA       61261
                                   NITZSCHIA                 CHRYSOPHYTA       12460
                                   SYNEDRA                   CHRYSOPHYTA       25958
                                   ANACYSTIS                 CYANOPHYTA       137060
                                   DACTYLOCOCCOPSIS          CYANOPHYTA        34265
                                   LYNGBYA                   CYANOPHYTA        15575
                                   MERISMOPEDIA              CYANOPHYTA       633383
                                   OSCILLATORIA              CYANOPHYTA       118370
                                   OSCILLATORIA (SPIRAL)     CYANOPHYTA         5191
                                   SPIRULINA                 CYANOPHYTA         1038
                                   EUGLENA                   EUGLENOPHYTA      21805
                                   PHACUS                    EUGLENOPHYTA       1038
                                   TRACHELOMONAS             EUGLENOPHYTA       1038
                                   GLENODINIUM               PYRROPHYTA         1038
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                              DOT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   13

-------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=005.9   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=1 --------------------

                        TAXON                      GROUP              NUM

                        ANKISTRODESMUS             CHLOROPHYTA         9345
                        CHLAMYDOMONAS              CHLOROPHYTA        49840
                        CLOSTERIOPSIS              CHLOROPHYTA         3115
                        COSMARIUM                  CHLOROPHYTA         3115
                        DICTYOSPHAERIUM            CHLOROPHYTA        18690
                        GOLENKINIA                 CHLOROPHYTA         3115
                        PROTOCOCCUS                CHLOROPHYTA        24920
                        SCENEDESMUS                CHLOROPHYTA        28035
                        SELENASTRUM                CHLOROPHYTA         6230
                        ACHNANTHES                 CHRYSOPHYTA         3115
                        CHARACIOPSIS               CHRYSOPHYTA         9345
                        MELOSIRA                   CHRYSOPHYTA       844165
                        NAVICULA                   CHRYSOPHYTA        56070
                        NITZSCHIA                  CHRYSOPHYTA         6230
                        SYNEDRA                    CHRYSOPHYTA        56070
                        ANACYSTIS                  CYANOPHYTA        130830
                        DACTYLOCOCCOPSIS           CYANOPHYTA         24920
                        LYNGBYA                    CYANOPHYTA         24920
                        MERISMOPEDIA               CYANOPHYTA        585620
                        OSCILLATORIA               CYANOPHYTA         56070
                        OSCILLATORIA (SPIRAL)      CYANOPHYTA          3115
                        SPIRULINA                  CYANOPHYTA          3115
                        EUGLENA                    EUGLENOPHYTA        9345
                        PHACUS                     EUGLENOPHYTA        3115
                        TRACHELOMONAS              EUGLENOPHYTA        3115
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                                        DDT TASK 5  PHYTOPLANKTON LISTING                 13:54 FRIDAY, FEBRUARY 22, 1980   16

-------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=005.9   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=2 --------------------

                                     TAXON                     GROUP               NUM

                                     CHLAMYDOMONAS             CHLOROPHYTA        62300
                                     CLOSTERIUM                CHLOROPHYTA         3115
                                     DICTYOSPHAERIUM           CHLOROPHYTA        12460
                                     SCENEDESMUS               CHLOROPHYTA        34265
                                     SELENASTRUM               CHLOROPHYTA        12460
                                     ACHNANTHES                CHRYSOPHYTA         3115
                                     CHARACIOPSIS              CHRYSOPHYTA        28035
                                     CYMBELLA                  CHRYSOPHYTA         3115
                                     MELOSIRA                  CHRYSOPHYTA         9345
                                     NAVICULA                  CHRYSOPHYTA        56070
                                     NITZSCHIA                 CHRYSOPHYTA         9345
                                     SYNEDRA                   CHRYSOPHYTA         9345
                                     ANACYSTIS                 CYANOPHYTA        140175
                                     DACTYLOCOCCOPSIS          CYANOPHYTA         28035
                                     LYNGBYA                   CYANOPHYTA          6230
                                     MERISMOPEDIA              CYANOPHYTA        367570
                                     OSCILLATORIA              CYANOPHYTA        115255
                                     OSCILLATORIA (SPIRAL)     CYANOPHYTA         12460
                                     EUGLENA                   EUGLENOPHYTA       21805
                                     GLENODINIUM               PYRROPHYTA          3115
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                                          DDT TASK 5  PHYTOPLANKTON LISTING            13:54 FRIDAY, FEBRUARY 22, 1980   15

-------------------- RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=005.9   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=3 --------------------

                                         TAXON                GROUP             NUM

                                         ANKISTRODESMUS       CHLOROPHYTA      15575
                                         CHLAMYDOMONAS        CHLOROPHYTA     146405
                                         COSMARIUM            CHLOROPHYTA       3115
                                         CRUCIGENIA           CHLOROPHYTA      12460
                                         DICTYOSPHAERIUM      CHLOROPHYTA      12460
                                         GONIUM               CHLOROPHYTA      12460
                                         KIRCHNERIELLA        CHLOROPHYTA      12460
                                         SCENEDESMUS          CHLOROPHYTA      68530
                                         ACHNANTHES           CHRYSOPHYTA       6230
                                         CHARACIOPSIS         CHRYSOPHYTA       6230
                                         CYMBELLA             CHRYSOPHYTA       3115
                                         MELOSIRA             CHRYSOPHYTA      12460
                                         NAVICULA             CHRYSOPHYTA      71645
                                         NITZSCHIA            CHRYSOPHYTA      21805
                                         SYNEDRA              CHRYSOPHYTA      12460
                                         ANACYSTIS            CYANOPHYTA      140175
                                         DACTYLOCOCCOPSIS     CYANOPHYTA       49840
                                         LYNGBYA              CYANOPHYTA       15575
                                         MERISMOPEDIA         CYANOPHYTA      946960
                                         OSCILLATORIA         CYANOPHYTA      183785
                                         EUGLENA              EUGLENOPHYTA     34265
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------------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=289.7   SAM_LOC=AD   DATE=79-09-28 ------------------------------

                   TAXON                        GROUP               MEAN

                   ACTINASTRUM                  CHLOROPHYTA        94488
                   ANKISTRODESMUS               CHLOROPHYTA        11421
                   BRACTEACOCCUS                CHLOROPHYTA        19728
                   CHLAMYDOMONAS                CHLOROPHYTA       106948
                   CHLORELLA                    CHLOROPHYTA       315653
                   CHLOROGONIUM                 CHLOROPHYTA         3115
                   CHODATELLA                   CHLOROPHYTA         2076
                   CLOSTERIOPSIS                CHLOROPHYTA         4153
                   CRUCIGENIA                   CHLOROPHYTA        16613
                   DICTYOSPHAERIUM              CHLOROPHYTA        82028
                   ELAKATOTHRIX                 CHLOROPHYTA         8306
                   GLOEOACTINIUM                CHLOROPHYTA         4153
                   GOLENKINIA                   CHLOROPHYTA        25958
                   HYALOTHECA                   CHLOROPHYTA        12460
                   KIRCHNERIELLA                CHLOROPHYTA        71645
                   MICRACTINIUM                 CHLOROPHYTA        34265
                   MICRASTERIAS                 CHLOROPHYTA         1038
                   OOCYSTIS                     CHLOROPHYTA         5191
                   PROTOCOCCUS                  CHLOROPHYTA        99680
                   PTEROMONAS                   CHLOROPHYTA         2076
                   PYRAMIMONAS                  CHLOROPHYTA         1038
                   SCENEDESMUS                  CHLOROPHYTA       187938
                   SCHROEDERIA                  CHLOROPHYTA        11421
                   SELENASTRUM                  CHLOROPHYTA        19728
                   TREUBARIA                    CHLOROPHYTA         1038
                   TROCHISCIA                   CHLOROPHYTA         1038
                   UNID GREEN #1                CHLOROPHYTA         1038
                   ACHNANTHES                   CHRYSOPHYTA         4153
                   ASTERIONELLA                 CHRYSOPHYTA         2076
                   CHAETOCEROS                  CHRYSOPHYTA        36341
                   COCCONEIS                    CHRYSOPHYTA         3115
                   MELOSIRA                     CHRYSOPHYTA      2448390
                   NAVICULA                     CHRYSOPHYTA         1038
                   STEPHANODISCUS               CHRYSOPHYTA       103833
                   SYNEDRA                      CHRYSOPHYTA        62300
                   CRYPTOMONAS                  CRYPTOPHYTA         2076
                   ANACYSTIS                    CYANOPHYTA        615731
                   CHROOCOCCUS                  CYANOPHYTA          8306
                   DACTYLOCOCCOPSIS             CYANOPHYTA         63338
                   MERISMOPEDIA                 CYANOPHYTA       3171070
                   OSCILLATORIA                 CYANOPHYTA         13498
                   OSCILLATORIA (SPIRAL)        CYANOPHYTA          2076
                   CRYPTOGLENA                  EUGLENOPHYTA        2076
                   EUGLENA                      EUGLENOPHYTA       11421
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----------------------- RIVER=TENNESSEE RIVER   RIV_MILE=289.7   SAM_LOC=AD   DATE=79-09-28   REP_NUM=1 -----------------------

                    TAXON                GROUP              NUM

                    ACTINASTRUM          CHLOROPHYTA      133945
                    ANKISTRODESMUS       CHLOROPHYTA       12460
                    BRACTEACOCCUS        CHLOROPHYTA        6230
                    CHLAMYDOMONAS        CHLOROPHYTA       80990
                    CHLORELLA            CHLOROPHYTA      196245
                    CHLOROGONIUM         CHLOROPHYTA        6230
                    CLOSTERIOPSIS        CHLOROPHYTA        6230
                    CRUCIGENIA           CHLOROPHYTA       37380
                    DICTYOSPHAERIUM      CHLOROPHYTA      105910
                    ELAKATOTHRIX         CHLOROPHYTA        6230
                    GLOEOACTINIUM        CHLOROPHYTA       12460
                    GOLENKINIA           CHLOROPHYTA       15575
                    HYALOTHECA           CHLOROPHYTA       37380
                    KIRCHNERIELLA        CHLOROPHYTA      102795
                    MICRACTINIUM         CHLOROPHYTA        6230
                    OOCYSTIS             CHLOROPHYTA       15575
                    PROTOCOCCUS          CHLOROPHYTA      208705
                    PYRAMIMONAS          CHLOROPHYTA        3115
                    SCENEDESMUS          CHLOROPHYTA      171325
                    SCHROEDERIA          CHLOROPHYTA       21805
                    SELENASTRUM          CHLOROPHYTA       18690
                    UNID GREEN #1        CHLOROPHYTA        3115
                    ACHNANTHES           CHRYSOPHYTA        3115
                    CHAETOCEROS          CHRYSOPHYTA       77875
                    MELOSIRA             CHRYSOPHYTA     2520035
                    STEPHANODISCUS       CHRYSOPHYTA      130830
                    SYNEDRA              CHRYSOPHYTA       34265
                    CRYPTOMONAS          CRYPTOPHYTA        3115
                    ANACYSTIS            CYANOPHYTA       713335
                    DACTYLOCOCCOPSIS     CYANOPHYTA        80990
                    MERISMOPEDIA         CYANOPHYTA      2906295
                    OSCILLATORIA         CYANOPHYTA        18690
                    EUGLENA              EUGLENOPHYTA      18690
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                                 DDT TASK 5  PHYTOPLANKTON LISTING             13:54 FRIDAY, FEBRUARY 22, 1980   26

------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=289.7   SAM_LOC=AO   DATE=79-09-28   REP_NUM=2 ------------------------

                              TAXON                      GROUP              NUM

                              ACTINASTRUM                CHLOROPHYTA        56070
                              ANKISTRODESMUS             CHLOROPHYTA        18690
                              BRACTEACOCCUS              CHLOROPHYTA        21805
                              CHLAMYDOMONAS              CHLOROPHYTA       105910
                              CHLORELLA                  CHLOROPHYTA       442330
                              CHLOROGONIUM               CHLOROPHYTA         3115
                              CHODATELLA                 CHLOROPHYTA         3115
                              CLOSTERIOPSIS              CHLOROPHYTA         3115
                              DICTYOSPHAERIUM            CHLOROPHYTA        62300
                              ELAKATOTHRIX               CHLOROPHYTA         6230
                              GOLENKINIA                 CHLOROPHYTA        15575
                              KIRCHNERIELLA              CHLOROPHYTA        74760
                              PROTOCOCCUS                CHLOROPHYTA        24920
                              PTEROMONAS                 CHLOROPHYTA         6230
                              SCENEDESMUS                CHLOROPHYTA       214935
                              SCHROEDERIA                CHLOROPHYTA         9345
                              SELENASTRUM                CHLOROPHYTA        28035
                              TROCHISCIA                 CHLOROPHYTA         3115
                              ACHNANTHES                 CHRYSOPHYTA         3115
                              ASTERIONELLA               CHRYSOPHYTA         6230
                              CHAETOCEROS                CHRYSOPHYTA        31150
                              COCCONEIS                  CHRYSOPHYTA         9345
                              MELOSIRA                   CHRYSOPHYTA      2454620
                              NAVICULA                   CHRYSOPHYTA         3115
                              STEPHANODISCUS             CHRYSOPHYTA       115255
                              SYNEDRA                    CHRYSOPHYTA        93450
                              CRYPTOMONAS                CRYPTOPHYTA         3115
                              ANACYSTIS                  CYANOPHYTA        529550
                              DACTYLOCOCCOPSIS           CYANOPHYTA         62300
                              MERISMOPEDIA               CYANOPHYTA       3049585
                              OSCILLATORIA               CYANOPHYTA         15575
                              OSCILLATORIA (SPIRAL)      CYANOPHYTA          6230
                              EUGLENA                    EUGLENOPHYTA       15575
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----------------------- RIVER=TENNESSEE RIVER  RIV_MILE=289.7  SAM_LOC=AD  DATE=79-09-28  REP_NUM=3 -----------------------

                    TAXON                GROUP              NUM

                    ACTINASTRUM          CHLOROPHYTA       93450
                    ANKISTRODESMUS       CHLOROPHYTA        3115
                    BRACTEACOCCUS        CHLOROPHYTA       31150
                    CHLAMYDOMONAS        CHLOROPHYTA      133945
                    CHLORELLA            CHLOROPHYTA      308385
                    CHODATELLA           CHLOROPHYTA        3115
                    CLOSTERIOPSIS        CHLOROPHYTA        3115
                    CRUCIGENIA           CHLOROPHYTA       12460
                    DICTYOSPHAERIUM      CHLOROPHYTA       77875
                    ELAKATOTHRIX         CHLOROPHYTA       12460
                    GOLENKINIA           CHLOROPHYTA       46725
                    KIRCHNERIELLA        CHLOROPHYTA       37380
                    MICRACTINIUM         CHLOROPHYTA       96565
                    MICRASTERIAS         CHLOROPHYTA        3115
                    PROTOCOCCUS          CHLOROPHYTA       65415
                    SCENEDESMUS          CHLOROPHYTA      177555
                    SCHROEDERIA          CHLOROPHYTA        3115
                    SELENASTRUM          CHLOROPHYTA       12460
                    TREUBARIA            CHLOROPHYTA        3115
                    ACHNANTHES           CHRYSOPHYTA        6230
                    MELOSIRA             CHRYSOPHYTA     2370515
                    STEPHANODISCUS       CHRYSOPHYTA       65415
                    SYNEDRA              CHRYSOPHYTA       59185
                    ANACYSTIS            CYANOPHYTA       604310
                    CHROOCOCCUS          CYANOPHYTA        24920
                    DACTYLOCOCCOPSIS     CYANOPHYTA        46725
                    MERISMOPEDIA         CYANOPHYTA      3557330
                    OSCILLATORIA         CYANOPHYTA         6230
                    CRYPTOGLENA          EUGLENOPHYTA       6230
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------------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=289.9   SAM_LOC=AJ   DATE=79-09-28 ------------------------------

                     TAXON                  GROUP              MEAN

                     ACTINASTRUM            CHLOROPHYTA        9345
                     ANKISTRODESMUS         CHLOROPHYTA        2076
                     BRACTEACOCCUS          CHLOROPHYTA       15575
                     CHLAMYDOMONAS          CHLOROPHYTA       20766
                     CHLORELLA              CHLOROPHYTA       56070
                     CHODATELLA             CHLOROPHYTA        3115
                     CLOSTERIOPSIS          CHLOROPHYTA        1038
                     CRUCIGENIA             CHLOROPHYTA        4153
                     DACTYLOCOCCUS          CHLOROPHYTA        3115
                     ELAKATOTHRIX           CHLOROPHYTA        4153
                     GOLENKINIA             CHLOROPHYTA        6230
                     KIRCHNERIELLA          CHLOROPHYTA       12460
                     MICRACTINIUM           CHLOROPHYTA       13498
                     PEDIASTRUM             CHLOROPHYTA        4153
                     SCENEDESMUS            CHLOROPHYTA       67491
                     SELENASTRUM            CHLOROPHYTA        3115
                     TETRAEDRON             CHLOROPHYTA        2076
                     TROCHISCIA             CHLOROPHYTA        1038
                     ACHNANTHES             CHRYSOPHYTA        1038
                     COCCONEIS              CHRYSOPHYTA        1038
                     DINOBRYON              CHRYSOPHYTA       10383
                     MELOSIRA               CHRYSOPHYTA      707105
                     NAVICULA               CHRYSOPHYTA      329151
                     RHIZOSOLENIA           CHRYSOPHYTA        2076
                     STEPHANODISCUS         CHRYSOPHYTA       18690
                     SYNEDRA                CHRYSOPHYTA       16613
                     CRYPTOMONAS            CRYPTOPHYTA        4153
                     ANABAENA               CYANOPHYTA        17651
                     ANACYSTIS              CYANOPHYTA        69568
                     DACTYLOCOCCOPSIS       CYANOPHYTA        14536
                     MERISMOPEDIA           CYANOPHYTA       225318
                     OSCILLATORIA           CYANOPHYTA         3115
                     CRYPTOGLENA            EUGLENOPHYTA       1038
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                                   DDT TASK 5  PHYTOPLANKTON LISTING            13:54 FRIDAY, FEBRUARY 22, 1980   28

------------------------- RIVER=TENNESSEE RIVER  RIV_MILE=289.9  SAM_LOC=AJ  DATE=79-09-28  REP_NUM=1 -------------------------

                                   TAXON              GROUP             NUM

                                   ACTINASTRUM        CHLOROPHYTA      15575
                                   ANKISTRODESMUS     CHLOROPHYTA       3115
                                   BRACTEACOCCUS      CHLOROPHYTA      21805
                                   CHLAMYDOMONAS      CHLOROPHYTA      28035
                                   CHLORELLA          CHLOROPHYTA      62300
                                   CHODATELLA         CHLOROPHYTA       3115
                                   DACTYLOCOCCUS      CHLOROPHYTA       9345
                                   GOLENKINIA         CHLOROPHYTA       6230
                                   KIRCHNERIELLA      CHLOROPHYTA      31150
                                   MICRACTINIUM       CHLOROPHYTA      28035
                                   SCENEDESMUS        CHLOROPHYTA      43610
                                   SELENASTRUM        CHLOROPHYTA       6230
                                   NAVICULA           CHRYSOPHYTA     987455
                                   STEPHANODISCUS     CHRYSOPHYTA      21805
                                   SYNEDRA            CHRYSOPHYTA       9345
                                   MERISMOPEDIA       CYANOPHYTA      277235
                                   OSCILLATORIA       CYANOPHYTA        3115
                                   CRYPTOGLENA        EUGLENOPHYTA      3115
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                                  DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   29

------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=289.9   SAM_LOC=AJ   DATE=79-09-28   REP_NUM=2 -------------------------

                                 TAXON                  GROUP           NUM

                                 ANKISTRODESMUS         CHLOROPHYTA        3115
                                 BRACTEACOCCUS          CHLOROPHYTA       12460
                                 CHLAMYDOMONAS          CHLOROPHYTA       15575
                                 CHLORELLA              CHLOROPHYTA       52955
                                 CLOSTERIOPSIS          CHLOROPHYTA        3115
                                 CRUCIGENIA             CHLOROPHYTA       12460
                                 GOLENKINIA             CHLOROPHYTA       12460
                                 MICRACTINIUM           CHLOROPHYTA        6230
                                 PEDIASTRUM             CHLOROPHYTA       12460
                                 SCENEDESMUS            CHLOROPHYTA      102795
                                 SELENASTRUM            CHLOROPHYTA        3115
                                 TETRAEDRON             CHLOROPHYTA        3115
                                 COCCONEIS              CHRYSOPHYTA        3115
                                 MELOSIRA               CHRYSOPHYTA     1152550
                                 STEPHANODISCUS         CHRYSOPHYTA       21805
                                 SYNEDRA                CHRYSOPHYTA       28035
                                 DACTYLOCOCCOPSIS       CYANOPHYTA        18690
                                 MERISMOPEDIA           CYANOPHYTA       261660
                                 OSCILLATORIA           CYANOPHYTA         3115
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                                   DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   30

------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=289.9   SAM_LOC=AJ   DATE=79-09-28   REP_NUM=3 ------------------------

                                   TAXON                   GROUP          NUM

                                   ACTINASTRUM           CHLOROPHYTA     12460
                                   BRACTEACOCCUS         CHLOROPHYTA     12460
                                   CHLAMYDOMONAS         CHLOROPHYTA     18690
                                   CHLORELLA             CHLOROPHYTA     52955
                                   CHODATELLA            CHLOROPHYTA      6230
                                   ELAKATOTHRIX          CHLOROPHYTA     12460
                                   KIRCHNERIELLA         CHLOROPHYTA      6230
                                   MICRACTINIUM          CHLOROPHYTA      6230
                                   SCENEDESMUS           CHLOROPHYTA     56070
                                   TETRAEDRON            CHLOROPHYTA      3115
                                   TROCHISCIA            CHLOROPHYTA      3115
                                   ACHNANTHES            CHRYSOPHYTA      3115
                                   DINOBRYON             CHRYSOPHYTA     31150
                                   MELOSIRA              CHRYSOPHYTA    968765
                                   RHIZOSOLENIA          CHRYSOPHYTA      6230
                                   STEPHANODISCUS        CHRYSOPHYTA     12460
                                   SYNEDRA               CHRYSOPHYTA     12460
                                   CRYPTOMONAS           CRYPTOPHYTA     12460
                                   ANABAENA              CYANOPHYTA      52955
                                   ANACYSTIS             CYANOPHYTA     208705
                                   DACTYLOCOCCOPSIS      CYANOPHYTA      24920
                                   MERISMOPEDIA          CYANOPHYTA     137060
                                   OSCILLATORIA          CYANOPHYTA       3115
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----------------------- RIVER=TENNESSEE RIVER   RIV_MILE=289.9   SAM_LOC=AP   DATE=79-09-28   REP_NUM=1 -----------------------

                          TAXON                GROUP           NUM

                          ACANTHOSPHAERA       CHLOROPHYTA        3115
                          ACTINASTRUM          CHLOROPHYTA       12460
                          ANKISTRODESMUS       CHLOROPHYTA        6230
                          BRACTEACOCCUS        CHLOROPHYTA        3115
                          CHLAMYDOMONAS        CHLOROPHYTA       31150
                          CHLORELLA            CHLOROPHYTA       18690
                          CRUCIGENIA           CHLOROPHYTA       12460
                          ELAKATOTHRIX         CHLOROPHYTA        6230
                          GOLENKINIA           CHLOROPHYTA        9345
                          KIRCHNERIELLA        CHLOROPHYTA       12460
                          OOCYSTIS             CHLOROPHYTA       12460
                          PEDIASTRUM           CHLOROPHYTA        6230
                          SCENEDESMUS          CHLOROPHYTA       43610
                          SCHROEDERIA          CHLOROPHYTA        3115
                          SELENASTRUM          CHLOROPHYTA       18690
                          TROCHISCIA           CHLOROPHYTA        6230
                          ACHNANTHES           CHRYSOPHYTA        3115
                          MELOSIRA             CHRYSOPHYTA     1018605
                          NAVICULA             CHRYSOPHYTA        3115
                          STEPHANODISCUS       CHRYSOPHYTA       21805
                          SYNEDRA              CHRYSOPHYTA       34265
                          ANACYSTIS            CYANOPHYTA       205590
                          DACTYLOCOCCOPSIS     CYANOPHYTA         3115
                          MERISMOPEDIA         CYANOPHYTA        49840
                          OSCILLATORIA         CYANOPHYTA         3115
                          GLENODINIUM          PYRROPHYTA         3115
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                                   DDT TASK 5  PHYTOPLANKTON LISTING            13:54 FRIDAY, FEBRUARY 22, 1980   30

------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=289.9   SAM_LOC=AJ   DATE=79-09-28   REP_NUM=3 -------------------------

                                   TAXON                  GROUP          NUM

                                   ACTINASTRUM            CHLOROPHYTA     12460
                                   BRACTEACOCCUS          CHLOROPHYTA     12460
                                   CHLAMYDOMONAS          CHLOROPHYTA     18690
                                   CHLORELLA              CHLOROPHYTA     52955
                                   CHODATELLA             CHLOROPHYTA      6230
                                   ELAKATOTHRIX           CHLOROPHYTA     12460
                                   KIRCHNERIELLA          CHLOROPHYTA      6230
                                   MICRACTINIUM           CHLOROPHYTA      6230
                                   SCENEDESMUS            CHLOROPHYTA     56070
                                   TETRAEDRON             CHLOROPHYTA      3115
                                   TROCHISCIA             CHLOROPHYTA      3115
                                   ACHNANTHES             CHRYSOPHYTA      3115
                                   DINOBRYON              CHRYSOPHYTA     31150
                                   MELOSIRA               CHRYSOPHYTA    968765
                                   RHIZOSOLENIA           CHRYSOPHYTA      6230
                                   STEPHANODISCUS         CHRYSOPHYTA     12460
                                   SYNEDRA                CHRYSOPHYTA     12460
                                   CRYPTOMONAS            CRYPTOPHYTA     12460
                                   ANABAENA               CYANOPHYTA      52955
                                   ANACYSTIS              CYANOPHYTA     208705
                                   DACTYLOCOCCOPSIS       CYANOPHYTA      24920
                                   MERISMOPEDIA           CYANOPHYTA     137060
                                   OSCILLATORIA           CYANOPHYTA       3115
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                                   DDT TASK 5  PHYTOPLANKTON LISTING             13:54 FRIDAY, FEBRUARY 22, 1980   32

----------------------- RIVER=TENNESSEE RIVER   RIV_MILE=289.9   SAM_LOC=AP   DATE=79-09-28   REP_NUM=2 -----------------------

                                    TAXON                GROUP              NUM

                                    ACANTHOSPHAERA       CHLOROPHYTA        3115
                                    ANKISTRODESMUS       CHLOROPHYTA        6230
                                    BRACTEACOCCUS        CHLOROPHYTA        3115
                                    CHLAMYDOMONAS        CHLOROPHYTA       43610
                                    CHLORELLA            CHLOROPHYTA       31150
                                    CHLOROGONIUM         CHLOROPHYTA       12460
                                    GOLENKINIA           CHLOROPHYTA        6230
                                    PANDORINA            CHLOROPHYTA       49840
                                    PEDIASTRUM           CHLOROPHYTA       24920
                                    PYRAMIMONAS          CHLOROPHYTA        3115
                                    SCENEDESMUS          CHLOROPHYTA       71645
                                    SELENASTRUM          CHLOROPHYTA        3115
                                    TETRAEDRON           CHLOROPHYTA        3115
                                    TROCHISCIA           CHLOROPHYTA        6230
                                    COCCONEIS            CHRYSOPHYTA        6230
                                    DINOBRYON            CHRYSOPHYTA        9345
                                    MELOSIRA             CHRYSOPHYTA      794325
                                    NAVICULA             CHRYSOPHYTA        6230
                                    STEPHANODISCUS       CHRYSOPHYTA       34265
                                    SYNEDRA              CHRYSOPHYTA       40495
                                    CRYPTOMONAS          CRYPTOPHYTA       12460
                                    ANACYSTIS            CYANOPHYTA        77875
                                    CHROOCOCCUS          CYANOPHYTA        37380
                                    DACTYLOCOCCOPSIS     CYANOPHYTA         3115
                                    MERISMOPEDIA         CYANOPHYTA       199360
                                    OSCILLATORIA         CYANOPHYTA         9345
                                    EUGLENA              EUGLENOPHYTA       3115
                                    GLENODINIUM          PYRROPHYTA         3115
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                                   DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   33

------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=289,9   SAM_LOC=AP   DATE=79-09-28   REP_NUM=3 ------------------------

                                  TAXON                GROUP              NUM

                                  ACTINASTRUM          CHLOROPHYTA       12460
                                  BRACTEACOCCUS        CHLOROPHYTA        6230
                                  CHLAMYDOMONAS        CHLOROPHYTA       37380
                                  CHLORELLA            CHLOROPHYTA       40495
                                  CHLOROGONIUM         CHLOROPHYTA        3115
                                  CHODATELLA           CHLOROPHYTA        3115
                                  GOLENKINIA           CHLOROPHYTA        6230
                                  PANDORINA            CHLOROPHYTA       49840
                                  PEDIASTRUM           CHLOROPHYTA       24920
                                  PTEROMONAS           CHLOROPHYTA        3115
                                  SCENEDESMUS          CHLOROPHYTA       46725
                                  CHAETOCEROS          CHRYSOPHYTA       12460
                                  CHARACIOPSIS         CHRYSOPHYTA        3115
                                  MELOSIRA             CHRYSOPHYTA      925155
                                  STEPHANODISCUS       CHRYSOPHYTA       12460
                                  SYNEDRA              CHRYSOPHYTA        3115
                                  CRYPTOMONAS          CRYPTOPHYTA        9345
                                  ANABAENA             CYANOPHYTA        37380
                                  ANACYSTIS            CYANOPHYTA       105910
                                  DACTYLOCOCCOPSIS     CYANOPHYTA        15575
                                  MERISMOPEDIA         CYANOPHYTA       299040
                                  OSCILLATORIA         CYANOPHYTA         3115
                                  CRYPTOGLENA          EUGLENOPHYTA       3115
                                  EUGLENA              EUGLENOPHYTA       3115
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------------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=315.0   SAM_LOC=AC   DATE=79-09-25 -------------------------------

                    TAXON               GROUP           MEAN

                    ACTINASTRUM         CHLOROPHYTA       4153
                    ANKISTRODESMUS      CHLOROPHYTA       6230
                    CHLAMYDOMONAS       CHLOROPHYTA      26996
                    CHLORELLA           CHLOROPHYTA      14536
                    CHODATELLA          CHLOROPHYTA       5191
                    CLOSTERIOPSIS       CHLOROPHYTA       2076
                    DICTYOSPHAERIUM     CHLOROPHYTA       4153
                    GOLENKINIA          CHLOROPHYTA       7268
                    HYALOTHECA          CHLOROPHYTA       4153
                    KIRCHNERIELLA       CHLOROPHYTA       8306
                    MICRACTINIUM        CHLOROPHYTA       2076
                    PEDIASTRUM          CHLOROPHYTA      31150
                    POLYEDRIOPSIS       CHLOROPHYTA       1038
                    PROTOCOCCUS         CHLOROPHYTA      28035
                    PTEROMONAS          CHLOROPHYTA       1038
                    SCENEDESMUS         CHLOROPHYTA      41533
                    SCHROEDERIA         CHLOROPHYTA       1038
                    SELENASTRUM         CHLOROPHYTA       4153
                    TETRAEDRON          CHLOROPHYTA       3115
                    TETRASTRUM          CHLOROPHYTA       4153
                    ACHNANTHES          CHRYSOPHYTA       3115
                    MELOSIRA            CHRYSOPHYTA     427793
                    NITZSCHIA           CHRYSOPHYTA       1038
                    OPHIOCYTIUM         CHRYSOPHYTA       6230
                    STEPHANODISCUS      CHRYSOPHYTA      24920
                    SYNEDRA             CHRYSOPHYTA      21805
                    CRYPTOMONAS         CRYPTOPHYTA       2076
                    ANABAENA            CYANOPHYTA       41533
                    ANABAENOPSIS        CYANOPHYTA      141213
                    ANACYSTIS           CYANOPHYTA      242970
                    DACTYLOCOCCOPSIS    CYANOPHYTA       10383
                    MERISMOPEDIA        CYANOPHYTA       74760
                    OSCILLATORIA        CYANOPHYTA        3115
                    CRYPTOGLENA         EUGLENOPHYTA      1038
                    EUGLENA             EUGLENOPHYTA      4153
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                                    DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   35

---------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=315.0   SAM_LOC=AC   DATE=79-09-25   REP_NUM=2 -------------------------

                                  TAXON                GROUP              NUM

                                  CHLAMYDOMONAS        CHLOROPHYTA      28035
                                  CHLORELLA            CHLOROPHYTA       9345
                                  GOLENKINIA           CHLOROPHYTA       9345
                                  KIRCHNERIELLA        CHLOROPHYTA       6230
                                  PEDIASTRUM           CHLOROPHYTA      93450
                                  POLYEDRIOPSIS        CHLOROPHYTA       3115
                                  PTEROMONAS           CHLOROPHYTA       3115
                                  SCENEDESMUS          CHLOROPHYTA      31150
                                  SELENASTRUM          CHLOROPHYTA       3115
                                  ACHNANTHES           CHRYSOPHYTA       3115
                                  MELOSIRA             CHRYSOPHYTA     386260
                                  STEPHANODISCUS       CHRYSOPHYTA      28035
                                  SYNEDRA              CHRYSOPHYTA      18690
                                  ANABAENA             CYANOPHYTA       68530
                                  ANACYSTIS            CYANOPHYTA       37380
                                  DACTYLOCOCCOPSIS     CYANOPHYTA       12460
                                  MERISMOPEDIA         CYANOPHYTA      149520
                                  OSCILLATORIA         CYANOPHYTA        6230
                                  EUGLENA              EUGLENOPHYTA      6230
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                              DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   34

------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=315.0   SAM_LOC=AC   DATE=79-09-25   REP_NUM=1 ------------------------

                              TAXON                  GROUP          NUM

                              ACTINASTRUM          CHLOROPHYTA     12460
                              ANKISTRODESMUS       CHLOROPHYTA     18690
                              CHLAMYDOMONAS        CHLOROPHYTA     34265
                              CHLORELLA            CHLOROPHYTA     18690
                              CHODATELLA           CHLOROPHYTA      9345
                              CLOSTERIOPSIS        CHLOROPHYTA      3115
                              DICTYOSPHAERIUM      CHLOROPHYTA     12460
                              GOLENKINIA           CHLOROPHYTA      6230
                              HYALOTHECA           CHLOROPHYTA     12460
                              KIRCHNERIELLA        CHLOROPHYTA     18690
                              SCENEDESMUS          CHLOROPHYTA     37380
                              SCHROEDERIA          CHLOROPHYTA      3115
                              SELENASTRUM          CHLOROPHYTA      6230
                              TETRAEDRON           CHLOROPHYTA      3115
                              ACHNANTHES           CHRYSOPHYTA      6230
                              MELOSIRA             CHRYSOPHYTA    557585
                              NITZSCHIA            CHRYSOPHYTA      3115
                              OPHIOCYTIUM          CHRYSOPHYTA     18690
                              STEPHANODISCUS       CHRYSOPHYTA     31150
                              SYNEDRA              CHRYSOPHYTA     28035
                              CRYPTOMONAS          CRYPTOPHYTA      6230
                              ANABAENA             CYANOPHYTA      24920
                              ANABAENOPSIS         CYANOPHYTA     623640
                              DACTYLOCOCCOPSIS     CYANOPHYTA       3115
                              OSCILLATORIA         CYANOPHYTA       3115
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                                   DOT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   36

------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=315.0   SAM_LOC=AC   DATE=79-09-25   REP_NUM=3 -------------------------

                                   TAXON                GROUP              NUM

                                   CHLAMYDOMONAS        CHLOROPHYTA      18690
                                   CHLORELLA            CHLOROPHYTA      15575
                                   CHODATELLA           CHLOROPHYTA       6230
                                   CLOSTERIOPSIS        CHLOROPHYTA       3115
                                   GOLENKINIA           CHLOROPHYTA       6230
                                   MICRACTINIUM         CHLOROPHYTA       6230
                                   PROTOCOCCUS          CHLOROPHYTA      84105
                                   SCENEDESMUS          CHLOROPHYTA      56070
                                   SELENASTRUM          CHLOROPHYTA       3115
                                   TETRAEDRON           CHLOROPHYTA       6230
                                   TETRASTRUM           CHLOROPHYTA      12460
                                   MELOSIRA             CHRYSOPHYTA     339535
                                   STEPHANODISCUS       CHRYSOPHYTA      15575
                                   SYNEDRA              CHRYSOPHYTA      18690
                                   ANABAENA             CYANOPHYTA       31150
                                   ANACYSTIS            CYANOPHYTA      691530
                                   DACTYLOCOCCOPSIS     CYANOPHYTA       15575
                                   MERISMOPEDIA         CYANOPHYTA       74760
                                   CRYPTOGLENA          EUGLENOPHYTA      3115
                                   EUGLENA              EUGLENOPHYTA      6230
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                          DDT TASK 5  PHYTOPLANKTON LISTING            8155 TUESDAY, FEBRUARY 26, 1980   18
------------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=315.0   SAM_LOC=AJ   DATE=79-09-25 ------------------------------

                     TAXON                     GROUP              MEAN

                     ANKISTRODESMUS            CHLOROPHYTA        4153
                     CHLAMYDOMONAS             CHLOROPHYTA       22843
                     CHLORELLA                 CHLOROPHYTA       22843
                     CHODATELLA                CHLOROPHYTA        4153
                     CRUCIGENIA                CHLOROPHYTA       24920
                     DICTYOSPHAERIUM           CHLOROPHYTA       23881
                     GOLENKINIA                CHLOROPHYTA        4153
                     HYALOTHECA                CHLOROPHYTA        9345
                     MICRACTINIUM              CHLOROPHYTA        8306
                     PEDIASTRUM                CHLOROPHYTA       23881
                     PTEROMONAS                CHLOROPHYTA        1038
                     SCENEDESMUS               CHLOROPHYTA       64376
                     TETRAEDRON                CHLOROPHYTA        1038
                     UNID GREEN # 2            CHLOROPHYTA       62300
                     ACHNANTHES                CHRYSOPHYTA        3115
                     CYMBELLA                  CHRYSOPHYTA        1038
                     MELOSIRA                  CHRYSOPHYTA      372761
                     NITZSCHIA                 CHRYSOPHYTA        1038
                     STEPHANODISCUS            CHRYSOPHYTA       13498
                     SYNEDRA                   CHRYSOPHYTA       22843
                     ANABAENA                  CYANOPHYTA        10383
                     ANACYSTIS                 CYANOPHYTA       186900
                     DACTYLOCOCCOPSIS          CYANOPHYTA         6230
                     LYNGBYA                   CYANOPHYTA         1038
                     MERISMOPEDIA              CYANOPHYTA       304231
                     OSCILLATORIA              CYANOPHYTA         4153
                     OSCILLATORIA (SPIRAL)     CYANOPHYTA         1038
                     CRYPTOGLENA               EUGLENOPHYTA       3115
                     EUGLENA                   EUGLENOPHYTA       1038
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                                   DOT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   37

---------------------- RIVER=TENNESSEE RIVER   RIV_MILE=315.0   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=1 ----------------------

                                      TAXON           GROUP              NUM

                                   ANKISTRODESMUS     CHLOROPHYTA       12460
                                   CHLAMYDOMONAS      CHLOROPHYTA       31150
                                   CHLORELLA          CHLOROPHYTA       21805
                                   CHODATELLA         CHLOROPHYTA        3115
                                   CRUCIGENIA         CHLOROPHYTA       12460
                                   SCENEDESMUS        CHLOROPHYTA       68530
                                   ACHNANTHES         CHRYSOPHYTA        3115
                                   MELOSIRA           CHRYSOPHYTA      336420
                                   NITZSCHIA          CHRYSOPHYTA        3115
                                   STEPHANODISCUS     CHRYSOPHYTA        3115
                                   SYNEDRA            CHRYSOPHYTA       21805
                                   ANACYSTIS          CYANOPHYTA       242970
                                   OSCILLATORIA       CYANOPHYTA         3115
                                   CRYPTOGLENA        EUGLENOPHYTA       3115
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------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=315.0   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=2 ------------------------

                         TAXON                       GROUP              NUM

                         CHLAMYDOMONAS               CHLOROPHYTA       24920
                         CHLORELLA                   CHLOROPHYTA       24920
                         CHODATELLA                  CHLOROPHYTA        6230
                         CRUCIGENIA                  CHLOROPHYTA       62300
                         DICTYOSPHAERIUM             CHLOROPHYTA        9345
                         GOLENKINIA                  CHLOROPHYTA        6230
                         HYALOTHECA                  CHLOROPHYTA       12460
                         MICRACTINIUM                CHLOROPHYTA       24920
                         PTEROMONAS                  CHLOROPHYTA        3115
                         SCENEDESMUS                 CHLOROPHYTA       40495
                         UNID GREEN # 2              CHLOROPHYTA      186900
                         ACHNANTHES                  CHRYSOPHYTA        3115
                         MELOSIRA                    CHRYSOPHYTA      457905
                         STEPHANODISCUS              CHRYSOPHYTA       28035
                         SYNEDRA                     CHRYSOPHYTA       24920
                         DACTYLOCOCCOPSIS            CYANOPHYTA         9345
                         MERISMOPEDIA                CYANOPHYTA       675955
                         OSCILLATORIA                CYANOPHYTA         3115
                         OSCILLATORIA (SPIRAL)       CYANOPHYTA         3115
                         EUGLENA                     EUGLENOPHYTA       3115
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                                     DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   39

----------------------- RIVER=TENNESSEE RIVER   RIV_MILE=315.0   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=3 -----------------------

                                    TAXON                GROUP              NUM

                                    CHLAMYDOMONAS        CHLOROPHYTA      12460
                                    CHLORELLA            CHLOROPHYTA      21805
                                    CHODATELLA           CHLOROPHYTA       3115
                                    DICTYOSPHAERIUM      CHLOROPHYTA      62300
                                    GOLENKINIA           CHLOROPHYTA       6230
                                    HYALOTHECA           CHLOROPHYTA      15575
                                    PEDIASTRUM           CHLOROPHYTA      71645
                                    SCENEDESMUS          CHLOROPHYTA      84105
                                    TETRAEDRON           CHLOROPHYTA       3115
                                    ACHNANTHES           CHRYSOPHYTA       3115
                                    CYMBELLA             CHRYSOPHYTA       3115
                                    MELOSIRA             CHRYSOPHYTA     323960
                                    STEPHANODISCUS       CHRYSOPHYTA       9345
                                    SYNEDRA              CHRYSOPHYTA      21805
                                    ANABAENA             CYANOPHYTA       31150
                                    ANACYSTIS            CYANOPHYTA      317730
                                    DACTYLOCOCCOPSIS     CYANOPHYTA        9345
                                    LYNGBYA              CYANOPHYTA        3115
                                    MERISMOPEDIA         CYANOPHYTA      236740
                                    OSCILLATORIA         CYANOPHYTA        6230
                                    CRYPTOGLENA          EUGLENOPHYTA      6230
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------------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=315.0   SAM_LOC=AR   DATE=79-09-25 ------------------------------

                    TAXON                       GROUP             MEAN

                    ACTINASTRUM                 CHLOROPHYTA       4153
                    ANKISTRODESMUS              CHLOROPHYTA       4153
                    CHLAMYDOMONAS               CHLOROPHYTA      23881
                    CHLORELLA                   CHLOROPHYTA      26996
                    CHODATELLA                  CHLOROPHYTA       1038
                    CRUCIGENIA                  CHLOROPHYTA      24920
                    DICTYOSPHAERIUM             CHLOROPHYTA      21805
                    GOLENKINIA                  CHLOROPHYTA       2076
                    KIRCHNERIELLA               CHLOROPHYTA      12460
                    OOCYSTIS                    CHLOROPHYTA       2076
                    PEDIASTRUM                  CHLOROPHYTA       1038
                    SCENEDESMUS                 CHLOROPHYTA      83066
                    SCHROEDERIA                 CHLOROPHYTA       3115
                    SELENASTRUM                 CHLOROPHYTA       9345
                    TETRAEDRON                  CHLOROPHYTA       1038
                    TETRASTRUM                  CHLOROPHYTA       4153
                    TREUBARIA                   CHLOROPHYTA       7268
                    TROCHISCIA                  CHLOROPHYTA       2076
                    UNID GREEN # 2              CHLOROPHYTA      24920
                    UNID GREEN #1               CHLOROPHYTA       1038
                    ACHNANTHES                  CHRYSOPHYTA       3115
                    DINOBRYON                   CHRYSOPHYTA       4153
                    MELOSIRA                    CHRYSOPHYTA     586658
                    NAVICULA                    CHRYSOPHYTA       1038
                    RHIZOSOLENIA                CHRYSOPHYTA       1038
                    STEPHANODISCUS              CHRYSOPHYTA      17651
                    SYNEDRA                     CHRYSOPHYTA      22843
                    ANABAENA                    CYANOPHYTA        8306
                    ANACYSTIS                   CYANOPHYTA       97603
                    CHROOCOCCUS                 CYANOPHYTA        8306
                    DACTYLOCOCCOPSIS            CYANOPHYTA        6230
                    MERISMOPEDIA                CYANOPHYTA      103833
                    OSCILLATORIA                CYANOPHYTA       14536
                    OSCILLATORIA (SPIRAL)       CYANOPHYTA        1038
                    EUGLENA                     EUGLENOPHYTA      4153
                    TRACHELOMONAS               EUGLENOPHYTA      1038
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                                  DDT TASK 5  PHYTOPLANKTON LISTING            13:54 FRIDAY, FEBRUARY 22, 1980   40

----------------------- RIVER=TENNESSEE RIVER   RIV_MILE=315.0   SAM_LOC=AR   DATE=79-09-25   REP_NUM=1 -----------------------

                                 TAXON                GROUP              NUM

                                 ACTINASTRUM          CHLOROPHYTA      12460
                                 ANKISTRODESMUS       CHLOROPHYTA       6230
                                 CHLAMYDOMONAS        CHLOROPHYTA      37380
                                 CHLORELLA            CHLOROPHYTA      31150
                                 CHODATELLA           CHLOROPHYTA       3115
                                 CRUCIGENIA           CHLOROPHYTA      24920
                                 DICTYOSPHAERIUM      CHLOROPHYTA      65415
                                 GOLENKINIA           CHLOROPHYTA       3115
                                 KIRCHNERIELLA        CHLOROPHYTA      12460
                                 SCENEDESMUS          CHLOROPHYTA      84105
                                 SCHROEDERIA          CHLOROPHYTA       3115
                                 SELENASTRUM          CHLOROPHYTA       3115
                                 TETRAEDRON           CHLOROPHYTA       3115
                                 TREUBARIA            CHLOROPHYTA      18690
                                 UNID GREEN # 2       CHLOROPHYTA      74760
                                 UNID GREEN #1        CHLOROPHYTA       3115
                                 ACHNANTHES           CHRYSOPHYTA       9345
                                 DINOBRYON            CHRYSOPHYTA      12460
                                 MELOSIRA             CHRYSOPHYTA     635460
                                 STEPHANODISCUS       CHRYSOPHYTA      15575
                                 SYNEDRA              CHRYSOPHYTA      24920
                                 ANACYSTIS            CYANOPHYTA      127715
                                 DACTYLOCOCCOPSIS     CYANOPHYTA        6230
                                 MERISMOPEDIA         CYANOPHYTA      218050
                                 OSCILLATORIA         CYANOPHYTA        6230
                                 EUGLENA              EUGLENOPHYTA      3115
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                              DDT TASK 5  PHYTOPLANKTON LISTING               13:54 FRIDAY, FEBRUARY 22, 1980   41
------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=315.0   SAM_LOC=AR   DATE=79-09-25   REP_NUM=2 ------------------------
                                 TAXON                         GROUP              NUM

                                 ANKISTRODESMUS                CHLOROPHYTA        3115
                                 CHLAMYDOMONAS                 CHLOROPHYTA       12460
                                 CHLORELLA                     CHLOROPHYTA       34265
                                 CRUCIGENIA                    CHLOROPHYTA       49840
                                 GOLENKINIA                    CHLOROPHYTA        3115
                                 KIRCHNERIELLA                 CHLOROPHYTA       24920
                                 OOCYSTIS                      CHLOROPHYTA        6230
                                 SCENEDESMUS                   CHLOROPHYTA       59185
                                 SCHROEDERIA                   CHLOROPHYTA        3115
                                 SELENASTRUM                   CHLOROPHYTA        9345
                                 TREUBARIA                     CHLOROPHYTA        3115
                                 TROCHISCIA                    CHLOROPHYTA        3115
                                 MELOSIRA                      CHRYSOPHYTA      542010
                                 STEPHANODISCUS                CHRYSOPHYTA       21805
                                 SYNEDRA                       CHRYSOPHYTA       24920
                                 ANACYSTIS                     CYANOPHYTA        65415
                                 DACTYLOCOCCOPSIS              CYANOPHYTA         3115
                                 OSCILLATORIA                  CYANOPHYTA        31150
                                 OSCILLATORIA (SPIRAL)         CYANOPHYTA         3115
                                 EUGLENA                       EUGLENOPHYTA       6230
                                 TRACHELOMONAS                 EUGLENOPHYTA       3115
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------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=315.0   SAM_LOC=AR   DATE=79-09-25   REP_NUM=3 ------------------------

TAXON               GROUP            NUM

ANKISTRODESMUS      CHLOROPHYTA       3115
CHLAMYDOMONAS       CHLOROPHYTA      21805
CHLORELLA           CHLOROPHYTA      15575
PEDIASTRUM          CHLOROPHYTA       3115
SCENEDESMUS         CHLOROPHYTA     105910
SCHROEDERIA         CHLOROPHYTA       3115
SELENASTRUM         CHLOROPHYTA      15575
TETRASTRUM          CHLOROPHYTA      12460
TROCHISCIA          CHLOROPHYTA       3115
MELOSIRA            CHRYSOPHYTA     582505
NAVICULA            CHRYSOPHYTA       3115
RHIZOSOLENIA        CHRYSOPHYTA       3115
STEPHANODISCUS      CHRYSOPHYTA      15575
SYNEDRA             CHRYSOPHYTA      18690
ANABAENA            CYANOPHYTA       24920
ANACYSTIS           CYANOPHYTA       99680
CHROOCOCCUS         CYANOPHYTA       24920
DACTYLOCOCCOPSIS    CYANOPHYTA        9345
MERISMOPEDIA        CYANOPHYTA       93450
OSCILLATORIA        CYANOPHYTA        6230
EUGLENA             EUGLENOPHYTA      3115
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------------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=345.2   SAM_LOC=AD   DATE=79-09-27 ------------------------------

                TAXON                  GROUP             MEAN

                ACTINASTRUM            CHLOROPHYTA       16613
                ANKISTRODESMUS         CHLOROPHYTA        4153
                CHLAMYDOMONAS          CHLOROPHYTA       38418
                CHLORELLA              CHLOROPHYTA       14536
                CHODATELLA             CHLOROPHYTA        8306
                COELASTRUM             CHLOROPHYTA       16613
                CRUCIGENIA             CHLOROPHYTA        4153
                DICTYOSPHAERIUM        CHLOROPHYTA       41533
                FRANCEIA               CHLOROPHYTA        2076
                GOLENKINIA             CHLOROPHYTA       15575
                GONIUM                 CHLOROPHYTA       15575
                KIRCHNERIELLA          CHLOROPHYTA       14536
                MICRACTINIUM           CHLOROPHYTA       11421
                OOCYSTIS               CHLOROPHYTA        8306
                PEDIASTRUM             CHLOROPHYTA        8306
                PROTOCOCCUS            CHLOROPHYTA      186900
                SCENEDESMUS            CHLOROPHYTA       79951
                SCHROEDERIA            CHLOROPHYTA        1038
                SELENASTRUM            CHLOROPHYTA        6230
                TETRAEDRON             CHLOROPHYTA        3115
                TREUBARIA              CHLOROPHYTA        2076
                ACHNANTHES             CHRYSOPHYTA       12460
                ASTERIONELLA           CHRYSOPHYTA        4153
                CHAETOCEROS            CHRYSOPHYTA        6230
                MELOSIRA               CHRYSOPHYTA      788095
                NITZSCHIA              CHRYSOPHYTA        1038
                OPHIOCYTIUM            CHRYSOPHYTA        7268
                STEPHANODISCUS         CHRYSOPHYTA       35303
                SYNEDRA                CHRYSOPHYTA       25958
                ANABAENA               CYANOPHYTA       117331
                ANACYSTIS              CYANOPHYTA       681146
                DACTYLOCOCCOPSIS       CYANOPHYTA         9345
                LYNGBYA                CYANOPHYTA         2076
                MERISMOPEDIA           CYANOPHYTA       657265
                OSCILLATORIA           CYANOPHYTA        24920
                TRACHELOMONAS          EUGLENOPHYTA       1038
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                                  DDT TASK 5  PHYTOPLANKTON LISTING                13:54 FRIDAY, FEBRUARY 22, 1980   43

------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=345.2   SAM_LOC=AD   DATE=79-09-27   REP_NUM=1 ------------------------

                                  TAXON                GROUP              NUM

                                  ANKISTRODESMUS       CHLOROPHYTA        3115
                                  CHLAMYDOMONAS        CHLOROPHYTA       43610
                                  CHLORELLA            CHLOROPHYTA       12460
                                  CHODATELLA           CHLOROPHYTA       12460
                                  CRUCIGENIA           CHLOROPHYTA       12460
                                  DICTYOSPHAERIUM      CHLOROPHYTA       74760
                                  GOLENKINIA           CHLOROPHYTA       18690
                                  KIRCHNERIELLA        CHLOROPHYTA       21805
                                  MICRACTINIUM         CHLOROPHYTA        6230
                                  PEDIASTRUM           CHLOROPHYTA       24920
                                  PROTOCOCCUS          CHLOROPHYTA      317730
                                  SCENEDESMUS          CHLOROPHYTA       71645
                                  SELENASTRUM          CHLOROPHYTA       18690
                                  TETRAEDRON           CHLOROPHYTA        3115
                                  TREUBARIA            CHLOROPHYTA        6230
                                  ACHNANTHES           CHRYSOPHYTA       12460
                                  ASTERIONELLA         CHRYSOPHYTA        3115
                                  MELOSIRA             CHRYSOPHYTA      432985
                                  OPHIOCYTIUM          CHRYSOPHYTA        9345
                                  STEPHANODISCUS       CHRYSOPHYTA       21805
                                  SYNEDRA              CHRYSOPHYTA       18690
                                  ANABAENA             CYANOPHYTA       351995
                                  ANACYSTIS            CYANOPHYTA       962535
                                  DACTYLOCOCCOPSIS     CYANOPHYTA        12460
                                  MERISMOPEDIA         CYANOPHYTA       389375
                                  OSCILLATORIA         CYANOPHYTA        21805
                                  TRACHELOMONAS        EUGLENOPHYTA       3115
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------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=345.2   SAM_LOC=AD   DATE=79-09-27   REP_NUM=2 ------------------------

                    TAXON                 GROUP            NUM

                    ACTINASTRUM           CHLOROPHYTA      24920
                    ANKISTRODESMUS        CHLOROPHYTA       3115
                    CHLAMYDOMONAS         CHLOROPHYTA      31150
                    CHLORELLA             CHLOROPHYTA      12460
                    CHODATELLA            CHLOROPHYTA       6230
                    GOLENKINIA            CHLOROPHYTA      18690
                    KIRCHNERIELLA         CHLOROPHYTA       6230
                    MICRACTINIUM          CHLOROPHYTA      15575
                    PROTOCOCCUS           CHLOROPHYTA      90335
                    SCENEDESMUS           CHLOROPHYTA      87220
                    SCHROEDERIA           CHLOROPHYTA       3115
                    ACHNANTHES            CHRYSOPHYTA      12460
                    ASTERIONELLA          CHRYSOPHYTA       9345
                    CHAETOCEROS           CHRYSOPHYTA      18690
                    MELOSIRA              CHRYSOPHYTA    1389290
                    NITZSCHIA             CHRYSOPHYTA       3115
                    STEPHANODISCUS        CHRYSOPHYTA      40495
                    SYNEDRA               CHRYSOPHYTA      40495
                    ANACYSTIS             CYANOPHYTA      432985
                    DACTYLOCOCCOPSIS      CYANOPHYTA        6230
                    LYNGBYA               CYANOPHYTA        3115
                    MERISMOPEDIA          CYANOPHYTA      585620
                    OSCILLATORIA          CYANOPHYTA        6230
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                                   DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   45

----------------------- RIVER=TENNESSEE RIVER   RIV_MILE=345.2   SAM_LOC=AD   DATE=79-09-27   REP_NUM=3 -----------------------

                                   TAXON                  GROUP           NUM

                                   ACTINASTRUM            CHLOROPHYTA     24920
                                   ANKISTRODESMUS         CHLOROPHYTA      6230
                                   CHLAMYDOMONAS          CHLOROPHYTA     40495
                                   CHLORELLA              CHLOROPHYTA     18690
                                   CHODATELLA             CHLOROPHYTA      6230
                                   COELASTRUM             CHLOROPHYTA     49840
                                   DICTYOSPHAERIUM        CHLOROPHYTA     49840
                                   FRANCEIA               CHLOROPHYTA      6230
                                   GOLENKINIA             CHLOROPHYTA      9345
                                   GONIUM                 CHLOROPHYTA     46725
                                   KIRCHNERIELLA          CHLOROPHYTA     15575
                                   MICRACTINIUM           CHLOROPHYTA     12460
                                   OOCYSTIS               CHLOROPHYTA     24920
                                   PROTOCOCCUS            CHLOROPHYTA    152635
                                   SCENEDESMUS            CHLOROPHYTA     80990
                                   TETRAEDRON             CHLOROPHYTA      6230
                                   ACHNANTHES             CHRYSOPHYTA     12460
                                   MELOSIRA               CHRYSOPHYTA    542010
                                   OPHIOCYTIUM            CHRYSOPHYTA     12460
                                   STEPHANODISCUS         CHRYSOPHYTA     43610
                                   SYNEDRA                CHRYSOPHYTA     18690
                                   ANACYSTIS              CYANOPHYTA     647920
                                   DACTYLOCOCCOPSIS       CYANOPHYTA       9345
                                   LYNGBYA                CYANOPHYTA       3115
                                   MERISMOPEDIA           CYANOPHYTA     996800
                                   OSCILLATORIA           CYANOPHYTA      46725
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                              DDT TASK 5  PHYTOPLANKTON LISTING               8:55 TUESDAY, FEBRUARY 26, 1980   21

------------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=345.2   SAM_LOC=AJ   DATE=79-09-27 -------------------------------

                           TAXON                GROUP             MEAN

                           ACTINASTRUM          CHLOROPHYTA      16613
                           ANKISTRODESMUS       CHLOROPHYTA       1038
                           CHLAMYDOMONAS        CHLOROPHYTA      28035
                           CHLORELLA            CHLOROPHYTA      18690
                           CHODATELLA           CHLOROPHYTA       2076
                           COSMARIUM            CHLOROPHYTA       1038
                           CRUCIGENIA           CHLOROPHYTA       8306
                           DICTYOSPHAERIUM      CHLOROPHYTA      19728
                           FRANCEIA             CHLOROPHYTA       2076
                           GOLENKINIA           CHLOROPHYTA       9345
                           HYALOTHECA           CHLOROPHYTA       5191
                           MICRACTINIUM         CHLOROPHYTA      16613
                           OOCYSTIS             CHLOROPHYTA       4153
                           PEDIASTRUM           CHLOROPHYTA      49840
                           PROTOCOCCUS          CHLOROPHYTA       4153
                           SCENEDESMUS          CHLOROPHYTA      50878
                           SELENASTRUM          CHLOROPHYTA       4153
                           TREUBARIA            CHLOROPHYTA       4153
                           TROCHISCIA           CHLOROPHYTA       1038
                           UNID GREEN #1        CHLOROPHYTA       2076
                           ACHNANTHES           CHRYSOPHYTA      10383
                           CHAETOCEROS          CHRYSOPHYTA       3115
                           MELOSIRA             CHRYSOPHYTA     609501
                           NAVICULA             CHRYSOPHYTA       2076
                           RHIZOSOLENIA         CHRYSOPHYTA       2076
                           STEPHANODISCUS       CHRYSOPHYTA      32188
                           SYNEDRA              CHRYSOPHYTA     103833
                           ANABAENA             CYANOPHYTA       28035
                           ANACYSTIS            CYANOPHYTA      646881
                           CHROOCOCCUS          CYANOPHYTA        6230
                           DACTYLOCOCCOPSIS     CYANOPHYTA       12460
                           LYNGBYA              CYANOPHYTA        1038
                           MERISMOPEDIA         CYANOPHYTA      117331
                           OSCILLATORIA         CYANOPHYTA       14536
                           CRYPTOGLENA          EUGLENOPHYTA      1038
                           EUGLENA              EUGLENOPHYTA     13498
                           TRACHELOMONAS        EUGLENOPHYTA      1038
                           GLENODINIUM          PYRROPHYTA        2076
                           GYMNODINIUM          PYRROPHYTA        1038
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                     DDT TASK 5  PHYTOPLANKTON LISTING          13:54 FRIDAY, FEBRUARY 22, 1980   46

------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=345.2   SAM_LOC=AJ   DATE=79-09-27   REP_NUM=1 ------------------------

                               TAXON              GROUP              NUM

                               ACTINASTRUM        CHLOROPHYTA       24920
                               ANKISTRODESMUS     CHLOROPHYTA        3115
                               CHLAMYDOMONAS      CHLOROPHYTA       28035
                               CHLORELLA          CHLOROPHYTA       31150
                               CHODATELLA         CHLOROPHYTA        3115
                               DICTYOSPHAERIUM    CHLOROPHYTA       59185
                               FRANCEIA           CHLOROPHYTA        6230
                               GOLENKINIA         CHLOROPHYTA       12460
                               HYALOTHECA         CHLOROPHYTA        3115
                               MICRACTINIUM       CHLOROPHYTA       18690
                               SCENEDESMUS        CHLOROPHYTA       59185
                               SELENASTRUM        CHLOROPHYTA        3115
                               TREUBARIA          CHLOROPHYTA        3115
                               UNID GREEN #1      CHLOROPHYTA        6230
                               ACHNANTHES         CHRYSOPHYTA       12460
                               MELOSIRA           CHRYSOPHYTA      230510
                               RHIZOSOLENIA       CHRYSOPHYTA        3115
                               STEPHANODISCUS     CHRYSOPHYTA       15575
                               SYNEDRA            CHRYSOPHYTA       15575
                               ANABAENA           CYANOPHYTA        40495
                               ANACYSTIS          CYANOPHYTA       451675
                               CHROOCOCCUS        CYANOPHYTA        12460
                               LYNGBYA            CYANOPHYTA         3115
                               MERISMOPEDIA       CYANOPHYTA       311500
                               OSCILLATORIA       CYANOPHYTA        15575
                               CRYPTOGLENA        EUGLENOPHYTA       3115
                               EUGLENA            EUGLENOPHYTA       3115
                               TRACHELOMONAS      EUGLENOPHYTA       3115
                               GLENODINIUM        PYRROPHYTA         3115
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                              DDT TASK 5  PHYTOPLANKTON LISTING                13:54 FRIDAY, FEBRUARY 22, 1980   47

---------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=345.2   SAM_LOC=AJ   DATE=79-09-27   REP_NUM=2 -----------------------------

                         TAXON               GROUP              NUM

                         ACTINASTRUM         CHLOROPHYTA       12460
                         CHLAMYDOMONAS       CHLOROPHYTA       37380
                         CHLORELLA           CHLOROPHYTA       18690
                         CHODATELLA          CHLOROPHYTA        3115
                         COSMARIUM           CHLOROPHYTA        3115
                         CRUCIGENIA          CHLOROPHYTA       12460
                         GOLENKINIA          CHLOROPHYTA       15575
                         HYALOTHECA          CHLOROPHYTA       12460
                         MICRACTINIUM        CHLOROPHYTA        9345
                         PEDIASTRUM          CHLOROPHYTA      149520
                         PROTOCOCCUS         CHLOROPHYTA       12460
                         SCENEDESMUS         CHLOROPHYTA       74760
                         SELENASTRUM         CHLOROPHYTA        3115
                         TREUBARIA           CHLOROPHYTA        3115
                         TROCHISCIA          CHLOROPHYTA        3115
                         ACHNANTHES          CHRYSOPHYTA       15575
                         CHAETOCEROS         CHRYSOPHYTA        9345
                         MELOSIRA            CHRYSOPHYTA      931385
                         NAVICULA            CHRYSOPHYTA        6230
                         RHIZOSOLENIA        CHRYSOPHYTA        3115
                         STEPHANODISCUS      CHRYSOPHYTA       40495
                         SYNEDRA             CHRYSOPHYTA      112140
                         ANABAENA            CYANOPHYTA        28035
                         ANACYSTIS           CYANOPHYTA       703990
                         CHROOCOCCUS         CYANOPHYTA         6230
                         DACTYLOCOCCOPSIS    CYANOPHYTA        28035
                         MERISMOPEDIA        CYANOPHYTA        40495
                         OSCILLATORIA        CYANOPHYTA        21805
                         EUGLENA             EUGLENOPHYTA      18690
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                          DDT TASK 5  PHYTOPLANKTON LISTING             13:54 FRIDAY, FEBRUARY 22, 1980  48

---------------------- RIVER=TENNESSEE RIVER  RIV_MILE=345.2  SAM_LOC=AJ  DATE=79-09-27  REP_NUM=3 ------------------------

                        TAXON                GROUP            NUM

                        ACTINASTRUM          CHLOROPHYTA      12460
                        CHLAMYDOMONAS        CHLOROPHYTA      18690
                        CHLORELLA            CHLOROPHYTA       6230
                        CRUCIGENIA           CHLOROPHYTA      12460
                        MICRACTINIUM         CHLOROPHYTA      21805
                        OOCYSTIS             CHLOROPHYTA      12460
                        SCENEDESMUS          CHLOROPHYTA      18690
                        SELENASTRUM          CHLOROPHYTA       6230
                        TREUBARIA            CHLOROPHYTA       6230
                        ACHNANTHES           CHRYSOPHYTA       3115
                        MELOSIRA             CHRYSOPHYTA     666610
                        STEPHANODISCUS       CHRYSOPHYTA      40495
                        SYNEDRA              CHRYSOPHYTA     183785
                        ANABAENA             CYANOPHYTA       15575
                        ANACYSTIS            CYANOPHYTA      784980
                        DACTYLOCOCCOPSIS     CYANOPHYTA        9345
                        OSCILLATORIA         CYANOPHYTA        6230
                        EUGLENA              EUGLENOPHYTA     18690
                        GLENODINIUM          PYRROPHYTA        3115
                        GYMNODINIUM          PYRROPHYTA        3115
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                              DDT TASK 5  PHYTOPLANKTON LISTING               8:55 TUESDAY, FEBRUARY 26, 1980   22

------------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=345.2   SAM_LOC=AR   DATE=79-09-27 -------------------------------

                     TAXON               GROUP              MEAN

                     ACTINASTRUM         CHLOROPHYTA        8306
                     CHLAMYDOMONAS       CHLOROPHYTA       21805
                     CHLORELLA           CHLOROPHYTA       12460
                     CRUCIGENIA          CHLOROPHYTA        8306
                     DICTYOSPHAERIUM     CHLOROPHYTA       62300
                     FRANCEIA            CHLOROPHYTA        2076
                     GOLENKINIA          CHLOROPHYTA        2076
                     HYALOTHECA          CHLOROPHYTA        8306
                     OOCYSTIS            CHLOROPHYTA        4153
                     PLANKTOSPHAERIA     CHLOROPHYTA        8306
                     POLYEDRIOPSIS       CHLOROPHYTA        1038
                     PROTOCOCCUS         CHLOROPHYTA       28035
                     PTEROMONAS          CHLOROPHYTA        1038
                     SCENEDESMUS         CHLOROPHYTA       22843
                     SCHROEDERIA         CHLOROPHYTA        2076
                     ACHNANTHES          CHRYSOPHYTA        8306
                     CYCLOTELLA          CHRYSOPHYTA        1038
                     CYMBELLA            CHRYSOPHYTA        1038
                     MELOSIRA            CHRYSOPHYTA      210781
                     NAVICULA            CHRYSOPHYTA        1038
                     NITZSCHIA           CHRYSOPHYTA        1038
                     STAURONEIS          CHRYSOPHYTA        1038
                     STEPHANODISCUS      CHRYSOPHYTA       17651
                     SYNEDRA             CHRYSOPHYTA       26996
                     ANABAENA            CYANOPHYTA        48801
                     ANACYSTIS           CYANOPHYTA       194168
                     CHROOCOCCUS         CYANOPHYTA        33226
                     DACTYLOCOCCOPSIS    CYANOPHYTA         3115
                     MERISMOPEDIA        CYANOPHYTA       294886
                     OSCILLATORIA        CYANOPHYTA         7268
                     CRYPTOGLENA         EUGLENOPHYTA       1038
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------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=345.2   SAM_LOC=AR   DATE=79-09-27   REP_NUM=1 --------------------------

                         TAXON                  GROUP          NUM

                         ACTINASTRUM            CHLOROPHYTA    24920
                         CHLAMYDOMONAS          CHLOROPHYTA     9345
                         CHLORELLA              CHLOROPHYTA    15575
                         DICTYOSPHAERIUM        CHLOROPHYTA   137060
                         GOLENKINIA             CHLOROPHYTA     3115
                         POLYEDRIOPSIS          CHLOROPHYTA     3115
                         PROTOCOCCUS            CHLOROPHYTA    84105
                         PTEROMONAS             CHLOROPHYTA     3115
                         SCENEDESMUS            CHLOROPHYTA    15575
                         ACHNANTHES             CHRYSOPHYTA     6230
                         MELOSIRA               CHRYSOPHYTA   183785
                         STEPHANODISCUS         CHRYSOPHYTA    24920
                         SYNEDRA                CHRYSOPHYTA    24920
                         ANACYSTIS              CYANOPHYTA    193130
                         DACTYLOCOCCOPSIS       CYANOPHYTA      3115
                         MERISMOPEDIA           CYANOPHYTA     74760
                         OSCILLATORIA           CYANOPHYTA      3115
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                                 DDT TASK 5  PHYTOPLANKTON LISTING                  13:54 FRIDAY, FEBRUARY 22, 1980   50

------------------------ RIVER=TENNESSEE RIVER  RIV_MILE=345.2  SAM_LOC=AR  DATE=79-09-27  REP_NUM=2 ------------------------

                                 TAXON                GROUP          NUM

                                 CHLAMYDOMONAS        CHLOROPHYTA    24920
                                 CHLORELLA            CHLOROPHYTA     6230
                                 CRUCIGENIA           CHLOROPHYTA    12460
                                 DICTYOSPHAERIUM      CHLOROPHYTA    49840
                                 FRANCEIA             CHLOROPHYTA     3115
                                 GOLENKINIA           CHLOROPHYTA     3115
                                 SCENEDESMUS          CHLOROPHYTA    31150
                                 SCHROEDERIA          CHLOROPHYTA     3115
                                 ACHNANTHES           CHRYSOPHYTA    18690
                                 CYCLOTELLA           CHRYSOPHYTA     3115
                                 MELOSIRA             CHRYSOPHYTA   168210
                                 NAVICULA             CHRYSOPHYTA     3115
                                 NITZSCHIA            CHRYSOPHYTA     3115
                                 STAURONEIS           CHRYSOPHYTA     3115
                                 STEPHANODISCUS       CHRYSOPHYTA    18690
                                 SYNEDRA              CHRYSOPHYTA     9345
                                 ANABAENA             CYANOPHYTA     71645
                                 ANACYSTIS            CYANOPHYTA    146405
                                 MERISMOPEDIA         CYANOPHYTA     12460
                                 OSCILLATORIA         CYANOPHYTA     15575
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                              DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   51

------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=345.2   SAM_LOC=AR   DATE=79-09-27   REP_NUM=3 ------------------------

                              TAXON              GROUP              NUM

                              CHLAMYDOMONAS      CHLOROPHYTA       31150
                              CHLORELLA          CHLOROPHYTA       15575
                              CRUCIGENIA         CHLOROPHYTA       12460
                              FRANCEIA           CHLOROPHYTA        3115
                              HYALOTHECA         CHLOROPHYTA       24920
                              OOCYSTIS           CHLOROPHYTA       12460
                              PLANKTOSPHAERIA    CHLOROPHYTA       24920
                              SCENEDESMUS        CHLOROPHYTA       21805
                              SCHROEDERIA        CHLOROPHYTA        3115
                              CYMBELLA           CHRYSOPHYTA        3115
                              MELOSIRA           CHRYSOPHYTA      280350
                              STEPHANODISCUS     CHRYSOPHYTA        9345
                              SYNEDRA            CHRYSOPHYTA       46725
                              ANABAENA           CYANOPHYTA        74760
                              ANACYSTIS          CYANOPHYTA       242970
                              CHROOCOCCUS        CYANOPHYTA        99680
                              DACTYLOCOCCOPSIS   CYANOPHYTA         6230
                              MERISMOPEDIA       CYANOPHYTA       797440
                              OSCILLATORIA       CYANOPHYTA         3115
                              CRYPTOGLENA        EUGLENOPHYTA       3115
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------------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AE   DATE=79-09-25 ------------------------------

                        TAXON                      GROUP              MEAN

                        ACTINASTRUM                CHLOROPHYTA        14536
                        ANKISTRODESMUS             CHLOROPHYTA         7268
                        CHLAMYDOMONAS              CHLOROPHYTA        88258
                        CHLORELLA                  CHLOROPHYTA        19728
                        CHLOROGONIUM               CHLOROPHYTA         1038
                        CHODATELLA                 CHLOROPHYTA         4153
                        COELASTRUM                 CHLOROPHYTA        12460
                        COSMARIUM                  CHLOROPHYTA         1038
                        CRUCIGENIA                 CHLOROPHYTA        29073
                        DICTYOSPHAERIUM            CHLOROPHYTA        86181
                        FRANCEIA                   CHLOROPHYTA         1038
                        GOLENKINIA                 CHLOROPHYTA        20766
                        HYALOTHECA                 CHLOROPHYTA        33226
                        KIRCHNERIELLA              CHLOROPHYTA        65415
                        MICRACTINIUM               CHLOROPHYTA        18690
                        OOCYSTIS                   CHLOROPHYTA        19728
                        PEDIASTRUM                 CHLOROPHYTA         3115
                        PROTOCOCCUS                CHLOROPHYTA       104871
                        PTEROMONAS                 CHLOROPHYTA         3115
                        SCENEDESMUS                CHLOROPHYTA       140175
                        SCHROEDERIA                CHLOROPHYTA         2076
                        SELENASTRUM                CHLOROPHYTA         2076
                        STAURASTRUM                CHLOROPHYTA         3115
                        TETRAEDRON                 CHLOROPHYTA         5191
                        TETRASTRUM                 CHLOROPHYTA         4153
                        TREUBARIA                  CHLOROPHYTA         1038
                        TROCHISCIA                 CHLOROPHYTA         2076
                        UNID GREEN # 2             CHLOROPHYTA        80990
                        ACHNANTHES                 CHRYSOPHYTA        11421
                        CHAETOCEROS                CHRYSOPHYTA         6230
                        COCCONEIS                  CHRYSOPHYTA         1038
                        DINOBRYON                  CHRYSOPHYTA         3115
                        GOMPHONEMA                 CHRYSOPHYTA         3115
                        MELOSIRA                   CHRYSOPHYTA       575236
                        RHIZOSOLENIA               CHRYSOPHYTA         5191
                        RHOICOSPHENIA              CHRYSOPHYTA         1038
                        STEPHANODISCUS             CHRYSOPHYTA        50878
                        SYNEDRA                    CHRYSOPHYTA        42571
                        CRYPTOMONAS                CRYPTOPHYTA         1038
                        ANABAENA                   CYANOPHYTA        119408
                        ANACYSTIS                  CYANOPHYTA       2271873
                        APHANOCAPSA                CYANOPHYTA          6230
                        CHROOCOCCUS                CYANOPHYTA         51916
                        DACTYLOCOCCOPSIS           CYANOPHYTA         33226
                        LYNGBYA                    CYANOPHYTA          3115
                        MERISMOPEDIA               CYANOPHYTA        614693
                        OSCILLATORIA               CYANOPHYTA         33226
                        OSCILLATORIA (SPIRAL)      CYANOPHYTA          1038
                        CRYPTOGLENA                EUGLENOPHYTA        4153
                        EUGLENA                    EUGLENOPHYTA        3115
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                                  DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   52

----------------------- RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AE   DATE=79-09-25   REP_NUM=1 ------------------------

                               TAXON                GROUP                NUM

                               ACTINASTRUM          CHLOROPHYTA        12460
                               ANKISTRODESMUS       CHLOROPHYTA        12460
                               CHLAMYDOMONAS        CHLOROPHYTA        80990
                               CHLORELLA            CHLOROPHYTA         6230
                               CHODATELLA           CHLOROPHYTA         3115
                               COELASTRUM           CHLOROPHYTA        24920
                               CRUCIGENIA           CHLOROPHYTA        62300
                               DICTYOSPHAERIUM      CHLOROPHYTA        87220
                               GOLENKINIA           CHLOROPHYTA        21805
                               HYALOTHECA           CHLOROPHYTA        74760
                               KIRCHNERIELLA        CHLOROPHYTA        68530
                               OOCYSTIS             CHLOROPHYTA        37380
                               PTEROMONAS           CHLOROPHYTA         3115
                               SCENEDESMUS          CHLOROPHYTA       149520
                               SCHROEDERIA          CHLOROPHYTA         6230
                               STAURASTRUM          CHLOROPHYTA         3115
                               ACHNANTHES           CHRYSOPHYTA         9345
                               COCCONEIS            CHRYSOPHYTA         3115
                               MELOSIRA             CHRYSOPHYTA       482825
                               RHIZOSOLENIA         CHRYSOPHYTA         3115
                               STEPHANODISCUS       CHRYSOPHYTA        34265
                               SYNEDRA              CHRYSOPHYTA        24920
                               CRYPTOMONAS          CRYPTOPHYTA         3115
                               ANABAENA             CYANOPHYTA        152635
                               ANACYSTIS            CYANOPHYTA       1626030
                               CHROOCOCCUS          CYANOPHYTA         99680
                               DACTYLOCOCCOPSIS     CYANOPHYTA         28035
                               MERISMOPEDIA         CYANOPHYTA         99680
                               OSCILLATORIA         CYANOPHYTA         34265
                               CRYPTOGLENA          EUGLENOPHYTA        6230
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                              DDT TASK 5  PHYTOPLANKTON LISTING                13:54 FRIDAY, FEBRUARY 22, 1980   53

------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AE   DATE=79-09-25   REP_NUM=2 -------------------------

                    TAXON                        GROUP               NUM

                    ANKISTRODESMUS               CHLOROPHYTA         6230
                    CHLAMYDOMONAS                CHLOROPHYTA        77875
                    CHLORELLA                    CHLOROPHYTA        40495
                    CHODATELLA                   CHLOROPHYTA         9345
                    COELASTRUM                   CHLOROPHYTA        12460
                    DICTYOSPHAERIUM              CHLOROPHYTA        46725
                    FRANCEIA                     CHLOROPHYTA         3115
                    GOLENKINIA                   CHLOROPHYTA        18690
                    KIRCHNERIELLA                CHLOROPHYTA        46725
                    MICRACTINIUM                 CHLOROPHYTA        37380
                    OOCYSTIS                     CHLOROPHYTA        15575
                    PROTOCOCCUS                  CHLOROPHYTA       124600
                    PTEROMONAS                   CHLOROPHYTA         6230
                    SCENEDESMUS                  CHLOROPHYTA       158865
                    SELENASTRUM                  CHLOROPHYTA         3115
                    STAURASTRUM                  CHLOROPHYTA         3115
                    TETRAEDRON                   CHLOROPHYTA         6230
                    TETRASTRUM                   CHLOROPHYTA        12460
                    ACHNANTHES                   CHRYSOPHYTA        15575
                    CHAETOCEROS                  CHRYSOPHYTA        18690
                    GOMPHONEMA                   CHRYSOPHYTA         6230
                    MELOSIRA                     CHRYSOPHYTA       722680
                    RHIZOSOLENIA                 CHRYSOPHYTA        12460
                    RHOICOSPHENIA                CHRYSOPHYTA         3115
                    STEPHANODISCUS               CHRYSOPHYTA        68530
                    SYNEDRA                      CHRYSOPHYTA        43610
                    ANABAENA                     CYANOPHYTA         87220
                    ANACYSTIS                    CYANOPHYTA       2258375
                    DACTYLOCOCCOPSIS             CYANOPHYTA         37380
                    LYNGBYA                      CYANOPHYTA          3115
                    MERISMOPEDIA                 CYANOPHYTA        922040
                    OSCILLATORIA                 CYANOPHYTA         40495
                    OSCILLATORIA (SPIRAL)        CYANOPHYTA          3115
                    CRYPTOGLENA                  EUGLENOPHYTA        3115
                    EUGLENA                      EUGLENOPHYTA        3115
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                                  DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   54

------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AE   DATE=79-09-25   REP_NUM=3 -----------------------

                                 TAXON                GROUP              NUM

                                 ACTINASTRUM          CHLOROPHYTA      31150
                                 ANKISTRODESMUS       CHLOROPHYTA       3115
                                 CHLAMYDOMONAS        CHLOROPHYTA     105910
                                 CHLORELLA            CHLOROPHYTA      12460
                                 CHLOROGONIUM         CHLOROPHYTA       3115
                                 COSMARIUM            CHLOROPHYTA       3115
                                 CRUCIGENIA           CHLOROPHYTA      24920
                                 DICTYOSPHAERIUM      CHLOROPHYTA     124600
                                 GOLENKINIA           CHLOROPHYTA      21805
                                 HYALOTHECA           CHLOROPHYTA      24920
                                 KIRCHNERIELLA        CHLOROPHYTA      80990
                                 MICRACTINIUM         CHLOROPHYTA      18690
                                 OOCYSTIS             CHLOROPHYTA       6230
                                 PEDIASTRUM           CHLOROPHYTA       9345
                                 PROTOCOCCUS          CHLOROPHYTA     190015
                                 SCENEDESMUS          CHLOROPHYTA     112140
                                 SELENASTRUM          CHLOROPHYTA       3115
                                 STAURASTRUM          CHLOROPHYTA       3115
                                 TETRAEDRON           CHLOROPHYTA       9345
                                 TREUBARIA            CHLOROPHYTA       3115
                                 TROCHISCIA           CHLOROPHYTA       6230
                                 UNID GREEN # 2       CHLOROPHYTA     242970
                                 ACHNANTHES           CHRYSOPHYTA       9345
                                 DINOBRYON            CHRYSOPHYTA       9345
                                 GOMPHONEMA           CHRYSOPHYTA       3115
                                 MELOSIRA             CHRYSOPHYTA     520205
                                 STEPHANODISCUS       CHRYSOPHYTA      49840
                                 SYNEDRA              CHRYSOPHYTA      59185
                                 ANABAENA             CYANOPHYTA      118370
                                 ANACYSTIS            CYANOPHYTA     2931215
                                 APHANOCAPSA          CYANOPHYTA       18690
                                 CHROOCOCCUS          CYANOPHYTA       56070
                                 DACTYLOCOCCOPSIS     CYANOPHYTA       34265
                                 LYNGBYA              CYANOPHYTA        6230
                                 MERISMOPEDIA         CYANOPHYTA      822360
                                 OSCILLATORIA         CYANOPHYTA       24920
                                 CRYPTOGLENA          EUGLENOPHYTA      3115
                                 EUGLENA              EUGLENOPHYTA      6230
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-------------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AJ   DATE=79-09-25 -------------------------------

                                    TAXON               GROUP             MEAN

                                    ACTINASTRUM         CHLOROPHYTA       29073
                                    ANKISTRODESMUS      CHLOROPHYTA        2076
                                    BRACTEACOCCUS       CHLOROPHYTA        3115
                                    CHLAMYDOMONAS       CHLOROPHYTA       74760
                                    CHLORELLA           CHLOROPHYTA       15575
                                    CHODATELLA          CHLOROPHYTA        5191
                                    CLOSTERIOPSIS       CHLOROPHYTA        1038
                                    COELASTRUM          CHLOROPHYTA        8306
                                    COSMARIUM           CHLOROPHYTA        2076
                                    CRUCIGENIA          CHLOROPHYTA       47763
                                    DICTYOSPHAERIUM     CHLOROPHYTA       29073
                                    EUDORINA            CHLOROPHYTA        9345
                                    FRANCEIA            CHLOROPHYTA        2076
                                    GLOEOACTINIUM       CHLOROPHYTA       24920
                                    GOLENKINIA          CHLOROPHYTA       18690
                                    HYALOTHECA          CHLOROPHYTA       20766
                                    KIRCHNERIELLA       CHLOROPHYTA       50878
                                    MICRACTINIUM        CHLOROPHYTA        2076
                                    OOCYSTIS            CHLOROPHYTA        9345
                                    PANDORINA           CHLOROPHYTA       16613
                                    PEDIASTRUM          CHLOROPHYTA        8306
                                    PROTOCOCCUS         CHLOROPHYTA       91373
                                    PTEROMONAS          CHLOROPHYTA        1038
                                    QUADRIGULA          CHLOROPHYTA        6230
                                    SCENEDESMUS         CHLOROPHYTA      116293
                                    SCHROEDERIA         CHLOROPHYTA        1038
                                    SELENASTRUM         CHLOROPHYTA        1038
                                    TETRAEDRON          CHLOROPHYTA        5191
                                    TREUBARIA           CHLOROPHYTA        1038
                                    TROCHISCIA          CHLOROPHYTA        1038
                                    UNID GREEN #1       CHLOROPHYTA        1038
                                    ACHNANTHES          CHRYSOPHYTA        3115
                                    ATTHEYA             CHRYSOPHYTA        1038
                                    COCCONEIS           CHRYSOPHYTA        1038
                                    DINOBRYON           CHRYSOPHYTA        2076
                                    MELOSIRA            CHRYSOPHYTA      414295
                                    NAVICULA            CHRYSOPHYTA        3115
                                    RHIZOSOLENIA        CHRYSOPHYTA        2076
                                    STEPHANODISCUS      CHRYSOPHYTA       29073
                                    SYNEDRA             CHRYSOPHYTA       16613
                                    CRYPTOMONAS         CRYPTOPHYTA        4153
                                    ANABAENA            CYANOPHYTA        57108
                                    ANACYSTIS           CYANOPHYTA       901273
                                    CHROOCOCCUS         CYANOPHYTA        53993
                                    DACTYLOCOCCOPSIS    CYANOPHYTA        18690
                                    LYNGBYA             CYANOPHYTA         2076
                                    MERISMOPEDIA        CYANOPHYTA       696721
                                    OSCILLATORIA        CYANOPHYTA        25958
                                    CRYPTOGLENA         EUGLENOPHYTA       1038
                                    EUGLENA             EUGLENOPHYTA       2076
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----------------------- RIVER=TENNESSEE RIVER  RIV_MILE=350.0  SAM_LOC=AJ  DATE=79-09-25  REP_NUM=1 -----------------------

               TAXON               GROUP            NUM

               ACTINASTRUM         CHLOROPHYTA     28035
               CHLAMYDOMONAS       CHLOROPHYTA     65415
               CHLORELLA           CHLOROPHYTA     31150
               CHODATELLA          CHLOROPHYTA      3115
               CLOSTERIOPSIS       CHLOROPHYTA      3115
               COELASTRUM          CHLOROPHYTA     24920
               CRUCIGENIA          CHLOROPHYTA     37380
               DICTYOSPHAERIUM     CHLOROPHYTA     74760
               FRANCEIA            CHLOROPHYTA      3115
               GLOEOACTINIUM       CHLOROPHYTA     74760
               GOLENKINIA          CHLOROPHYTA     15575
               HYALOTHECA          CHLOROPHYTA     24920
               KIRCHNERIELLA       CHLOROPHYTA     46725
               OOCYSTIS            CHLOROPHYTA     21805
               PEDIASTRUM          CHLOROPHYTA     24920
               PROTOCOCCUS         CHLOROPHYTA     34265
               PTEROMONAS          CHLOROPHYTA      3115
               QUADRIGULA          CHLOROPHYTA     18690
               SCENEDESMUS         CHLOROPHYTA     49840
               SELENASTRUM         CHLOROPHYTA      3115
               TETRAEDRON          CHLOROPHYTA      3115
               DINOBRYON           CHRYSOPHYTA      3115
               MELOSIRA            CHRYSOPHYTA    355110
               NAVICULA            CHRYSOPHYTA      3115
               STEPHANODISCUS      CHRYSOPHYTA     34265
               ANACYSTIS           CYANOPHYTA     940730
               DACTYLOCOCCOPSIS    CYANOPHYTA      18690
               LYNGBYA             CYANOPHYTA       3115
               MERISMOPEDIA        CYANOPHYTA     535780
               OSCILLATORIA        CYANOPHYTA      21805
               CRYPTOGLENA         EUGLENOPHYTA     3115
               EUGLENA             EUGLENOPHYTA     6230
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----------------------- RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=2 -----------------------

                    TAXON                 GROUP          NUM

                    ACTINASTRUM           CHLOROPHYTA      49840
                    ANKISTRODESMUS        CHLOROPHYTA       3115
                    BRACTEACOCCUS         CHLOROPHYTA       3115
                    CHLAMYDOMONAS         CHLOROPHYTA      71645
                    CHLORELLA             CHLOROPHYTA       6230
                    CHODATELLA            CHLOROPHYTA       9345
                    COSMARIUM             CHLOROPHYTA       6230
                    CRUCIGENIA            CHLOROPHYTA      80990
                    DICTYOSPHAERIUM       CHLOROPHYTA      12460
                    EUDORINA              CHLOROPHYTA       3115
                    GOLENKINIA            CHLOROPHYTA      21805
                    HYALOTHECA            CHLOROPHYTA      12460
                    KIRCHNERIELLA         CHLOROPHYTA      71645
                    PROTOCOCCUS           CHLOROPHYTA     199360
                    SCENEDESMUS           CHLOROPHYTA     161980
                    SCHROEDERIA           CHLOROPHYTA       3115
                    TETRAEDRON            CHLOROPHYTA       6230
                    TROCHISCIA            CHLOROPHYTA       3115
                    UNID GREEN #1         CHLOROPHYTA       3115
                    ACHNANTHES            CHRYSOPHYTA       6230
                    COCCONEIS             CHRYSOPHYTA       3115
                    DINOBRYON             CHRYSOPHYTA       3115
                    MELOSIRA              CHRYSOPHYTA     398720
                    NAVICULA              CHRYSOPHYTA       3115
                    RHIZOSOLENIA          CHRYSOPHYTA       3115
                    STEPHANODISCUS        CHRYSOPHYTA      21805
                    SYNEDRA               CHRYSOPHYTA      15575
                    ANABAENA              CYANOPHYTA      171325
                    ANACYSTIS             CYANOPHYTA      834820
                    CHROOCOCCUS           CYANOPHYTA       56070
                    DACTYLOCOCCOPSIS      CYANOPHYTA       21805
                    MERISMOPEDIA          CYANOPHYTA     1267805
                    OSCILLATORIA          CYANOPHYTA       28035
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                                        DDT TASK 5  PHYTOPLANKTON LISTING               13:54 FRIDAY, FEBRUARY 22, 1980   97

------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AJ   DATE=79-09-25   REP_NUM=3 ------------------------

                                        TAXON                  GROUP          NUM

                                        ACTINASTRUM            CHLOROPHYTA      9345
                                        ANKISTRODESMUS         CHLOROPHYTA      3115
                                        BRACTEACOCCUS          CHLOROPHYTA      6230
                                        CHLAMYDOMONAS          CHLOROPHYTA     87220
                                        CHLORELLA              CHLOROPHYTA      9345
                                        CHODATELLA             CHLOROPHYTA      3115
                                        CRUCIGENIA             CHLOROPHYTA     24920
                                        EUDORINA               CHLOROPHYTA     24920
                                        FRANCEIA               CHLOROPHYTA      3115
                                        GOLENKINIA             CHLOROPHYTA     18690
                                        HYALOTHECA             CHLOROPHYTA     24920
                                        KIRCHNERIELLA          CHLOROPHYTA     34265
                                        MICRACTINIUM           CHLOROPHYTA      6230
                                        OOCYSTIS               CHLOROPHYTA      6230
                                        PANDORINA              CHLOROPHYTA     49840
                                        PROTOCOCCUS            CHLOROPHYTA     40495
                                        SCENEDESMUS            CHLOROPHYTA    137060
                                        TETRAEDRON             CHLOROPHYTA      6230
                                        TREUBARIA              CHLOROPHYTA      3115
                                        ACHNANTHES             CHRYSOPHYTA      3115
                                        ATTHEYA                CHRYSOPHYTA      3115
                                        MELOSIRA               CHRYSOPHYTA    489055
                                        NAVICULA               CHRYSOPHYTA      3115
                                        RHIZOSOLENIA           CHRYSOPHYTA      3115
                                        STEPHANODISCUS         CHRYSOPHYTA     31150
                                        SYNEDRA                CHRYSOPHYTA     34265
                                        CRYPTOMONAS            CRYPTOPHYTA     12460
                                        ANACYSTIS              CYANOPHYTA     928270
                                        CHROOCOCCUS            CYANOPHYTA     105910
                                        DACTYLOCOCCOPSIS       CYANOPHYTA      15575
                                        LYNGBYA                CYANOPHYTA       3115
                                        MERISMOPEDIA           CYANOPHYTA     286580
                                        OSCILLATORIA           CYANOPHYTA      28035
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------------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AC   DATE=79-09-27 ------------------------------

                         TAXON                GROUP            MEAN

                         ACTINASTRUM          CHLOROPHYTA      18690
                         CHLAMYDOMONAS        CHLOROPHYTA      77875
                         CHLORELLA            CHLOROPHYTA       7268
                         CHODATELLA           CHLOROPHYTA       4153
                         CLOSTERIDIUM         CHLOROPHYTA       1038
                         COSMARIUM            CHLOROPHYTA       1038
                         CRUCIGENIA           CHLOROPHYTA       8306
                         DICTYOSPHAERIUM      CHLOROPHYTA     109025
                         FRANCEIA             CHLOROPHYTA       1038
                         GOLENKINIA           CHLOROPHYTA      16613
                         HYALOTHECA           CHLOROPHYTA      28035
                         KIRCHNERIELLA        CHLOROPHYTA      31150
                         OOCYSTIS             CHLOROPHYTA       3115
                         PLANKTOSPHAERIA      CHLOROPHYTA      29073
                         PROTOCOCCUS          CHLOROPHYTA      97603
                         PTEROMONAS           CHLOROPHYTA       1038
                         QUADRIGULA           CHLOROPHYTA       1038
                         SCENEDESMUS          CHLOROPHYTA      43610
                         SCHROEDERIA          CHLOROPHYTA       2076
                         SELENASTRUM          CHLOROPHYTA       3115
                         STAURASTRUM          CHLOROPHYTA       2076
                         TETRAEDRON           CHLOROPHYTA       2076
                         TETRASTRUM           CHLOROPHYTA       4153
                         TREUBARIA            CHLOROPHYTA       1038
                         TROCHISCIA           CHLOROPHYTA       3115
                         UNID GREEN #1        CHLOROPHYTA       2076
                         ACHNANTHES           CHRYSOPHYTA      25958
                         CHAETOCEROS          CHRYSOPHYTA       8306
                         COCCONEIS            CHRYSOPHYTA       3115
                         DINOBRYON            CHRYSOPHYTA       1038
                         FRAGILARIA           CHRYSOPHYTA       1038
                         GOMPHONEMA           CHRYSOPHYTA       1038
                         MELOSIRA             CHRYSOPHYTA     463096
                         NAVICULA             CHRYSOPHYTA       1038
                         NITZSCHIA            CHRYSOPHYTA       1038
                         RHIZOSOLENIA         CHRYSOPHYTA       3115
                         STEPHANODISCUS       CHRYSOPHYTA      45686
                         SYNEDRA              CHRYSOPHYTA      40495
                         ANABAENA             CYANOPHYTA      142251
                         ANACYSTIS            CYANOPHYTA     1407980
                         CHROOCOCCUS          CYANOPHYTA       25958
                         DACTYLOCOCCOPSIS     CYANOPHYTA        8306
                         LYNGBYA              CYANOPHYTA        1038
                         MERISMOPEDIA         CYANOPHYTA      680108
                         OSCILLATORIA         CYANOPHYTA       15575
                         CRYPTOGLENA          EUGLENOPHYTA      3115
                         EUGLENA              EUGLENOPHYTA      2076
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                                    DDT TASK 5  PHYTOPLANKTON LISTING               13:54 FRIDAY, FEBRUARY 22, 1980   58

------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AC   DATE=79-09-27   REP_NUM=1 -------------------------

                                 TAXON                 GROUP           NUM

                                 CHLAMYDOMONAS         CHLOROPHYTA       74760
                                 CHLORELLA             CHLOROPHYTA        9345
                                 COSMARIUM             CHLOROPHYTA        3115
                                 CRUCIGENIA            CHLOROPHYTA       12460
                                 DICTYOSPHAERIUM       CHLOROPHYTA       40495
                                 FRANCEIA              CHLOROPHYTA        3115
                                 GOLENKINIA            CHLOROPHYTA       21805
                                 HYALOTHECA            CHLOROPHYTA       12460
                                 KIRCHNERIELLA         CHLOROPHYTA       59185
                                 OOCYSTIS              CHLOROPHYTA        3115
                                 PLANKTOSPHAERIA       CHLOROPHYTA       87220
                                 PROTOCOCCUS           CHLOROPHYTA      183785
                                 PTEROMONAS            CHLOROPHYTA        3115
                                 SCENEDESMUS           CHLOROPHYTA       24920
                                 STAURASTRUM           CHLOROPHYTA        6230
                                 TETRAEDRON            CHLOROPHYTA        6230
                                 UNID GREEN #1         CHLOROPHYTA        3115
                                 ACHNANTHES            CHRYSOPHYTA       37380
                                 CHAETOCEROS           CHRYSOPHYTA       24920
                                 COCCONEIS             CHRYSOPHYTA        3115
                                 DINOBRYON             CHRYSOPHYTA        3115
                                 FRAGILARIA            CHRYSOPHYTA        3115
                                 GOMPHONEMA            CHRYSOPHYTA        3115
                                 MELOSIRA              CHRYSOPHYTA      420525
                                 NAVICULA              CHRYSOPHYTA        3115
                                 NITZSCHIA             CHRYSOPHYTA        3115
                                 RHIZOSOLENIA          CHRYSOPHYTA        3115
                                 STEPHANODISCUS        CHRYSOPHYTA       52955
                                 SYNEDRA               CHRYSOPHYTA       34265
                                 ANABAENA              CYANOPHYTA       140175
                                 ANACYSTIS             CYANOPHYTA      1713250
                                 CHROOCOCCUS           CYANOPHYTA        28035
                                 DACTYLOCOCCOPSIS      CYANOPHYTA         6230
                                 MERISMOPEDIA          CYANOPHYTA       669725
                                 OSCILLATORIA          CYANOPHYTA        12460
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                    ORD TASK 3  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   59

----------------------- RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AC   DATE=79-09-27   REP_NUM=2 -----------------------

                           TAXON              GROUP            NUM

                           CHLAMYDOMONAS      CHLOROPHYTA      90335
                           CHLORELLA          CHLOROPHYTA       3115
                           CHODATELLA         CHLOROPHYTA       9345
                           CLOSTERIDIUM       CHLOROPHYTA       3115
                           DICTYOSPHAERIUM    CHLOROPHYTA     152635
                           GOLENKINIA         CHLOROPHYTA       9345
                           HYALOTHECA         CHLOROPHYTA      62300
                           KIRCHNERIELLA      CHLOROPHYTA       6230
                           PROTOCOCCUS        CHLOROPHYTA      56070
                           SCENEDESMUS        CHLOROPHYTA      62300
                           SCHROEDERIA        CHLOROPHYTA       3115
                           SELENASTRUM        CHLOROPHYTA       3115
                           ACHNANTHES         CHRYSOPHYTA      15575
                           COCCONEIS          CHRYSOPHYTA       6230
                           MELOSIRA           CHRYSOPHYTA     601195
                           RHIZOSOLENIA       CHRYSOPHYTA       3115
                           STEPHANODISCUS     CHRYSOPHYTA      40495
                           SYNEDRA            CHRYSOPHYTA      62300
                           ANABAENA           CYANOPHYTA      168210
                           ANACYSTIS          CYANOPHYTA      747600
                           CHROOCOCCUS        CYANOPHYTA       49840
                           DACTYLOCOCCOPSIS   CYANOPHYTA        6230
                           LYNGBYA            CYANOPHYTA        3115
                           MERISMOPEDIA       CYANOPHYTA     1345680
                           OSCILLATORIA       CYANOPHYTA       28035
                           CRYPTOGLENA        EUGLENOPHYTA      6230
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                                DDT TASK 5  PHYTOPLANKTON LISTING             13:54 FRIDAY, FEBRUARY 22, 1980   58

------------------------- RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AD   DATE=79-09-27   REP_NUM=1 -------------------------

                                   TAXON                  GROUP          NUM

                                   CHLAMYDOMONAS        CHLOROPHYTA      74760
                                   CHLORELLA            CHLOROPHYTA       9345
                                   COSMARIUM            CHLOROPHYTA       3115
                                   CRUCIGENIA           CHLOROPHYTA      12460
                                   DICTYOSPHAERIUM      CHLOROPHYTA      40495
                                   FRANCEIA             CHLOROPHYTA       3115
                                   GOLENKINIA           CHLOROPHYTA      21805
                                   HYALOTHECA           CHLOROPHYTA      12460
                                   KIRCHNERIELLA        CHLOROPHYTA      59185
                                   OOCYSTIS             CHLOROPHYTA       3115
                                   PLANKTOSPHAERIA      CHLOROPHYTA      87220
                                   PROTOCOCCUS          CHLOROPHYTA     183785
                                   PTEROMONAS           CHLOROPHYTA       3115
                                   SCENEDESMUS          CHLOROPHYTA      24920
                                   STAURASTRUM          CHLOROPHYTA       6230
                                   TETRAEDRON           CHLOROPHYTA       6230
                                   UNID GREEN #1        CHLOROPHYTA       3115
                                   ACHNANTHES           CHRYSOPHYTA      37380
                                   CHAETOCEROS          CHRYSOPHYTA      24920
                                   COCCONEIS            CHRYSOPHYTA       3115
                                   DINOBRYON            CHRYSOPHYTA       3115
                                   FRAGILARIA           CHRYSOPHYTA       3115
                                   GOMPHONEMA           CHRYSOPHYTA       3115
                                   MELOSIRA             CHRYSOPHYTA     420525
                                   NAVICULA             CHRYSOPHYTA       3115
                                   NITZSCHIA            CHRYSOPHYTA       3115
                                   RHIZOSOLENIA         CHRYSOPHYTA       3115
                                   STEPHANODISCUS       CHRYSOPHYTA      52955
                                   SYNEDRA              CHRYSOPHYTA      34265
                                   ANABAENA             CYANOPHYTA      140175
                                   ANACYSTIS            CYANOPHYTA     1713250
                                   CHROOCOCCUS          CYANOPHYTA       28035
                                   DACTYLOCOCCOPSIS     CYANOPHYTA        6230
                                   MERISMOPEDIA         CYANOPHYTA      669725
                                   OSCILLATORIA         CYANOPHYTA       12460
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                              ORI TASK 3  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   59

----------------------- RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AG   DATE=79-09-27   REP_NUM=2 -----------------------

                              TAXON               GROUP              NUM

                              CHLAMYDOMONAS       CHLOROPHYTA       90335
                              CHLORELLA           CHLOROPHYTA        3115
                              CHODATELLA          CHLOROPHYTA        9345
                              CLOSTERIDIUM        CHLOROPHYTA        3115
                              DICTYOSPHAERIUM     CHLOROPHYTA      152635
                              GOLENKINIA          CHLOROPHYTA        9345
                              HYALOTHECA          CHLOROPHYTA       62300
                              KIRCHNERIELLA       CHLOROPHYTA        6230
                              PROTOCOCCUS         CHLOROPHYTA       56070
                              SCENEDESMUS         CHLOROPHYTA       62300
                              SCHROEDERIA         CHLOROPHYTA        3115
                              SELENASTRUM         CHLOROPHYTA        3115
                              ACHNANTHES          CHRYSOPHYTA       15575
                              COCCONEIS           CHRYSOPHYTA        6230
                              MELOSIRA            CHRYSOPHYTA      601195
                              RHIZOSOLENIA        CHRYSOPHYTA        3115
                              STEPHANODISCUS      CHRYSOPHYTA       40495
                              SYNEDRA             CHRYSOPHYTA       62300
                              ANABAENA            CYANOPHYTA       168210
                              ANACYSTIS           CYANOPHYTA       747600
                              CHROOCOCCUS         CYANOPHYTA        49840
                              DACTYLOCOCCOPSIS    CYANOPHYTA         6230
                              LYNGBYA             CYANOPHYTA         3115
                              MERISMOPEDIA        CYANOPHYTA      1345680
                              OSCILLATORIA        CYANOPHYTA        28035
                              CRYPTOGLENA         EUGLENOPHYTA       6230
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                                   DDT TASK 5  PHYTOPLANKTON LISTING              13:54 FRIDAY, FEBRUARY 22, 1980   60

------------------------ RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AD   DATE=79-09-27   REP_NUM=3 ------------------------

                                  TAXON                 GROUP              NUM

                                  ACTINASTRUM           CHLOROPHYTA      56070
                                  CHLAMYDOMONAS         CHLOROPHYTA      68530
                                  CHLORELLA             CHLOROPHYTA       9345
                                  CHODATELLA            CHLOROPHYTA       3115
                                  CRUCIGENIA            CHLOROPHYTA      12460
                                  DICTYOSPHAERIUM       CHLOROPHYTA     133945
                                  GOLENKINIA            CHLOROPHYTA      18690
                                  HYALOTHECA            CHLOROPHYTA       9345
                                  KIRCHNERIELLA         CHLOROPHYTA      28035
                                  OOCYSTIS              CHLOROPHYTA       6230
                                  PROTOCOCCUS           CHLOROPHYTA      52955
                                  QUADRIGULA            CHLOROPHYTA       3115
                                  SCENEDESMUS           CHLOROPHYTA      43610
                                  SCHROEDERIA           CHLOROPHYTA       3115
                                  SELENASTRUM           CHLOROPHYTA       6230
                                  TETRASTRUM            CHLOROPHYTA      12460
                                  TREUBARIA             CHLOROPHYTA       3115
                                  TROCHISCIA            CHLOROPHYTA       9345
                                  UNID GREEN #1         CHLOROPHYTA       3115
                                  ACHNANTHES            CHRYSOPHYTA      24920
                                  MELOSIRA              CHRYSOPHYTA     367570
                                  RHIZOSOLENIA          CHRYSOPHYTA       3115
                                  STEPHANODISCUS        CHRYSOPHYTA      43610
                                  SYNEDRA               CHRYSOPHYTA      24920
                                  ANABAENA              CYANOPHYTA      118370
                                  ANACYSTIS             CYANOPHYTA     1763090
                                  DACTYLOCOCCOPSIS      CYANOPHYTA       12460
                                  MERISMOPEDIA          CYANOPHYTA       24920
                                  OSCILLATORIA          CYANOPHYTA        6230
                                  CRYPTOGLENA           EUGLENOPHYTA      3115
                                  EUGLENA               EUGLENOPHYTA      6230
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Table 5-8A

OCCURRENCE AND ABUNDANCE OF ZOOPLANKTON TAXA IN SAMPLES COLLECTED DURING LATE SUMMER/EARLY FALL

	TRM 350.0			TRM 345.2			HS5.9	HS5.37	HS2.4	HS1.3	BF1.2	IC4.0	ICM0.0
	L	M	R	L	M	R							
		no/m^3			no/tow		no/m^3	no/tow	no/m^3	no/m^3	no/tow	no/tow	no/m^3
Rotifera													
Asplanchna herricki	2,698	1,735	586	1,325	742	467	-	-	-	-	15,400	783	25
A. amphora	-	-	-	-	-	-	26	88	35	72	7,117	150	-
Bdelloidea sp.	-	-	-	-	-	-	44	133	286	416	117	-	-
Beauchampiella sp.	-	-	-	-	-	-	26	92	7	-	-	-	-
Brachionus angularis	126	171	129	100	58	25	12	158	408	1,720	12,600	4,533	54
B. bennini	-	-	-	-	-	-	-	-	21	9	817	9,833	20
B. bidentata	-	-	-	-	-	-	-	-	1,093	631	1,400	2,567	29
B. budapestinensis	31	8	48	50	-	200	-	-	-	-	117	-	1
B. calyciflorus	-	-	6	-	25	117	-	33	6,413	16,403	226,567	245,550	110
B. caudatus	11	20	28	-	50	-	9	92	1,158	7,285	119,933	84,333	67
B. havanaensis	-	-	-	-	-	-	-	25	-	9	3,967	-	1
B. nilsoni	-	-	-	-	-	-	-	-	3	-	350	850	-
B. quadridentatus	97	52	48	75	25	-	48	392	994	2,168	5,133	12,117	70
B. urceolaris	-	-	-	-	-	-	-	-	7	-	-	533	-
Cephalodella sp.	-	-	-	-	-	-	-	25	3	-	-	-	-
Collotheca sp.	-	9	19	-	-	-	-	-	-	-	-	-	6
Conochiloides sp.	10	28	46	-	50	-	-	-	-	-	117	-	18
Conochilus hippocrepis	-	-	-	50	17	-	31	3,967	33	9	-	28	-
C. unicornis	31	35	46	-	-	-	-	-	-	-	-	-	20
Epiphanes macroura	-	-	-	-	-	-	505	3,225	43	91	-	-	-
E. pelagica	-	-	-	-	-	-	-	-	545	150	-	-	-
Euchlanis sp.	-	-	-	-	-	-	79	1,000	51	-	-	-	2
Filinia longiseta	-	-	-	-	-	-	5	67	77	18	233	-	-
F. sp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexartha mira	79	43	65	-	-	-	-	-	-	-	-	317	-
H. sp.	39	-	-	50	-	-	-	-	5	13	117	-	-
Keratella cochlearis	272	260	195	175	83	158	-	-	3	-	350	-	31
K. crassa	223	152	81	250	100	100	-	-	-	-	-	-	24
K. earlinae	22	30	12	50	-	-	-	-	-	-	-	-	-
K. serrulata	-	-	-	-	-	-	28	75	-	-	-	-	-

Table 5-8A

OCCURRENCE AND ABUNDANCE OF ZOOPLANKTON TAXA IN SAMPLES COLLECTED DURING LATE SUMMER/EARLY FALL
(continued)

	TRM 350.0			TRM 345.2			HS5.9	HS5.37	HS2.4	HS1.3	BF1.2	IC4.0	ICM0.0
	L	M	R	L	M	R							
		no/m^3			no/tow		no/m^3	no/tow	no/m^3	no/m^3	no/tow	no/tow	no/m^3
Rotifera (cont.)													
Lecane sp.	-	-	-	25	-	-	43	1,967	456	199	350	150	12
Monostyla bulla	-	-	-	-	-	-	-	33	-	-	117	-	-
M. sp.	-	-	-	25	-	-	19	675	105	22	117	-	6
Mytilinia sp.	-	-	-	-	-	-	-	158	24	9	-	-	-
Notholca sp.	-	-	-	-	-	-	-	-	-	9	-	-	-
Platyias patulus	11	39	-	50	25	-	116	2,592	238	449	233	150	-
P. quadricornis	-	-	-	-	-	-	109	4,267	229	335	-	-	4
Ploesoma hudsoni	141	53	29	250	183	67	-	-	-	-	-	-	11
P. truncatum	64	29	10	25	17	-	-	-	-	-	-	-	-
Polyartha sp.	816	825	702	2,650	967	1,042	15	33	17	16	5,950	233	129
Rotaria sp.	-	-	-	-	-	-	166	917	334	77	-	-	4
Synchaeta sp.	3,997	3,119	1,657	4,900	1,683	2,467	80	400	75	54	29,050	383	861
S. stylata	-	-	-	-	-	-	-	-	-	-	-	-	1,008
Testudinella sp.	-	-	-	-	-	-	30	1,175	115	95	-	150	-
Trichocerca sp.	22	-	38	25	17	25	5	-	5	-	-	-	-
Trichotria sp.	-	-	-	-	-	-	-	-	-	13	-	-	-
Contracted Rotifera	-	9	-	-	-	-	48	3,450	333	511	117	150	20
Cladocera													
Alona costata	-	-	1	50	-	-	1	33	-	-	1	-	-
Bosmina longirostris	14,578	9,862	7,285	31,400	20,167	8,017	-	25	1	-	1,633	83	2,531
Camptocercus rectirostris	-	-	-	-	-	-	-	-	-	-	-	-	1
Ceriodaphnia lacustris	12	10	1	1	1	1	-	-	-	-	-	-	-
C. (immature)	21	10	4	225	1	17	40	542	-	-	-	-	-
C. quadrangula	1	-	-	26	17	-	1	-	-	-	-	-	-
C. reticulata	-	-	-	-	-	-	1	-	-	-	-	-	-
Chydorus sp.	-	31	6	50	25	-	1	-	-	1	-	1	-
Daphnia ambigua	-	-	-	-	-	-	-	-	-	-	-	-	-
D. parvula	1	-	-	1	-	1	-	-	-	-	-	-	-

Table 5-8A

OCCURRENCE AND ABUNDANCE OF ZOOPLANKTON TAXA IN SAMPLES COLLECTED DURING LATE SUMMER/EARLY FALL
(continued)

	TRM 350.0			TRM 345.2			HS5.9	HS5.37	HS2.4	HS1.3	BF1.2	IC4.0	ICM0.0
	L	M	R	L	M	R	no/m^3	no/tow	no/m^3	no/m^3	no/tow	no/tow	no/m^3
		no/m^3			no/tow								
Cladocera (cont.)													
D. retrocurva	1	-	1	-	-	-	-	-	-	-	-	-	1
D. (immature)	1	1	1	25	-	1	-	-	-	-	-	-	1
Diaphanosoma leuchtenbergianum	50	213	95	1,100	350	117	-	-	-	1	120	155	6
Ilyocryptus (immature)	-	-	-	-	-	-	3	142	-	1	-	1	1
I. sordidus	-	-	-	-	-	-	5	-	1	-	-	1	-
I. spinifer	-	1	1	25	1	-	8	25	-	-	1	2	1
Kurzia latissima	-	-	-	-	-	-	-	-	-	-	-	-	2
Leptodora kindtii	6	1	1	10	-	1	-	-	-	-	1	-	1
Leydigia acanthocercoides	-	-	-	-	-	-	-	-	-	-	-	-	-
L. quadrangularis	-	-	-	-	-	-	-	-	-	-	-	1	-
Moina affinis	-	-	-	-	-	1	-	-	-	-	-	-	-
Moina minuta	1	-	-	-	-	1	-	-	-	-	-	-	-
M. (immature)	-	-	-	-	-	1	-	-	-	-	-	-	-
Pleuroxus denticulatus	-	-	-	-	-	-	5	1	-	-	-	-	-
P. hamulatus	-	-	1	-	1	-	-	-	-	-	-	-	2
Scapholebris kingi	-	-	-	1	1	-	-	-	-	-	-	-	-
Sida crystallina	1	2	1	18	3	2	-	-	-	-	-	-	-
Simocephalus (immature)	11	1	-	1	1	-	1	28	-	-	-	-	-
S. serrulatus	-	-	-	-	-	-	1	1	-	-	-	-	-
Simocephalus vetulus	-	-	1	-	-	-	-	1	-	-	-	-	-
Calanoida													
Calanoid (immature)	31	12	14	55	33	3	1	3	14	1	1	1	1
Diaptomus dorsalis	-	-	-	-	-	-	-	-	-	-	1	-	-
D. pallidus	1	1	1	5	4	3	-	-	-	1	1	-	1
D. reighardi	1	1	1	2	3	-	1	-	1	-	1	-	1
Osphranticum labronectum	-	-	-	-	-	-	-	1	-	1	-	-	-

Table 5-8A

OCCURRENCE AND ABUNDANCE OF ZOOPLANKTON TAXA IN SAMPLES COLLECTED DURING LATE SUMMER/EARLY FALL
(continued)

	TRM 350.0			TRM 345.2			HS5.9	HS5.37	HS2.4	HS1.3	BF1.2	IC4.0	ICM0.0
	L	M	R	L	M	R							
		no/m^3			no/tow		no/m^3	no/tow	no/m^3	no/m^3	no/tow	no/tow	no/m^3
Cyclopoida													
Cyclopoid (immature)	1,902	860	534	2,225	1,783	1,200	499	3,842	1,108	475	380	1,000	37
Cyclops thomasi	-	-	-	-	-	-	-	-	-	-	-	-	1
C. rubellus	-	-	-	-	-	1	-	-	1	10	16	17	1
C. vernalis	12	10	1	179	108	133	1	1	4	9	1	16	-
Ergasilus sp.	72	57	21	79	67	2	-	-	-	1	3	-	-
E. (immature)	63	35	36	51	-	-	-	-	-	-	357	-	2
Eucyclops agilis	-	-	1	25	-	2	13	9	1	1	2	1	1
E. speratus	-	-	-	-	-	-	13	59	1	1	1	1	-
Macrocyclops albidus	1	-	-	-	-	1	1	26	1	1	2	-	-
Mesocyclops edax	1	1	1	55	133	37	1	-	1	1	1	-	1
M. leukarti	-	-	-	-	-	-	1	1	-	-	-	-	-
Orthocyclops modestus	-	-	-	-	-	-	1	5	-	1	-	4	-
Tropocyclops prasinus	1	9	21	8	1	5	44	104	29	23	65	1	6
Harpacticoida													
Harpacticoid (immature)	-	-	-	25	17	-	4	25	1	1	-	-	-
Canthocamptus robertcokeri	-	-	-	-	-	-	1	1	5	1	-	1	-
Nitocra lacustris	-	-	-	-	1	-	-	-	-	-	-	-	-
Arguloida													
Argulus spp.	-	-	-	-	-	-	-	-	-	-	-	-	1
Nauplii	5,249	3,748	2,184	5,600	3,433	2,808	3,588	22,675	1,948	859	3,850	3,150	170

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x = presence of taxon
- = absence of taxon
1 = most abundant taxon

Table 5-8B

ZOOPLANKTON COMPOSITION
REPLICATE ANALYSIS RESULTS AND
CALCULATED MEANS -
LATE SUMMER/EARLY FALL SAMPLING

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                                   DOT TASK 5 ZOOPLANKTON CALCULATIONS
                                          SEPTEMBER 24, 1979

------------------------------- YEAR=79   RIVER=INDIAN CREEK   RIV_MILE=000.0   SAM_LOC=AJ   MN=09 -------------------------------

                        TAXON                                     GROUP        MEAN

                        ARGULUS SP.                               BRANCHIURA      1
                        BOSMINA LONGIROSTRIS                      CLADOCERA    2531
                        CAMPTOCERCUS RECTIROSTRIS                 CLADOCERA       1
                        DAPHNIA IMM.                              CLADOCERA       1
                        DAPHNIA RETROCURVA                        CLADOCERA       1
                        DIAPHANOSOMA LEUCHTENBERGIANUM            CLADOCERA       6
                        ILYOCRYPTUS IMM.                          CLADOCERA       1
                        ILYOCRYPTUS SPINIFER                      CLADOCERA       1
                        KURZIA LATISSIMA                          CLADOCERA       2
                        LEPTODORA KINDTII                         CLADOCERA       1
                        PLEUROXUS HAMULATUS                       CLADOCERA       2
                        CALANOIDA IMM.                            COPEPODA        1
                        CYCLOPOIDA IMM.                           COPEPODA       37
                        CYCLOPS BICUSPIDATUS THOMASI              COPEPODA        1
                        CYCLOPS VARICANS RUBELLUS                 COPEPODA        1
                        DIAPTOMUS PALLIDUS                        COPEPODA        1
                        DIAPTOMUS REIGHARDI                       COPEPODA        1
                        ERGASILUS IMM.                            COPEPODA        2
                        EUCYCLOPS AGILIS                          COPEPODA        1
                        MESOCYCLOPS EDAX                          COPEPODA        1
                        NAUPLII                                   COPEPODA      170
                        TROPOCYCLOPS PRASINUS                     COPEPODA        6
                        ASPLANCHNA HERRICKI                       ROTIFERA       25
                        BRACHIONUS ANGULARIS                      ROTIFERA       54
                        BRACHIONUS BENNINI                        ROTIFERA       20
                        BRACHIONUS BIDENTATA                      ROTIFERA       29
                        BRACHIONUS BUDAPESTINENSIS                ROTIFERA        1
                        BRACHIONUS CALYCIFLORUS                   ROTIFERA      110
                        BRACHIONUS CAUDATUS                       ROTIFERA       67
                        BRACHIONUS HAVANAENSIS                    ROTIFERA        1
                        BRACHIONUS QUADRIDENTATUS                 ROTIFERA       70
                        COLLOTHECA SP.                            ROTIFERA        6
                        CONOCHILOIDES SP.                         ROTIFERA       18
                        CONOCHILUS UNICORNIS                      ROTIFERA       20
                        CONTRACTED ROTIFERA                       ROTIFERA       20
                        EUCHLANIS SP.                             ROTIFERA        2
                        KERATELLA COCHLEARIS                      ROTIFERA       31
                        KERATELLA CRASSA                          ROTIFERA       24
                        LECANE SP.                                ROTIFERA       12
                        MONOSTYLA SP.                             ROTIFERA        6
                        PLATYIAS QUADRICORNIS                     ROTIFERA        4
                        PLOESOMA HUDSONI                          ROTIFERA       11
                        POLYARTHRA SP.                            ROTIFERA      129
                        ROTARIA SP.                               ROTIFERA        4
                        SYNCHAETA SP.                             ROTIFERA      861
                        SYNCHAETA STYLATA                         ROTIFERA     1008
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                                  DDT TASK 3 ZOOPLANKTON LISTING
                                       SEPTEMBER 24, 1979

------------------------- RIVER=INDIAN CREEK   YEAR=79   RIV_MILE=000.0   SAM_LOC=AJ   KN=09   REP_NUM=1 -------------- ---------

                    TAXON                               GROUP       NUM

                    BOSMINA LONGIROSTRIS                CLADOCERA   1846
                    DAPHNIA RETROCURVA                  CLADOCERA      1
                    DIAPHANOSOMA LEUCHTENBERGIANUM      CLADOCERA      1
                    ILYOCRYPTUS SPINIFER                CLADOCERA      1
                    KURZIA LATISSIMA                    CLADOCERA      6
                    PLEUROXUS HAMULATUS                 CLADOCERA      6
                    CALANOIDA IMM.                      COPEPODA       1
                    CYCLOPOIDA IMM.                     COPEPODA      69
                    CYCLOPS VARICANS RUBELLUS           COPEPODA       2
                    DIAPTOMUS PALLIDUS                  COPEPODA       1
                    ERGASILUS IMM.                      COPEPODA       1
                    EUCYCLOPS AGILIS                    COPEPODA       1
                    MESOCYCLOPS EDAX                    COPEPODA       1
                    NAUPLII                             COPEPODA     121
                    TROPOCYCLOPS PRASINUS               COPEPODA       2
                    ASPLANCHNA HERRICKI                 ROTIFERA      35
                    BRACHIONUS ANGULARIS                ROTIFERA      46
                    BRACHIONUS BENNINI                  ROTIFERA      12
                    BRACHIONUS BIDENTATA                ROTIFERA      17
                    BRACHIONUS CALYCIFLORUS             ROTIFERA     150
                    BRACHIONUS CAUDATUS                 ROTIFERA      75
                    BRACHIONUS QUADRIDENTATUS           ROTIFERA      58
                    COLLOTHECA SP.                      ROTIFERA       6
                    CONOCHILOIDES SP.                   ROTIFERA      35
                    CONTRACTED ROTIFERA                 ROTIFERA      12
                    EUCHLANIS SP.                       ROTIFERA       6
                    KERATELLA COCHLEARIS                ROTIFERA       6
                    KERATELLA CRASSA                    ROTIFERA      17
                    MONOSTYLA SP.                       ROTIFERA       6
                    PLATYIAS QUADRICORNIS               ROTIFERA      12
                    PLOESOMA HUDSONI                    ROTIFERA      17
                    POLYARTHRA SP.                      ROTIFERA      29
                    SYNCHAETA STYLATA                   ROTIFERA     710
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                          DDT TASK 5 ZOOPLANKTON LISTING
                               SEPTEMBER 24, 1979

------------------------- RIVER=INDIAN CREEK   YEAR=79   RIV_MILE=000.0   SAM_LOC=AJ   MN=09   REP_NUM=2 -------------------------

               TAXON                                GROUP        NUM

               BOSMINA LONGIROSTRIS                 CLADOCERA   1623
               CAMPTOCERCUS RECTIROSTRIS            CLADOCERA      1
               DAPHNIA IMM.                         CLADOCERA      1
               DIAPHANOSOMA LEUCHTENBERGIANUM       CLADOCERA      5
               ILYOCRYPTUS IMM.                     CLADOCERA      1
               CALANOIDA IMM.                       COPEPODA       1
               CYCLOPOIDA IMM.                      COPEPODA      32
               CYCLOPS VARICANS RUBELLUS            COPEPODA       1
               ERGASILUS IMM.                       COPEPODA       5
               NAUPLII                              COPEPODA     113
               TROPOCYCLOPS PRASINUS                COPEPODA       5
               ASPLANCHNA HERRICKI                  ROTIFERA      16
               BRACHIONUS ANGULARIS                 ROTIFERA      80
               BRACHIONUS BIDENTATA                 ROTIFERA      11
               BRACHIONUS BUDAPESTINENSIS           ROTIFERA       5
               BRACHIONUS CALYCIFLORUS              ROTIFERA      96
               BRACHIONUS CAUDATUS                  ROTIFERA      43
               BRACHIONUS HAVANAENSIS               ROTIFERA       5
               BRACHIONUS QUADRIDENTATUS            ROTIFERA      80
               CONOCHILOIDES SP.                    ROTIFERA      21
               CONOCHILUS UNICORNIS                 ROTIFERA      48
               CONTRACTED ROTIFERA                  ROTIFERA      38
               KERATELLA COCHLEARIS                 ROTIFERA      27
               KERATELLA CRASSA                     ROTIFERA      21
               PLOESOMA HUDSONI                     ROTIFERA       5
               POLYARTHRA SP.                       ROTIFERA     129
               SYNCHAETA SP.                        ROTIFERA     311
               SYNCHAETA STYLATA                    ROTIFERA     707
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AD-A128 024 ENGINEERING AND ENVIRONMENTAL STUDY OF DDT
CONTAMINATION OF HUNTSVILLE SP..(U) WATER AND AIR
RESEARCH INC GAINESVILLE FL J H SULLIVAN ET AL. NOV 80
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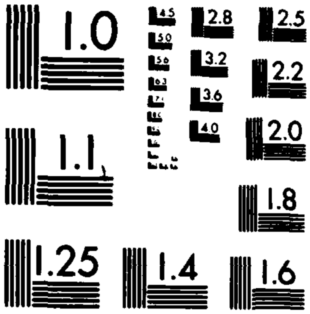
6/8



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

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                                   DDT TASK 5 ZOOPLANKTON LISTING
                                        SEPTEMBER 24, 1979

------------------------ RIVER=INDIAN CREEK   YEAR=79   RIV_MILE=000.0   SAM_LOC=AJ   PN=09   REP_NUM=3 ------------------------

                    TAXON                                 GROUP         NUM

                    ARGULUS SP.                           BRANCHIURA       1
                    BOSMINA LONGIROSTRIS                  CLADOCERA     4125
                    DIAPHANOSOMA LEUCHTENBERGIANUM        CLADOCERA       12
                    ILYOCRYPTUS SPINIFER                  CLADOCERA        1
                    KURZIA LATISSIMA                      CLADOCERA        1
                    LEPTODORA KINDTII                     CLADOCERA        1
                    PLEUROXUS HAMULATUS                   CLADOCERA        1
                    CALANOIDA IMM.                        COPEPODA         1
                    CYCLOPOIDA IMM.                       COPEPODA        12
                    CYCLOPS BICUSPIDATUS THOMASI          COPEPODA         1
                    CYCLOPS VARICANS RUBELLUS             COPEPODA         1
                    DIAPTOMUS PALLIDUS                    COPEPODA         1
                    DIAPTOMUS REIGHARDI                   COPEPODA         1
                    ERGASILUS IMM.                        COPEPODA         1
                    NAUPLII                               COPEPODA       278
                    TROPOCYCLOPS PRASINUS                 COPEPODA        12
                    ASPLANCHNA HERRICKI                   ROTIFERA        24
                    BRACHIONUS ANGULARIS                  ROTIFERA        36
                    BRACHIONUS BENNINI                    ROTIFERA        48
                    BRACHIONUS BIDENTATA                  ROTIFERA        60
                    BRACHIONUS CALYCIFLORUS               ROTIFERA        85
                    BRACHIONUS CAUDATUS                   ROTIFERA        85
                    BRACHIONUS QUADRIDENTATUS             ROTIFERA        73
                    COLLOTHECA SP.                        ROTIFERA        12
                    CONOCHILUS UNICORNIS                  ROTIFERA        12
                    CONTRACTED ROTIFERA                   ROTIFERA        12
                    KERATELLA COCHLEARIS                  ROTIFERA        60
                    KERATELLA CRASSA                      ROTIFERA        36
                    LECANE SP.                            ROTIFERA        36
                    MONOSTYLA SP.                         ROTIFERA        12
                    PLOESOMA HUDSONI                      ROTIFERA        12
                    POLYARTHRA SP.                        ROTIFERA       230
                    ROTARIA SP.                           ROTIFERA        12
                    SYNCHAETA SP.                         ROTIFERA      2274
                    SYNCHAETA STYLATA                     ROTIFERA      1609
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                              DDT TASK 5 ZOOPLANKTON CALCULATIONS
                                      SEPTEMBER 24, 1979

------------------------- YEAR=79   RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=001.3   SAM_LOC=AD   MN=09 -------------------------

                      TAXON                                GROUP        MEAN

                      CHYDORUS SP.                         CLADOCERA       1
                      DIAPHANOSOMA LEUCHTENBERGIANUM       CLADOCERA       1
                      ILYOCRYPTUS IMM.                     CLADOCERA       1
                      CALANOIDA IMM.                       COPEPODA        1
                      CANTHOCAMPTUS ROBERTCOKERI           COPEPODA        1
                      CYCLOPOIDA IMM.                      COPEPODA      475
                      CYCLOPS VARICANS RUBELLUS            COPEPODA       10
                      CYCLOPS VERNALIS                     COPEPODA        9
                      DIAPTOMUS PALLIDUS                   COPEPODA        1
                      ERGASILUS SP.                        COPEPODA        1
                      EUCYCLOPS AGILIS                     COPEPODA        1
                      EUCYCLOPS SPERATUS                   COPEPODA        1
                      HARPACTICOID IMM.                    COPEPODA        1
                      MACROCYCLOPS ALBIDUS                 COPEPODA        1
                      MESOCYCLOPS EDAX                     COPEPODA        1
                      NAUPLII                              COPEPODA      859
                      ORTHOCYCLOPS MODESTUS                COPEPODA        1
                      OSPHRANTICUM LABRONECTUM             COPEPODA        1
                      TROPOCYCLOPS PRASINUS                COPEPODA       23
                      ASPLANCHNA AMPHORA                   ROTIFERA       72
                      BDELLOIDEA                           ROTIFERA      416
                      BRACHIONUS ANGULARIS                 ROTIFERA     1720
                      BRACHIONUS BENNINI                   ROTIFERA        9
                      BRACHIONUS BIDENTATA                 ROTIFERA      631
                      BRACHIONUS CALYCIFLORUS              ROTIFERA    16403
                      BRACHIONUS CAUDATUS                  ROTIFERA     7285
                      BRACHIONUS HAVANAENSIS               ROTIFERA        9
                      BRACHIONUS QUADRIDENTATUS            ROTIFERA     2168
                      CONOCHILUS HIPPOCREPIS               ROTIFERA       49
                      CONTRACTED ROTIFERA                  ROTIFERA      511
                      EPIPHANES MACROURUS                  ROTIFERA       91
                      EPIPHANES PELAGICA                   ROTIFERA      150
                      FILINIA LONGISETA                    ROTIFERA       18
                      HEXARTHRA SP.                        ROTIFERA       13
                      LECANE SP.                           ROTIFERA      199
                      MONOSTYLA SP.                        ROTIFERA       22
                      MYTILINA SP.                         ROTIFERA        9
                      NOTHOLCA SP.                         ROTIFERA        9
                      PLATYIAS PATULUS                     ROTIFERA      449
                      PLATYIAS QUADRICORNIS                ROTIFERA      335
                      POLYARTHRA SP.                       ROTIFERA       18
                      ROTARIA SP.                          ROTIFERA       77
                      SYNCHAETA SP.                        ROTIFERA       54
                      TESTUDINELLA SP.                     ROTIFERA       95
                      TRICHOTRIA SP.                       ROTIFERA       13
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                                   ODT TASK 3 ZOOPLANKTON LISTING
                                       SEPTEMBER 24, 1979

------------------- RIVER=HUNTSVILLE SPRING BRANCH   YEAR=79   RIV_MILE=001.3   SAM_LOC=AO   MN=09   REP_NUM=1 -------------------

                             TAXON                           GROUP        NUM

                             CHYDORUS SP.                    CLADOCERA      1
                             CALANOIDA IMM.                  COPEPODA       1
                             CANTHOCAMPTUS ROBERTCOKERI      COPEPODA       1
                             CYCLOPOIDA IMM.                 COPEPODA     618
                             CYCLOPS VARICANS RUBELLUS       COPEPODA       2
                             CYCLOPS VERNALIS                COPEPODA       1
                             DIAPTOMUS PALLIDUS              COPEPODA       1
                             EUCYCLOPS AGILIS                COPEPODA       1
                             EUCYCLOPS SPERATUS              COPEPODA       1
                             HARPACTICOID IMM.               COPEPODA       1
                             MESOCYCLOPS EDAX                COPEPODA       1
                             NAUPLII                         COPEPODA    1071
                             TROPOCYCLOPS PRASINUS           COPEPODA      41
                             ASPLANCHNA AMPHORA              ROTIFERA      82
                             BDELLOIDEA                      ROTIFERA     576
                             BRACHIONUS ANGULARIS            ROTIFERA    3006
                             BRACHIONUS BIDENTATA            ROTIFERA    1112
                             BRACHIONUS CALYCIFLORUS         ROTIFERA   18653
                             BRACHIONUS CAUDATUS             ROTIFERA   10953
                             BRACHIONUS QUADRIDENTATUS       ROTIFERA    2924
                             CONOCHILUS HIPPOCREPIS          ROTIFERA      41
                             CONTRACTED ROTIFERA             ROTIFERA     618
                             EPIPHANES MACROURUS             ROTIFERA     165
                             EPIPHANES PELAGICA              ROTIFERA     288
                             HEXARTHRA SP.                   ROTIFERA      41
                             LECANE SP.                      ROTIFERA     329
                             MONOSTYLA SP.                   ROTIFERA      41
                             PLATYIAS PATULUS                ROTIFERA     782
                             PLATYIAS QUADRICORNIS           ROTIFERA     494
                             ROTARIA SP.                     ROTIFERA     124
                             SYNCHAETA SP.                   ROTIFERA      82
                             TESTUDINELLA SP.                ROTIFERA     124
                             TRICHOTRIA SP.                  ROTIFERA      41
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                                   DDT TASK 3 ZOOPLANKTON LISTING
                                         SEPTEMBER 24, 1979

------------------- RIVER=HUNTSVILLE SPRING BRANCH   YEAR=79   RIV_MILE=001.3   SAM_LOC=AD   MN=09   REP_NUM=2 -------------------

                          TAXON                                  GROUP        NUM

                          CHYDORUS SP.                           CLADOCERA      1
                          DIAPHANOSOMA LEUCHTENBERGIANUM         CLADOCERA      1
                          ILYOCRYPTUS IMM.                       CLADOCERA      1
                          CALANOIDA IMM.                         COPEPODA       1
                          CANTHOCAMPTUS ROBERTCOKERI             COPEPODA       1
                          CYCLOPOIDA IMM.                        COPEPODA     646
                          CYCLOPS VARICANS RUBELLUS              COPEPODA      27
                          CYCLOPS VERNALIS                       COPEPODA       1
                          DIAPTOMUS PALLIDUS                     COPEPODA       1
                          ERGASILUS SP.                          COPEPODA       1
                          EUCYCLOPS AGILIS                       COPEPODA       1
                          EUCYCLOPS SPERATUS                     COPEPODA       1
                          HARPACTICOID IMM.                      COPEPODA       1
                          MACROCYCLOPS ALBIDUS                   COPEPODA       1
                          MESOCYCLOPS EDAX                       COPEPODA       1
                          NAUPLII                                COPEPODA     485
                          TROPOCYCLOPS PRASINUS                  COPEPODA      27
                          ASPLANCHNA AMPHORA                     ROTIFERA      54
                          BDELLOIDEA                             ROTIFERA     215
                          BRACHIONUS ANGULARIS                   ROTIFERA    1158
                          BRACHIONUS BIDENTATA                   ROTIFERA     458
                          BRACHIONUS CALYCIFLORUS                ROTIFERA   16719
                          BRACHIONUS CAUDATUS                    ROTIFERA    3958
                          BRACHIONUS HAVANAENSIS                 ROTIFERA      27
                          BRACHIONUS QUADRIDENTATUS              ROTIFERA    1346
                          CONOCHILUS HIPPOCREPIS                 ROTIFERA      27
                          CONTRACTED ROTIFERA                    ROTIFERA     323
                          EPIPHANES MACROURUS                    ROTIFERA      81
                          EPIPHANES PELAGICA                     ROTIFERA      81
                          LECANE SP.                             ROTIFERA     162
                          MYTILINA SP.                           ROTIFERA      27
                          PLATYIAS PATULUS                       ROTIFERA     215
                          PLATYIAS QUADRICORNIS                  ROTIFERA     269
                          POLYARTHRA SP.                         ROTIFERA      27
                          ROTARIA SP.                            ROTIFERA     108
                          SYNCHAETA SP.                          ROTIFERA      27
                          TESTUDINELLA SP.                       ROTIFERA      81
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                         DOT TASK 5 ZOOPLANKTON LISTING
                              SEPTEMBER 24, 1979

------------------- RIVER=HUNTSVILLE SPRING BRANCH   YEAR=79   RIV_MILE=001.3   SAM_LOC=AD   MN=09   REP_NUM=3 -------------------

                        TAXON                        GROUP          NUM

           DIAPHANOSOMA LEUCHTENBERGIANUM       CLADOCERA          1
           CALANOIDA IMM.                       COPEPODA           1
           CANTHOCAMPTUS ROBERTCOKERI           COPEPODA           1
           CYCLOPOIDA IMM.                      COPEPODA         162
           CYCLOPS VARICANS RUBELLUS            COPEPODA           3
           CYCLOPS VERNALIS                     COPEPODA          27
           DIAPTOMUS PALLIDUS                   COPEPODA           1
           ERGASILUS SP.                        COPEPODA           1
           EUCYCLOPS AGILIS                     COPEPODA           1
           EUCYCLOPS SPERATUS                   COPEPODA           1
           MESOCYCLOPS EDAX                     COPEPODA           1
           NAUPLII                              COPEPODA        1023
           ORTHOCYCLOPS MODESTUS                COPEPODA           1
           OSPHRANTICUM LABRONECTUM             COPEPODA           1
           TROPOCYCLOPS PRASINUS                COPEPODA           2
           ASPLANCHNA AMPHORA                   ROTIFERA          81
           BDELLOIDEA                           ROTIFERA         458
           BRACHIONUS ANGULARIS                 ROTIFERA         996
           BRACHIONUS BENNINI                   ROTIFERA          27
           BRACHIONUS BIDENTATA                 ROTIFERA         323
           BRACHIONUS CALYCIFLORUS              ROTIFERA       13838
           BRACHIONUS CAUDATUS                  ROTIFERA        6946
           BRACHIONUS QUADRIDENTATUS            ROTIFERA        2235
           CONOCHILUS HIPPOCREPIS               ROTIFERA          81
           CONTRACTED ROTIFERA                  ROTIFERA         592
           EPIPHANES MACROURUS                  ROTIFERA          27
           EPIPHANES PELAGICA                   ROTIFERA          81
           FILINIA LONGISETA                    ROTIFERA          54
           LECANE SP.                           ROTIFERA         108
           MONOSTYLA SP.                        ROTIFERA          27
           NOTHOLCA SP.                         ROTIFERA          27
           PLATYIAS PATULUS                     ROTIFERA         350
           PLATYIAS QUADRICORNIS                ROTIFERA         242
           POLYARTHRA SP.                       ROTIFERA          27
           SYNCHAETA SP.                        ROTIFERA          54
           TESTUDINELLA SP.                     ROTIFERA          81
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                              DDT TASK 5 ZOOPLANKTON CALCULATIONS                                    2
                                     SEPTEMBER 24, 1979

------------------------ YEAR=79   RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=002.4   SAM_LOC=AJ   MN=09 ------------------------

                  TAXON                            GROUP       MEAN

                  BOSMINA LONGIROSTRIS             CLADOCERA      1
                  ILYOCRYPTUS SORDIDUS             CLADOCERA      1
                  CALANOIDA IMM.                   COPEPODA      14
                  CANTHOCAMPTUS ROBERTCOKERI       COPEPODA       5
                  CYCLOPOIDA IMM.                  COPEPODA    1108
                  CYCLOPS VARICANS RUBELLUS        COPEPODA       1
                  CYCLOPS VERNALIS                 COPEPODA       4
                  DIAPTOMUS REIGHARDI              COPEPODA       1
                  EUCYCLOPS AGILIS                 COPEPODA       1
                  EUCYCLOPS SPERATUS               COPEPODA       1
                  HARPACTICOID IMM.                COPEPODA       1
                  MACROCYCLOPS ALBIDUS             COPEPODA       1
                  MESOCYCLOPS EDAX                 COPEPODA       1
                  NAUPLII                          COPEPODA    1948
                  TROPOCYCLOPS PRASINUS            COPEPODA      29
                  ASPLANCHNA AMPHORA               ROTIFERA      35
                  BDELLOIDEA                       ROTIFERA     286
                  BEUCHAMPIELLA SP.                ROTIFERA       7
                  BRACHIONUS ANGULARIS             ROTIFERA     408
                  BRACHIONUS BENNINI               ROTIFERA      21
                  BRACHIONUS BIDENTATA             ROTIFERA    1093
                  BRACHIONUS CALYCIFLORUS          ROTIFERA    6413
                  BRACHIONUS CAUDATUS              ROTIFERA    1158
                  BRACHIONUS NILSONI               ROTIFERA       3
                  BRACHIONUS QUADRIDENTATUS        ROTIFERA     994
                  BRACHIONUS URCEOLARIS            ROTIFERA       7
                  CEPHALODELLA SP.                 ROTIFERA       3
                  CONOCHILUS HIPPOCREPIS           ROTIFERA      33
                  CONTRACTED ROTIFERA              ROTIFERA     333
                  EPIPHANES MACROURUS              ROTIFERA      43
                  EPIPHANES PELAGICA               ROTIFERA     545
                  EUCHLANIS SP.                    ROTIFERA      51
                  FILINIA LONGISETA                ROTIFERA      77
                  HEXARTHRA SP.                    ROTIFERA       5
                  KERATELLA COCHLEARIS             ROTIFERA       3
                  LECANE SP.                       ROTIFERA     456
                  MONOSTYLA SP.                    ROTIFERA     105
                  MYTILINA SP.                     ROTIFERA      24
                  PLATYIAS PATULUS                 ROTIFERA     238
                  PLATYIAS QUADRICORNIS            ROTIFERA     229
                  POLYARTHRA SP.                   ROTIFERA      17
                  ROTARIA SP.                      ROTIFERA     334
                  SYNCHAETA SP.                    ROTIFERA      75
                  TESTUDINELLA SP.                 ROTIFERA     115
                  TRICHOCERCA SP.                  ROTIFERA       9
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                                        DOT TASK 5 ZOOPLANKTON LISTING
                                              SEPTEMBER 24, 1979

------------------ RIVER=HUNTSVILLE SPRING BRANCH   YEAR=79   RIV_MILE=002.4   SAM_LOC=AJ   MN=09   REP_NUM=1 ------------------

                              TAXON                          GROUP        NUM

                              ILYOCRYPTUS SORDIDUS           CLADOCERA       1
                              CALANOIDA IMM.                 COPEPODA       41
                              CANTHOCAMPTUS ROBERTCOKERI     COPEPODA        1
                              CYCLOPOIDA IMM.                COPEPODA     1322
                              CYCLOPS VARICANS RUBELLUS      COPEPODA        1
                              CYCLOPS VERNALIS               COPEPODA        1
                              EUCYCLOPS AGILIS               COPEPODA        1
                              EUCYCLOPS SPERATUS             COPEPODA        1
                              HARPACTICOID IMM.              COPEPODA        1
                              MACROCYCLOPS ALBIDUS           COPEPODA        1
                              MESOCYCLOPS EDAX               COPEPODA        1
                              NAUPLII                        COPEPODA     2314
                              TROPOCYCLOPS PRASINUS          COPEPODA       41
                              ASPLANCHNA AMPHORA             ROTIFERA       21
                              BDELLOIDEA                     ROTIFERA      331
                              BEUCHAMPIELLA SP.              ROTIFERA       21
                              BRACHIONUS ANGULARIS           ROTIFERA      558
                              BRACHIONUS BIDENTATA           ROTIFERA     1839
                              BRACHIONUS CALYCIFLORUS        ROTIFERA    10723
                              BRACHIONUS CAUDATUS            ROTIFERA     1426
                              BRACHIONUS QUADRIDENTATUS      ROTIFERA     1384
                              BRACHIONUS URCEOLARIS          ROTIFERA       21
                              CONOCHILUS HIPPOCREPIS         ROTIFERA       62
                              CONTRACTED ROTIFERA            ROTIFERA      393
                              EPIPHANES MACROURUS            ROTIFERA       41
                              EPIPHANES PELAGICA             ROTIFERA      888
                              EUCHLANIS SP.                  ROTIFERA       83
                              FILINIA LONGISETA              ROTIFERA       41
                              LECANE SP.                     ROTIFERA      537
                              MONOSTYLA SP.                  ROTIFERA      227
                              MYTILINA SP.                   ROTIFERA       62
                              PLATYIAS PATULUS               ROTIFERA      351
                              PLATYIAS QUADRICORNIS          ROTIFERA      434
                              POLYARTHRA SP.                 ROTIFERA       41
                              ROTARIA SP.                    ROTIFERA      640
                              SYNCHAETA SP.                  ROTIFERA      145
                              TESTUDINELLA SP.               ROTIFERA      103
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                         DDT TASK 5 ZOOPLANKTON LISTING
                              SEPTEMBER 24, 1979

------------------- RIVER=HUNTSVILLE SPRING BRANCH   YEAR=79   RIV_MILE=002.4   SAM_LOC=AJ   MN=09   REP_NUM=2 -------------------

                 TAXON                             GROUP        NUM

                 BOSMINA LONGIROSTRIS              CLADOCERA      1
                 CALANOIDA IMM.                    COPEPODA       1
                 CANTHOCAMPTUS ROBERTCOKERI        COPEPODA      16
                 CYCLOPOIDA IMM.                   COPEPODA     882
                 CYCLOPS VARICANS RUBELLUS         COPEPODA       1
                 CYCLOPS VERNALIS                  COPEPODA       1
                 DIAPTOMUS REIGHARDI               COPEPODA       1
                 EUCYCLOPS AGILIS                  COPEPODA       1
                 EUCYCLOPS SPERATUS                COPEPODA       1
                 MESOCYCLOPS EDAX                  COPEPODA       1
                 NAUPLII                           COPEPODA    1765
                 TROPOCYCLOPS PRASINUS             COPEPODA      16
                 ASPLANCHNA AMPHORA                ROTIFERA      65
                 BDELLOIDEA                        ROTIFERA     343
                 BRACHIONUS ANGULARIS              ROTIFERA     441
                 BRACHIONUS BENNINI                ROTIFERA      33
                 BRACHIONUS BIDENTATA              ROTIFERA     98C
                 BRACHIONUS CALYCIFLORUS           ROTIFERA    5752
                 BRACHIONUS CAUDATUS               ROTIFERA    1422
                 BRACHIONUS QUADRIDENTATUS         ROTIFERA    1127
                 CONOCHILUS HIPPOCREPIS            ROTIFERA      16
                 CONTRACTED ROTIFERA               ROTIFERA     392
                 EPIPHANES MACROURUS               ROTIFERA      16
                 EPIPHANES PELAGICA                ROTIFERA     441
                 EUCHLANIS SP.                     ROTIFERA      49
                 FILINIA LONGISETA                 ROTIFERA      98
                 HEXARTHRA SP.                     ROTIFERA      16
                 LECANE SP.                        ROTIFERA     523
                 MONOSTYLA SP.                     ROTIFERA      49
                 PLATYIAS PATULUS                  ROTIFERA     147
                 PLATYIAS QUADRICORNIS             ROTIFERA     163
                 ROTARIA SP.                       ROTIFERA     261
                 SYNCHAETA SP.                     ROTIFERA      49
                 TESTUDINELLA SP.                  ROTIFERA     18C
                 TRICHOCERCA SP.                   ROTIFERA      16
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                                    ODT TASK 3 ZOOPLANKTON LISTING
                                         SEPTEMBER 24, 1979

------------------- RIVER=HUNTSVILLE SPRING BRANCH   YEAR=79   RIV_MILE=002.4   SAM_LOC=AJ   MN=09   REP_NUM=3 -------------------

                              TAXON                          GROUP        NUM

                              CALANOIDA IMM.                 COPEPODA       1
                              CYCLOPOIDA IMM.                COPEPODA    1120
                              CYCLOPS VARICANS RUBELLUS      COPEPODA       1
                              CYCLOPS VERNALIS               COPEPODA      10
                              EUCYCLOPS AGILIS               COPEPODA       1
                              HARPACTICOID IMM.              COPEPODA       1
                              MACROCYCLOPS ALBIDUS           COPEPODA       1
                              MESOCYCLOPS EDAX               COPEPODA       1
                              NAUPLII                        COPEPODA    1767
                              TROPOCYCLOPS PRASINUS          COPEPODA      31
                              ASPLANCHNA AMPHORA             ROTIFERA      21
                              BOELLOIDEA                     ROTIFERA     185
                              BRACHIONUS ANGULARIS           ROTIFERA     226
                              BRACHIONUS BENNINI             ROTIFERA      31
                              BRACHIONUS BIDENTATA           ROTIFERA     462
                              BRACHIONUS CALYCIFLORUS        ROTIFERA    2764
                              BRACHIONUS CAUDATUS            ROTIFERA     627
                              BRACHIONUS WILSONI             ROTIFERA      10
                              BRACHIONUS QUADRIDENTATUS      ROTIFERA     473
                              CEPHALODELLA SP.               ROTIFERA      10
                              CONOCHILUS HIPPOCREPIS         ROTIFERA      21
                              CONTRACTED ROTIFERA            ROTIFERA     216
                              EPIPHANES MACROURUS            ROTIFERA      72
                              EPIPHANES PELAGICA             ROTIFERA     308
                              EUCHLANIS SP.                  ROTIFERA      21
                              FILINIA LONGISETA              ROTIFERA      92
                              KERATELLA COCHLEARIS           ROTIFERA      10
                              LECANE SP.                     ROTIFERA     308
                              MONOSTYLA SP.                  ROTIFERA      41
                              MYTILINA SP.                   ROTIFERA      10
                              PLATYIAS PATULUS               ROTIFERA     216
                              PLATYIAS QUADRICORNIS          ROTIFERA      92
                              POLYARTHRA SP.                 ROTIFERA      10
                              ROTARIA SP.                    ROTIFERA     103
                              SYNCHAETA SP.                  ROTIFERA      31
                              TESTUDINELLA SP.               ROTIFERA      62
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                                     DOT TASK 5 ZOOPLANKTON CALCULATIONS
                                            SEPTEMBER 24, 1979
------------------------ YEAR=79   RIVER=HUNTSVILLE SPRING BRANCH   RIV_MILE=005.9   SAM_LOC=AJ   MN=09 ------------------------

                            TAXON                             GROUP       MEAN

                            ALONA COSTATA                     CLADOCERA      1
                            CERIODAPHNIA IMM.                 CLADOCERA     40
                            CERIODAPHNIA QUADRANGULA          CLADOCERA      1
                            CERIODAPHNIA RETICULATA           CLADOCERA      1
                            CHYDORUS SP.                      CLADOCERA      1
                            ILYOCRYPTUS IMM.                  CLADOCERA      3
                            ILYOCRYPTUS SORDIDUS              CLADOCERA      5
                            ILYOCRYPTUS SPINIFER              CLADOCERA      8
                            PLEUROXUS DENTICULATUS            CLADOCERA      5
                            SIMOCEPHALUS IMM.                 CLADOCERA      1
                            SIMOCEPHALUS SERRULATUS           CLADOCERA      1
                            CALANOIDA IMM.                    COPEPODA       1
                            CANTHOCAMPTUS ROBERTCOKERI        COPEPODA       1
                            CYCLOPOIDA IMM.                   COPEPODA     499
                            CYCLOPS VERNALIS                  COPEPODA       1
                            DIAPTOMUS REIGHARDI               COPEPODA       1
                            EUCYCLOPS AGILIS                  COPEPODA      13
                            EUCYCLOPS SPERATUS                COPEPODA      13
                            HARPACTICOID IMM.                 COPEPODA       4
                            MACROCYCLOPS ALBIDUS              COPEPODA       1
                            MESOCYCLOPS EDAX                  COPEPODA       1
                            MESOCYCLOPS LEUCKARTI             COPEPODA       1
                            NAUPLII                           COPEPODA    3588
                            ORTHOCYCLOPS MODESTUS             COPEPODA       1
                            TROPOCYCLOPS PRASINUS             COPEPODA      44
                            ASPLANCHNA AMPHORA                ROTIFERA      26
                            BDELLOIDEA                        ROTIFERA      46
                            BEUCHAMPIELLA SP.                 ROTIFERA      26
                            BRACHIONUS ANGULARIS              ROTIFERA      12
                            BRACHIONUS CAUDATUS               ROTIFERA       9
                            BRACHIONUS QUADRIDENTATUS         ROTIFERA      48
                            CONOCHILUS HIPPOCREPIS            ROTIFERA      31
                            CONTRACTED ROTIFERA               ROTIFERA      48
                            EPIPHANES MACROURUS               ROTIFERA     505
                            EUCHLANIS SP.                     ROTIFERA      79
                            FILINIA LONGISETA                 ROTIFERA       5
                            KERATELLA SERRULATA               ROTIFERA      28
                            LECANE SP.                        ROTIFERA      43
                            MONOSTYLA SP.                     ROTIFERA      19
                            PLATYIAS PATULUS                  ROTIFERA     116
                            PLATYIAS QUADRICORNIS             ROTIFERA     109
                            POLYARTHRA SP.                    ROTIFERA      15
                            ROTARIA SP.                       ROTIFERA     166
                            SYNCHAETA SP.                     ROTIFERA      80
                            TESTUDINELLA SP.                  ROTIFERA      30
                            TRICHOCERCA SP.                   ROTIFERA       5
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                              DOT TASK 5 ZOOPLANKTON LISTING
                                   SEPTEMBER 24, 1979

------------------- RIVER=HUNTSVILLE SPRING BRANCH   YEAR=79   RIV_MILE=005.9   SAM_LOC=AJ   MN=09   REP_NUM=1 ------------------

                           TAXON                         GROUP         NUM

                           ALONA COSTATA                 CLADOCERA       1
                           CERIODAPHNIA IMM.             CLADOCERA      22
                           CERIODAPHNIA QUADRANGULA      CLADOCERA       1
                           CERIODAPHNIA RETICULATA       CLADOCERA       1
                           CHYDORUS SP.                  CLADOCERA       1
                           ILYOCRYPTUS IMM.              CLADOCERA      11
                           ILYOCRYPTUS SPINIFER          CLADOCERA      11
                           PLEUROXUS DENTICULATUS        CLADOCERA       1
                           SIMOCEPHALUS IMM.             CLADOCERA       1
                           SIMOCEPHALUS SERRULATUS       CLADOCERA       1
                           CALANOIDA IMM.                COPEPODA        1
                           CANTHOCAMPTUS ROBERTCOKERI    COPEPODA        1
                           CYCLOPOIDA IMM.               COPEPODA      463
                           EUCYCLOPS AGILIS              COPEPODA       22
                           EUCYCLOPS SPERATUS            COPEPODA       11
                           HARPACTICOID IMM.             COPEPODA        1
                           MACROCYCLOPS ALBIDUS          COPEPODA        1
                           MESOCYCLOPS EDAX              COPEPODA        1
                           NAUPLII                       COPEPODA     3419
                           ORTHOCYCLOPS MODESTUS         COPEPODA        1
                           TROPOCYCLOPS PRASINUS         COPEPODA       44
                           ASPLANCHNA AMPHORA            ROTIFERA       22
                           BDELLOIDEA                    ROTIFERA       22
                           BEUCHAMPIELLA SP.             ROTIFERA       22
                           BRACHIONUS ANGULARIS          ROTIFERA       22
                           BRACHIONUS QUADRIDENTATUS     ROTIFERA       11
                           CONOCHILUS HIPPOCREPIS        ROTIFERA       66
                           CONTRACTED ROTIFERA           ROTIFERA       33
                           EPIPHANES MACROURUS           ROTIFERA      419
                           EUCHLANIS SP.                 ROTIFERA      110
                           KERATELLA SERRULATA           ROTIFERA       33
                           LECANE SP.                    ROTIFERA       66
                           MONOSTYLA SP.                 ROTIFERA       44
                           PLATYIAS PATULUS              ROTIFERA      121
                           PLATYIAS QUADRICORNIS         ROTIFERA       88
                           ROTARIA SP.                   ROTIFERA      221
                           SYNCHAETA SP.                 ROTIFERA       99
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                          DDT TASK 5 ZOOPLANKTON LISTING
                                SEPTEMBER 24, 1979
------------------ RIVER=HUNTSVILLE SPRING BRANCH   YEAR=79   RIV_MILE=005.9   SAM_LOC=AJ   MN=09   REP_NUM=2 ------------------

                     TAXON                          GROUP        NUM

                     CERIODAPHNIA IMM.              CLADOCERA     48
                     CERIODAPHNIA QUADRANGULA       CLADOCERA      1
                     CERIODAPHNIA RETICULATA        CLADOCERA      1
                     ILYOCRYPTUS SORDIDUS           CLADOCERA     16
                     PLEUROXUS DENTICULATUS         CLADOCERA      1
                     SIMOCEPHALUS IMM.              CLADOCERA      1
                     SIMOCEPHALUS SERRULATUS        CLADOCERA      1
                     CALANOIDA IMM.                 COPEPODA       1
                     CYCLOPOIDA IMM.                COPEPODA     479
                     EUCYCLOPS AGILIS               COPEPODA      16
                     EUCYCLOPS SPERATUS             COPEPODA      16
                     MACROCYCLOPS ALBIDUS           COPEPODA       1
                     MESOCYCLOPS LEUCKARTI          COPEPODA       1
                     NAUPLII                        COPEPODA    3894
                     ORTHOCYCLOPS MODESTUS          COPEPODA       1
                     TROPOCYCLOPS PRASINUS          COPEPODA      64
                     ASPLANCHNA AMPHORA             ROTIFERA      32
                     BDELLOIDEA                     ROTIFERA     112
                     BEUCHAMPIELLA SP.              ROTIFERA      32
                     BRACHIONUS ANGULARIS           ROTIFERA      16
                     BRACHIONUS CAUDATUS            ROTIFERA      16
                     BRACHIONUS QUADRIDENTATUS      ROTIFERA      96
                     CONOCHILUS HIPPOCREPIS         ROTIFERA      16
                     CONTRACTED ROTIFERA            ROTIFERA      48
                     EPIPHANES MACROURUS            ROTIFERA     527
                     EUCHLANIS SP.                  ROTIFERA      64
                     FILINIA LONGISETA              ROTIFERA      16
                     LECANE SP.                     ROTIFERA      64
                     PLATYIAS PATULUS               ROTIFERA     112
                     PLATYIAS QUADRICORNIS          ROTIFERA     112
                     POLYARTHRA SP.                 ROTIFERA      32
                     ROTARIA SP.                    ROTIFERA     176
                     SYNCHAETA SP.                  ROTIFERA      64
                     TESTUDINELLA SP.               ROTIFERA      64
                     TRICHOCERCA SP.                ROTIFERA      16
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                                                    DDT TASK 3 ZOOPLANKTON LISTING
                                                        SEPTEMBER 24, 1979

------------------- RIVER=HUNTSVILLE SPRING BRANCH    YEAR=79    RIV_MILE=005.9    SAM_LOC=AJ    MN=09    REP_NUM=3 ------------------

                                      TAXON                            GROUP         NUM

                                      CERIODAPHNIA IMM.                CLADOCERA      52
                                      CERIODAPHNIA QUADRANGULA         CLADOCERA       1
                                      CERIODAPHNIA RETICULATA          CLADOCERA       1
                                      ILYOCRYPTUS SPINIFER             CLADOCERA      13
                                      PLEUROXUS DENTICULATUS           CLADOCERA      13
                                      SIMOCEPHALUS IMM.                CLADOCERA       1
                                      CALANOIDA IMM.                   COPEPODA        1
                                      CYCLOPOIDA IMM.                  COPEPODA      556
                                      CYCLOPS VERNALIS                 COPEPODA        1
                                      DIAPTOMUS REIGHARDI              COPEPODA        1
                                      EUCYCLOPS AGILIS                 COPEPODA        1
                                      EUCYCLOPS SPERATUS               COPEPODA       13
                                      HARPACTICOID IMM.                COPEPODA       13
                                      MACROCYCLOPS ALBIDUS             COPEPODA        1
                                      MESOCYCLOPS EDAX                 COPEPODA        1
                                      NAUPLII                          COPEPODA     3453
                                      ORTHOCYCLOPS MODESTUS            COPEPODA        1
                                      TROPOCYCLOPS PRASINUS            COPEPODA       26
                                      ASPLANCHNA AMPHORA               ROTIFERA       26
                                      BEUCHAMPIELLA SP.                ROTIFERA       26
                                      BRACHIONUS CAUDATUS              ROTIFERA       13
                                      BRACHIONUS QUADRIDENTATUS        ROTIFERA       39
                                      CONOCHILUS HIPPOCREPIS           ROTIFERA       13
                                      CONTRACTED ROTIFERA              ROTIFERA       65
                                      EPIPHANES MACROURUS              ROTIFERA      569
                                      EUCHLANIS SP.                    ROTIFERA       65
                                      KERATELLA SERRULATA              ROTIFERA       52
                                      MONOSTYLA SP.                    ROTIFERA       13
                                      PLATYIAS PATULUS                 ROTIFERA      116
                                      PLATYIAS QUADRICORNIS            ROTIFERA      129
                                      POLYARTHRA SP.                   ROTIFERA       13
                                      ROTARIA SP.                      ROTIFERA      103
                                      SYNCHAETA SP.                    ROTIFERA       78
                                      TESTUDINELLA SP.                 ROTIFERA       26
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                              DDT TASK 5 ZOOPLANKTON CALCULATIONS
                                     SEPTEMBER 24, 1979

------------------------------ YEAR=79   RIVER=TENNESSEE RIVER   RIV_MILE=330.0   SAM_LOC=AE   MN=09 ------------------------------

                              TAXON                               GROUP        MEAN

                              BOSMINA LONGIROSTRIS                CLADOCERA   14578
                              CERIODAPHNIA IMM.                   CLADOCERA      21
                              CERIODAPHNIA LACUSTRIS              CLADOCERA      12
                              CERIODAPHNIA QUADRANGULA            CLADOCERA       1
                              DAPHNIA IMM.                        CLADOCERA       1
                              DAPHNIA PARVULA                     CLADOCERA       1
                              DAPHNIA RETROCURVA                  CLADOCERA       1
                              DIAPHANOSOMA LEUCHTENBERGIANUM      CLADOCERA     501
                              LEPTODORA KINDTII                   CLADOCERA       6
                              MOINA MINUTA                        CLADOCERA       1
                              SIDA CRYSTALLINA                    CLADOCERA       1
                              SIMOCEPHALUS IMM.                   CLADOCERA      11
                              CALANOIDA IMM.                      COPEPODA       31
                              CYCLOPOIDA IMM.                     COPEPODA     1902
                              CYCLOPS VERNALIS                    COPEPODA       12
                              DIAPTOMUS PALLIDUS                  COPEPODA        1
                              DIAPTOMUS REIGHARDI                 COPEPODA        1
                              ERGASILUS IMM.                      COPEPODA       63
                              ERGASILUS SP.                       COPEPODA       72
                              MACROCYCLOPS ALBIDUS                COPEPODA        1
                              MESOCYCLOPS EDAX                    COPEPODA        1
                              NAUPLII                             COPEPODA     5249
                              TROPOCYCLOPS PRASINUS               COPEPODA        1
                              ASPLANCHNA HERRICKI                 ROTIFERA     2698
                              BRACHIONUS ANGULARIS                ROTIFERA      126
                              BRACHIONUS BUDAPESTINENSIS          ROTIFERA       31
                              BRACHIONUS CAUDATUS                 ROTIFERA       11
                              BRACHIONUS QUADRIDENTATUS           ROTIFERA       97
                              CONOCHILOIDES SP.                   ROTIFERA       10
                              CONOCHILUS UNICORNIS                ROTIFERA       31
                              HEXARTHRA MIRA                      ROTIFERA       79
                              HEXARTHRA SP.                       ROTIFERA       39
                              KERATELLA COCHLEARIS                ROTIFERA      272
                              KERATELLA CRASSA                    ROTIFERA      223
                              KERATELLA EARLINAE                  ROTIFERA       22
                              PLATYIAS PATULUS                    ROTIFERA       11
                              PLOESOMA HUDSONI                    ROTIFERA      141
                              PLOESOMA TRUNCATA                   ROTIFERA       64
                              POLYARTHRA SP.                      ROTIFERA      816
                              SYNCHAETA SP.                       ROTIFERA     3997
                              TRICHOCERCA SP.                     ROTIFERA       22
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                                        DDT TASK 5 ZOOPLANKTON LISTING
                                             SEPTEMBER 24, 1979

----------------------- RIVER=TENNESSEE RIVER   YEAR=79   RIV_MILE=350.0   SAM_LOC=AE   MN=09   REP_NUM=1 -----------------------

                             TAXON                                  GROUP       NUM

                             BOSMINA LONGIROSTRIS                  CLADOCERA   18765
                             CERIODAPHNIA IMM.                     CLADOCERA      29
                             CERIODAPHNIA LACUSTRIS                CLADOCERA       1
                             DAPHNIA IMM.                          CLADOCERA       1
                             DAPHNIA PARVULA                       CLADOCERA       1
                             DAPHNIA RETROCURVA                    CLADOCERA       1
                             DIAPHANOSOMA LEUCHTENBERGIANUM        CLADOCERA     441
                             LEPTODORA KINDTII                     CLADOCERA       4
                             SIDA CRYSTALLINA                      CLADOCERA       1
                             CALANOIDA IMM.                        COPEPODA       59
                             CYCLOPOIDA IMM.                       COPEPODA     2206
                             CYCLOPS VERNALIS                      COPEPODA        1
                             DIAPTOMUS PALLIDUS                    COPEPODA        1
                             DIAPTOMUS REIGHARDI                   COPEPODA        1
                             ERGASILUS IMM.                        COPEPODA       59
                             ERGASILUS SP.                         COPEPODA      118
                             MESOCYCLOPS EDAX                      COPEPODA        1
                             NAUPLII                               COPEPODA     5912
                             TROPOCYCLOPS PRASINUS                 COPEPODA        1
                             ASPLANCHNA HERRICKI                   ROTIFERA     2735
                             BRACHIONUS ANGULARIS                  ROTIFERA      147
                             BRACHIONUS BUDAPESTINENSIS            ROTIFERA       59
                             BRACHIONUS QUADRIDENTATUS             ROTIFERA       88
                             HEXARTHRA SP.                         ROTIFERA      118
                             KERATELLA COCHLEARIS                  ROTIFERA      294
                             KERATELLA CRASSA                      ROTIFERA      176
                             PLOESOMA HUDSONI                      ROTIFERA       88
                             PLOESOMA TRUNCATA                     ROTIFERA       88
                             POLYARTHRA SP.                        ROTIFERA      618
                             SYNCHAETA SP.                         ROTIFERA     4471
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                                   DDT TASK 5 ZOOPLANKTON LISTING
                                        SEPTEMBER 24, 1979

----------------------- RIVER=TENNESSEE RIVER   YEAR=79   RIV_MILE=350.0   SAM_LOC=AE   MN=09   REP_NUM=2 -----------------------
                        TAXON                                 GROUP      NUM

                        BOSMINA LONGIROSTRIS                 CLADOCERA  16875
                        CERIODAPHNIA IMM.                    CLADOCERA     35
                        CERIODAPHNIA LACUSTRIS               CLADOCERA     35
                        CERIODAPHNIA QUADRANGULA             CLADOCERA      1
                        DIAPHANOSOMA LEUCHTENBERGIANUM       CLADOCERA    625
                        LEPTODORA KINDTII                    CLADOCERA      6
                        SIDA CRYSTALLINA                     CLADOCERA      1
                        SIMOCEPHALUS IMM.                    CLADOCERA     35
                        CALANOIDA IMM.                       COPEPODA       3
                        CYCLOPOIDA IMM.                      COPEPODA    1875
                        CYCLOPS VERNALIS                     COPEPODA      35
                        DIAPTOMUS PALLIDUS                   COPEPODA       1
                        DIAPTOMUS REIGHARDI                  COPEPODA       1
                        ERGASILUS IMM.                       COPEPODA      69
                        ERGASILUS SP.                        COPEPODA      69
                        MESOCYCLOPS EDAX                     COPEPODA       1
                        NAUPLII                              COPEPODA    6493
                        TROPOCYCLOPS PRASINUS                COPEPODA       1
                        ASPLANCHNA HERRICKI                  ROTIFERA    2986
                        BRACHIONUS ANGULARIS                 ROTIFERA     139
                        BRACHIONUS BUDAPESTINENSIS           ROTIFERA      35
                        BRACHIONUS CAUDATUS                  ROTIFERA      35
                        BRACHIONUS QUADRIDENTATUS            ROTIFERA     174
                        HEXARTHRA MIRA                       ROTIFERA     208
                        KERATELLA COCHLEARIS                 ROTIFERA     243
                        KERATELLA CRASSA                     ROTIFERA     243
                        KERATELLA EARLINAE                   ROTIFERA      35
                        PLATYIAS PATULUS                     ROTIFERA      35
                        PLOESOMA HUDSONI                     ROTIFERA     243
                        PLOESOMA TRUNCATA                    ROTIFERA     104
                        POLYARTHRA SP.                       ROTIFERA    1111
                        SYNCHAETA SP.                        ROTIFERA    4271
                        TRICHOCERCA SP.                      ROTIFERA      35
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                                   DOT TASK 5 ZOOPLANKTON LISTING
                                        SEPTEMBER 24, 1979

---------------------- RIVER=TENNESSEE RIVER   YEAR=79   RIV_MILE=350.0   SAM_LOC=AE   MN=09   REP_NUM=3 ----------------------

                   TAXON                                  GROUP       NUM

                   BOSMINA LONGIROSTRIS                   CLADOCERA   8094
                   CERIODAPHNIA IMM.                      CLADOCERA      1
                   CERIODAPHNIA LACUSTRIS                 CLADOCERA      1
                   DAPHNIA IMM.                           CLADOCERA      1
                   DAPHNIA RETROCURVA                     CLADOCERA      1
                   DIAPHANOSOMA LEUCHTENBERGIANUM         CLADOCERA    438
                   LEPTODORA KINDTII                      CLADOCERA      8
                   MOINA MINUTA                           CLADOCERA      1
                   SIDA CRYSTALLINA                       CLADOCERA      1
                   CALANOIDA IMM.                         COPEPODA      31
                   CYCLOPOIDA IMM.                        COPEPODA    1625
                   CYCLOPS VERNALIS                       COPEPODA       1
                   DIAPTOMUS PALLIDUS                     COPEPODA       1
                   DIAPTOMUS REIGHARDI                    COPEPODA       1
                   ERGASILUS IMM.                         COPEPODA      63
                   ERGASILUS SP.                          COPEPODA      31
                   MACROCYCLOPS ALBIDUS                   COPEPODA       1
                   MESOCYCLOPS EDAX                       COPEPODA       1
                   NAUPLII                                COPEPODA    3344
                   TROPOCYCLOPS PRASINUS                  COPEPODA       1
                   ASPLANCHNA HERRICKI                    ROTIFERA    2375
                   BRACHIONUS ANGULARIS                   ROTIFERA      94
                   BRACHIONUS QUADRIDENTATUS              ROTIFERA      31
                   CONOCHILOIDES SP.                      ROTIFERA      31
                   CONOCHILUS UNICORNIS                   ROTIFERA      94
                   HEXARTHRA MIRA                         ROTIFERA      31
                   KERATELLA COCHLEARIS                   ROTIFERA     281
                   KERATELLA CRASSA                       ROTIFERA     250
                   KERATELLA EARLINAE                     ROTIFERA      31
                   PLOESOMA HUDSONI                       ROTIFERA      94
                   POLYARTHRA SP.                         ROTIFERA     719
                   SYNCHAETA SP.                          ROTIFERA    3250
                   TRICHOCERCA SP.                        ROTIFERA      31
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                                        DDT TASK 5 ZOOPLANKTON CALCULATIONS
                                              SEPTEMBER 24, 1979

------------------------------ YEAR=79   RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AJ   MN=09 ------------------------------

                                   TAXON                                 GROUP       MEAN

                                   BOSMINA LONGIROSTRIS                  CLADOCERA   9862
                                   CERIODAPHNIA IMM.                     CLADOCERA     10
                                   CERIODAPHNIA LACUSTRIS                CLADOCERA     10
                                   CHYDURUS SP.                          CLADOCERA     31
                                   DAPHNIA IMM.                          CLADOCERA      1
                                   DIAPHANOSOMA LEUCHTENBERGIANUM        CLADOCERA    213
                                   ILYOCRYPTUS SPINIFER                  CLADOCERA      1
                                   LEPTODORA KINDTII                     CLADOCERA      1
                                   SIDA CRYSTALLINA                      CLADOCERA      2
                                   SIMOCEPHALUS IMM.                     CLADOCERA      1
                                   CALANOIDA IMM.                        COPEPODA      12
                                   CYCLOPOIDA IMM.                       COPEPODA     860
                                   CYCLOPS VERNALIS                      COPEPODA      10
                                   DIAPTOMUS PALLIDUS                    COPEPODA       1
                                   DIAPTOMUS REIGHARDI                   COPEPODA       1
                                   ERGASILUS IMM.                        COPEPODA      35
                                   ERGASILUS SP.                         COPEPODA      57
                                   MESOCYCLOPS EDAX                      COPEPODA       1
                                   NAUPLII                               COPEPODA    3748
                                   TROPOCYCLOPS PRASINUS                 COPEPODA       9
                                   ASPLANCHNA HERRICKI                   ROTIFERA    1735
                                   BRACHIONUS ANGULARIS                  ROTIFERA     171
                                   BRACHIONUS BUDAPESTINENSIS            ROTIFERA       8
                                   BRACHIONUS CAUDATUS                   ROTIFERA      20
                                   BRACHIONUS QUADRIDENTATUS             ROTIFERA      52
                                   COLLOTHECA SP.                        ROTIFERA       9
                                   CONOCHILOIDES SP.                     ROTIFERA      28
                                   CONOCHILUS UNICORNIS                  ROTIFERA      35
                                   CONTRACTED ROTIFERA                   ROTIFERA       9
                                   HEXARTHRA MIRA                        ROTIFERA      43
                                   KERATELLA COCHLEARIS                  ROTIFERA     260
                                   KERATELLA CRASSA                      ROTIFERA     152
                                   KERATELLA EARLINAE                    ROTIFERA      30
                                   PLATYIAS PATULUS                      ROTIFERA      39
                                   PLOESOMA HUDSONI                      ROTIFERA      53
                                   PLOESOMA TRUNCATA                     ROTIFERA      29
                                   POLYARTHRA SP.                        ROTIFERA     825
                                   SYNCHAETA SP.                         ROTIFERA    3119
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                                   DOT TASK 5 ZOOPLANKTON LISTING
                                        SEPTEMBER 24, 1979

---------------------- RIVER=TENNESSEE RIVER   YEAR=79   RIV_MILE=350,0   SAM_LOC=AJ   MN=09   REP_NUM=1 ------------------------
                      TAXON                              GROUP       NUM

                      BOSMINA LONGIROSTRIS               CLADOCERA   11706
                      CERIODAPHNIA LACUSTRIS             CLADOCERA      29
                      CHYDORUS SP.                       CLADOCERA      29
                      DAPHNIA IMM.                       CLADOCERA       1
                      DIAPHANOSOMA LEUCHTENBERGIANUM     CLADOCERA     176
                      LEPTODORA KINDTII                  CLADOCERA       1
                      SIDA CRYSTALLINA                   CLADOCERA       2
                      CALANOIDA IMM.                     COPEPODA        3
                      CYCLOPOIDA IMM.                    COPEPODA     1147
                      CYCLOPS VERNALIS                   COPEPODA       29
                      DIAPTOMUS PALLIDUS                 COPEPODA        1
                      DIAPTOMUS REIGHARDI                COPEPODA        1
                      ERGASILUS IMM.                     COPEPODA       59
                      ERGASILUS SP.                      COPEPODA      118
                      MESOCYCLOPS EDAX                   COPEPODA        1
                      NAUPLII                            COPEPODA     4912
                      TROPOCYCLOPS PRASINUS              COPEPODA        2
                      ASPLANCHNA HERRICKI                ROTIFERA     1647
                      BRACHIONUS ANGULARIS               ROTIFERA      294
                      BRACHIONUS CAUDATUS                ROTIFERA       29
                      COLLOTHECA SP.                     ROTIFERA       29
                      CONOCHILOIDES SP.                  ROTIFERA       29
                      CONOCHILUS UNICORNIS               ROTIFERA       59
                      CONTRACTED ROTIFERA                ROTIFERA       29
                      HEXARTHRA MIRA                     ROTIFERA       29
                      KERATELLA COCHLEARIS               ROTIFERA      500
                      KERATELLA CRASSA                   ROTIFERA      206
                      KERATELLA EARLINAE                 ROTIFERA       29
                      PLATYIAS PATULUS                   ROTIFERA       88
                      PLOESOMA HUDSONI                   ROTIFERA       59
                      POLYARTHRA SP.                     ROTIFERA     1206
                      SYNCHAETA SP.                      ROTIFERA     3324
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                         DDT TASK 5 ZOOPLANKTON LISTING
                              SEPTEMBER 24, 1979

---------------------- RIVER=TENNESSEE RIVER   YEAR=79   RIV_MILE=350.0   SAM_LOC=AJ   MN=09   REP_NUM=2 ----------------------

                TAXON                                 GROUP        NUM

                BOSMINA LONGIROSTRIS                  CLADOCERA   8281
                CERIODAPHNIA IMM.                     CLADOCERA     31
                CERIODAPHNIA LACUSTRIS                CLADOCERA      1
                CHYDORUS SP.                          CLADOCERA     63
                DIAPHANOSOMA LEUCHTENBERGIANUM        CLADOCERA    156
                ILYOCRYPTUS SPINIFER                  CLADOCERA      1
                LEPTODORA KINDTII                     CLADOCERA      1
                SIDA CRYSTALLINA                      CLADOCERA      3
                CALANOIDA IMM.                        COPEPODA      31
                CYCLOPOIDA IMM.                       COPEPODA     750
                CYCLOPS VERNALIS                      COPEPODA       1
                DIAPTOMUS PALLIDUS                    COPEPODA       1
                DIAPTOMUS REIGHARDI                   COPEPODA       1
                ERGASILUS SP.                         COPEPODA      31
                MESOCYCLOPS EDAX                      COPEPODA       1
                NAUPLII                               COPEPODA    3313
                TROPOCYCLOPS PRASINUS                 COPEPODA       3
                ASPLANCHNA HERRICKI                   ROTIFERA    1625
                BRACHIONUS ANGULARIS                  ROTIFERA      31
                BRACHIONUS CAUDATUS                   ROTIFERA      31
                BRACHIONUS QUADRIDENTATUS             ROTIFERA      63
                CONOCHILOIDES SP.                     ROTIFERA      31
                HEXARTHRA MIRA                        ROTIFERA      31
                KERATELLA COCHLEARIS                  ROTIFERA     188
                KERATELLA CRASSA                      ROTIFERA     156
                KERATELLA EARLINAE                    ROTIFERA      63
                PLATYIAS PATULUS                      ROTIFERA      31
                PLOESOMA HUDSONI                      ROTIFERA      31
                PLOESOMA TRUNCATA                     ROTIFERA      63
                POLYARTHRA SP.                        ROTIFERA     750
                SYNCHAETA SP.                         ROTIFERA    2094
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                              DOT TASK 5 ZOOPLANKTON LISTING
                                  SEPTEMBER 24, 1979

---------------------- RIVER=TENNESSEE RIVER   YEAR=79   RIV_MILE=350.0   SAM_LOC=AJ   MN=09   REP_NUM=3 ----------------------

                    TAXON                               GROUP        NUM

                    BOSMINA LONGIROSTRIS                CLADOCERA    9599
                    CERIODAPHNIA IMM.                   CLADOCERA       1
                    CERIODAPHNIA LACUSTRIS              CLADOCERA       1
                    CHYDORUS SP.                        CLADOCERA       1
                    DIAPHANOSOMA LEUCHTENBERGIANUM      CLADOCERA     307
                    LEPTODORA KINDTII                   CLADOCERA       1
                    SIDA CRYSTALLINA                    CLADOCERA       3
                    SIMOCEPHALUS IMM.                   CLADOCERA       1
                    CALANOIDA IMM.                      COPEPODA        2
                    CYCLOPOIDA IMM.                     COPEPODA      684
                    CYCLOPS VERNALIS                    COPEPODA        1
                    DIAPTOMUS REIGHARDI                 COPEPODA        1
                    ERGASILUS IMM.                      COPEPODA       47
                    ERGASILUS SP.                       COPEPODA       24
                    MESOCYCLOPS EDAX                    COPEPODA        1
                    NAUPLII                             COPEPODA     3019
                    TROPOCYCLOPS PRASINUS               COPEPODA       24
                    ASPLANCHNA HERRICKI                 ROTIFERA     1934
                    BRACHIONUS ANGULARIS                ROTIFERA      189
                    BRACHIONUS BUDAPESTINENSIS          ROTIFERA       24
                    BRACHIONUS QUADRIDENTATUS           ROTIFERA       94
                    CONOCHILOIDES SP.                   ROTIFERA       24
                    CONOCHILUS UNICORNIS                ROTIFERA       47
                    HEXARTHRA MIRA                      ROTIFERA       71
                    KERATELLA COCHLEARIS                ROTIFERA       94
                    KERATELLA CRASSA                    ROTIFERA       94
                    PLOESOMA HUDSONI                    ROTIFERA       71
                    PLOESOMA TRUNCATA                   ROTIFERA       24
                    POLYARTHRA SP.                      ROTIFERA      519
                    SYNCHAETA SP.                       ROTIFERA     3939
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                              DDT TASK 5 ZOOPLANKTON CALCULATIONS
                                     SEPTEMBER 24, 1979

------------------------------ YEAR=79   RIVER=TENNESSEE RIVER   RIV_MILE=350.0   SAM_LOC=AD   MN=09 ------------------------------

                   TAXON                                    GROUP         MEAN

                   ALONA COSTATA                            CLADOCERA        1
                   BOSMINA LONGIROSTRIS                     CLADOCERA     7285
                   CERIODAPHNIA IMM.                        CLADOCERA        4
                   CERIODAPHNIA LACUSTRIS                   CLADOCERA        1
                   CHYDORUS SP.                             CLADOCERA        6
                   DAPHNIA IMM.                             CLADOCERA        1
                   DAPHNIA RETROCURVA                       CLADOCERA        1
                   DIAPHANOSOMA LEUCHTENBERGIANUM           CLADOCERA       95
                   ILYOCRYPTUS SPINIFER                     CLADOCERA        1
                   LEPTODORA KINDTII                        CLADOCERA        1
                   PLEUROXUS HAMULATUS                      CLADOCERA        1
                   SIDA CRYSTALLINA                         CLADOCERA        1
                   SIMOCEPHALUS VETULUS                     CLADOCERA        1
                   CALANOIDA IMM.                           COPEPODA        14
                   CYCLOPOIDA IMM.                          COPEPODA       534
                   CYCLOPS VERNALIS                         COPEPODA         1
                   DIAPTOMUS PALLIDUS                       COPEPODA         1
                   DIAPTOMUS REIGHARDI                      COPEPODA         1
                   ERGASILUS IMM.                           COPEPODA        36
                   ERGASILUS SP.                            COPEPODA        21
                   EUCYCLOPS AGILIS                         COPEPODA         1
                   MESOCYCLOPS EDAX                         COPEPODA         1
                   NAUPLII                                  COPEPODA      2184
                   TROPOCYCLOPS PRASINUS                    COPEPODA        21
                   ASPLANCHNA HERRICKI                      ROTIFERA       586
                   BRACHIONUS ANGULARIS                     ROTIFERA       129
                   BRACHIONUS BUDAPESTINENSIS               ROTIFERA        48
                   BRACHIONUS CALYCIFLORUS                  ROTIFERA         6
                   BRACHIONUS CAUDATUS                      ROTIFERA        28
                   BRACHIONUS QUADRIDENTATUS                ROTIFERA        48
                   COLLOTHECA SP.                           ROTIFERA        19
                   CONOCHILOIDES SP.                        ROTIFERA        46
                   CONOCHILUS UNICORNIS                     ROTIFERA        46
                   HEXARTHRA MIRA                           ROTIFERA        65
                   KERATELLA COCHLEARIS                     ROTIFERA       195
                   KERATELLA CRASSA                         ROTIFERA        81
                   KERATELLA EARLINAE                       ROTIFERA        12
                   PLOESOMA HUDSONI                         ROTIFERA        29
                   PLOESOMA TRUNCATA                        ROTIFERA        10
                   POLYARTHRA SP.                           ROTIFERA       702
                   SYNCHAETA SP.                            ROTIFERA      1657
                   TRICHOCERCA SP.                          ROTIFERA        38
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                              DDT TASK 5 ZOOPLANKTON LISTING
                                   SEPTEMBER 24, 1979

---------------------- RIVER=TENNESSEE RIVER   YEAR=79   RIV_MILE=350,0   SAM_LOC=AD   MN=09   REP_NUM=1 ----------------------

               TAXON                                GROUP        NUM

               ALONA COSTATA                        CLADOCERA      1
               BOSMINA LONGIROSTRIS                 CLADOCERA   4223
               CERIODAPHNIA IMM.                    CLADOCERA     13
               CERIODAPHNIA LACUSTRIS               CLADOCERA      1
               CHYDORUS SP.                         CLADOCERA      1
               DAPHNIA IMM.                         CLADOCERA      1
               DAPHNIA RETROCURVA                   CLADOCERA      1
               DIAPHANOSOMA LEUCHTENBERGIANUM       CLADOCERA     78
               LEPTODORA KINDTII                    CLADOCERA      1
               PLEUROXUS HAMULATUS                  CLADOCERA      1
               SIDA CRYSTALLINA                     CLADOCERA      1
               CALANOIDA IMM.                       COPEPODA       3
               CYCLOPOIDA IMM.                      COPEPODA     492
               CYCLOPS VERNALIS                     COPEPODA       1
               DIAPTOMUS PALLIDUS                   COPEPODA       1
               DIAPTOMUS REIGHARDI                  COPEPODA       1
               ERGASILUS IMM.                       COPEPODA      26
               ERGASILUS SP.                        COPEPODA      13
               EUCYCLOPS AGILIS                     COPEPODA       1
               MESOCYCLOPS EDAX                     COPEPODA       1
               NAUPLII                              COPEPODA    1451
               TROPOCYCLOPS PRASINUS                COPEPODA      26
               ASPLANCHNA HERRICKI                  ROTIFERA     479
               BRACHIONUS ANGULARIS                 ROTIFERA      91
               BRACHIONUS BUDAPESTINENSIS           ROTIFERA      13
               BRACHIONUS CAUDATUS                  ROTIFERA      26
               COLLOTHECA SP.                       ROTIFERA      26
               CONOCHILOIDES SP.                    ROTIFERA      13
               CONOCHILUS UNICORNIS                 ROTIFERA      39
               HEXARTHRA MIRA                       ROTIFERA      13
               KERATELLA COCHLEARIS                 ROTIFERA      78
               KERATELLA CRASSA                     ROTIFERA      26
               PLOESOMA TRUNCATA                    ROTIFERA      13
               POLYARTHRA SP.                       ROTIFERA     337
               SYNCHAETA SP.                        ROTIFERA     725
               TRICHOCERCA SP.                      ROTIFERA      26
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                                DOT TASK 5 ZOOPLANKTON LISTING                                        20
                                     SEPTEMBER 24, 1979

---------------------- RIVER=TENNESSEE RIVER   YEAR=79   RIV_MILE=350.0   SAM_LOC=AD   MN=09   REP_NUM=2 ----------------------

                 TAXON                                    GROUP       NUM

                 BOSMINA LONGIROSTRIS                     CLADOCERA   8788
                 CERIODAPHNIA IMM.                        CLADOCERA      1
                 CERIODAPHNIA LACUSTRIS                   CLADOCERA      1
                 CHYDORUS SP.                             CLADOCERA     19
                 DIAPHANOSOMA LEUCHTENBERGIANUM           CLADOCERA    115
                 ILYOCRYPTUS SPINIFER                     CLADOCERA      1
                 SIDA CRYSTALLINA                         CLADOCERA      1
                 SIMOCEPHALUS VETULUS                     CLADOCERA      1
                 CALANOIDA IMM.                           COPEPODA      38
                 CYCLOPOIDA IMM.                          COPEPODA     423
                 CYCLOPS VERNALIS                         COPEPODA       1
                 DIAPTOMUS PALLIDUS                       COPEPODA       1
                 DIAPTOMUS REIGHARDI                      COPEPODA       1
                 ERGASILUS IMM.                           COPEPODA      19
                 ERGASILUS SP.                            COPEPODA      19
                 MESOCYCLOPS EDAX                         COPEPODA       1
                 NAUPLII                                  COPEPODA    2538
                 TROPOCYCLOPS PRASINUS                    COPEPODA      38
                 ASPLANCHNA HERRICKI                      ROTIFERA     654
                 BRACHIONUS ANGULARIS                     ROTIFERA     173
                 BRACHIONUS BUDAPESTINENSIS               ROTIFERA      38
                 BRACHIONUS CALYCIFLORUS                  ROTIFERA      19
                 BRACHIONUS CAUDATUS                      ROTIFERA      58
                 BRACHIONUS QUADRIDENTATUS                ROTIFERA      19
                 CONOCHILUS UNICORNIS                     ROTIFERA      38
                 HEXARTHRA MIRA                           ROTIFERA      58
                 KERATELLA COCHLEARIS                     ROTIFERA     288
                 KERATELLA CRASSA                         ROTIFERA     154
                 KERATELLA EARLINAE                       ROTIFERA      38
                 PLOESOMA HUDSONI                         ROTIFERA      58
                 PLOESOMA TRUNCATA                        ROTIFERA      19
                 POLYARTHRA SP.                           ROTIFERA     769
                 SYNCHAETA SP.                            ROTIFERA    2058
                 TRICHOCERCA SP.                          ROTIFERA      58
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                                DDT TASK 5 ZOOPLANKTON LISTING
                                     SEPTEMBER 24, 1979

---------------------- RIVER=TENNESSEE RIVER   YEAR=79   RIV_MILE=350.0   SAM_LOC=AO   MN=09   REP_NUM=3 ----------------------

                 TAXON                                  GROUP      NUM

                 BOSMINA LONGIROSTRIS                  CLADOCERA   8844
                 CERIODAPHNIA LACUSTRIS                CLADOCERA      1
                 DIAPHANOSOMA LEUCHTENBERGIANUM        CLADOCERA     94
                 LEPTODORA KINDTII                     CLADOCERA      1
                 SIDA CRYSTALLINA                      CLADOCERA      1
                 CALANOIDA IMM.                        COPEPODA       2
                 CYCLOPOIDA IMM.                       COPEPODA     688
                 CYCLOPS VERNALIS                      COPEPODA       1
                 DIAPTOMUS REIGHARDI                   COPEPODA       1
                 ERGASILUS IMM.                        COPEPODA      63
                 ERGASILUS SP.                         COPEPODA      31
                 MESOCYCLOPS EDAX                      COPEPODA       1
                 NAUPLII                               COPEPODA    2563
                 TROPOCYCLOPS PRASINUS                 COPEPODA       1
                 ASPLANCHNA HERRICKI                   ROTIFERA     625
                 BRACHIONUS ANGULARIS                  ROTIFERA     125
                 BRACHIONUS BUDAPESTINENSIS            ROTIFERA      94
                 BRACHIONUS QUADRIDENTATUS             ROTIFERA     125
                 COLLOTHECA SP.                        ROTIFERA      31
                 CONOCHILOIDES SP.                     ROTIFERA     125
                 CONOCHILUS UNICORNIS                  ROTIFERA      63
                 HEXARTHRA MIRA                        ROTIFERA     125
                 KERATELLA COCHLEARIS                  ROTIFERA     219
                 KERATELLA CRASSA                      ROTIFERA      63
                 PLOESOMA HUDSONI                      ROTIFERA      31
                 POLYARTHRA SP.                        ROTIFERA    1000
                 SYNCHAETA SP.                         ROTIFERA    2188
                 TRICHOCERCA SP.                       ROTIFERA      31
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Table 5-9

OCCURRENCE AND ABUNDANCE OF BENTHIC MACROINVERTEBRATE FAUNA COLLECTED BY GRAB SAMPLING DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/METER^2)

	TRM[a] 350.0			TRM 345.3		HSBM[b]	HSBM	HSBM	HSBM	BFCM[c]	ICM[d]	ERM[e]
Taxa	L[f]	M[g]	R[h]	L	R	5.9	5.37	2.4	1.3	1.2	0.0	20.7
Diptera												
Ceratopogonidae	-	-	-	-	-	-	20	16	12	42	-	4
Culicoides sp.	-	-	-	-	-	-	-	-	-	-	2	-
Chaoboridae												
Chaoborus sp.	66	34	40	8	2	2	-	-	2	-	-	2
Chironomidae												
Ablabesmyia sp.	28	8	2	6	2	-	-	2	6	2	6	81
Chironomus sp.	2	2	-	-	-	8	248	22	201	2	-	4
Coelotanypus sp.	111	93	121	6	-	-	-	-	6	60	8	8
Cryptochironomus sp.	-	8	2	12	10	8	2	46	4	6	46	-
Dicrotendipes sp.	-	-	-	4	-	2	2	4	4	-	6	-
Epoicocladius sp.	10	-	-	-	-	-	-	-	-	-	-	8
Orthocladiinae	-	-	-	-	-	-	-	4	-	-	-	-
Parachironomus sp.	-	-	-	2	-	-	-	24	6	-	-	-
Paratendipes sp.	-	-	-	-	-	-	-	-	-	-	-	2
Polypedilum sp.	-	-	-	14	-	-	-	4	8	-	-	2
Procladius sp.	6	36	4	4	-	24	203	268	733	105	127	4
Stenochironomus sp.	-	-	-	-	-	-	-	-	-	-	2	-
Stictochironomus sp.	-	-	-	30	-	-	-	-	-	-	-	4
Tanypus sp.	-	-	-	-	2	-	-	97	183	236	16	-
Tribelos sp.	-	-	-	-	-	-	-	-	-	-	-	40
Xenochironomus sp.	-	48	-	81	276	-	-	-	2	-	-	-
Gastropoda												
Physidae												
Physa sp.	-	-	-	-	-	4	-	-	-	-	-	-
Bithyniidae												
Somatogyrus sp.	4	22	24	-	-	-	-	-	-	-	-	-
Viviparidae												
Campeloma sp.	-	-	-	4	8	-	-	-	-	-	-	-
Lioplax sp.	-	-	-	-	-	-	-	-	-	-	2	-
Mollusca												
Cyrenidae												
Corbicula sp.	68	16	95	54	34	-	-	-	-	-	8	6
Sphaeriidae												
Sphaerium sp.	6	44	18	-	6	-	2	6	2	10	2	2
Unionidae												
Leptodea sp.	-	-	-	-	2	-	-	-	-	-	-	2
Proptera sp.	-	2	-	-	-	-	-	-	-	-	-	-

Table 5-9

OCCURRENCE AND ABUNDANCE OF BENTHIC MACROINVERTEBRATE FAUNA COLLECTED BY GRAB SAMPLING DURING LATE SUMMER/EARLY FALL (AVERAGE NUMBER/METER^2)

(continued)

	TRM[a] 350.0			TRM 345.3		HSBM[b]	HSBM	HSBM	HSBM	BFCM[c]	ICM[d]	ERM[e]
Taxa	L[f]	M[g]	R[h]	L	R	5.9	5.37	2.4	1.3	1.2	0.0	20.7
Ephemeroptera												
Caenidae												
Caenis sp.	-	-	-	-	-	-	-	-	-	-	2	-
Ephemeridae												
Hexagenia sp.	278	60	24	4	-	-	-	-	-	2	16	522
Trichoptera												
Hydropsychidae												
Cheumatopsyche sp.	-	-	-	-	6	-	-	-	-	-	-	-
Psychomyiidae												
Cyrnellus sp.	-	-	-	2	6	-	-	-	-	-	-	-
Odonata												
Corduliidae												
Neurocordulia sp.	-	-	-	-	-	-	4	-	-	-	-	-
Gomphidae												
Dromogomphus sp.	-	-	-	-	2	-	-	-	-	-	-	-
Gomphus sp.	-	-	-	-	-	-	-	-	4	-	-	-
Libellulidae												
Perithemis sp.	-	-	-	-	-	-	2	-	-	-	-	-
Macromiidae												
Didymops sp.	-	-	-	-	-	-	-	-	-	-	2	-
Oligochaeta												
Tubificidae	52	30	163	20	2	612	2075	119	153	181	129	32
Branchiura sp.	8	16	6	2	-	20	44	38	2	87	2	199
Hirudinea												
Glossiphoniidae	2	2	12	-	-	-	-	-	-	-	42	-
Nemata	-	2	-	-	-	-	-	2	2	-	-	-
Bryozoa												
Lophopodidae												
Pectinatella sp.	-	-	8	-	-	-	-	-	14	-	4	-
Isopoda												
Asellidae												
Asellus sp.	-	-	-	-	-	2	6	-	-	-	-	-

Table 5-9

OCCURRENCE AND ABUNDANCE OF BENTHIC MACROINVERTEBRATE FAUNA COLLECTED BY GRAB SAMPLING DURING LATE SUMMER/EARLY FALL

(AVERAGE NUMBER/METER^2)

(continued)

	TRM[a] 350.0			TRM 345.3		HSBM[b]	HSBM	HSBM	HSBM	BFCM[c]	ICM[d]	ERM[e]
Taxa	L[f]	M[g]	R[h]	L	R	5.9	5.37	2.4	1.3	1.2	0.0	20.7
Megaloptera												
Sialidae												
Sialis sp.	4	-	-	-	-	-	-	-	-	-	-	-
Coleoptera												
Elmidae												
Dubiraphia sp.	-	-	-	-	-	-	-	-	-	-	-	2
Macronychus sp.	-	-	-	-	-	-	-	-	-	-	-	2

---

a. Tennessee River Mile.
b. Huntsville Spring Branch Mile.
c. Barren Fork Creek Mile.
d. Indian Creek Mile.
e. Elk River Mile.
f. Sample collected from left overbank.
g. Sample collected from midchannel.
h. Sample collected from right overbank.
i. Taxa not found.

Table 5-10

MACROINVERTEBRATE TAXA OCCURRENCE AND ABUNDANCE AS DOCUMENTED FROM HESTER-DENDY TRAP SAMPLERS DURING LATE SUMMER/EARLY FALL

(AVERAGE NUMBER/METER^2)

Taxa	TRM[a] 350.0	TRM 345.2	HSBM[b] 5.9	HSBM 5.37	HSBM 2.4	HSBM 1.3	BFCM[c] 1.2	ICM[d] 0.0
Diptera								
Empididae	-[e]	23	-	-	-	-	-	-
Ceratopogonidae	-	-	-	-	-	-	8	-
Chironomidae								
Ablabesmyia sp.	-	-	31	15	23	23	38	-
Chironomus sp.	-	-	608	15	-	-	-	-
Cricotopus sp.	131	85	-	-	-	-	-	-
Dicrotendipes sp.	8	-	723	854	1238	2315	2862	315
Glyptotendipes sp.	-	-	777	1346	1169	2354	5569	2285
Polypedilum sp.	-	8	-	-	-	-	-	-
Mollusca								
Corbicula sp.	-	-	-	-	-	-	8	-
Ephemeroptera								
Caenidae								
Caenis sp.	-	-	-	-	-	-	23	-
Heptageniidae								
Stenacron sp.	8	-	-	-	-	-	-	-
Tricorythidae								
Tricorythodes sp.	-	62	-	-	-	-	-	-
Trichoptera								
Hydropsychidae								
Cheumatopsyche sp.	3323	6915	-	-	-	-	-	-
Hydropsyche sp.	38	9185	-	-	-	-	-	-
Psychomyiidae								
Crynellus sp.	23	23	-	-	-	-	108	-
Neureclipsis sp.	8	-	-	-	-	-	-	-
Odonata								
Coenagrionidae								
Argia sp.	-	-	-	-	-	-	-	15
Oligochaetae								
Tubificidae	-	-	23	-	-	15	-	-
Naididae	-	8	-	-	-	-	-	-
Nemata	8	-	-	-	-	-	8	31
Tricladida								
Planariidae								
Dugesia sp.	31	-	-	-	-	-	-	-

Table 5-10

MACROINVERTEBRATE TAXA OCCURRENCE AND ABUNDANCE AS DOCUMENTED FROM HESTER-DENDY TRAP SAMPLERS DURING LATE SUMMER/EARLY FALL (AVERAGE NUMBER/METER^2)

(continued)

Taxa	TRM[a] 350.0	TRM 345.2	HSBM[b] 5.9	HSBM 5.37	HSBM 2.4	HSBM 1.3	BFCM[c] 1.2	ICM[d] 0.0
Amphipoda								
Talitridae								
Hyalella sp.	38	-	-	-	-	-	-	-

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a. Tennessee River Mile.
b. Huntsville Spring Branch Mile.
c. Barren Fork Creek Mile.
d. Indian Creek Mile.
e. *Taxa not found.*

Table 5-11

RESULTS OF MICROSCOPICAL ANALYSIS OF ZOOPLANKTON SAMPLES ANALYZED FOR PERCENTAGE COMPOSITION BY ZOOPLANKTON, OTHER ORGANIC MATTER, AND INORGANIC MATTER DURING LATE FALL/EARLY WINTER

				Mean Percentage		
River Mile	Date	Replicate Number	Number of Subsamples	Zooplankton	Other Organics	Inorganic
HSBM 5.9	12-16-79	1C	10	0.9	96.3	2.8
		2C	10	0.6	98.0	1.4
		3C	10	0.4	98.5	1.2
HSBM 2.4	12-15-79	1C	10	2.4	88.5	9.1
		2C	10	4.9	88.1	7.0
		3C	10	3.0	90.7	6.3
ICM 4.6	12-15-79	1C	10	1.6	90.0	8.4
		2C	10	0.6	94.7	4.7
		3C	10	1.3	96.7	2.0
ICM 0.8	12-16-79	1C	10	5.7	92.7	1.7
		2C	10	21.0	78.3	0.6
		3C*	10	34.6	64.2	1.2
		3C**	10	36.2	63.1	0.7
		3C***	10	25.5	74.5	0.0

---

* Sample was diluted to 40 mL, whole sample counted.

** Sample was diluted to 80 mL, 40 mL counted.

*** Sample was diluted to 120 mL, 40 mL counted.

Table 5-7A

OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN SAMPLES COLLECTED DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/LITER)

	TRM 350.0[a]			TRM 345.2			TRM 315.0		
	L[b]	M[c]	R[d]	L	M	R	L	M	R
CHRYSOPHYTA									
Achnanthes sp.	11,422[h]	3,115	25,958	12,460	10,383	8,307	3,115	3,115	3,115
Asterionella sp.	-	-	-	4,153	-	-	-	-	-
Attheya sp.	-	1,038	-	-	-	-	-	-	-
Chaetoceros sp.	6,230	-	8,307	6,230	3,115	-	-	-	-
Characiopsis sp.	-	-	-	-	-	-	-	-	-
Cocconeis sp.	1,038	1,038	3,115	-	-	-	-	-	-
Cyclotella sp.	-	-	-	-	-	1,038	-	-	-
Cymbella sp.	-	-	-	-	-	1,038	-	1,038	-
Diatoma sp.	-	-	-	-	-	-	-	-	-
Dichotomococcus sp.	-	-	-	7,268	-	-	6,230	-	-
Dinobryon sp.	3,115	2,077	1,038	-	-	-	-	-	4,153
Fragilaria sp.	-	-	1,038	-	-	-	-	-	-
Gomphonema sp.	3,115	-	1,038	-	-	-	-	-	-
Gyrosigma sp.	-	-	-	-	-	-	-	-	-
Melosira sp.	575,237	414,295	463,097	788,095	609,502	210,782	427,793	372,762	586,658
Navicula sp.	-	3,115	1,038	-	2,077	1,038	-	-	1,038
Nitzchia sp.	-	-	1,038	1,038	-	1,038	1,038	1,038	-
Rhizosolenia sp.	5,192	2,077	3,115	-	2,077	-	-	-	1,038
Rhoicosphenia sp.	1,038	-	-	-	-	-	-	-	-
Stauroneis sp.	-	-	-	-	-	1,038	-	-	-
Stephanodiscus sp.	50,878	29,073	45,687	35,303	32,188	17,652	24,920	13,498	17,652
Surirella sp.	-	-	-	-	-	-	-	-	-
Synedra sp.	42,572	16,613	40,495	25,958	103,833	26,997	21,805	22,843	22,843
Synura sp.	-	-	-	-	-	-	-	-	-
Unidentified Diatom	-	-	-	-	-	-	-	-	-

Table 5-7A (continued)

TRM 289.9										
L	M	R	HS5.9^e	HS5.37	HS2.4	HS1.3	HS0.0	BF1.2^f	IC4.0^g	IC0.0
* 4,153	1,038	1,038	4,153	5,192	17,652	12,456	4,153	28,035	65,394	137,016
2,077	-	-	-	7,268	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	3,114	-
36,342	-	4,153	-	-	-	-	12,460	8,307	-	-
-	-	1,038	14,537	6,230	19,728	217,980	4,153	45,687	189,954	180,612
3,115	1,038	2,077	-	1,038	1,038	3,114	-	-	-	-
-	-	-	-	-	-	-	-	-	3,114	-
-	-	-	2,077	10,383	7,268	12,456	-	4,153	-	3,114
-	-	-	-	-	-	-	-	-	-	3,114
-	-	-	-	-	-	-	-	28,035	15,570	12,456
-	10,383	3,115	-	-	-	-	-	4,153	-	-
-	-	-	-	10,383	13,498	-	-	-	-	3,114
-	-	-	-	1,038	2,077	-	-	-	-	-
-	-	-	-	-	1,038	-	1,038	2,077	-	-
2,448,390	707,105	912,695	7,268	890,890	1,271,958	28,387,224	548,240	5,315,228	32,862,042	16,080,696
1,038	329,152	3,115	61,262	35,303	63,338	180,612	15,575	124,600	112,104	74,736
-	-	-	12,460	11,422	3,115	-	-	-	3,114	3,114
-	2,077	-	-	-	-	-	-	-	-	-
-	-	-	-	-	1,038	-	-	-	-	3,114
-	-	-	-	-	-	-	-	-	-	-
103,833	18,690	22,843	-	2,077	509,822	1,367,046	11,422	255,430	865,692	1,036,962
-	-	-	-	-	-	-	-	3,115	-	3,114
62,300	16,613	25,958	25,958	40,495	126,677	843,894	36,342	275,158	473,328	345,654
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	3,114	-	-	-	-

*Taxa listing identical to preceding page sequence

Table 5-7A

OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN SAMPLES COLLECTED
DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/LITER)
(continued)

	TRM 350.0[a]			TRM 345.2			TRM 315.0		
	L[b]	M[c]	R[d]	L	M	R	L	M	R
CHLOROPHYTA									
Acanthosphaera sp.	-	-	-	-	-	-	-	-	-
Actinastrum sp.	14,537	29,073	18,690	16,613	16,613	8,307	4,153	-	4,153
Ankistrodesmus sp.	7,268	2,077	-	4,153	1,038	-	6,230	4,153	4,153
Botryococcus sp.	-	-	-	-	-	-	-	-	-
Bracteacoccus sp.	-	3,115	-	-	-	-	-	-	-
Carteria sp.	-	-	-	-	-	-	-	-	-
Chlamydomonas sp.	88,258	74,760	77,875	38,418	28,035	21,805	26,997	22,843	23,882
Chlorella sp.	19,728	15,575	7,268	14,537	18,690	12,460	14,537	22,843	26,997
Chlorococcum sp.	-	-	-	-	-	-	-	-	-
Chlorogonium sp.	1,038	-	-	-	-	-	-	-	-
Chodatella sp.	4,153	5,192	4,153	8,307	2,077	-	5,192	4,153	1,038
Closteridium sp.	-	-	1,038	-	-	-	-	-	-
Closteriopsis sp.	-	1,038	-	-	-	-	2,077	-	-
Closterium sp.	-	-	-	-	-	-	-	-	-
Coelastrum sp.	12,460	8,307	-	16,613	-	-	-	-	-
Cosmarium sp.	1,038	2,077	1,038	-	1,038	-	-	-	-
Crucigenia sp.	29,073	47,763	8,307	4,153	8,307	8,307	-	24,920	24,920
Dactylococcus sp.	-	-	-	-	-	-	-	-	-
Dictyosphaerium sp.	86,182	29,073	109,025	41,533	19,728	62,300	4,153	23,882	21,805
Elakatothrix sp.	-	-	-	-	-	-	-	-	-
Eudorina sp.	-	9,345	-	-	-	-	-	-	-
Franceia sp.	1,038	2,077	1,038	2,077	2,077	2,077	-	-	-
Gloeoactinium sp.	-	24,920	-	-	-	-	-	-	-
Golenkinia sp.	20,767	18,690	16,613	15,575	9,345	2,077	7,268	4,153	2,077
Gonium sp.	-	-	-	15,575	-	-	-	-	-

Table 5-7A (continued)

TRM 289.9										
L	M	R	HS5.9^e	HS5.37	HS2.4	HS1.3	HS0.0	BF1.2^f	IC4.0^g	IC0.0
* -	-	2,077	-	-	-	-	-	-	-	-
94,488	4,395	8,307	-	-	56,070	566,748	12,460	205,590	541,836	548,064
11,422	2,077	4,153	8,307	7,268	47,763	330,084	5,192	76,837	221,094	99,648
-	-	-	-	-	-	-	8,307	-	-	-
19,728	15,575	4,153	-	-	-	28,026	3,115	1,038	155,700	31,140
-	-	-	-	-	-	-	-	-	-	3,114
106,948	20,767	37,380	86,182	76,837	386,260	8,706,744	174,440	742,408	865,692	778,500
315,653	56,070	30,112	-	-	124,600	1,202,004	2,077	258,545	806,526	822,096
-	-	-	-	-	-	-	6,230	-	-	21,798
3,115	-	5,192	-	-	15,575	15,570	6,230	12,460	12,456	21,798
2,077	3,115	1,038	-	1,038	60,223	211,752	5,192	28,035	186,840	214,866
-	-	-	-	-	2,077	-	1,038	-	-	-
4,153	1,038	-	1,038	1,038	8,307	28,026	-	-	6,228	3,114
-	-	-	1,038	-	-	12,456	-	1,038	3,114	-
-	-	-	-	-	-	49,824	-	74,760	59,166	68,508
-	-	-	2,077	-	1,038	6,228	-	-	-	-
16,613	4,153	4,153	4,153	8,307	49,840	653,940	-	220,127	386,136	351,882
-	3,115	-	-	-	-	-	-	-	-	12,456
82,028	-	-	14,537	-	13,498	87,192	30,112	-	24,912	37,368
8,307	4,153	2,077	-	-	-	-	-	2,077	15,570	-
-	-	-	-	-	4,153	373,680	-	16,613	24,912	-
-	-	-	-	-	-	-	-	1,038	-	-
4,153	-	-	-	-	7,268	49,824	-	33,227	18,684	12,456
25,958	6,230	7,268	1,038	1,038	15,575	93,420	15,575	22,843	43,596	37,368
-	-	-	4,153	-	-	24,912	14,537	-	-	34,254

*Taxa listing identical to preceding page sequence

Table 5-7A

OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN SAMPLES COLLECTED DURING LATE SUMMER/EARLY FALL

(AVERAGE NUMBER/LITER)

(continued)

	TRM 350.0[a]			TRM 345.2			TRM 315.0		
	L[b]	M[c]	R[d]	L	M	R	L	M	R
CHLOROPHYTA (cont.)									
Hyalotheca sp.	33,227	20,767	28,035	-	5,192	8,307	4,153	9,345	-
Kirchneriella sp.	65,415	50,878	31,150	14,537	-	-	8,307	-	12,460
Micractinium sp.	18,690	2,077	-	11,422	16,613	-	2,077	8,307	-
Micrasterias sp.	-	-	-	-	-	-	-	-	-
Oocystis sp.	19,728	9,345	3,115	8,307	4,153	4,153	-	-	2,077
Pandorina sp.	-	16,613	-	-	-	-	-	-	-
Pediastrum sp.	3,115	8,307	-	8,307	49,840	-	31,150	23,882	1,038
Planktosphaeria sp.	-	-	29,073	-	-	8,307	-	-	-
Polyedriopsis sp.	-	-	-	-	-	1,038	1,038	-	-
Protococcus sp.	104,872	91,373	97,603	186,900	4,153	28,035	28,035	-	-
Pteromonas sp.	3,115	1,038	1,038	-	-	1,038	1,038	1,038	-
Pyramimonas sp.	-	-	-	-	-	-	-	-	-
Quadrigula sp.	-	6,230	1,038	-	-	-	-	-	-
Roya sp.	-	-	-	-	-	-	-	-	-
Scenedesmus sp.	140,175	116,293	43,610	79,952	50,878	22,843	41,533	64,377	83,067
Schroederia sp.	2,077	1,038	2,077	1,038	-	2,077	1,038	-	3,115
Selenastrum sp.	2,077	1,038	3,115	6,230	4,153	-	4,153	-	9,345
Staurastrum sp.	3,115	-	2,077	-	-	-	-	-	-
Tetraedron sp.	5,192	5,192	2,077	3,115	-	-	3,115	1,038	1,038
Tetrastrum sp.	4,153	-	4,153	-	-	-	4,153	-	4,153
Treubaria sp.	1,038	1,038	1,038	2,077	4,153	-	-	-	7,268
Trochiscia sp.	2,077	1,038	3,115	-	1,038	-	-	-	2,077
Unidentified Green Colony	80,990	-	-	-	-	-	-	62,300	24,920
Unidentified (*Treubaria*?)	-	1,038	2,077	-	2,077	-	-	-	1,038

Table 5-7A (continued)

TRM 289.9			HS5.9^{e}	HS5.37	HS2.4	HS1.3	HS0.0	BF1.2^{f}	IC4.0^{g}	IC0.0
L	M	R								
* 12,460	-	-	-	-	-	6,228	-	1,038	-	-
71,645	12,460	4,153	4,153	1,038	56,070	99,648	11,422	120,447	43,596	292,716
34,265	13,498	-	-	-	22,843	37,368	2,077	19,728	152,586	242,892
1,038	-	-	-	-	-	-	-	-	-	-
5,192	-	4,153	-	-	3,115	124,560	-	8,307	34,254	-
-	-	33,227	-	-	-	99,648	-	-	-	-
-	4,153	18,690	-	-	-	-	8,307	63,338	146,358	102,762
-	-	-	-	33,227	-	-	-	-	49,824	-
-	-	-	-	-	-	-	-	-	-	-
99,680	-	-	8,307	-	55,032	597,888	43,610	148,482	280,260	211,752
2,077	-	1,038	-	1,038	1,038	-	-	3,115	3,114	9,342
1,038	-	1,038	-	-	1,038	9,342	1,038	6,230	18,684	34,254
-	-	-	-	-	-	-	-	11,422	-	-
-	-	-	-	-	-	-	3,114	-	6,228	3,114
187,938	67,492	53,993	43,610	22,843	371,723	2,391,552	103,833	936,577	2,260,764	1,488,492
11,422	-	1,038	-	2,077	7,268	46,710	6,230	20,767	161,928	137,016
19,728	3,115	7,268	6,230	6,230	72,683	738,018	1,038	161,980	292,716	354,996
-	-	-	-	-	-	-	-	-	-	-
-	2,077	1,038	-	7,268	22,843	124,560	4,153	59,185	121,446	115,218
-	-	-	-	-	20,767	99,648	-	74,760	292,716	68,508
1,038	-	-	-	-	2,077	3,114	-	12,460	18,684	9,342
1,038	1,038	4,153	-	-	1,038	-	12,460	268,928	15,570	65,394
-	-	-	-	-	-	-	-	-	-	-
1,038	-	-	-	1,038	-	3,114	1,038	6,230	-	3,114

*Taxa listing identical to preceding page sequence

Table 5-7A

OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN SAMPLES COLLECTED DURING LATE SUMMER/EARLY FALL

(AVERAGE NUMBER/LITER)

(continued)

	TRM 350.0[a]			TRM 345.2			TRM 315.0		
	L[b]	M[c]	R[d]	L	M	R	L	M	R
CRYPTOPHYTA									
Cryptomonas sp.	1,038	4,153	-	-	-	-	2,077	-	-
CYANOPHYTA									
Anabaena sp.	119,408	57,108	142,252	117,332	28,035	48,802	41,533	10,383	8,307
Anabaenopsis sp.	-	-	-	-	-	-	141,213	-	-
Anacystis sp.	2,271,873	901,273	1,407,980	681,147	646,881	194,168	242,970	186,900	97,603
Aphanocapsa sp.	6,230	-	-	-	-	-	-	-	-
Aphanothece sp.	-	-	-	-	-	-	-	-	-
Chroococcus sp.	51,917	53,993	25,958	-	6,230	33,227	-	-	8,307
Dactylococcopsis sp.	33,227	18,690	8,307	9,345	12,460	3,115	10,383	6,230	6,230
Gloeothece sp.	-	-	-	-	-	-	-	-	-
Lyngbya sp.	3,115	2,077	1,038	2,077	1,038	-	-	1,038	-
Merismopedia sp.	614,693	696,722	680,108	657,265	117,332	294,887	74,760	304,232	103,833
Oscillatoria sp.	33,227	25,958	15,575	24,920	14,537	7,268	3,115	4,153	14,537
Oscillatoria (spiral)	1,038	-	-	-	-	-	-	1,038	1,038
Raphidiopsis sp.	-	-	-	-	-	-	-	-	-
Spirulina sp.	-	-	-	-	-	-	-	-	-
Synechococcus sp.	-	-	-	-	-	-	-	-	-
EUGLENOPHYTA									
Cryptoglena sp.	4,153	1,038	3,115	-	1,038	1,038	1,038	3,115	-
Euglena sp.	3,115	2,077	2,077	-	13,498	-	4,153	1,038	4,153
Phacus sp.	-	-	-	-	-	-	-	-	-
Trachelomonas sp.	-	-	-	1,038	1,038	-	-	-	1,038

Table 5-7A (continued)

TRM 289.9										
L	M	R	HS5.9^e	HS5.37	HS2.4	HS1.3	HS0.0	BF1.2^f	IC4.0^g	IC0.0
* 2,077	4,153	7,268	-	1,038	3,115	80,964	12,460	49,840	233,550	140,130
-	17,652	12,460	-	-	-	-	271,005	2,077	96,534	74,736
-	-	-	-	-	-	-	-	-	-	-
615,732	69,568	129,792	137,060	130,830	438,177	1,173,978	207,667	516,052	984,024	734,904
-	-	-	-	-	-	124,560	-	-	-	-
-	-	-	-	-	-	-	-	-	-	379,908
8,307	-	12,460	-	19,728	2,077	-	4,153	-	-	-
63,338	14,537	7,268	34,265	15,575	129,792	1,189,548	8,307	200,398	937,314	663,282
-	-	-	-	-	-	-	-	-	-	12,456
-	-	-	15,575	-	1,038	-	1,038	-	6,228	-
3,171,070	225,318	182,747	633,383	519,166	3,561,483	57,512,466	739,293	6,443,897	51,558,498	27,428,112
13,498	3,115	5,192	118,370	43,610	40,495	274,032	7,268	26,997	71,622	115,218
2,077	-	-	5,192	7,268	14,537	6,228	1,038	12,460	15,570	52,938
-	-	-	-	1,038	4,153	6,228	-	-	-	-
-	-	-	1,038	2,077	5,192	9,342	-	-	6,228	24,912
-	-	-	-	-	-	-	-	2,077	-	-
2,077	1,038	1,038	-	-	2,077	37,368	6,230	14,537	37,368	9,342
11,422	-	2,077	21,805	24,920	97,603	2,226,510	30,112	181,708	59,166	202,410
-	-	-	1,038	1,038	4,153	31,140	-	6,230	9,342	9,342
-	-	-	1,038	2,077	4,153	59,166	-	42,572	-	24,912

*Taxa listing identical to preceding page sequence

Table 5-7A

OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN SAMPLES COLLECTED DURING LATE SUMMER/EARLY FALL

(AVERAGE NUMBER/LITER)
(continued)

	TRM 35[illegible].0[a]			TRM 345.2			TRM 315.0		
	L[b]	M[c]	R[d]	L	M	R	L	M	R
PYRROPHYTA									
Glenodinium sp.	-	-	-	-	2,077	-	-	-	-
Gymnodinium sp.	-	-	-	-	1,038	-	-	-	-

---

a. Tennessee River Mile.
b. Left Overbank.
c. Midchannel.
d. Right Overbank.
e. Huntsville Spring Branch Mile.
f. Barren Fork Creek Mile.
g. Indian Creek Mile.

Table 5-7A (continued)

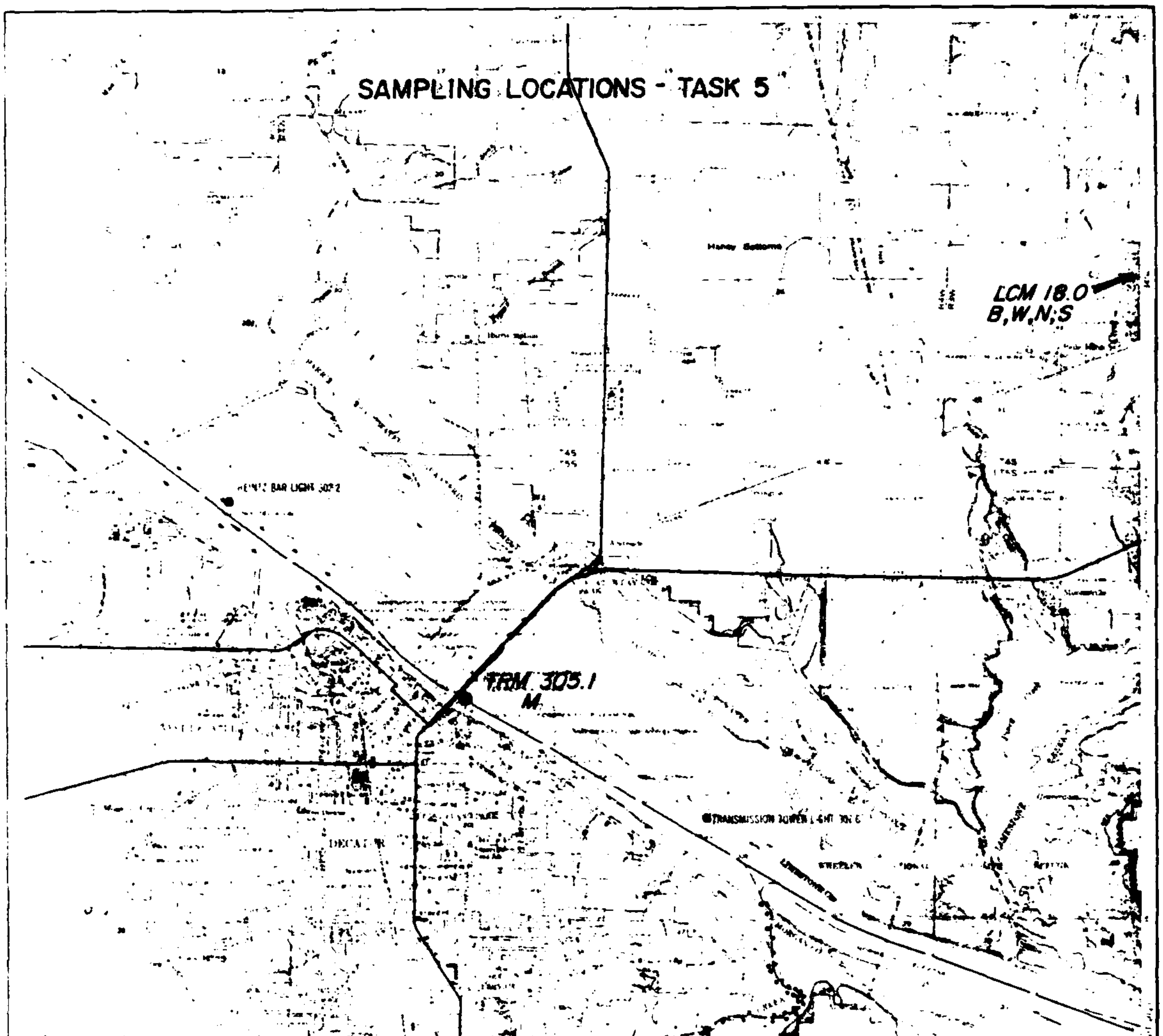
	TRM 289.9										
	L	M	R	HS5.9[e]	HS5.37	HS2.4	HS1.3	HS0.0	BF1.2[f]	IC4.0[g]	IC0.0
*	-	-	2,077	1,038	-	-	-	-	-	-	-
	-	-	-	-	-	2,077	-	-	6,230	-	-

*Taxa listing identical to preceding page sequence

Appendix

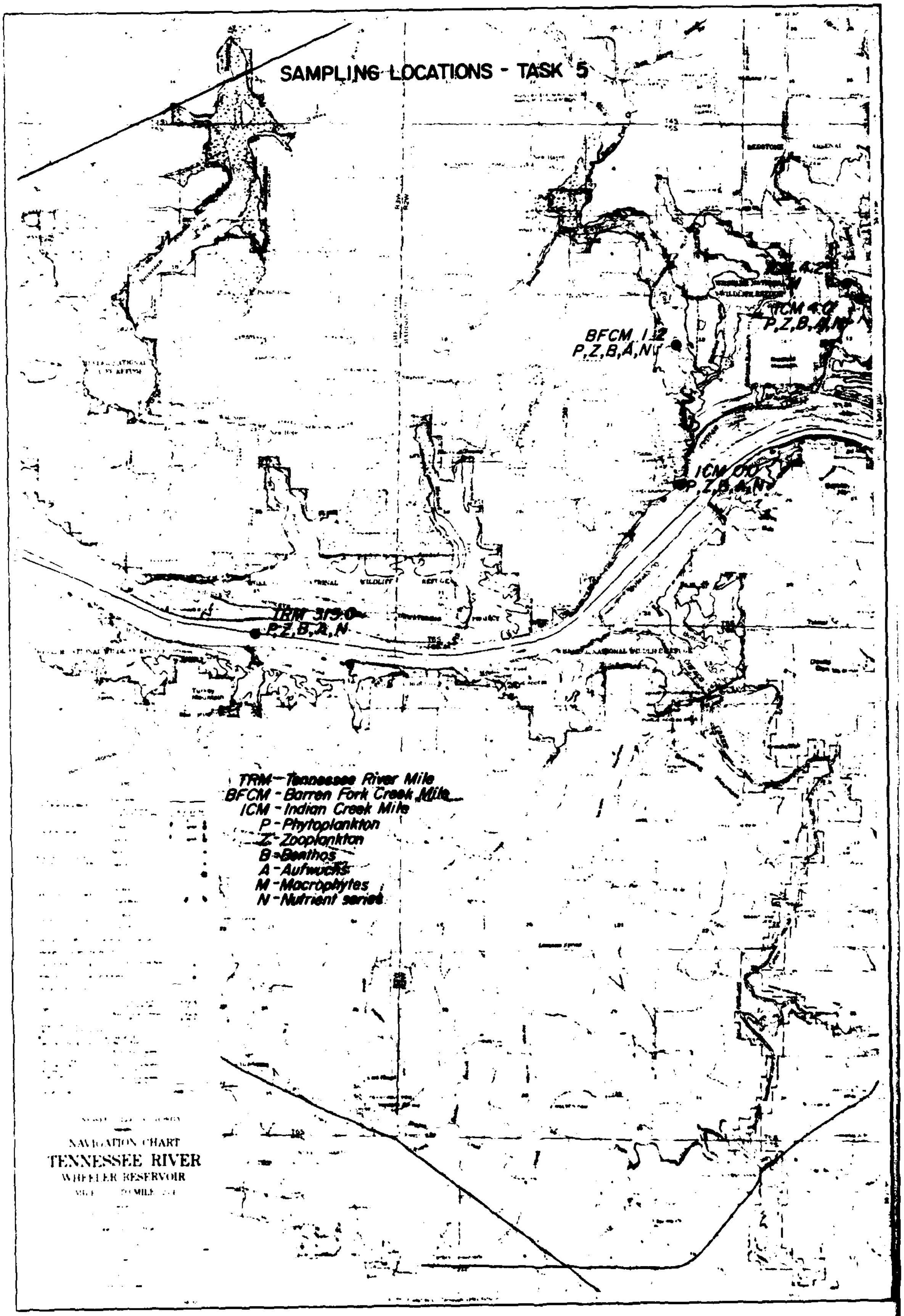
Task 5

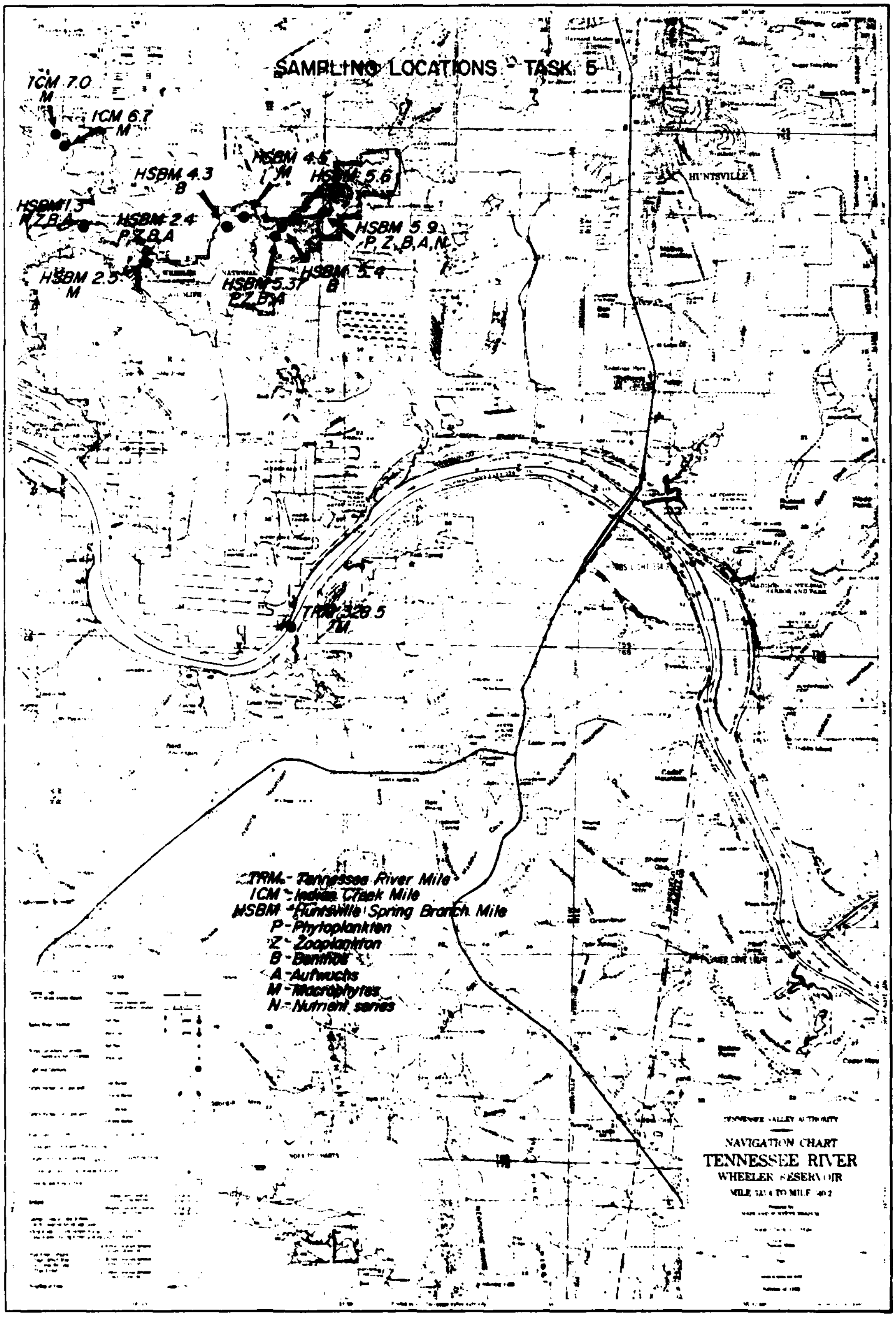
Maps of Sampling Sites

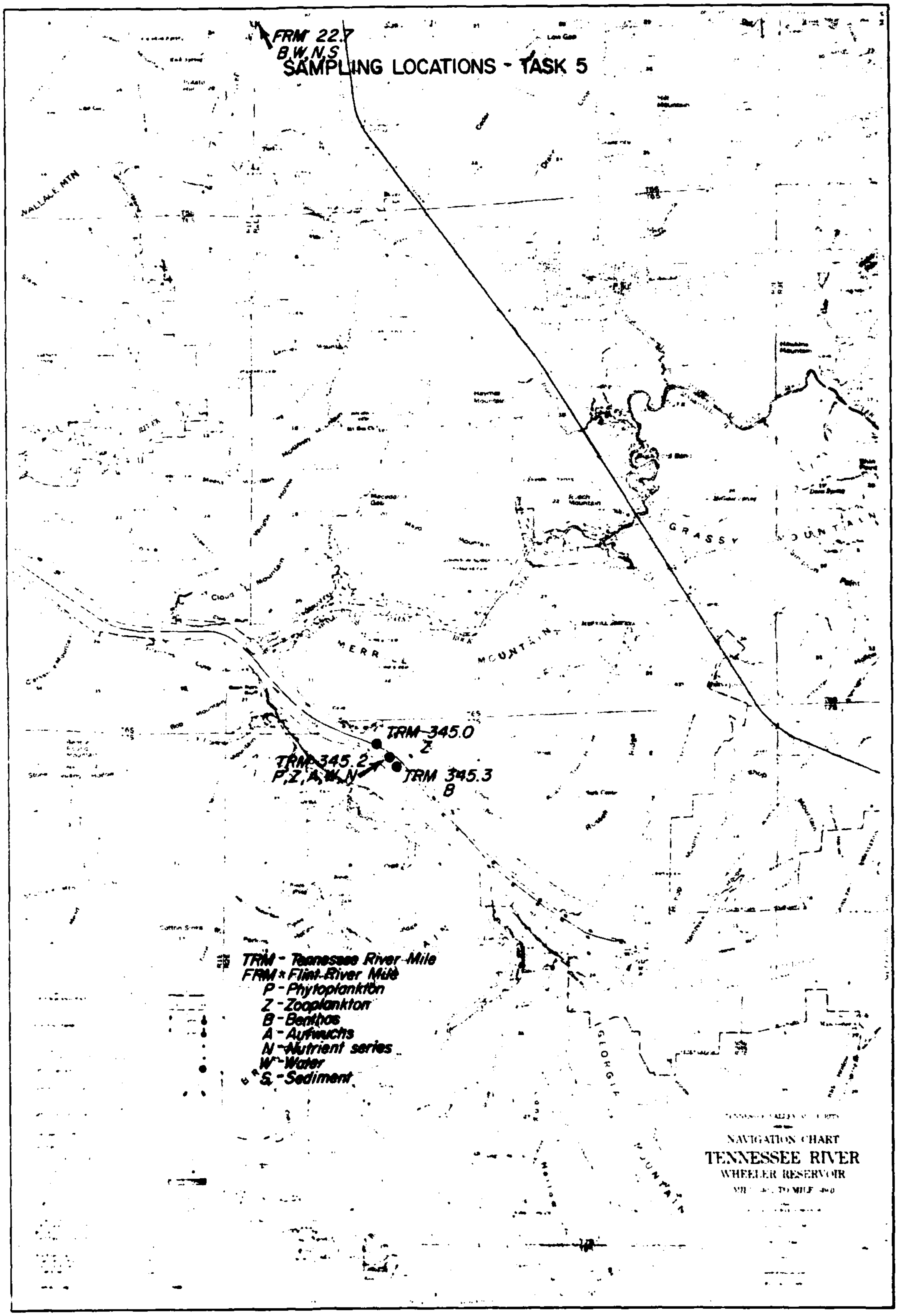


SAMPLING LOCATIONS - TASK 5

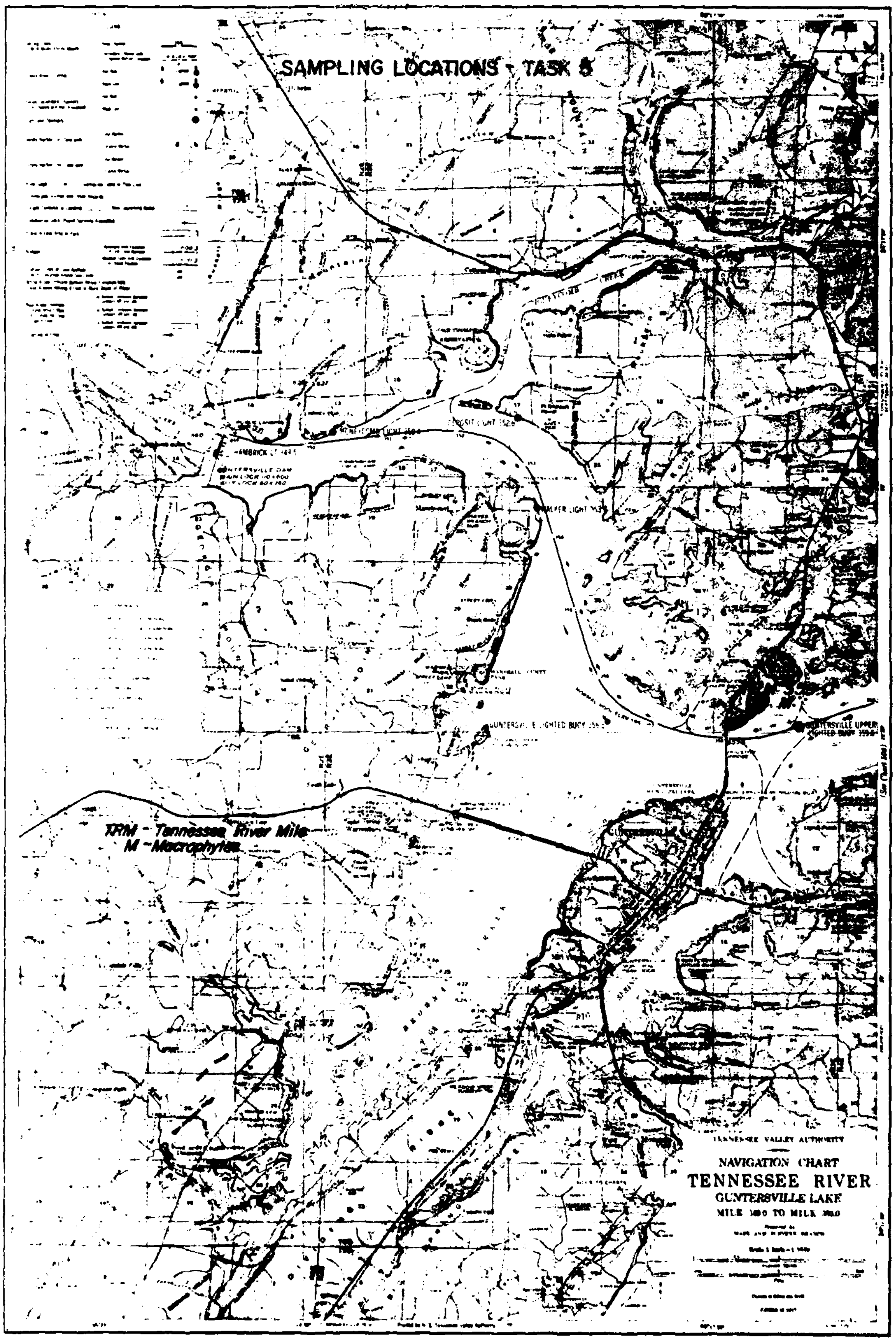
SAMPLING LOCATIONS - TASK 5

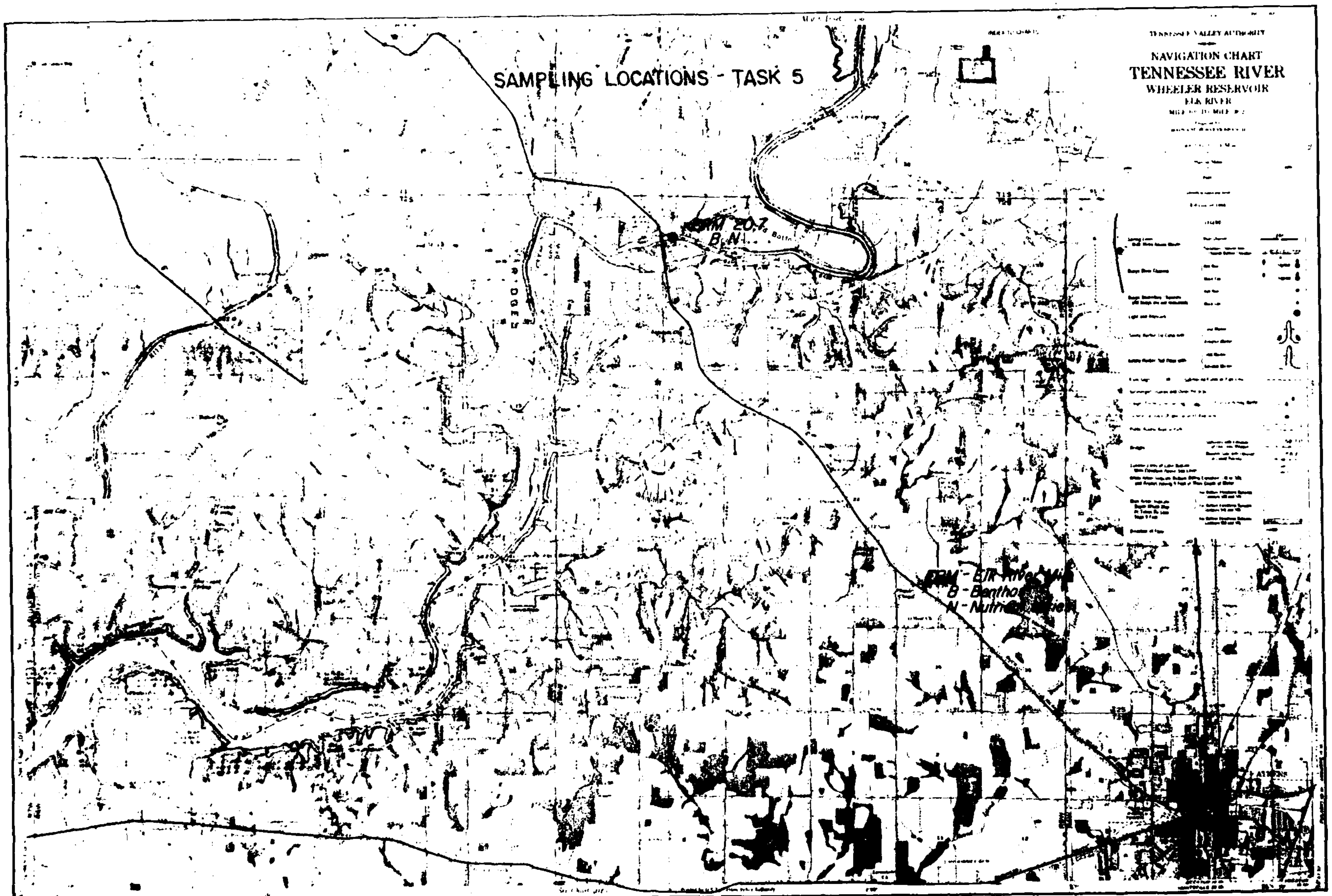



SAMPLING LOCATIONS - TASK 5
ICM 7.0
M
ICM 6.7
M
HSBM 4.5
M
HSBM 4.3
B
HSBM 5.6
HSBM 1.3
P,Z,B,A
HSBM 2.4
P,Z,B,A
HSBM 5.9
P,Z,B,A,N
HSBM 2.5
M
HSBM 5.37
P,Z,B,A
HSBM 5.4
B
TRM 328.5
M
HUNTSVILLE
TRM - Tennessee River Mile
ICM - Indian Creek Mile
HSBM - Huntsville Spring Branch Mile
P - Phytoplankton
Z - Zooplankton
B - Benthos
A - Aufwuchs
M - Macrophytes
N - Nutrient series
TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR



SAMPLING LOCATIONS - TASK 5


SAMPLING LOCATIONS - TASK 5
HAMBRICK LT.
GUNTERSVILLE DAM
MAIN LOCK
HONEYCOMB LIGHT
CROSSIT LIGHT 352.6
WALKER LIGHT
MARSHALL COUNTY PARK
GUNTERSVILLE LIGHTED BUOY
GUNTERSVILLE UPPER LIGHTED BUOY
TRM - Tennessee River Mile
M - Macrophytes
TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
GUNTERSVILLE LAKE



SAMPLING LOCATIONS - TASK 5

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION OF HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS, WHEELER RESERVOIR, ALABAMA

TASK 6

VOLUME I. HYDROLOGIC AND SEDIMENT DATA

Tennessee Valley Authority
Office of Natural Resources

August 1980

PREFACE

This document was prepared in support of the Envineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

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LIST OF FIGURES

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Task 6

Hydrologic and Sediment Data

Triana DDT Study

1.0 Purpose and Scope

1.1 Purpose

The purpose of this portion of the study was to determine the amount of sediment and DDTR (DDT isomers and metabolites) transported during various flows to allow the estimation of seasonal and yearly amounts of these materials transported along Huntsville Spring Branch--Indian Creek (HSB-IC); and to investigate the physical processes by which the DDTR is transported.

1.2 Scope

Huntsville Spring Branch and Indian Creek were sampled at four sites. Two upstream sites served to bracket the region which was expected to contain the highest DDTR concentrations and provided values of the study parameters that enter and exit this area along HSB. The third site provided values on IC downstream from the mouth of HSB and the fourth site served to provide data for an estimate of the amount of sediment and DDTR that exits the basin.

During or immediately following several rainfall events, water samples to be analyzed for DDTR were collected near the mouths of all drainage ditches from the landfill area, between the two uppermost sampling sites on HSB.

At the sampling sites, water samples were taken concurrently with streamflow measurements for events 3 through 7. Miscellaneous discharge measurements were made during the first two events. Wheeler

Reservoir elevations fluctuate on an annual cycle between a maximum level of 556 in the early summer, and a minimum level of 550 in the winter. Tests were conducted over an eight month period and over a representative range of Wheeler Reservoir elevations. Samples were also collected on HSB at bridge crossings on Patton Road and Dodd Road (see Table 6-1) during special reservoir operations to investigate the transport of DDTR and sediment when the reservoir was falling.

Continuous stage recorders were installed to provide hydrologic data for backwater computations. Backwater computations were made by use of a computer model to determine continuous storm hydrographs at each of the stations and the relationship between stage changes and flows along HSB and IC. The stage records and slope-related stage--discharge ratings were used as a basis for estimating the duration of flows along HSB and IC. A continuous recording raingage was installed at Patton Road (HSBM 5.9).

The flood discharges for the 10-year, 50-year, 100-year and 500-year floods were computed and the flood limits were defined. Also, discharges for the largest flood that occurred since the DDT plant operations began were computed and the flood limits delineated. Maps showing flooded areas for each of these events were prepared.

For each sample taken in a data set, the suspended sediment concentrations and DDTR concentrations were determined and the loads of each computed. The loads were related to the streamflow to form suspended sediment, DDTR, and DDTR isomer rating curves. Streamflow durations were also estimated at the sampling sites for summer and winter conditions. The rating curves were then related to the streamflow duration to give an estimate of seasonal and yearly quantity of total suspended sediment and maximum total DDTR passing each sampling station.

2.0 Instrumentation Locations

Seven stage recorders were installed to continously record stream/reservoir elevations. All of the stream stage gages were FW-2 recorders with weekly charts. A recording raingage was installed about 50 feet from the right waters edge and about 20 feet downstream from the bridge over HSB at Patton Road. Rainfall was abstracted in hourly amounts. All gages were serviced weekly. Table 6-1 summarizes information about each of these gages. Figure 6-1 is a map of the study area and shows the location of each of the gages.

The stage recorder at HSB at Martin Road was initially installed to provide an upstream control with a stable stage-discharge relationship. However, after measurements indicated that a stable rating existed at HSB at Patton Road, the Patton Road station was used as the upstream control.

The water quality sampling was not conducted at the stage recorder site on ICM 0.0. Rather the water quality samples and streamflow measurements were taken at ICM 0.9 where a cable could be stretched across the channel to anchor a boat during the measurements and provide reference verticals.

Figures 6-2 through 6-7 give the available channel cross-section information at each of the gaging stations. The cross-section at ICM 1.0 was included because it is near the downstream sampling station (ICM 0.9). No cross-section was available for ICM 8.2.

Table 6-1

Gage Information

Stream	River Mile	Drainage Area (sq. mi.)	Gage Type*	Latitude	Longitude	Gage Zero	1979 Record Begins	Access	General Description
IC	0.0	157	S	34-34-46	86-43-51	540	7/26	Wall-Triana Highway at Triana Landing	Located on right bank of IC at mouth of creek
IC	4.6	153	S	34-36-55	86-41-55	530	8/2	Via Centerline Rd.	Located on downstream side of Centerline Rd. bridge, 30 ft. from right abutment
IC	8.2	52.8	R	34-38-43	86-41-08	550	8/2	Via Martin Rd.	Attached to downstream side of Martin Rd. bridge 6 ft. right of rock pier
HSB	2.4	83.9	S	34-37-09	86-39-55	550	8/2	Via Dodd Rd.	Attached on the downstream side of the Dodd Rd. bridge in the stream center
HSB	5.0	--	S	34-37-23	86-38-31	550	9/11	Patton Rd. to Mill Rd. to Rd. #5669	Gage located on right bank; well attached to 12 ft. walkway extending into creek
HSB	5.9	72.9	R	34-37-33	86-37-46	520	8/3	Via Patton Rd.	Attached to downstream side of Patton Rd. bridge 30 ft. from left bank
HSB	5.9	--	P	34-37-33	86-37-46	-	8/3	Via Patton Rd.	Gage is 20 ft. downstream from Patton Rd. bridge and 50 ft. from right water's edge
HSB	9.7	46.9	R	34-39-32	86-36-16	500	8/3	Via Martin Rd.	Attached to downstream side of Martin Rd. bridge, 120 ft. from left abutment

*S = stage recorder; R = stage recorder at rated station; P = raingage

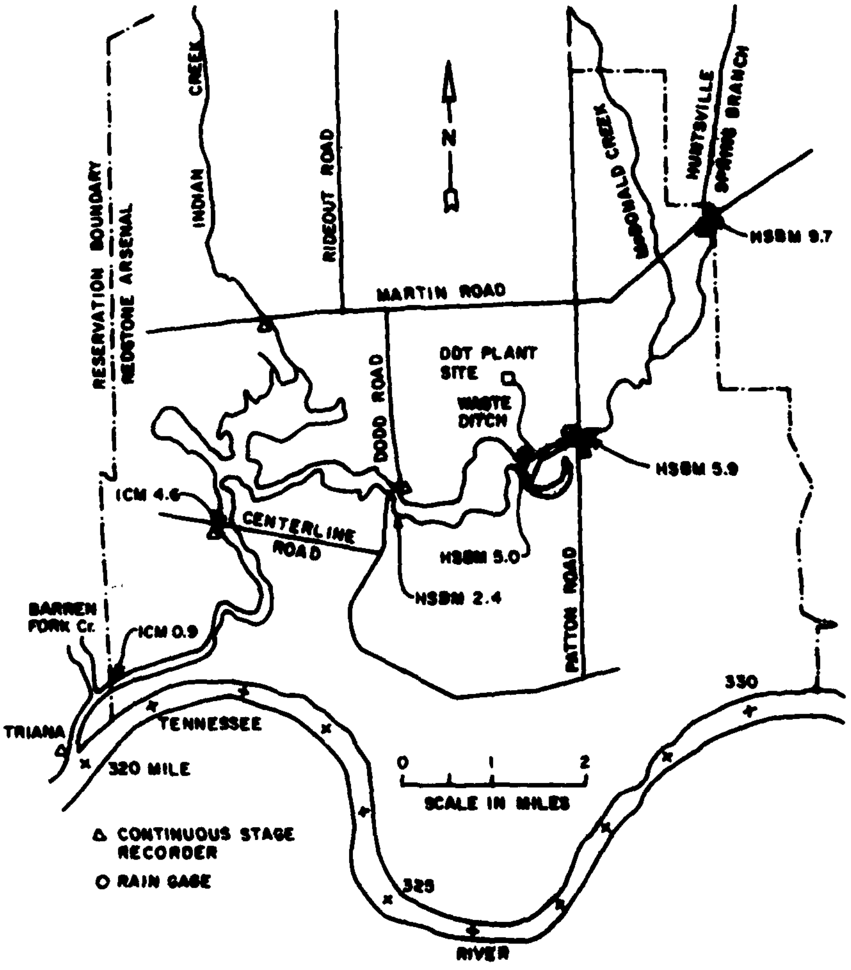
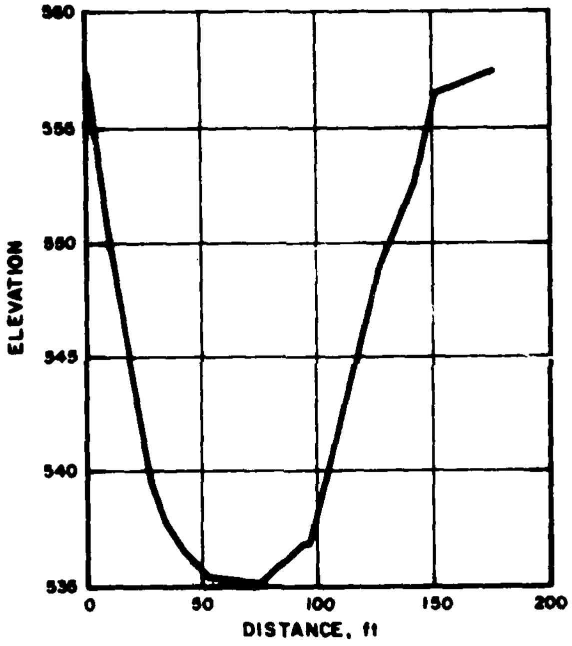


Figure 6-1: General Area Map with Gage Locations

WR28-1-550-103.6-1



WR28-1-550-103.6-2

Figure 6-2 : Channel Cross-Section, ICM 0.0

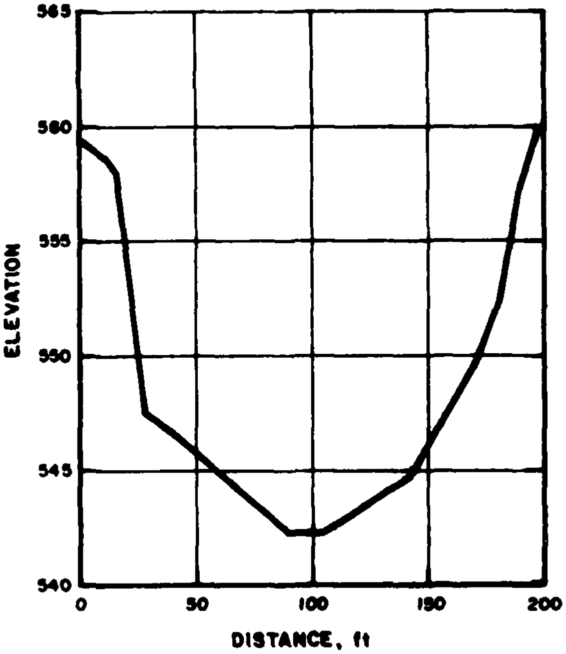


Figure 6-3 : Channel Cross-Section, ICM 1.0

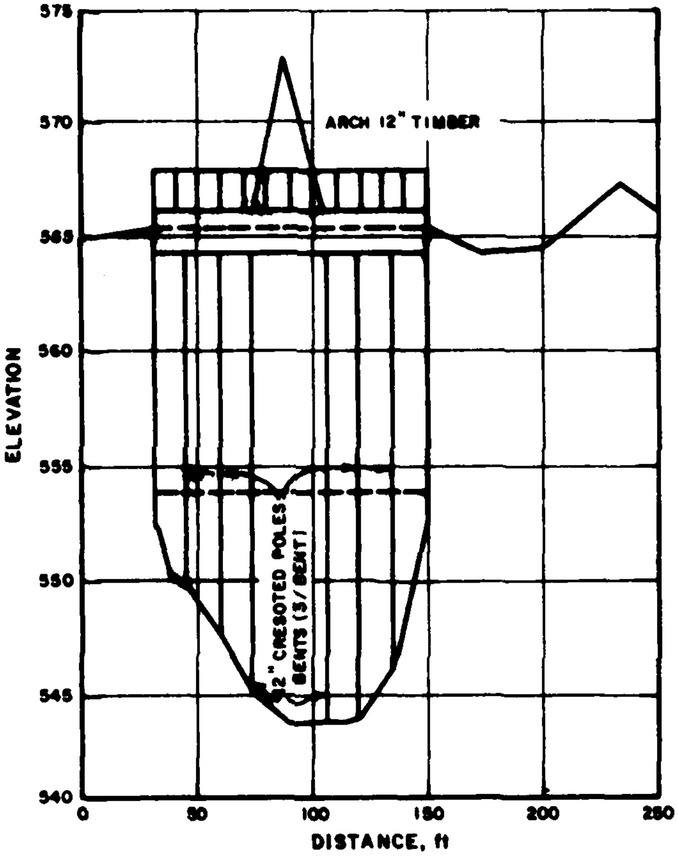


Figure 6-4 : Channel Cross-Section, ICM 4.6

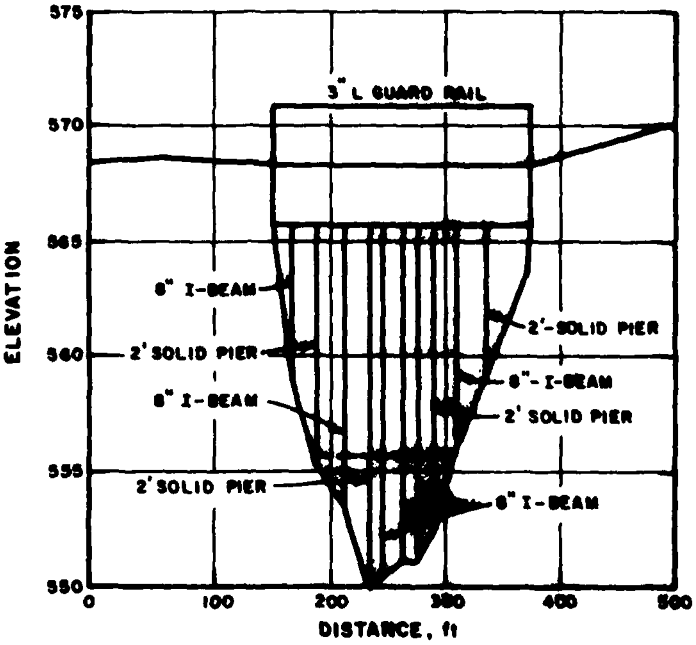
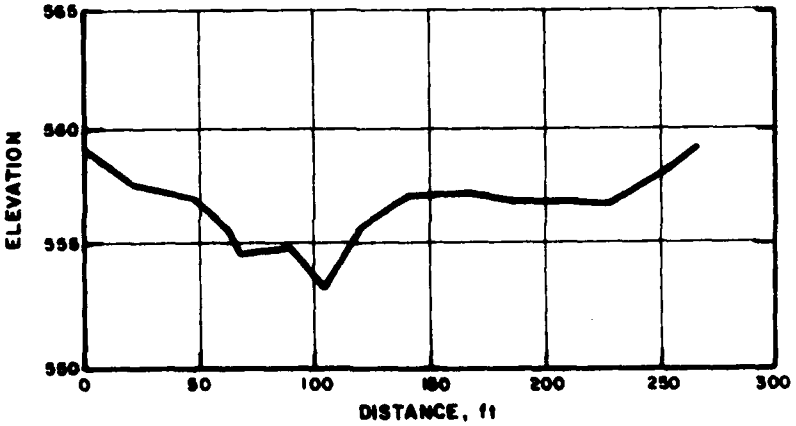


Figure 6-5 : Channel Cross-Section, HSBM 2.4

WR28-1-550-103.6-5



WR28-1-550-103.6-6

Figure 6-6 : Channel Cross-Section, HSBM 5.6

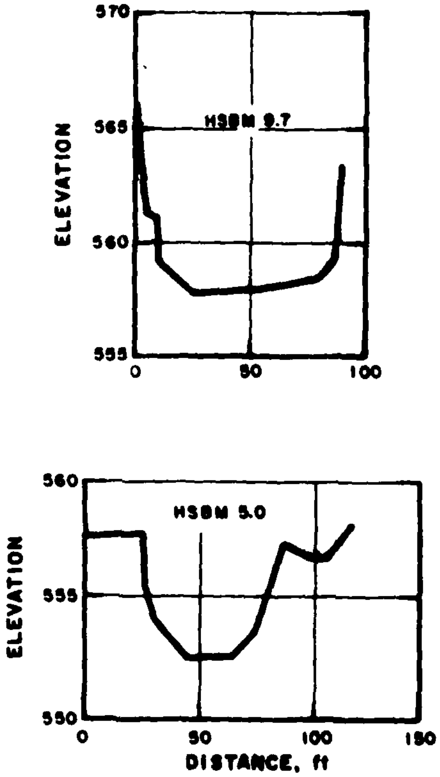


Figure 6-7 : Channel Cross-Section, HSBM 5.0 and HSBM 9.7

3.0 Sample Collection

3.1 Sampling Schedule

Tables 6-2 through 6-5 are a summary of the water quality sampling and velocity measurement (from which discharge is calculated) schedules for storms 5-7 at each of the four stations. No discharge measurements were made during the fifth event at the ICM 0.9 station because one of the two Savonious rotor velocity meters was out of order. The functioning meter was used at the ICM 4.6 station. The workplan was altered for the seventh storm such that discharge measurements were taken less frequently, thus the gap in the discharge record for storm 7 (see 3.2).

The sampling times are indicated on the observed stage graphs for each of the four stations in Figures 6-8 through 6-11 for the fifth and sixth events. Sampling times for the seventh storm are indicated on the respective stage graphs in Figures 6-12 through 6-15. For purposes of documentation, the stage records for events 5 through 7 at HSBM 5.0 and IC at Martin Road are given in Figures 6-16 through 6-19. (Sampling information for events 1-4 was omitted because of the presence of suspect sediment and DDTR data.)

3.2 Discharge Measurements

Discharge measurements were taken using standard procedures as specified in the U.S. Department of the Interior, Geological Survey Water Supply Paper 888, Stream-Gaging Procedure, A Manual Describing Methods and Practices of the Geological Survey, Washington, D.C., 1943. Procedures for calculating depth, mean velocity and discharge are also given in this manual.

Table 6-2
Sampling Schedule
HSB at Patton Road
Storms 5-7

Date	Sampling Time	Sample ID	Time of Velocity Measurement	Flow	Stage
			Storm 5		
1/18/80	0905-0955	4-A5	0830-1005	882	559.92
	2215-2240	4-B5	2120-2235	713	559.35
			Storm 6		
1/22/80	1745-1850	4-A6	1730-1850	895	559.99
1/23	0145-0215	4-B6	0130-0220	1178	560.11
	0745-0815	4-C6	0735-0815	944	560.00
1/24	0815-0835	4-E6	0815-0915	614	559.64
	1055-1115	4-F6	1015-1050	612	559.64
1/25	0755-0815	4-G6	0740-0815	529	559.50
	1310-1330	4-I6	1310-1335	489	559.48
			Storm 7		
3/17/80	1130-1250	4-A7	1045-1230	1725	560.42
	1330-1445	4-B7	1250-1420	2114	560.46
	1445-1540	4-C7		1788-A	560.48-A
	1715-1805	4-D7	1645-1810	2348	560.44
	2140-2150	4-E7	2055-2230	2468	560.46
3/18	1235-1315	4-F7	1000-1305	1051	560.32
	1720-1800	4-G7		1404-A	560.24-A
3/19	0920-1015	4-H7	0900-1030	1030	559.96
	1715-1745	4-I7		842-A	559.92-A
3/20	1140-1230	4-J7		B	560.53-A
	1705-1720	4-K7		B	561.18-A
3/21	0945-1015	4-L7	1015-1115	2073	563.58
3/22	1050-1100	4-M7	1015-1115	-84	565.15
3/24	1445-1500	4-N7	1400-1445	2442	565.32
3/26	1405-1420	4-O7	1315-1400	1672	562.74
3/28	1325-1340	4-P7	1245-1325	2101	561.10
3/31	1455-1515	4-Q7	1420-1500	685	560.24
4/3	1300-1330	4-R7	1235-1345	375	559.53

A-No discharge measurement made - stage read from gage record, flow based on stage rating

B-Stage beyond range of rating table, no estimate of flow available

Table 6-3
Sampling Schedule
HSBM 2.4
Storms 5-7

Table 5

Date	Sampling Time	Sample ID	Time of Velocity Measurement	Flow	Stage
1/18/80	1120-1200	3-A5	1115-1155	483	554.56
	1600-1635	3-B5	1545-1625	687	555.00
	2100-2145	3-C5	2015-2135	787	555.30
	2325-0015	3-D5	2310-2355	777	555.37
1/19	0125-0205	3-E5	0115-0200	774	555.39
	1455-1535	3-F5	1445-1530	560	555.17

Storm 6

Date	Sampling Time	Sample ID	Time of Velocity Measurement	Flow	Stage
1/22/80	2050-2110	3-A6	2020-2110	611	555.61
	2345-0040	3-B6	2325-0040	735	555.90
1/23	0340-0445	3-C6	0330-0410	827	556.17
	0640-0730	3-D6	0630-0710	905	556.29
	1030-1130	3-E6	1010-1120	923	556.37
1/24	0955-1025	3-F6	0910-0940	595	556.35
	1345-1405	3-G6	1340-1405	530	556.35
1/25	0910-0930	3-H6	0840-0905	397	556.34
	1415-1435	3-I6	1350-1415	390	556.32

Storm 7

Date	Sampling Time	Sample ID	Time of Velocity Measurement	Flow	Stage
3/17/80	1300-1505	3-A7	1230-1500	1186	556.38
	1545-1610	3-B7		1300-B	556.78-A
	1730-1805	3-C7	1650-1805	1533	557.05
	2040-2100	3-D7	2040-2140	1724	557.61
	2340-2400	3-E7		1900-B	557.88-A
3/18	0120-0210	3-F7	0215-0340	1988	558.10
	0400-0435	3-G7		1980-B	558.15-A
	0600-0630	3-H7	0635-0735	1981	558.27
	0740-0810	3-I7		1900-B	558.29-A
	1000-1030	3-J7	1030-1115	1825	558.35
	1120-1145	3-K7		1800-B	558.35-A
	1255-1320	3-L7		1760-B	558.36-A
	1530-1550	3-M7	1510-1545	1708	558.36
	1745-1805	3-N7		1650-B	558.35-A
3/19	1000-1030	3-O7	0835-0950	1140	558.33
	1805-1830	3-P7		1100-B	558.31-A
3/20	1005-1045	3-Q7	0945-1050	1036	558.74
	1740-1755	3-R7			559.78-A
3/21	1030-1100	3-S7	1100-1145	3056	563.24

Table 6-3 (continued)

Date	Sampling Time	Sample ID	Time of Velocity Measurement	Flow	Stage
			Storm 7		
3/22	0900-0920	3-T7	0830-0950	472	564.98
3/23	1205-1235	3-U7	1155-1315	1505	565.57
3/24	1410-1450	3-V7	1340-1500	2570	565.06
3/26	1325-1405	3-W7	1325-1425	2055	562.36
3/28	1345-1415	3-X7	1310-1420	1601	560.54
3/31	1505-1535	3-Y7	1400-1500	1099	559.88
4/3	1135-1155	3-Z7	1055-1200	495	557.62

A-Stage read from water quality sampling notes

B-Flow extrapolated between measured values

Table 6-4
Sampling Schedule
ICM 4.6
Storms 5-7

Date	Sampling Time	Sample ID	Time of Velocity Measurement	Flow	Stage
Storm 5					
1/18/80	1430-1520	2-A5	1400-1530	625	553.45
	2045-2145	2-B5	2020-2200	581	553.88
	2245-2340	2-C5	2235-2345	441	553.93
1/19	1320-1435	2-D5			554.03-A
	1555-1640	2-E5	1545-1630	697	554.34
Storm 6					
1/22/80	1910-2015	2-A6	1840-2035	773	554.95
	2350-0030	2-B6	2325-0030	1006	555.15
1/23	0400-0430	2-C6	0355-0440	1102	555.32
	0710-0730	2-D6	0645-0745	1203	555.42
	1050-1110	2-E6	1030-1120	1245	555.52
1/24	1110-1140	2-F6	1040-1155	728	556.00
	1445-1500	2-G6	1440-1500	673	556.06
1/25	1035-1055	2-H6	0945-1025	632	556.17
	1540-1600	2-I6	1505-1540	560	556.18
Storm 7					
3/17/80	1400-1505	2-A7	1325-1520	1416	555.11
	1730-1755	2-B7		1600-B	555.66-A
3/18	0155-0320	2-C7	0115-0305	2408	556.81
	0715-0735	2-D7		2500-B	557.24-A
	1110-1130	2-E7	1055-1135	2584	557.46
	1720-1740	2-F7		2000-B	557.68-A
3/19	0055-0120	2-G7	0045-0210	1398	557.90
	0645-0720	2-H7		1300-B	557.97-A
	1305-1335	2-I7	1245-1420	1212	558.03
	1835-1900	2-J7		1150-B	558.06-A
3/20	0140-0210	2-K7	0020-0130	1045	558.07
	0630-0700	2-L7			558.33-A
	1415-1435	2-M7	1345-1500	1935	558.88
	1840-1900	2-N7			559.53-A
3/21	0800-0830	2-O7	0830-920	3215	562.70
3/23	0955-1015	2-P7	1100-1125	342	565.58
3/24	1110-1145	2-Q7	1045-1205	1392	565.06
3/26	1100-1130	2-R7	1040-1155	2453	562.27
3/28	1030-1115	2-S7	1025-1135	2314	560.08
3/31	1230-1310	2-T7	1040-1225	1656	559.71
4/3	1000-1025	2-U7	0935-1045	871	557.50

A-Stage read from water quality sampling notes
B-Flow extrapolated from measured flows

Table 6-5
Sampling Schedule
ICM 0.9
Storms 5-7

Date	Sampling Time	Sample ID	Time of Velocity Measurement	Flow	Stage
Storm 5					
1/18/80	1500-1540	1-A5	No discharge measurements made during this event - see text		553.25-A
	2010-2100	1-B5			553.61-A
	2300-2335	1-C5			553.68-A
1/19	0140-0205	1-D5			553.73-A
	1600-1625	1-E5			554.20-A
Storm 6					
1/22/80	1850-1945	1-A6	1835-1955	409	554.76
	2220-2310	1-B6	2200-2315	468	554.86
1/23	0140-0230	1-C6	0130-0245	569	554.96
	0530-0640	1-D6	0540-0640	585	555.09
	1115-1200	1-E6	1105-1220	661	555.22
1/24	1210-1235	1-F6	1045-1245	198	555.88
	1620-1645	1-G6	1510-1700	211	555.97
1/25	1040-1120	1-H6	1030-1130	543	556.06
	1540-1610	1-I6	1530-1615	274	556.10
Storm 7					
3/17/80	1215-1315	1-A7	1200-1330	935	554.26
	1800-1815	1-B7		1275-B	554.94-A
3/18	0005-0040	1-C7	0001-0110	1609	555.67
	0725-0750	1-D7		1565-B	556.45-A
	1240-1320	1-E7	1230-1430	1532	556.96
	1800-1815	1-F7		1250-B	557.28-A
3/19	0015-0055	1-G7	0005-0110	908	557.56
	0640-0700	1-H7		930-B	557.72-A
	1300-1330	1-I7	1230-1345	962	557.80
	1800-1820	1-J7			557.83-A
3/20	0125-0145	1-K7			557.84-A
	0630-0640	1-L7			557.84-A
	1250-1315	1-M7	1230-1350	1640	558.52
	1710-1720	1-N7			558.81-A
3/22	1100-1155	1-O7	1040-1215	981	565.14-A
3/23	0950-1020	1-P7	0920-1035	3829	565.14-A
3/24	1120-1155	1-Q7	1050-1210	3285	564.52-A
3/26	1045-1120	1-R7	1010-1135	2734	561.32-A
3/28	1000-1035	1-S7	0945-1055	1817	559.60
3/31	1035-1115	1-T7	1010-1120	1402	559.52
4/3	1005-1045	1-U7	0945-1115	295	557.35

A-Stages read from water quality sample notes

B-Flows extrapolated between measured values

WR28-1-550-103.6-8

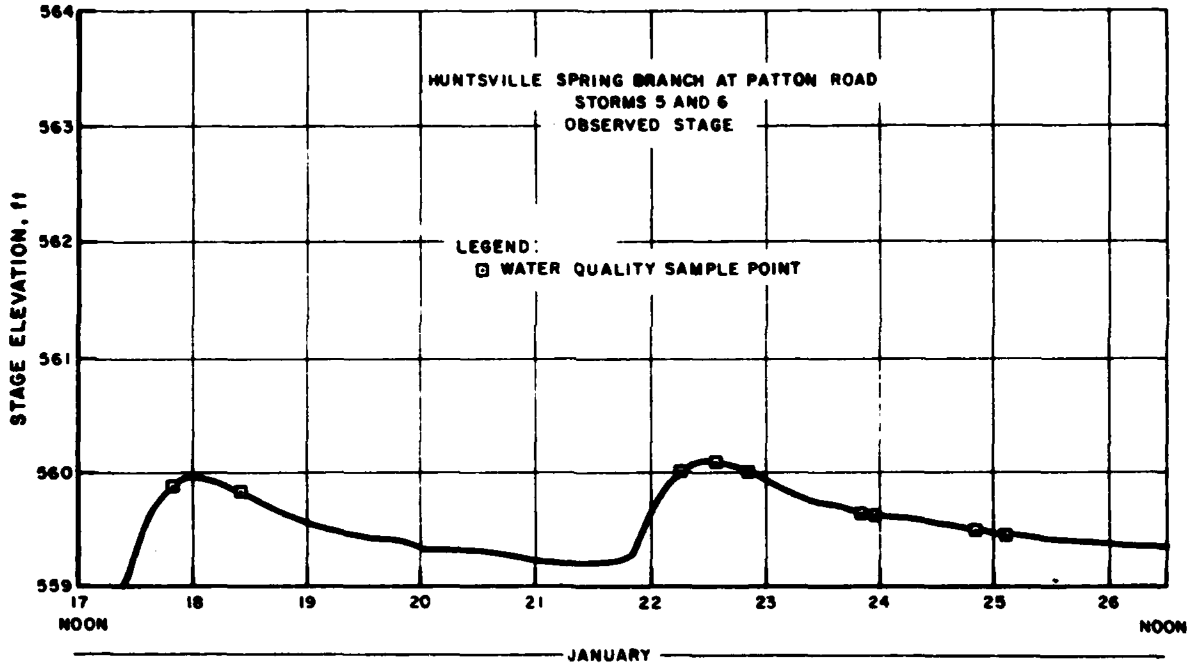


Figure 6-8 : Observed Stage Graph and Water Quality Sampling Times, HSB at Patton Rd., Storms 5 and 6

WR28-1-550-103.6-8

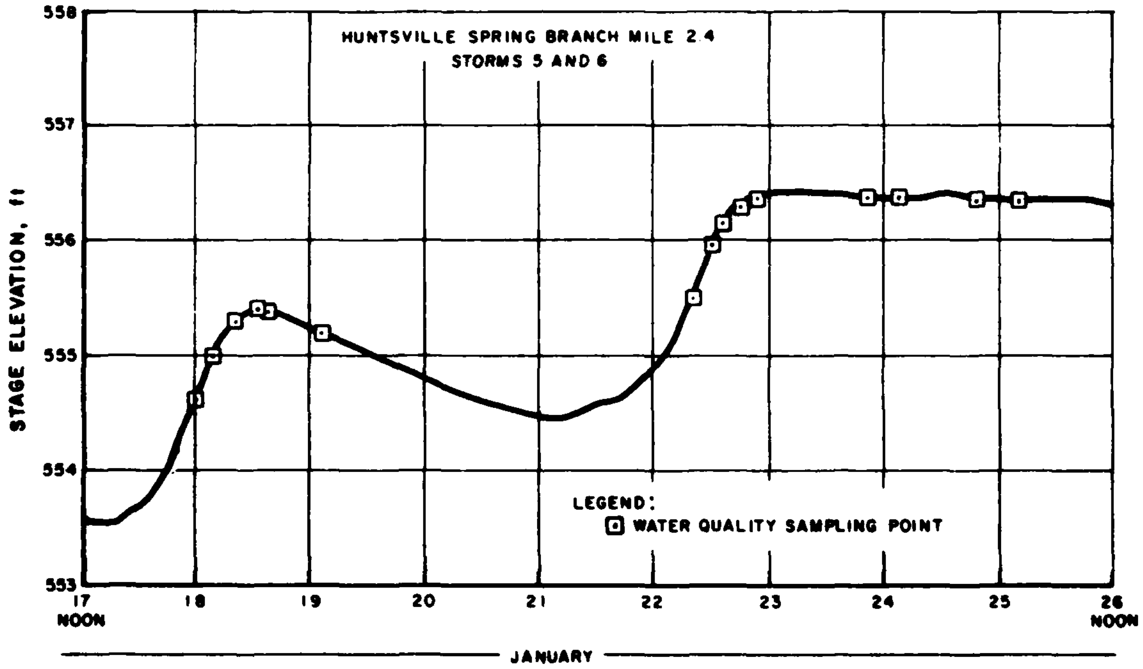


Figure 6-9: Observed Stage Graph and Water Quality Sampling Times, HSBM 2.4, Storms 5 and 6

WR28-1-550-103.6-10

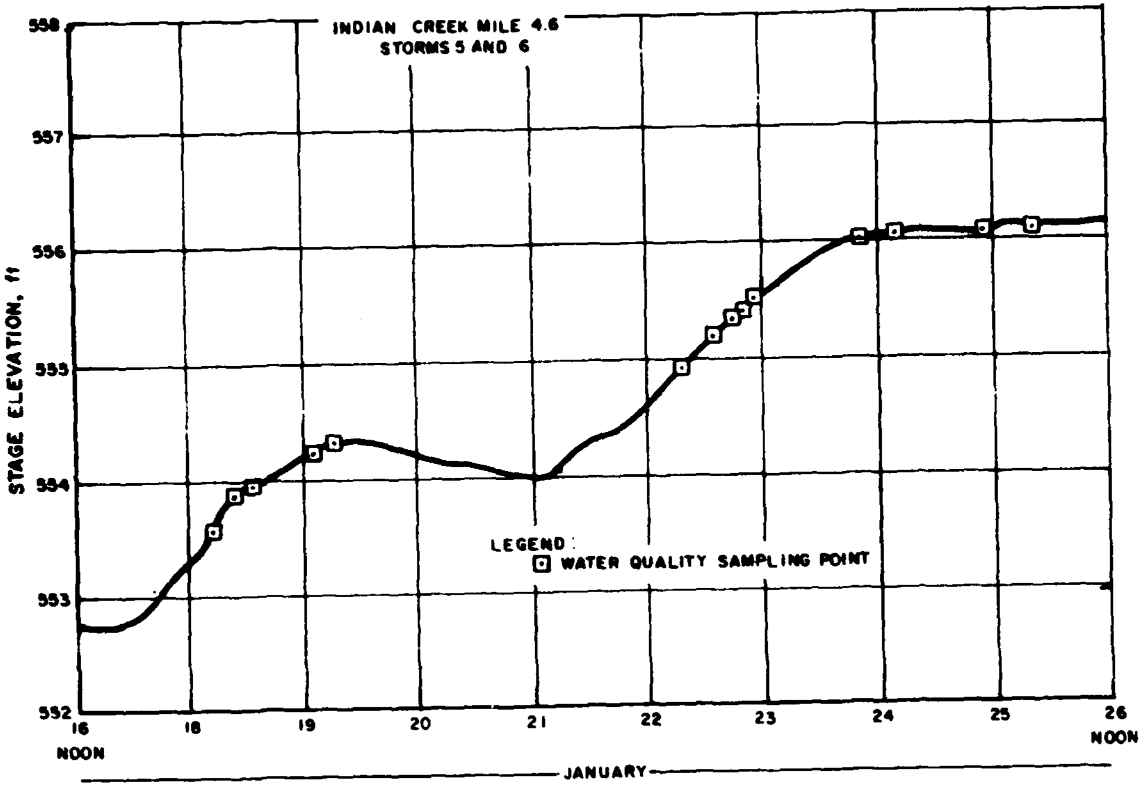


Figure 6-10: Observed Stage Graph and Water Quality Sampling Times, ICM 4.6, Storms 5 and 6

WR28-1-550-103.6-11

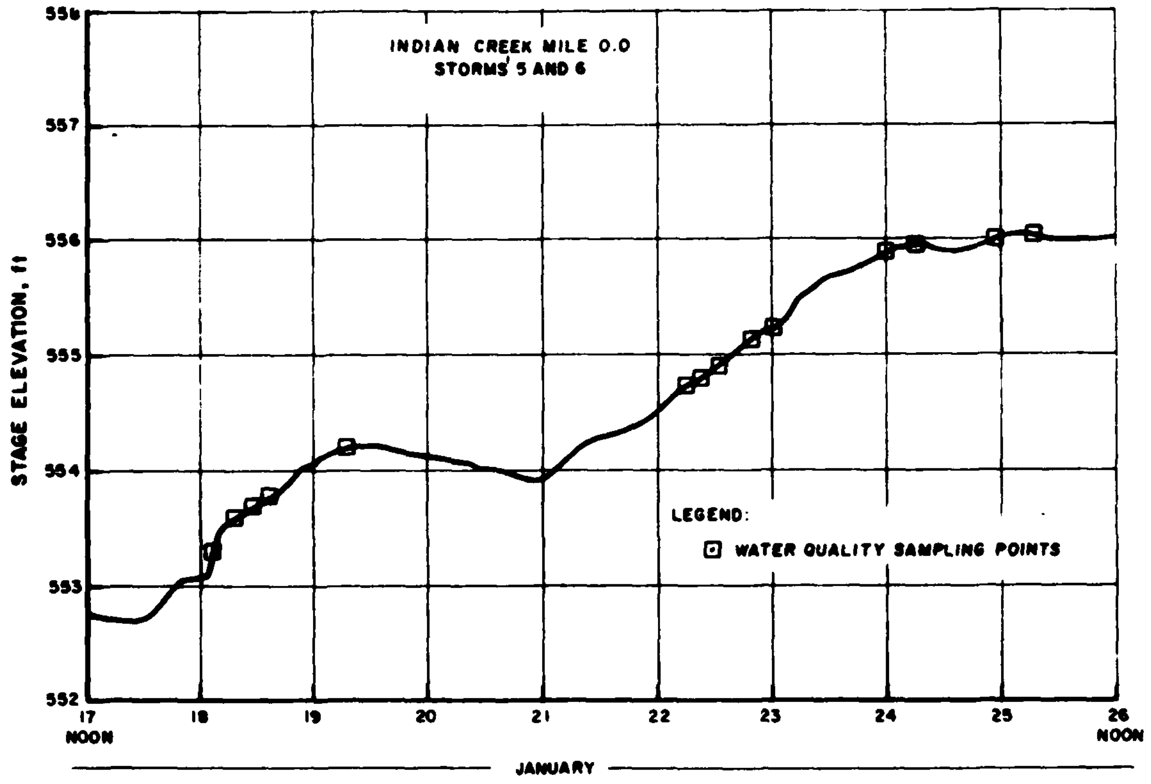


Figure 6-11 : Observed Stage Graph and Water Quality Sampling Times, ICM 0.0, Storms 5 and 6

WR28-1-550-103.6-12

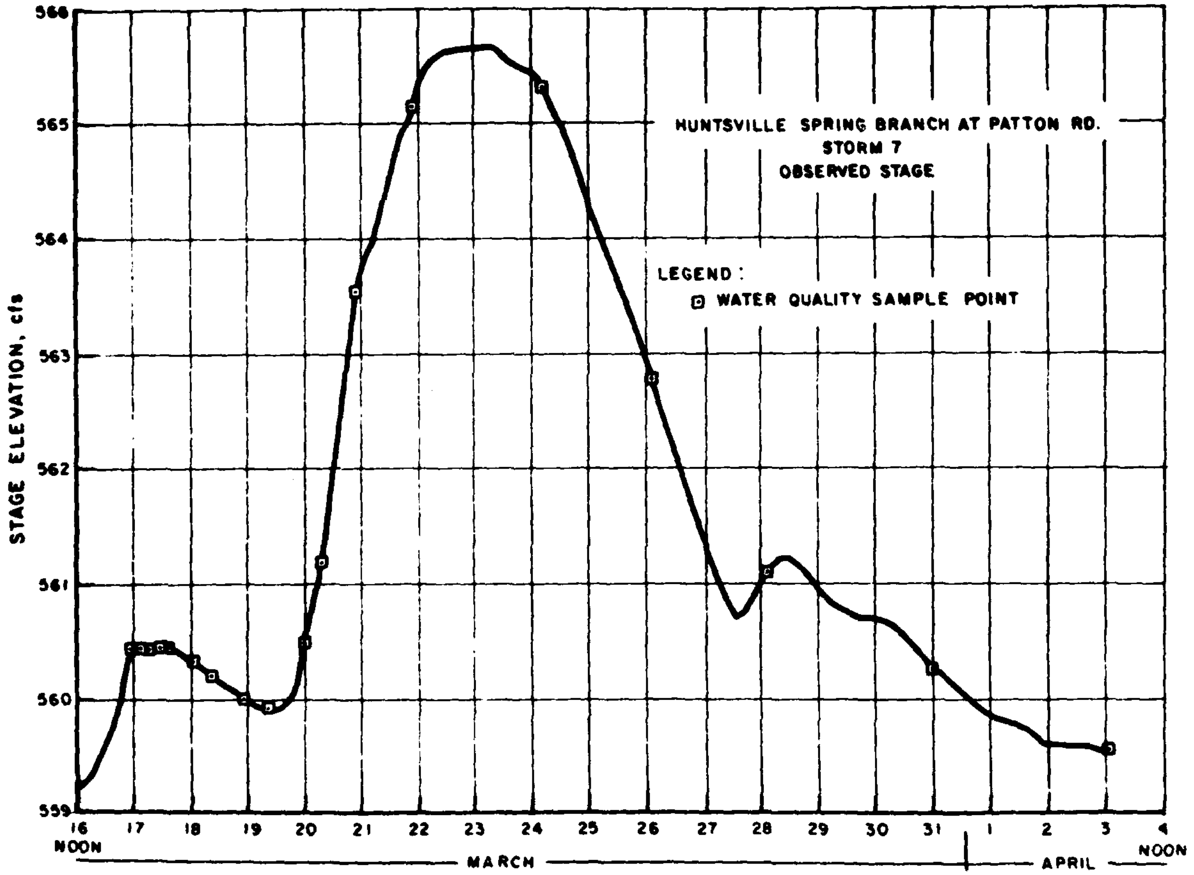


Figure 6-12: Observed Stage Graph and Water Quality Sampling Times, HSB at Patton Rd. Storm 7

WR28-1-550-103.6-13

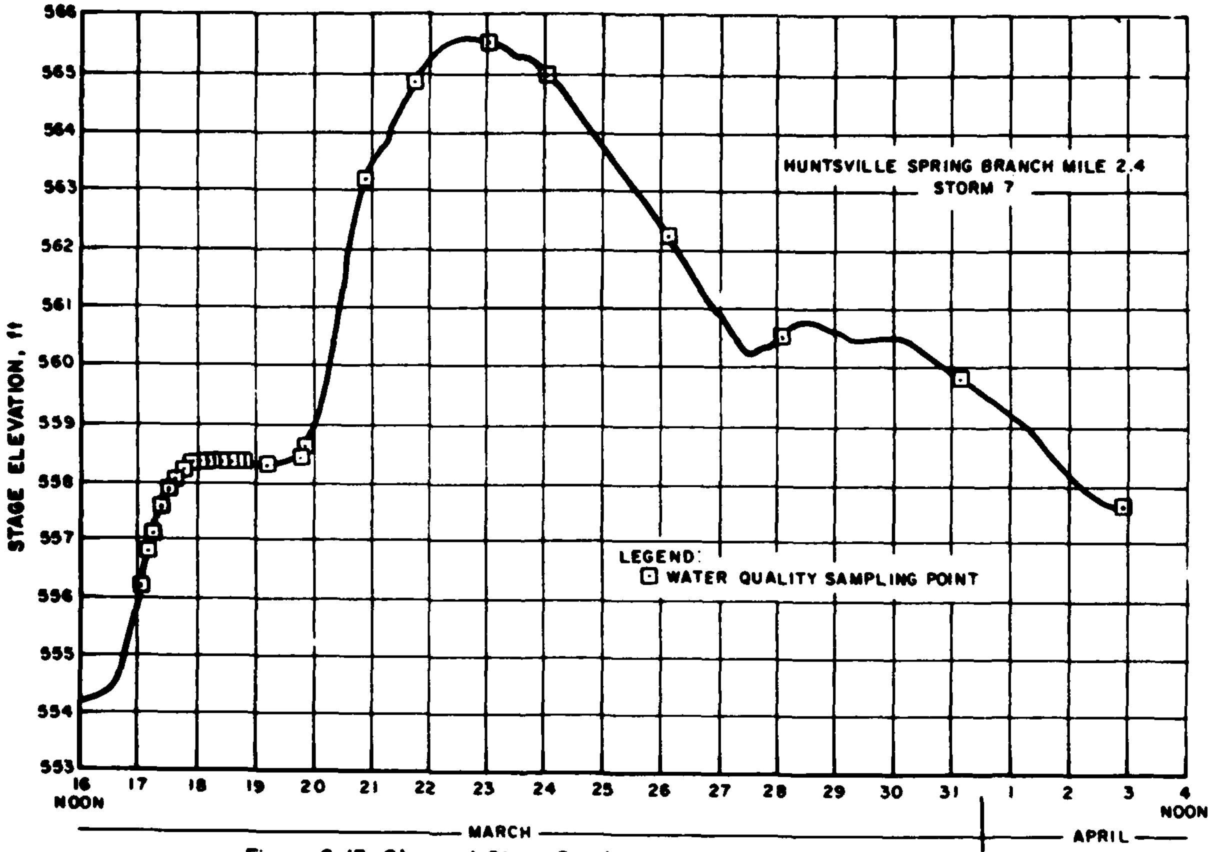


Figure 6-13: Observed Stage Graph and Water Quality Sampling Times, HSBM 2.4, Storm 7

WR28-1-550-103.6-14

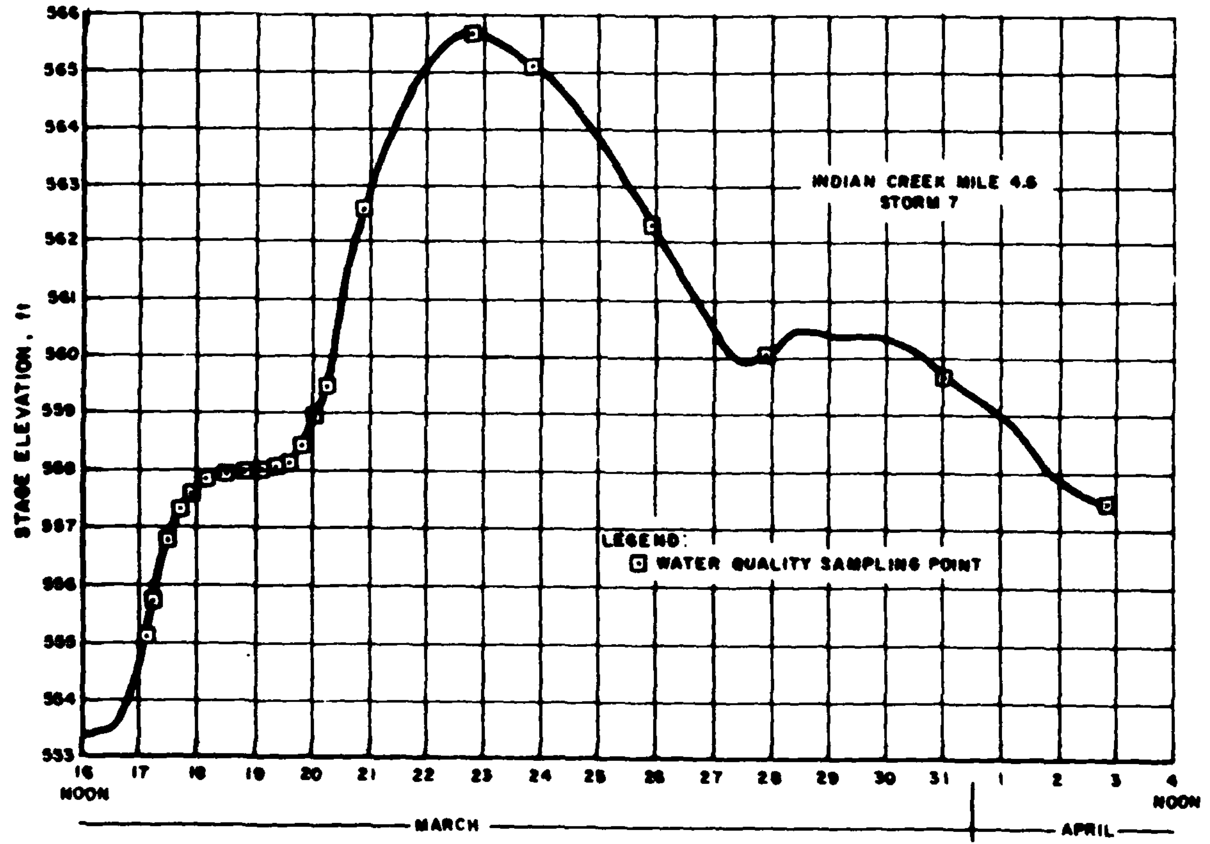


Figure 6-14: Observed Stage Graph and Water Quality Sampling Times, ICM 4.6, Storm 7

WR28-1-550-103.6-15

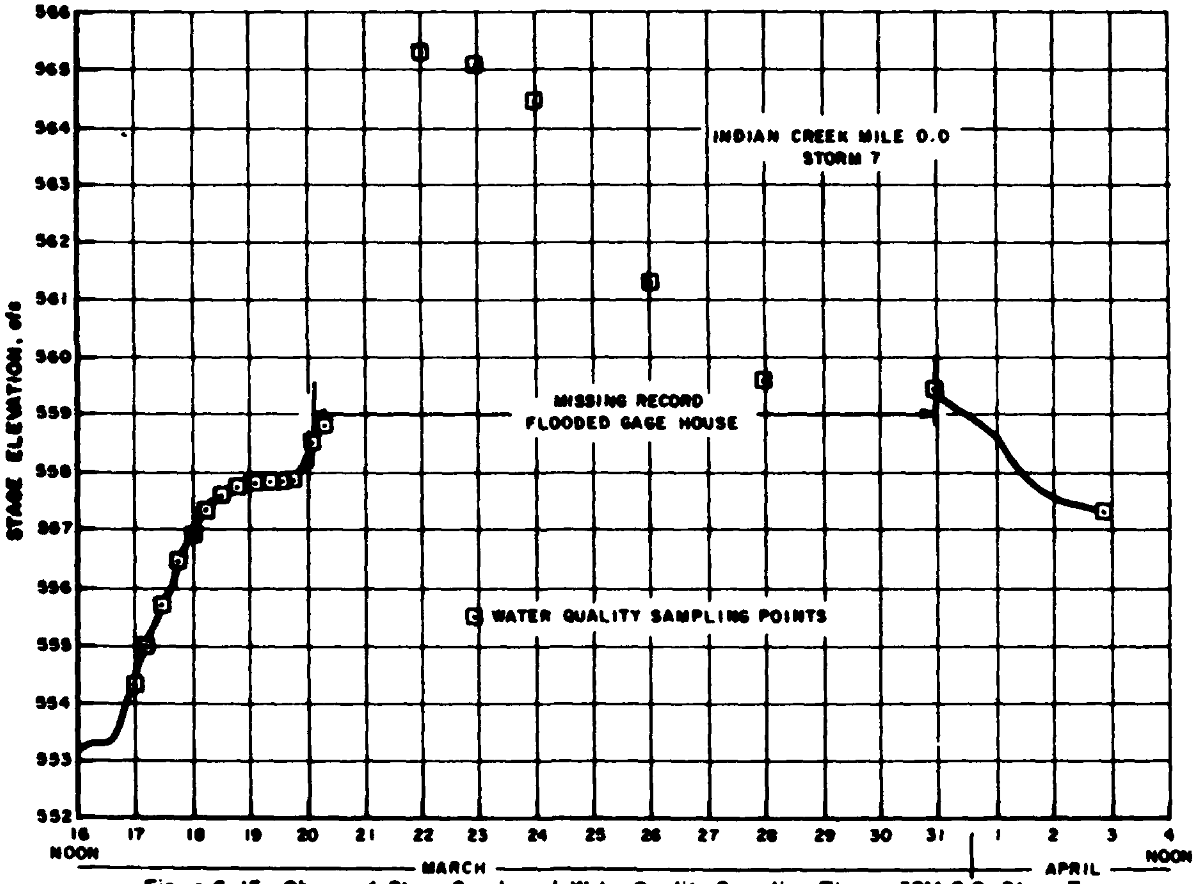


Figure 6-15: Observed Stage Graph and Water Quality Sampling Times, ICM 0.0, Storm 7

WR28-1-550-103.6-16

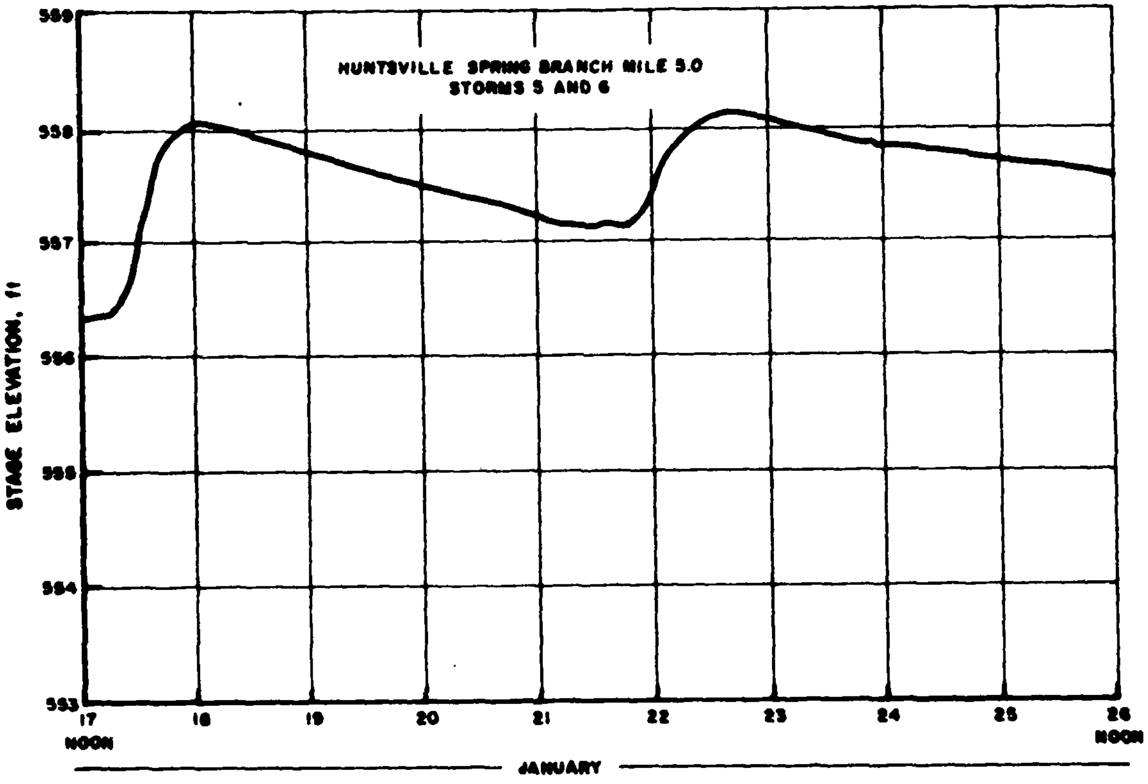


Figure 6-16: Observed Stage Record, HSBM 5.0, Storms 5 and 6

WR28-1-560-103.6-17

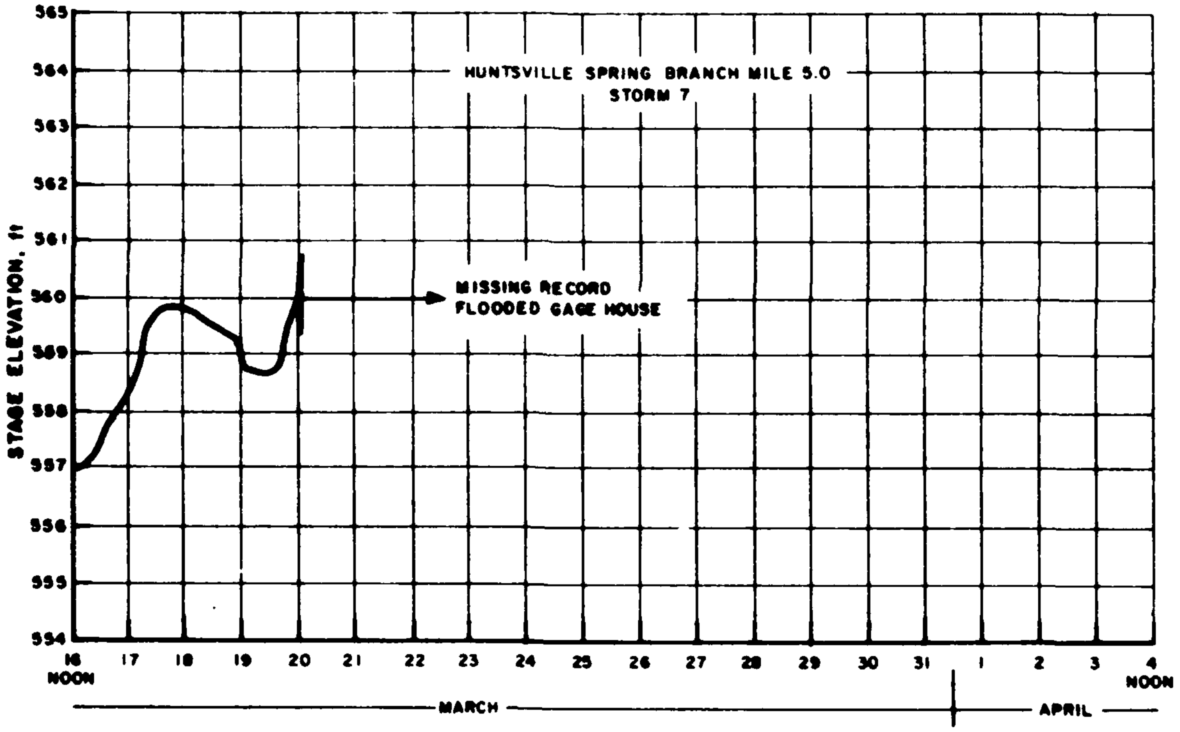


Figure 6-17 : Observed Stage Record, HSBM 5.0, Storm 7

WR28-1-550-103.6-18

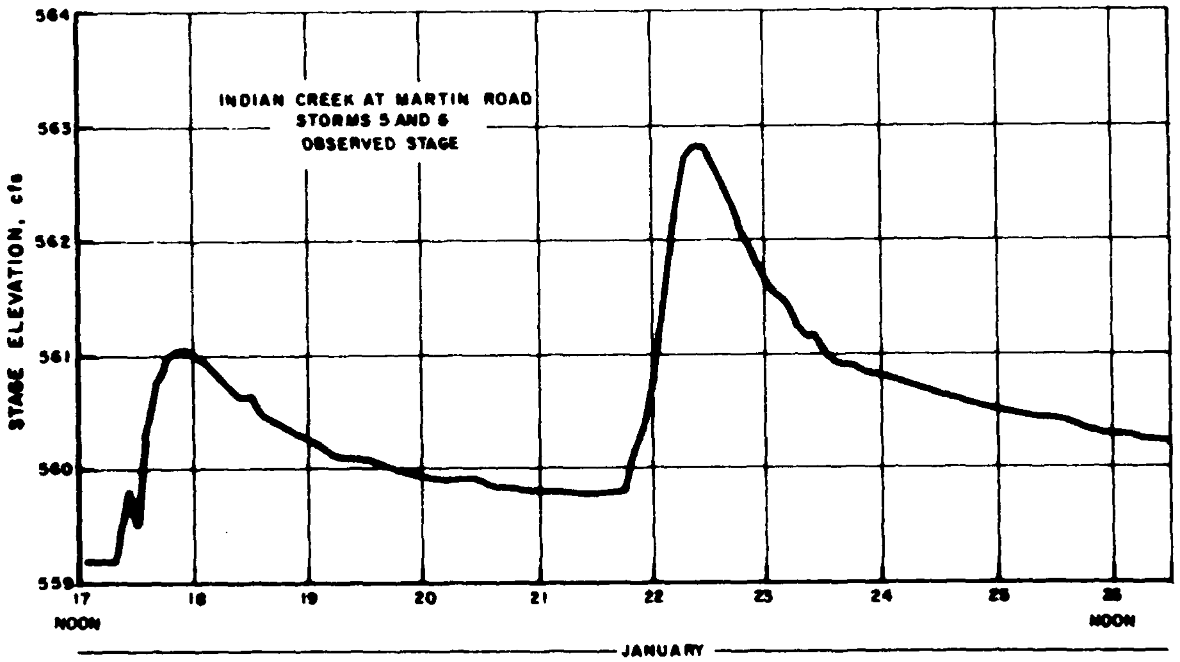


Figure 6-18 : Observed Stage Record, IC at Martin Rd, Storms 5 and 6

WR28-1-550-103.6-19

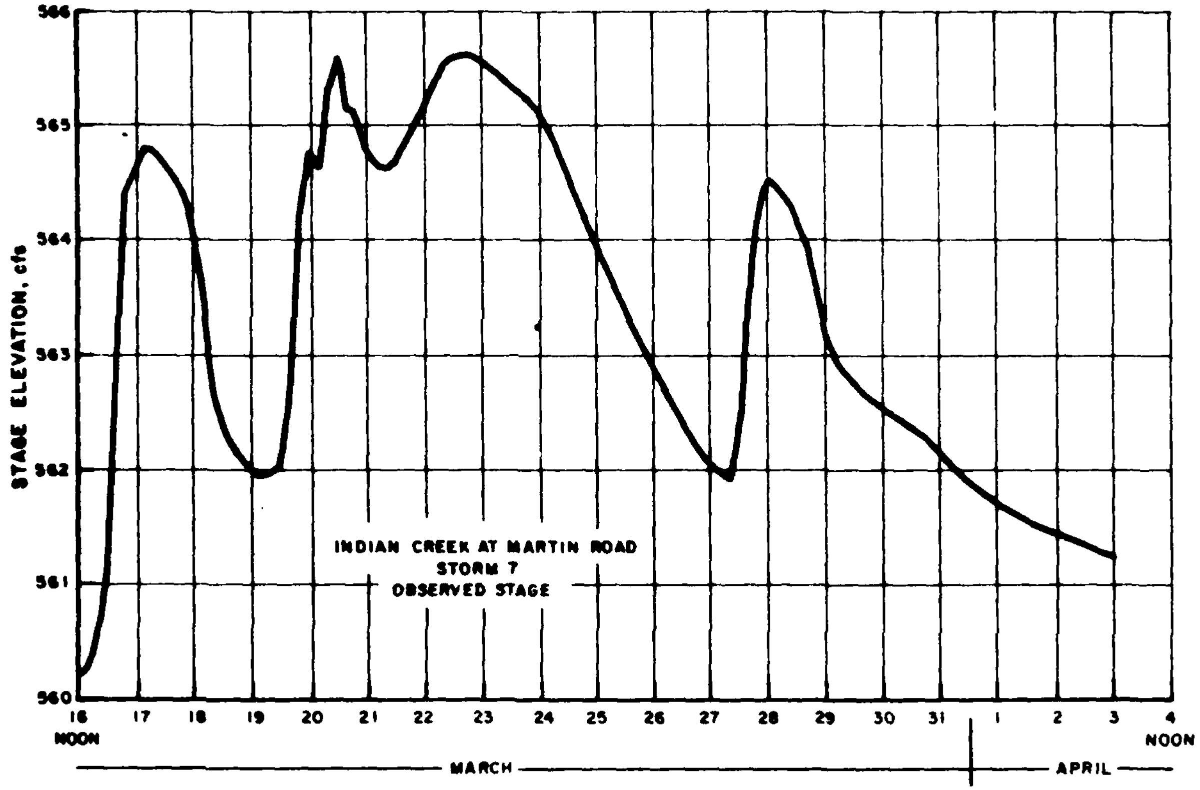


Figure 6-19 : Observed Stage Record, IC at Martin Rd., Storm 7

For most measurements vertical velocity observations were taken at equal intervals across the cross section (measurements were taken at two-foot intervals). However, HSBM 5.9 at Patton Road bridge, the intervals between vertical velocity observations were varied to provide data necessary to define velocities more accurately in the sections of the channel where the flows were concentrated. Flows were not uniform across this cross section because of trash collected on the upstream side of the bridge.

A Savonius rotor current meter was used to measure flow velocity and direction at Indian Creek Mile 0.9, for storms 3-4 and 6-7. A Savonius rotor current meter was also used at Indian Creek Mile 4.6, for storms 5 and 7, and for two measurements during storm 6. Equipment malfunction necessitated the use of a Price current meter for the measurement of velocities in conjunction with the Savonius rotor current meter for most of the measurements taken at these stations, with the Savonius rotor current meter being used to give direction of flow and the Price meter used to give velocities. The Price current meter was used to make all measurements on HSB. A cosine correction to measured velocities were made where the Savonius meter indicated more than a 10-degree variation in the direction of flow from that normal to the measuring section.

No discharge measurements were taken at ICM 0.9 or ICM 4.6 during the first two storms and only three or four measurements were made at HSBM 2.4 and HSBM 5.9 during these two events in accordance with the original work plan. The recorder at HSBM 5.0 was installed before storm 3 and measurements were subsequently taken concurrently at HSBM 2.4 and HSBM 5.0. Measurements and samples were also taken concurrently at ICM 0.9 and ICM 4.6 during storms 3-4 and 6. No measurements were made at HSBM 5.0 during storm 7 as per the revised workplan. No measurement were made at ICM 0.9 for storm 5 because the Savonius meter rotor could not be repaired in time for use nor were other current meters available for use at this station.

3.3 Water Quality Samples

3.3.1 The original work plan called for water samples to be collected just below the surface, 3-6 inches above the streambed, and at the third points in each vertical. Samples were to be collected at three verticals equally spaced across each cross-section. This procedure was followed through storm 4. Following storm 4, the workplan was revised after it was found that the original workplan resulted in an occasional unrepresentatively high suspended sediment concentration measured when the deep soft bottom sediments were disturbed during the depth sounding. (Consequently, sediment and DDTR data for storms 1-4 should be regarded as "suspect.") The revised workplan emphasized that the sampler should not touch the streambed. Also, a 6-inch extension and a 15-pound weight were added to each sampler to provide additional stability. During storms 5-7, four samples were collected in each vertical; just below the water surface and at 25, 50, and 75 percent of the depth. The depth for each vertical was determined when the discharge measurement was taken. Extreme care was exercised to measure the depth for each sample. During storms 6 and 7 an additional sample was collected at 60 percent of the depth in each vertical. Extra samples were collected at HSBM 2.4 during storm 1 as specified in the work plan.

All samples at ICM 0.9 and ICM 4.6 were collected near the quarter points in the cross section because of the uniform flow. Samples at HSBM 2.4 and HSBM 5.9 were collected at points with the greatest velocities as determined from the discharge measurements. The samples at HSBM 2.4 were collected at or near the same points in the cross section for all the storms. Because of trash collected on the upstream side of the bridge at HSBM 5.9, the points of flow concentrations varied from storm to storm and at varying times during each storm.

Samples collected at the lower station on Indian Creek for storms 1 and 2 were collected at ICM 1.7 because this was the location of the arsenal boundary cable. A cable was subsequently installed across the river at ICM 0.9 and flows were measured and samples collected at this location for storms 3-7.

All samples were collected with a TVA instantaneous horizontal trap sampler designed for suspended sediment sampling and having a capacity of about one pint. Two grabs for a total volume of about one quart were made at each sampling point in the cross-section.

Special samples were also collected during the first three storms from springs and streams in the vicinity of the old plant site.

All samples collected were transferred from the sampler to either pint or quart Mason jars sealed with an aluminum foil liner in a standard Mason jar lid. The samples were stored as soon as possible (generally within four hours) in a cooler on the arsenal where the temperature was kept at 40°F until the samples were transported to the laboratory in Chattanooga.

3.3.2 Four Helley-Smith bedload samplers were used during the first four storms in attempt to detect bedload sediment transport.

Helley-Smith bedload samplers were developed by the U.S. Geological Survey and are described in the USGS report, "A Field Calibration of the Sediment-Trapping Characteristics of the Helley-Smith Bedload Sampler," Open File Report 79-411.

During storms 1 and 2, two bedload samplers were placed at ICM 4.6 and one each at HSBM 2.4 and HSBM 5.9. During storms 3 and 4, a sampler was placed at each station except the downstream sampler was placed at ICM 1.7 because the cable used at ICM 0.9 would not support the sampler.

The sampler was placed at the point in each section where the greatest visual velocity occurred. The sampler was slowly lowered to the streambed and then raised 3-5 inches. Each sampler was raised periodically during the storm for a visual inspection of the amount of material trapped, but in each case the sampler was kept in place for the duration of the sampling period. After reviewing the results from these samples, bedload sampling was discontinued after the fourth storm.

The bedload samples were obtained by removing the nylon mesh bag from the sampler, wrapping the bag and its contents in aluminum foil, sealing the foil container, and transferring the samples to the cooler prior to shipment to Chattanooga.

4.0 Sample Handling and Laboratory Methodology

Quart samples were taken from each of the sample points in the cross section (as described in 3.3.1). The samples were stored at 4°C until shipment to the laboratory for processing. The samples remained at room temperature until after they were processed when they were again stored at 4°C until the time of analysis.

Upon receipt at the laboratory, the samples were first allowed to settle, then the total volume, visual estimation of the amount and appearance of suspended particulate, and the turbidity were determined on each sample. The sample was shaken vigorously immediately prior to turbidity measurement. The scheme for compositing samples and subsequent analyses were determined based on the results of the visual observations and turbidity measurements.

Each of the samples to be composited was poured through a no. 230 sieve into a 14-liter aluminum churn splitter and a one-liter and 250-ml aliquot removed for analysis. (See quality assurance document for special studies concerning the use of the churn splitter.)

The material retained on the sieve was transferred to a preweighed glass dish. The sample was air-dried and reweighed to determine the concentration (mg/l) of sand (>63μ material) in the composite sample. The sand was then transferred to a glass vial for DDTR analysis if there was at least 0.2 g of sand. If the sample retained on the sieve was less than 0.2 g, it was retained for volatile solids analyses only. If there was greater than 0.5 g of sand, the sample was split and both DDTR and volatile solids were analyzed. (See quality assurance document for analytical methodologies.)

One liter of the composited sample was filtered through a preweighed glass fiber filter. The filtrate was extracted for DDTR incorporating the addition of salt to increase the extraction efficiency. (See quality assurance document for details on the special study concerning the addition of salt.)

The glass fiber filters were air-dried, desiccated, and reweighed. The filters were analyzed for DDTR by the sediment procedure. (See quality assurance document for analytical methodology.)

On all the 250-ml samples, two nonfilterable residue determinations were made. First the sample was filtered through a preweighed glass fiber filter and nonfilterable residue determined. The filtrate was then filtered through a preweighed 0.45 μm membrane filter and that nonfilterable residue also determined. The results were reported as nonfilterable residue retained on a glass fiber filter and nonfilterable residue passing through a glass fiber filter but retained on a 0.45 μm membrane filter. Volatile suspended solids were also determined on the residue remaining on the glass fiber filter.

For samples collected during the seventh rain event, particle size analysis was performed on one sample set from each station collected near the peak of the hydrograph and on one during the recession of the hydrograph. The analysis was determined by the "pipette" procedure. (See quality assurance document for analytical methodology.)

The above sample handling and analysis procedure was used on rain events five through seven. Rains one through four were handled similarly but with the following exceptions: DDTR was determined on dissolved and total fractions. However, the percent volatile solids and concentration of solids that passed through a glass fiber filter but retained on a 0.45 μm membrane filter were not determined.

5.0 Data Tabulations

5.1 Hourly Rainfall Data

Hourly rainfall data are given in Tables 6-6 through 6-14 for the period of August 3, 1979, to April 17, 1980. Data are missing for the periods of August 7-9, 1979, and January 24-31, 1980.

TVA 4210 (NRS-5-79)

STA. NO. 878

TABLE 6-6

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Road

MONTH August 1979

DATE	A.M.														P.M.												TOTAL DAILY
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1																											
2																											
3																											
4																			.90	.03							.93
5																											
6																											
7																			No Record								-
8																											-
9																		.02		.01					.01	.01	-
10																			.46	.01	.01						.48
11					.14	.01												.11	.01	.01							.28
12																											
13																											
14																											
15																											
16																											
17																											
18																											
19																											
20																											
21																									.13	.13	.26
22	.02	.01																		.01	.05	.01	.01	.01			.12
23																				.50	.10	.10				.18	.88
24	.12	.90	.05			.01	.01																				1.09
25														.04	.04		.04	.32	.09	.01	.03	.12	.05	.23			.97
26																	.09										.09
27																											
28																											
29																											
30																						.20					.20
31																											

TIME C

TOTAL

MONTHLY TOTAL -

A - 24 Hour Total Ending at 7 a.m. B - 24 Hour Total Ending at 8 a.m.

TVA 4210 (NRS-5-79)

STA. NO. 878

TABLE 6-7

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Road

MONTH September 1979

DATE	A.M.														P.M.												TOTAL DAILY
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1																					2.20	.70	.07	.03	.10	.04	3.14
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																						.01		.01		.01	.03
13		.01		.02	.05	.05	.14		.06		.05	.10	.35	.07	.06	.42	.06	.02				.01	.01	.02	.01	.01	1.52
14																											
15																											
16																											
17													.03	.03													.06
18		.01					.01												.02					.02	.01		.07
19																											
20															.02	.07	.01		.01	.02	.03	.03	.10	.01			.30
21	.01	.02		.03	.02	.01	.01				.01	.01															.12
22	.04	.01	.01																								.06
23																											
24																											
25																											
26																											
27			.02	.07	.11	.08	.15		.17		.15	.35	.20	.15	.13	.11	.30	.03	.05	.13	.10	.41	.02	.02	.02	.05	2.82
28	.16	.02	.02		.01																						.21
29																											
30																											
31																											

TIME C

TOTAL

MONTHLY TOTAL 8.33

A - 24 Hour Total Ending at 7 a.m.   B - 24 Hour Total Ending at 8 a.m.

TVA 4210 (NRS-5-79)

STA. NO. 878

TABLE 6-8

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Rd.

MONTH October 1979

DATE	A.M.														P.M.												TOTAL DAILY
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1																											
2																											
3																											.53
4				.10	.30	.10	.01		.02																		
5																											
6																											
7																											
8																							.20		.05	.13	.38
9																											.04
10	.02	.01	.01																								
11																											
12																											
13																											
14																											
15																											
16																											
17																											
18																											
19																											
20																											
21																					1.15	.18		.01		.01	1.35
22																											
23																											
24																											
25																											
26																											
27																											
28																											1.26
29	.05	.07	.08	.11	.18	.40	.37																				
30																											
31																											

TIME CDT-CST

TOTAL

MONTHLY TOTAL 3.56

A - 24 Hour Total Ending at 7 a.m.   B - 24 Hour Total Ending at 8 a.m.

TVA 4210 (NRS-5-79)

STA. NO. 978

TABLE 6-9

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Road

MONTH November 1979

DATE	A.M.														P.M.												TOTAL DAILY
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1							.08		.32		.28	.20	.40	.16	.03												1.47
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9									.01				1.39	.37	.03	.10	.10	.10	.03	.03	.04	.10	.20	.10	.10	[illegible]	2.84
10	.03	.03	.04																								.10
11																											
12																											
13																											
14																											
15																											
16																											
17																											
18																											
19																											
20																											
21																											
22																											
23							.03		.05		.25	.28	.22	.20	.15	.17	.18	.10	.12	.03	.04	.06	.04		.01		1.93
24																								.23	.01	.07	.31
25																	.24	.05	.01								.30
26																											
27																											
28			.04	.01																							.05
29																											
30																											
31																											

TIME CST

TOTAL ☐ ☐

MONTHLY TOTAL 7.00

A - 24 Hour Total Ending at 7 a.m. B - 24 Hour Total Ending at 8 a.m.

TVA 4210 (NRS-5-79)

STA. NO. 878

TABLE 6-10

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Road MONTH December 1979

DATE	A.M.														P.M.												TOTAL DAILY
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1																											
2																											
3																											
4																											
5																											
6			.11	.03																							.14
7																											
8																											
9																											
10																											
11																											
12																											
13						.40	.10		.09		.03	.03	.01														.66
14																											
15																											
16					.03	.02	.01																				.06
17																											
18																											
19																											
20																											
21																											
22																											
23				.01	.10	.03	.08										.01									.08	.31
24	.01	.01		.08	.38	.14	.10		.01		.01	.10															.84
25																											
26																											
27																											
28																											
29																					.01		.01	.04	.08		.14
30	.01	.10	.08	.03		.01																					.23
31																				.01			.01	.01	.01	.01	.05
TIME	CST						TOTAL																MONTHLY TOTAL				2.43

A - 24 Hour Total Ending at 7 a.m. B - 24 Hour Total Ending at 8 a.m.

TVA 4210 (NRS-5-79)

STA. NO. 878

TABLE 6-11

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Road

MONTH January 1980

DATE	A.M.														P.M.												TOTAL DAILY
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1																											
2																											
3	.06	.02			.01		.01																.07	.10	.18	.22	
4																											.67
5																											
6																											
7											.05	.05	.06	.08	.06	.01	.07	.01									.39
8																											
9																											
10																											
11						.22	.05		.04		.01								.10	.05							.47
12																											
13																		.02									.02
14																											
15																											
16																.02	.07	.02	.01		.01	.01			.01	.01	.16
17		.01			.01		.01													.01	.02	.05	.26	.02	.01	.04	.44
18	.17	.21	.09	.16	.04	.02	.01		.02		.02																.74
19																											
20																											
21																										.09	.09
22	.01	.02			.01	.12	.29		.13		.15	.22	.09	.14	.06	.10	.08	.04	.03	.02							1.51
23																											
24	←														Lost Record												
25																											
26																											
27														Bucket Stolen													
28																											
29																											
30																											
31																										→	

TIME CST TOTAL MONTHLY TOTAL

A - 24 Hour Total Ending at 7 a.m. B - 24 Hour Total Ending at 8 a.m.

TVA 4210 (NRS-5-79)

STA. NO. 878

TABLE 6-12

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Road

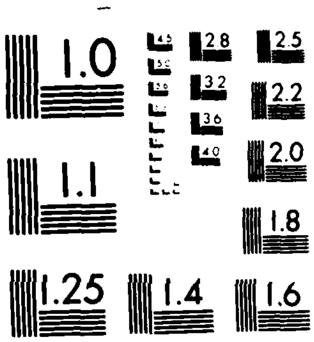
MONTH February 1980

DATE	A.M.														P.M.												TOTAL DAILY
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1																											
2																											
3																											
4																											
5																				.01	.04	.03	.04	.01	.02	.03	.18
6																											
7																											
8																			.03	.08	.12	.07	.18	.02	.01	.03	.54
9	.01	.06	.03	.04	.02	.12	.03		.06		.01	.01				.03	.04	.06	.01	.01							.54
10																											
11																											
12																											
13																											
14																											
15																		.03	.07	.03	.01	.22					.36
16			.02	.02																							.04
17																											
18																											
19																	.12	.02	.06								.20
20																											
21																											
22																											
23																											
24																											
25																											
26																											
27																											
28																Off											
29																											
30																											
31																											

TIME CST TOTAL ☐ ☐ MONTHLY TOTAL 1.86

A - 24 Hour Total Ending at 7 a.m.   B - 24 Hour Total Ending at 8 a.m.

AD-A128 024 ENGINEERING AND ENVIRONMENTAL STUDY OF DDT 7/8
CONTAMINATION OF HUNTSVILLE SP..(U) WATER AND AIR
RESEARCH INC GAINESVILLE FL J H SULLIVAN ET AL. NOV 80
UNCLASSIFIED DACW01-79-C-0224 F/G 13/3 NL



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963 A

TVA 4210 (NRS-5-79)

STA. NO. 878

TABLE 6-12

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Road

MONTH February 1980

DATE	A. M.														P. M.												TOTAL DAILY
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1																											
2																											
3																											
4																											
5																				.01	.04	.03	.04	.01	.02	.03	.18
6																											
7																											
8																			.03	.08	.12	.07	.18	.02	.01	.03	.54
9	.01	.06	.03	.04	.02	.12	.03		.06		.01	.01				.03	.04	.06	.01	.01							.54
10																											
11																											
12																											
13																											
14																											
15																		.03	.07	.03	.01	.22					.36
16			.02	.02																							.04
17																											
18																											
19																	.12	.02	.06								.20
20																											
21																											
22																											
23																											
24																											
25																											
26																											
27																											
28																Off											
29																											
30																											
31																											

TIME CST

TOTAL

MONTHLY TOTAL 1.86

A - 24 Hour Total Ending at 7 a.m.   B - 24 Hour Total Ending at 8 a.m.

TVA 4210 (NRS-5-79)

STA. NO. 878

TABLE 6-13

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Road

MONTH March 1980

DATE	A.M.													P.M.												TOTAL DAILY
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1				.02	.03	.01	.04		.03		.01	.04	.01	.01	.02												.22
2																											
3																											
4																											
5																						.01		.15	.19	.01	.36
6	.05			.03		.08																					.16
7													.12	.70	.50	.40	.21	.20	.20								2.33
8																											
9																											
10																											
11																											
12	.05	.01	.04	.22	.08	.01	.01		.20		.15	.05															.91
13																											
14																											
15																											
16																	.11	.20	.10	.20	.06		.02	.08	.12	.12	1.01
17	.29	.20	.20	.50	.31	.07	.13		.55		.08									.10							2.43
18																											
19																		.09	.12								.21
20	.10	.08	.20	.06	.04	.40	.70		.22		.38	.09	.50	.30						.40	.40	.80	.28				4.95
21	.02																										.02
22																											
23																						.03	.08	.15	.03	.10	.39
24	.20	.11	.29	.05	.06																						.71
25																											
26																											
27																					.02	.09	.11	.20	.30	.30	1.02
28	.50	.40	.17																								1.07
29																											
30																											
31																											

TIME CST

TOTAL

MONTHLY TOTAL 15.79

A - 24 Hour Total Ending at 7 a.m.   B - 24 Hour Total Ending at 8 a.m.

TVA 4210 (NRS-5-79)

STA. NO. 878

TABLE 6-14

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Road

MONTH April 1980

DATE	A.M.														P.M.												TOTAL DAILY
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1																											
2																											
3																											
4																											
5																											
6																											
7																											
8						.12																					.12
9																											
10																											
11																			.01	.02	.09	.09	.12		.08	.09	.50
12	.26	.30	.23	.35	.47	.20																					1.81
13			.02	.02	.13	.17	.01		.12		.18	.18	.16	.27	.01												1.27
14																							.02				.02
15																											
16																											
17																	Gage discontinued										
18																											
19																											
20																											
21																											
22																											
23																											
24																											
25																											
26																											
27																											
28																											
29																											
30																											
31																											

TIME CST

TOTAL

MONTHLY TOTAL

A - 24 Hour Total Ending at 7 a.m.   B - 24 Hour Total Ending at 8 a.m.

5.2 Discharge Measurements

Tables 6-15 through 6-21 are a summary of the discharge measurements taken at each of the stations for the duration of the study. Where the method of measurement is not indicated, the procedure was to measure velocities at .6 of the depth if the depth was less than three feet, and at .2 and .8 of the depth if the depth was greater than three feet.

5.3 Suspended Sediment and DDTR Data

A complete listing of all suspended sediment and DDTR analyses are included as an Appendix to this report. Data for storms 1-4 should, however, be considered as suspect (see 3.3.1). Tables 6-22 through 6-25 are a summary of the suspended sediment and DDTR data for storms 5-7. These tables itemize sample data slong with the corresponding measured flows.

5.4 Bed Sediment Data

Bed sediment samples were collected at the four sampling stations during the first four storm events. Two sizes of bed load samplers were used. One sampler with a 4" x 4" opening was used at ICM 4.6 during storm 1, HSB at Patton Road during storm 2 and ICM 1.7 during storms 3 and 4. At all other times, a bed load sampler with a 3" x 3" opening was used. Table 6-26 summarizes the bed sediment data.

5.5 Special Samples

Special samples were collected in and around the old DDT plant site to determine if there continued to be any significant inputs from

Table 6-15

Discharge Measurement Summary

Huntsville Spring Branch at Martin Road

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
	1979											
1	7-13	1310	WDH	65.0	106	.50	559.93	53	A	30	0	1.00
2	7-26	1200	WDH	82.0	360	.49	561.68	175	B	22	+.04	1.00
3	8-7	1205	WDH	62.0	111	.69	560.00	76	B	28	0	.67
4	8-27	1415	CEJ	76.0	230	.42	560.25	96	B	21	-.05	1.00
5	9-13	1555	CEJ-CH	82.0	437	1.35	562.91	590	B	20	+.18	.80
6	9-27	1410	WN-H	88	621	1.92	565.07	120	B	22	+.14	1.1

A - measured at .6 of the depth

B - measured at .2, .6, and .8

Table 6-16

Discharge Measurement Summary

Huntsville Spring Branch at Patton Road

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
	1973											
1	8-26	1120	DEM-H	117	529	.45	559.13	240	B	26	-.08	1.50
2	8-31	0910	DEM	118	512	.20	558.75	104	B	26	-.01	1.70
3	8-31	1200	DEM	118	515	.22	558.74	111	B	26	0	1.30
4	8-31	1500	DEM	118	490	.21	558.74	103	B	25	0	1.40
5	9-1	0900	DEM	118	503	.16	558.66	80	B	24	0	1.30
6	9-1	1200	DEM	116	491	.14	558.66	70	B	22	+.01	1.25
7	9-2	0715	JRL-B	118	692	1.86	560.28	1286	B	25	0	1.50
8	9-27	1700	CEJ,BJL	120	640	.86	559.72	548	B	25	+.10	1.50
9	9-28	0030	CEJ,BJL	120	683	1.30	560.05	889	B	17	+.02	1.00
10	9-28	0730	N,N,P	120	716	1.27	560.10	912	B	25	-.03	1.80
11	9-28	1430	G,N,N,P	120	651	1.12	560.02	738	B	25	-.03	1.50
12	9-28	2240	BJL-WDH	120	661	1.04	559.87	686	B	17	-.01	.83
13	9-29	1245	B.B.S.	120	618	.70	559.66	436	B	26	-.01	1.20
14	9-30	0840	BJL-G	120	607	.45	559.46	272	B	17	-.01	1.00
15	10-1	1415	OEM	120	597	.39	559.19	233	B	26	0	1.33
16	10-2	1335	TEG-WDH	120	595	.29	559.10	173	B	17	0	1.00
17	11-23	1820	JRL-TEG	120	648	1.06	559.85	689	B	25	+.06	1.22
18	11-24	0015	JRL-TEG	120	680	1.21	559.98	825	B	25	+.02	1.38
19	11-24	0700	B-P	120	663	1.21	559.98	801	B	25	-.01	1.27
20	11-24	1510	B-P	120	647	1.03	559.87	666	B	25	-.02	1.25
21	11-25	0045	L-J	120	628	.93	559.75	584	B	25	-.01	1.17
22	11-25	1230	B-P	120	632	.73	559.65	460	B	25	-.02	1.25
23	11-26	1435	L-B-P	120	641	.69	559.59	442	B	25	0	1.05
24	11-27	1400	L-B-E	120	598	.52	559.40	312	B	25	0	1.20
25	11-28	1025	G-E	120	596	.48	559.32	284	B	25	0	1.00

Table 6-16 (continued)

Discharge Measurement Summary

Huntsville Spring Branch at Patton Road

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
	1980											
26	1-18	0830	EOM-TEG	120	661	1.33	559.92	883	B	26	+.04	1.57
27	1-18	2120	L-N	120	672	1.06	559.85	713	B	25	-.02	1.25
28	1-22	1730	N-P	120	693	1.29	559.99	895	B	25	0	1.33
29	1-23	0130	N-E	120	684	1.72	560.11	1178	B	13	0	.83
30	1-23	0735	M-L	120	666	1.42	560.00	944	B	13	0	.67
31	1-24	0815	N-E	120	605	1.01	559.64	614	B	13	-.02	1.00
32	1-24	1015	C-G	120	624	.98	559.64	612	B	13	0	.58
33	1-25	0740	I-M	120	621	.83	559.60	530	B	13	-.01	.58
34	1-25	1310	L-M	120	582	.84	559.48	489	B	13	0	.42
35	3-17	1045	H-B	120	725	2.38	560.42	1725		17	+.04	1.50
36	3-17	1250	H	120	755	2.80	560.46	2114*		19	-.07	1.25
37	3-17	1645	H	120	791	2.97	560.44	2349*		17	+.04	1.25
38	3-17	2055	H-B	120	809	3.05	560.46	2468*		19	+.02	1.42
39	3-18	1000	I-H	120	747	1.41	560.32	1051*	B	20	-.06	1.83
40	3-19	0900	L-G	120	675	1.53	559.97	1030*	B	25	-.01	.7
41	3-21	1015	N-E	120	1316	1.57	563.58	2073*		13	+.09	1.0
42	3-22	1015	L-B	120	1356	.062	565.15	-84*	C	13	+.05	.97
43	3-24	1400	G-C	120	1390	1.76	565.32	2442*	C	13	-.03	.72
44	3-26	1315	C-B	120	1044	1.60	562.74	1672*	C	13	-.05	.75
45	3-28	1245	G-C	120	896	2.35	561.10	2101*	C	13	+.02	.67
46	3-31	1420	G-C	120	756	.91	560.24	686*			-.01	.63
47	4-3	1235	J-H	120	704	.53	559.53	375	C	20	0	.92

A - measured at .6 of the depth

B - measured at .2, .6, and .8

C - measured at .2 and .8 of the depth

*Flows affected by backwater

Table 6-17

Discharge Measurement Summary

HSBM 5.0

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
	1979											
1	9-27	1900	I-H	60	263.6	1.12	557.63	297	B	16	+.12	.8
2	9-28	0605	L-N-H	76	297.9	1.46	558.08	436	B	17	+.02	.8
3	9-29	0110	I-H	70	261.5	1.28	558.08	335	B	15	-.01	.6
4	9-30	1010	G	85	336	.23	558.85	77	B	15	0	1.0
5	10-1	1355	CEJ,LDH	75	282	.40	558.14	113	B	15	-.01	.6
6	10-2	0935	L-S	70	255	.54	557.59	137	B	16	-.02	.7
7	10-3	1015	L-N	64	231	.63	557.28	145	B	14	-.01	.8
8	10-4	1555	L-N	65	237.3	.90	557.34	213	B	14	+.01	.4
9	10-5	1035	N-H	60	213.2	.68	557.04	165	B	13	-.01	.6
10	11-23	2200	L-G	72	271.4	1.31	557.90	356		16	+.05	.8
11	11-24	1140	M-N	72	289.4	1.50	558.00	433		16	0	.7
12	11-24	1710	M-L	65	297.5	1.37	557.94	409		14	0	.6
13	11-25	0810	M-N	67	261.8	1.26	557.80	330		15	0	.5
14	11-25	2135	L-I	67	271.9	1.10	557.75	298		15	0	.6
15	11-26	1630	N-E	65	251.5	1.20	557.69	301	B	14	0	.9
16	11-27	1527	L-G	65	227.5	.93	557.52	212		14	-.02	.7
17	11-28	1315	L-G	60	40.0	.80	557.47	192		14	0	.6
18	11-29	1000	J-G	62	239.4	.812	557.41	194	B	15	0	1.0

Table 6-17 (continued)

Discharge Measurement Summary

HSBM 5.0

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
	1980											
19	1-18	1105	DEM-C	70	295	1.50	557.99	444	B	15	+.02	1.17
20	1-18	1600	L-B	73	288	1.54	558.02	445	B	16	0	.72
21	1-18	1950	L-N	73	275	1.54	557.99	424	B	16	0	.67
22	1-18	2300	L-N	72	255	1.52	558.00	387	B	16	-.01	.78
23	1-19	0210	L-N	72	272	1.36	557.90	369	B	16	0	.83
24	1-19	1440	M-I	67	253	1.24	557.74	314	B	15	0	.55
25	1-22	2045	N-E	73	279	1.63	558.04	454	B	16	0	.75
26	1-22	2330	N-E	73	286	1.70	558.10	485	B	16	+.02	.67
27	1-23	0330	N-E	73	288	1.74	558.10	500	B	16	0	.75
28	1-23	0745	N-E	73	287	1.69	558.08	485	B	16	0	.75
29	1-23	1000	N-E	73	276	1.63	558.06	450	B	16	-.01	.75
30	1-24	0915	N-E	71	258	1.34	557.80	347	B	16	0	.67
31	1-24	1355	N-E	71	263	1.32	557.80	348	B	16	0	.67
32	1-25	0835	I-M	68	264	1.26	557.66	334	B	15	0	.55
33	1-25	1400	L-M	67	260	1.20	557.63	314	B	15	0	.50

B - measured at .2, .6, and .8 of the depth

Table 6-18

Discharge Measurement Summary
HSBM 2.4

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
	1979											
1	8-26	1425	WDH	84	286	0.95	555.46	274	B	22	0	.80
2	8-31	0920	WDH	84	293	0.05	555.56	15	B	22	+.05	1.25
3	8-31	1230	WDH	84	304	0.35	555.59	106	B	22	-.02	1.40
4	8-31	1455	CEJ	84	290	0.48	555.55	140	B	22	-.01	1.25
5	9-1	0900	CEJ	81	229	0.61	554.90	140	B	21	+.04	0.90
6	9-1	1155	CEJ	81	239	0.29	555.07	69	B	21	-.02	1.00
7	9-1	1615	CEJ	81	234	0.57	554.96	132	B	22	-.06	1.00
8	9-2	0315	CEJ	83	284	1.97	555.54	560	B	21	+.04	1.20
9	9-2	1115	TEG-LPH	83	288	2.53	556.05	729	B	23	+.10	1.10
10	9-2	2215	RWB-JHS	83	351	2.59	556.35	910	B	23	-.02	1.70
11	9-3	1040	JRL-CEJ	103	357	2.32	555.99	829	B	23	-.02	1.00
12	9-27	1850	CEJ-G	83	260	0.86	555.62	223	B	22	+.02	.83
13	9-28	0605	R.S.E.	96	365	1.61	556.22	59	B	25	+.12	1.20
14	9-29	0115	CEJ-G	106	430	1.56	556.85	669	B	22	+.01	1.0
15	9-30	1015	CEJ	163	685	0.35	558.74	317	B	24	-.01	1.1
16	10-1	1355	WDH	133	587	0.53	557.97	311	B	17	-.03	.63
17	10-2	0930	WDH-TEG	125	505	0.51	557.28	259	B	21	-.01	1.00
18	10-3	1010	TEG	115	441	0.51	556.84	227		24	-.01	1.00
19	10-4	1620	G-H	107	374	0.56	556.23	208		23	0	.92
20	10-5	1335	W.D.H.	105	370	0.62	556.03	229		19	-.01	1.00
21	11-23	1000	S-J	83	197	1.80	554.44	353		18	+.05	.67
22	11-24	1135	P-B	102	308	2.07	555.40	638		22	+.02	.95
23	11-24	1705	CEJ	83	288	2.43	555.46	700		18	+.01	.83
24	11-25	0800	B-P	100	298	1.80	555.53	536		21	0	1.17
25	11-25	2135	CEJ	83	289	1.54	555.61	444		18	-.04	1.17
26	11-26	1600	B-P	102	364	1.04	556.02	381		22	+.03	.78
27	11-27	1645	B-P-G-L	100	403	0.591	556.62	238		21	0	.75
28	11-28	1315	S-E	85	378	0.725	556.67	274		18	-.01	.83
29	11-29	1030	N-P	85	390	0.665	556.68	259		18	-.01	.75

Table 6-18 (continued)

Discharge Measurement Summary

HSBM 2.4

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
	1980											
30	1-18	1115	CEJ-G	80	208	2.32	554.56	483		17	+.08	.67
31	1-18	1545	CEJ-G	82	247	2.78	554.00	687		18	+.02	.65
32	1-18	2015	CEJ-WSP	82	276	2.85	555.30	787		18	+.05	1.3
33	1-18	2310	CEJ-WSP	82	279	2.78	555.37	777		18	-.01	.75
34	1-19	0115	CEJ-WSP	82	280	2.77	555.39	774	B	18	0	.75
35	1-19	1445	CEJ-SLC	82	257	2.18	555.17	560	B	18	-.01	.75
36	1-22	2020	CEJ-WSP	82	292	2.09	555.61	611	B	18	+.08	.83
37	1-22	2325		82	314	2.34	555.90	735	B	18	+.09	1.25
38	1-23	0330	CEJ-WSP	82	339	2.44	556.17	827	B	18	+.04	.75
39	1-23	0630	CEJ-WSP	95	380	2.38	556.29	905	B	21	+.03	.67
40	1-23	1010	CEJ-WSP	91	380	2.43	556.37	923	B	20	+.01	1.17
41	1-24	0910	S-P	104	379	1.57	556.35	595	B	12	0	.50
42	1-24	1340	S-P	104	375	1.41	556.35	530	B	12	0	.40
43	1-25	0840	C-G	104	368	1.08	556.34	397	B	12	0	.42
44	1-25	1350	C-G	104	370	1.05	556.32	390	B	12	0	.40
45	3-17	1230	CEJ-JKB	100	400	2.96	556.38	1186		20	+.50	2.50

(continued)

Table 6-18 (continued)

Discharge Measurement Summary

HSBM 2.4

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
1980 (continued)												
46	3-17	1650	CEJ-JKB	109	477	3.22	557.05	1533		22	+.21	1.23
47	3-17	2040	CEJ-JKB	128	558	3.09	557.61	1724		23	+.12	1.00
48	3-18	0215	S-P	120	644	3.09	558.10	1988		17	+.06	1.42
49	3-18	0635	S-P	140	693	2.86	558.27	1981		19	+.03	1.00
50	3-18	1030	S-P	140	665	2.74	558.35	1825		20	0	.75
51	3-18	1510	J-I	145	664	2.57	558.36	1708		17	0	.53
52	3-19	0835	A-N	140	664	1.72	558.33	1140		26	0	1.22
53	3-20	0945	L.G.A.N	160	697	1.48	558.74	1036	C	30	+.12	1.12
54	3-21	1100	S-P	180	1576	1.94	563.24	3056		19	+.05	.75
55	3-22	0830	L-B	194	1762	.27	564.09	-472		21	+.08	1.33
56	3-23	1155	H-I	210	1945	.80	565.57	1565	B	13	-.02	1.00
57	3-24	1340	H-J	180	1732	1.48	565.06	2570	B	15	-.03	1.08
58	3-26	1325	H-B	175	1156	1.78	562.36	2055	B	15	-.05	.83
59	3-28	1310	H-L	160	945	1.70	560.54	1601	B	17	+.05	1.00
60	3-31	1400	H	145	806	1.36	559.88	1099	B	13	-.02	.75
61	4-3	1055	J-H	126	529	.94	557.62	495	B	16	.01	.75

A - measured at .6 of the depth

B - measured at .2, .6, and .8 of the depth

C - measured at .2 and .8 of the depth

Table 6-19

Discharge Measurement Summary
ICM 4.6

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
	1979											
1	8-27	1445	WDH	120	1018	.38	555.11	392	B	23	0	1.70
2	9-2	1345	B-S	120	1026	.88	555.30	899	B	25	+.08	1.70
3	9-28	1310	BSBE	119	1107	.57	556.30	632		26	+.02	1.33
4	9-29	0940	BSB	119	1240	.36	557.40	-445		26	+.13	2.50
5	9-30	1200	CEJ	120	1394	.49	558.67	687		25	-.04	1.25
6	10-1	1000	WDH	120	1354	.41	558.00	551		17	-.03	1.40
7	10-2	1040	WDH-TEG	120	1308	.28	557.20	362		17	0	1.00
8	10-3		TEG-LPH	115	1158	.42	556.72	488		17	-.06	--
9	10-4	1105	TEG-LPH	120	1142	.19	556.21	217		17	-.02	1.50
10	10-5	1115	WDH-WSP	120	1124	.31	556.00	349		17	-.02	1.25
11	11-24	1000	B-P	119	874	.98	554.18	861		25	+.04	1.00
12	11-26	1130	B-P	120	1093	.54	555.68	593		25	+.02	1.40
13	11-27	0850	LEWIS	120	1148	.17	556.49	197		25	+.06	2.58
14	11-28	0810	LEWIS	120	1192	.39	556.65	465		13	-.01	.44
15	11-28	1500	S-E	120	74	.32	556.61	80		13	0	.75
16	11-29	0830	N-P	120	1238	.30	556.64	369		13	0	1.00
17	11-29	1345	N-P	120	1218	.48	556.56	587		13	-.02	.75
18	11-30	1310	J-L	120	1112	.38	556.22	424	B	13	-.01	.65

Table 6-19 (continued)

Discharge Measurement Summary

ICM 4.6

No.	Date 1980	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
19	1-13	1400	CEJ-G	120	795	.79	553.45	625	B	25	+.10	1.45
20	1-18	2020	B-G	120	857	.68	553.88	581	B	24	+.07	1.65
21	1-18	2235	B-G	120	862	.51	553.93	441	B	24	+.02	1.18
22	1-19		B-G		Void							
23	1-19	1545	CEJ-SLC	120	406	.77	554.34	697	B	13	+.01	.75
24	1-22	1840	B-S	110	910	.85	554.95	773	B	23	+.10	1.95
25	1-22	2325	B-S	120	994	1.01	555.15	1006	B	13	+.04	1.12
26	1-23	0355	B-S	120	996	1.11	555.32	1102	B	13	+.05	.75
27	1-23	0645	B-S	120	1056	1.14	555.42	1203	B	13	+.03	1.00
28	1-23	1030	B-S	120	1056	1.18	555.52	1245	B	13	+.03	.83
29	1-24	1040	S-P	120	1130	.64	556.00	728	B	13	+.01	1.23
30	1-24	1440	S-P	120	1146	.59	556.06	673	B	13	+.01	.48
31	1-25	0945	C-G	120	1107	.57	556.17	632	B	13	0	.67
32	1-25	1505	C-G	120	1108	.51	556.18	560	B	13	+.01	.58
33	3-17	1325	I-B	120	1006	1.47	555.11	1416	B	25	+.30	1.92
34	3-18	0115	L-E	120	1176	2.05	556.81	2403		13	+.20	1.83
35	3-18	1055	L-N-G	120	1304	1.98	557.46	2584	C	13	+.03	.65
36	3-19	0045	A-N	120	1312	1.07	557.9	1398		13	+.03	1.38
37	3-19	1245	CEJ	119	1323	.916	558.03	1212	C	20	0	1.33
38	3-20	0020	CEJ	119	1460	1.33	558.38	1935		16	+.46	1.22
39	3-20	1345	A-N	120	1138	.918	558.07	1045		13	0	1.17
40	3-21	0830	S-P	120	1957	1.64	562.70	3215		17	+.14	.83
41	3-23	1100	J-G	85	1696	.20	565.58	342*		4	-.01	.38
42	3-24	1045	H-J	120	2194	.63	565.06	1392*	C	14	-.02	1.17
43	3-26	1040	H-B	120	1869	1.31	562.27	2453		14	-.05	.83
44	3-28	1025	H-L	120	1611	1.44	560.03	2314	C	14	+.03	1.00
45	3-31	1040	H	120	1563	1.06	559.71	1656	C	14	-.03	1.50
46	4-3	0935	J-H	120	1272	.68	557.50	871	C	14	-.01	.83

A - measured at .6 of the depth
B - measured at .2, .6, and .8 of the depth
C - measured at .2 and .8 of the depth
*Measurement not accurate due to overbank flows

Table 6-20

Discharge Measurement Summary

ICM 0.9

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
	1979											
	9-2*	1445	CEJ	208	1636	.29	555.06	478		23	-.07	2.25
1	9-28	1320	L,A,B	153	2093	.23	556.22	486		17	+.04	1.25
2	9-29	1000	L,N,B	155	1850	.23	557.57	-434		17	+.10	1.28
3	9-30	1230	I-G	160	1940	.40	558.49	890		33	-.17	2.00
4	10-1	1040	M-H	157	2006	.25	557.91	506		18	0	1.16
5	10-2	1135	L-S	155	1767	.15	557.16	272		17	-.01	1.05
6	10-3	1315	L-N	155	1712	.29	556.61	495		17	-.16	2.20
7	10-4	1150	L-N	155	1596	.14	556.17	219		17	-.02	1.00
8	10-5	1300	N-H	155	1620	.16	555.90	265		17	-.05	1.33
10	11-24	0920	GM-DN	160	1126	.42	553.85	474		17	+.02	1.00
11	11-24	1445	GM-DN	170	1266	.36	554.14	454		17	+.04	0.75
12	11-26	1145	N-E	155	1691	.24	555.66	410		17	+.02	1.75
13	11-27	0840	M-G	155	1548	.12	556.41	179		17	+.02	1.00
14	11-28	0800	M-G	155	1588	.15	556.61	245		17	-.02	0.83
15	11-28	1430	L-G	155	1734	.10	556.54	174		17	+.02	1.50
16	11-29	0740	J-G	155	1672	.04	556.58	72		17	-.02	1.08
17	11-29	1400	J-G	155	1664	.17	556.47	278		13	0	0.67
18	11-30	1000	L-J	156	1684	.10	556.16	166		17	-.01	1.50

Table 6-20 (continued)

Discharge Measurement Summary

ICM 0.9

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
	1980											
19	1-22	1830	M-L	155	1318	.31	554.76	409	B	17	+.07	1.3
20	1-22	2220	M-L	155	1334	.35	554.86	468	B	17	+.06	1.2
21	1-23	0130	M-L	155	1341	.42	554.96	569	B	17	+.05	1.2
22	1-23	0540	M-L	155	1354	.43	555.09	584	B	17	+.06	1.0
23	1-23	1105	OEM	155	1386	.48	555.02	661	B	17	+.03	1.3
24	1-24	1045	N-E	157	1559	.13	555.88	198	B	18	+.05	2.0
25	1-24	1510	N-E	157	1571	.13	555.97	211	B	18	+.02	1.8
26	1-25	1030	L-M	170	1916	.28	556.06	543	B	18	0	1.0
27	1-25	1530	L-M	155	1640	.17	556.10	274	B	18	+.02	.78
28	3-17	1200	DEM,SLC	145	1096	.85	554.26	935		16	+.12	1.5
29	3-18	0000	DEM,SLC	155	1407	1.14	555.67	1609		17	+.14	1.15
30	3-18	1230	DEM,SLC	150	1665	.92	556.76	1532		16	+.27	2.0
31	3-19	0005	DEM,SLC	150	1567	.58	557.56	908		16	+.08	1.08
32	3-19	1230	M-C	150	1755	.55	557.80	962		16	0	1.25
33	3-20	1230	C-B	150	2098	.78	558.52	1640		16	+.15	1.33
34	3-22	1040	OEM,SLC	180	2979	.33	565.13	981		19		1.58
35	3-23	0920	J-G	185	3379	1.13	567.05	3829		16	-.11	1.22
36	3-24	1050	G-C	155	2961	1.11		3285		16		1.33
37	3-26	1010	C-B	150	2405	1.14		2734		16		
38	3-28	0945	G-C	170	2196	.83	559.60	1817	B	17	-.07	1.17
39	3-31	1010	G-C	155	2058	.68	559.52	1402	B	17	-.05	1.17
40	4-3	0945	G-C	155	1828	.16	557.35	295	C	17	-.02	1.50

A - measured at .5 of the depth
B - measured at .2, .6 and .8 of the depth
C - measured at .2 and .8 of the depth
*Measurement made at ICM 1.7

Table 6-21

Discharge Measurement Summary

Indian Creek at Martin Road

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec-tions	Gage Ht. Change Ft.	Time req'd Hrs
	1979											
1	7-13		WDH	28	47	.42	558.47	20	A	15	0	.75
2	7-20		WDH	30	54	.42	558.55	23	A	20	+.02	.45
3	7-26		WDH	52	89	1.25	559.95	111	B	26	+.02	.80
4	8-7		WDH	28	58	.64	558.82	37	B	20	0	.67
5	9-1		CEJ	66	170	1.40	561.22	237	B	20	-.10	1.00
6	9-3		JRL-CEJ	49	64	1.14	559.48	73	A	24	0	.50
7	11-23	0025	CEJ-HS	79	281	1.62	562.50	456	A	22	-.02	

A - measured at .6 of the depth

B - measured at .2, .6, and .8 of the depth

TABLE 6-22

DDTR - SEDIMENT CONCENTRATION ANALYSES
HSB AT PATTON ROAD
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses				% Volatile Solids			DDTR Analyses (<63μ only)			Flow cfs
		>63μ	G.F.*	<.45μ*	Total	>63μ	G.F.	Weighted Total*	Suspended μg/1	Dissolved μg/1	Total μg/1	
		mg/1										
Storm 5												
1/18-0900	C	22	120	7	149	46	25	28	0-.40	.18-.22	.18-.62	882
2215	C	6.6	42	<1	50	3.5	19	17	0-.38	.24-.40	.24-.78	713
Storm 6												
1/22-1745	C	11	84	7	102	21	15	16	--	.12-.19	--	895
	.6D	15	78	6	99	26	14	16				
1/23-0145	C	7	51	7	65	23	10	11	.02-.10	.15-.22	.17-.32	1178
	.6D	7	45	7	59	26	9	11				
0745	C	4	37	6	47	21	9	10	0-.10	.03-.11	.03-.21	944
	.6D	3	34	7	44	29	9	10				
1/24-0815	C	4	17	1	22	33	7	12	0-.09	.05-.13	.05-.22	614
	.6D	2	16	2	20	37	5	8				
1055	C	6	16	<1	23	21	6	10	0-.06	.04-.12	.04-.18	612
1/25-0755	C	3	20	2	25	34	6	9	0-.09	.05-.13	.05-.22	529
	.6D	6	17	2	25	36	6	13				
1310	C	4	16	1	21	26	6	10	0-.07	.03-.11	.03-.18	489
	.6D	<1	15	<1	17	22	9	10				
Storm 7												
3/17-1130	C	12	180	26	218	98	22	26	.20-.65	.04-.11	.24-.76	1725
	.6D	15	150	--		39	--					
1330	C	102	120	23	245	89	19	48	.05-.19	.01-.09	.06-.28	2114
	.6D	10	110	--		21	--					
1445	C	16	92	14	122	41	18	21	0-.15	.02-.10	.02-.25	1788
	.6D	7	98	--		32	--					

TABLE 6-22

DDTR - SEDIMENT CONCENTRATION ANALYSES
HSB AT PATTON ROAD
STORMS 5-7

	Sample	Sediment Analyses				% Volatile Solids			DDTR Analyses (<63μ only)			
Date-Time	Type*	>63μ	G.F.*	<.45μ*	Total	>63μ	G.F.	Weighted Total*	Suspended μg/l	Dissolved μg/l	Total μg/l	Flow cfs
		mg/l										
Storm 7 (continued)												
3/17-1715	C	10	89	29	128	15	15	15	0-.26	.01-.09	.01-.35	2348
	.6D	13	72	--		28	--					
2140	C	4	73	18	95	23	16	18	0-.19	.01-.09	.01-.28	2468
	.6D	5	70	--		12	--					
3/18-1235	C	3	50	14	67	27	10	11	0-.13	.01-.09	.01-.22	1051
	.6D	3	47	--		29	--					
1720	C	3	48	8	59	53	11	13	0-.25	.02-.10	.01-.35	1404
	.6D	<1	39	--		--	--					
3/19-0920	C	4	32	2	38	26	10	12	0-.18	.02-.09	.02-.27	1030
	.6D	<1	29	--		--	--					
1715	C	1	23	1	25	51	10	12	0-.12	.02-.10	.02-.22	842
	.6D	2	30	--		32	--					
3/20-1140	C	7	220	35	262	18	31	31				--
	.6D	5	210	--		16	--					
1705	C	16	160	42	218	73	21	25	0-1.34	.02-.10	.02-1.44	--
	.6D	19	160	--		19	--					
3/21-0945	C	<1	110	64	175	--	15	15	0-.22	.01-.09	.01-.31	2073
	.6D	1	120	--		41	--					
3/22-1050	C	3	41	22	66	14	15	15			.03-1.51	-84
	.6D	2	48	--		7	--					
3/24-1445	C	<1	29	14	44	--	15	15	0-.11	.02-.10	.02-.21	2442
	.6D	<1	28	--		--	--					
3/26-1405	C	4	100	36	140	7	21	21	0-1.41	.03-.10		1672
	.6D	3	83	--		21	--					
3/28-1325	C	14	26	10	50	7	9	8	0-.18	.03-.11	.03-.29	2101
	.6D	18	29	--		13	--					

TABLE 6-22

DDTR - SEDIMENT CONCENTRATION ANALYSES
HSB AT PATTON ROAD
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses				% Volatile Solids			DDTR Analyses (<63µ only)			Flow cfs
		>63µ	G.F.*	<.45µ*	Total	>63µ	G.F.	Weighted Total*	Suspended	Dissolved	Total	
		mg/1							µg/1	µg/1	µg/1	
Storm 7 (continued)												
3/31/1455	C	5	23	12	40	34	8	11	0-.28	.08-.14	.08-.42	685
	.6D	11	30	--		22	--					
4/3-1300	C	2	20	3	25	26	8	9	0-.29	.02-.10	.02-.39	375
	.6D	2	18	--		15	--					

***NOTES:**

C - composite of samples at all depths taken across the transect
.6D - composite of samples taken at .6 of the depth taken across the transect
G.F. - nonfilterable residue passing a 63µ sieve but retained on a glass filter pad
.45µ - nonfilterable residue passing a glass filter pad but retained on a .45µ membrane filter
Total % volatile solids calculated assuming same % volatile solids for the <.45µ fraction as for the G.F. fraction

TABLE 6-23

DDTR - SEDIMENT CONCENTRATION ANALYSES
HSBM 2.4
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses				% Volatile Solids			DDTR Analyses (<63μ only)			Flow cfs	
		>63μ	G.F.* mg/l	<.45μ*	Total	>63μ	G.F.	Weighted Total*	Suspended μg/l	Dissolved μg/l	Total μg/l	Measured	Model
Storm 5													
1/18-1200	C	8.5	130	6	144	9.6	26	25	13.26	3.24	16.50	483	474
1600	C	6.4	91	3	100	66	23	26	10.87	3.22	13.59	687	483
2100	C	9.1	80	4	93	87	22	28	2.44	3.49	5.93	787	446
2400	C	5.1	68	4	77	35	19	20	5.36	2.83	8.19	777	434
1/19-0200	C	4.9	68	4	77	80	19	23	6.26	3.06	9.32	774	428
1500	C	2.4	50	1	53	53	18	20	5.25	2.82	8.07	560	389
Storm 6													
1/22-2100	C	3	49	3	55	25	13	14	4.44	.93	5.37	611	384
	.6D	2	51	2	55	28	11	12					
2400	C	13	52	4	69	7.5	12	11	6.46	.90	7.36	735	402
	.6D	3	57	4	64	24	11	12					
1/23-0400	C	3	54	9	66	25	11	12	2.88	1.05	3.93	827	411
	.6D	3	52	8	63	27	11	12					
0700	C	2	49	13	64	23	10	10	3.06	1.26	4.32	904	409
	.6D	2	48	8	58	25	10	10					
1100	C	3	44	7	54	19	11	11	1.92	.64-.66	1.90-1.92	923	398
	.6D	3	40	7	50	24	8	9					
1/24-0900	C	<1	23	2	26	21	14	14	1.06	.32-.37	1.38-1.43	595	325
	.6D	<1	24	4	29	65	7	9					
1400	C	<1	22	1	24	34	8	9	.68	.38-.43	1.06-1.11	530	313
	.6D	<1	20	2	23	69	7	10					

TABLE 6-23

DDTR - SEDIMENT CONCENTRATION ANALYSES

HSBM 2.4
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses mg/l				% Volatile Solids			DDTR Analyses (<63μ only)			Flow cfs	
		>63μ	G.F.*	<.45μ*	Total	>63μ	G.F.	Weighted Total*	Suspended μg/l	Dissolved μg/l	Total μg/l	Measured	Model
Storm 6 (continued)													
1/25-0900	C	2	23	2	27	9.8	7	7	1.21	1.46	2.67	397	[illegible]
	.6D	<1	20	<1	22	26	5	6					
1400	C	<1	20	1	22	13	7	7	1.10	.74-.76	1.84-1.84	390	[illegible]
	.6D	<1	20	2	23	38	6	7					
Storm 7													
3/17-1300	C	8	79	11	98	35	16	18	6.12-6.17	1.67	7.79-7.84	1186	417
	.6D	6	74			30							
1545	C	6	74	13	93	54	16	18	4.41-4.46	1.59	6.0-6.05	1300	477
	.6D	5	76			51							
1730	C	5	84	16	105	47	18	19	3.3-3.35	1.37	4.67-4.72	1533	530
	.6D	3	84			24							
2040	C	6	85	28	119	33	16	17	2.04-2.09	.97	3.01-3.06	1724	737
	.6D	5	80			69							
2340	C	2	80	24	106	24	16	16	2.07-2.12	1.01	3.08-3.13	1900	860
	.6D	2	86			22							
3/18-0120	C	2	84	17	103	26	16	16	1.62-1.67	.95	2.57-2.62	1988	895
	.6D	13	71			87							
0400	C	3	82	19	104	30	15	15	2.81-2.86	.86	3.67-3.72	1980	945
	.6D	1	80			26							
0600	C	8	72	20	100	81	15	20	2.62-2.67	1.01	3.63-3.68	1981	974
	.6D	<1	67			--							
0740	C	12	64	21	97	21	15	16	2.08-2.13	.92	3.0-3.05	1900	964
	.6D	22	64			25							

TABLE 6-23

DDTR - SEDIMENT CONCENTRATION ANALYSES

HSBM 2.4
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses mg/l				% Volatile Solids			DDTR Analyses (<63μ only)			Flow cfs	
		>63μ	G.F.*	<.45μ*	Total	>63μ	G.F.	Weighted Total*	Suspended μg/l	Dissolved μg/l	Total μg/l	Measured	Model
Storm 7 (continued)													
3/18-1000	C	3	63	29	95	42	13	14	1.77-1.83	1.03-1.05	2.8-2.88	1825	907
	.6D	3	60			23							
1120	C	7	61	27	95	14	16	16	.96-1.01	.72-.74	1.68-1.75	1800	900
	.6D	3	52			56							
1255	C	2	56	18	76	66	12	13	1.09-1.15	.68-.73	1.77-1.88	1760	890
	.6D	<1	56			--							
1530	C	1	52	18	71	<1	12	12	.74-.79	.49-.54	1.23-1.33	1708	860
	.6D	<1	49			--							
3/18-1745	C	10	46	16	72	26	10	12		.45-.47		1650	814
	.6D	<1	52			--							
3/19-1000	C	<1	37	7	45	--	17	17	--	--	--	1140	--
	.6D	1	39			7							
1805	C	<1	30	4	35	--	16	16	.92-.99	.51-.53	1.43-1.52	1100	331
	.6D	1	31			30							
3/20-1005	C	2	27	3	32	14	16	16	1.0-1.27	.48-.53	1.48-1.80	1036	579
	.6D	1	24			13							
1740	C	<1	24	4	29	--	14	14	.31-.34	.4-.42	.71-.76	--	--
	.6D	<1	27			--							
3/21-1030	C	3	92	51	146	3	16	16		.24		3056	--
	.6D	1	110			38							
3/22-0900	C	1	76	67	144	25	14	14	.17-.31	.25-.30	.42-.61	472	--
	.6D	<1	100			--							
3/23-1205	C	4	79	66	149	8	16	16	--	--	--	1505	--
	.6D	7	84			9							
3/24-1410	C	<1	42	27	70	--	16	16	0-.31	.2-.22	.20-.53	2570	--
	.6D	<1	44			--							

TABLE 6-23

DDTR - SEDIMENT CONCENTRATION ANALYSES
HSBM 2.4
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses mg/l				% Volatile Solids			DDTR Analyses (<63μ only)			Flow cfs	
		>63μ	G.F.*	<.45μ*	Total	>63μ	G.F.	Weighted Total*	Suspended μg/l	Dissolved μg/l	Total μg/l	Measured	Model
Storm 7 (continued)													
3/26-1325	C	20	24	15	59	--	7	7	.29-.34	.33-.38	.62-.72	2055	--
	.6D	1	32			20							
3/28-1345	C	<1	21	6	28	--	8	8	.47-.52	.35-.40	.82-.92	1601	--
	.6D	<1	21			--							
3/31-1505	C	<1	18	13	32	--	8	8	.28-.37	.28-.33	.56-.70	1099	--
	.6D	4	18			18							
4/3-1135	C	2	17	2	21	14	6	7	.79-.84	.50-.55	1.29-1.39	495	--
	.6D	6	15			20							

***NOTES:**

C - composite of samples at all depths taken across the transect
.6D - composite of samples taken at .6 of the depth taken across the transect
G.F. - nonfilterable residue passing a 63μ sieve but retained on a glass filter pad
.45μ - nonfilterable residue passing a glass filter pad but retained on a .45μ membrane filter
Total % volatile solids calculated assuming same % volatile solids for the <.45μ fraction as for the G.F. fraction

TABLE 6-24

DDTR - SEDIMENT CONCENTRATION ANALYSES
ICM 4.6
STORMS 5-7

	Sample	Sediment Analyses mg/l				% Volatile Solids			DDTR Analyses (<63µ only)			Flow cfs	
Date-Time	Type*	>63µ	G.F.*	<.45µ*	Total	>63µ	G.F.	Weighted Total*	Suspended µg/l	Dissolved µg/l	Total µg/l	Measured	Model
Storm 5													
1/18-1500	C	3	110	5	118	65	24	25	4.77	3.01	7.78	625	688
2100	C	3.7	84	8	96	77	22	24	8.33	4.31	12.64	581	613
2300	C	21	100	4	125	85	24	34	8.33	3.99	12.32	441	602
1/19-0200	C	4.2	95	9	108	35	23	24	8.68	2.73	11.41	--	586
1600	C	.8	44	2	47	9	16	16	1.85-1.76	3.42	5.18-5.27	697	508
Storm 6													
1/22-2000	C	<1	25	3	29	65	8	10	1.27-1.28	1.42-1.45	2.69-2.73	773	787
	.6D	4	29	1	34	24	8	10					
2400	C	<1	35	2	38	69	7	9	1.77	.48-.53	2.25-2.30	1006	808
	.6D	9	42	3	54	10	9	9					
1/23-0400	C	<1	44	4	49	37	10	10	2.21	1.57	3.78	1102	772
	.6D	<1	49	5	55	78	8	9					
0700	C	<1	48	4	53	44	10	11	2.69	1.21	3.90	1203	732
	.6D	<1	48	4	53	92	9	10					
1100	C	<1	63	5	69	44	8	8	2.51	1.56	4.07	1245	677
	.6D	<1	51	6	58	67	8	9					
1/24-1100	C	<1	26	4	31	86	6	8	.58-.59	1.16	1.74-1.75	728	497
	.6D	<1	32	4	37	54	8	9					
1500	C	<1	31	2	34	46	8	9	.53-.54	.23-.28	.76-.82	673	503
	.6D	20	80	4	104	9	9	9					
1/25-1000	C	<1	57	2	60	36	6	6	.53-.54	1.12	1.65-1.66	632	488
	.6D	<1	82	3	86	51	6	6					
1500	C	<1	18	<1	20	82	5	9	.54-.55	.86-.88	1.40-1.43	560	489
	.6D	<1	47	3	51	18	7	7					

TABLE 6-24

DDTR - SEDIMENT CONCENTRATION ANALYSES

ICM 4.6
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses mg/l				% Volatile Solids			DDTR Analyses (<63μ only)			Flow cfs	
		>63μ	G.F.*	<.45μ*	Total	>63μ	G.F.	Weighted Total*	Suspended μg/l	Dissolved μg/l	Total μg/l	Measured	Model
Storm 7													
3/17-1400	C	7	110	11	128	20	18	18	5.68-5.73	1.92	7.60-7.65	1416	1270
	.6D	8	110			18							
1730	C	10	130	17	157	22	20	20	2.21-2.26	6.41	8.62-8.67	1600	1380
	.6D	11	120			20							
3/18-0155	C	5	100	33	138	17	17	17	3.13-3.18	1.69	4.82-4.87	2408	1712
	.6D	3	100			24							
0715	C	10	120	26	156	19	11	12	10.46-10.52	2.45	12.91-12.97	2500	1740
	.6D	3	87			30							
1110	C	<1	68	22	91	--	15	15	2.01-2.06	.99-1.01	3.0-3.07	2584	1590
	.6D	<1	56			--							
1720	C	<1	53	24	78	--	14	14	.91-.97	1.09-1.11	2.0-2.08	2000	1320
	.6D	<1	50			--							
3/19-0055	C	<1	49	15	65	--	12	12	1.02	1.58	2.60	1398	1030
	.6D	<1	46			--							
0645	C	22	40	15	77	<1	18	13	.70-.76	.67	1.37-1.43	1300	930
	.6D	84	39			<1							
1305	C	21	41	11	73	1	16	12	.50-.54	.83-.85	1.33-1.39	1212	750
	.6D	88	40			8							
1835	C	21	37	10	68	1	17	12	--	--	--	1150	650
	.6D	86	38			<1							
3/20-0140	C	19	30	--	49	3	15	10	--	--	--	1045	710
	.6D	120	32			3							
0630	C	23	31	10	64	1	16	11	.13-.24	.50	.63-.74	--	820
	.6D	120	27			--							

TABLE 6-24

DDTR - SEDIMENT CONCENTRATION ANALYSES
ICM 4.6
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses mg/l				% Volatile Solids			DDTR Analyses (<63µ only)			Flow cfs	
		>63µ	G.F.*	<.45µ*	Total	>63µ	G.F.	Weighted Total*	Suspended µg/l	Dissolved µg/l	Total µg/l	Measured	Model
Storm 7 (continued)													
3/20-1415	C	5	24	<1	30	8	16	15	.55-.61	.49-.54	1.04-1.15	1935	--
	.6D	86	24			1							
1840	C	<1	22	2	25	--	15	15	.32-.39	.40-.42	.72-.81	--	--
	.6D	1	29			87							
3/21-0800	C	--	--	--	--	--	--	--	--	--	--	3215	--
	.6D	--	--			--							
3/23-0955	C	3	78	55	136	3	15	15	--	--	--	342	--
	.6D	<1	85			--							
3/24-1110	C	1	63	--	64	9	11	11	0-.24	.08-.14	.08-.38	1392	--
	.6D	5	58			40							
3/26-1100	C	1	26	15	42	12	14	14	.02-.13	.23-.28	.25-.41	2453	--
	.6D	<1	24			--							
3/28-1030	C	2	23	10	35	3	7	7	.05-.20	.26-.31	.31-.51	2314	--
	.6D	1	19			29							
3/31-1230	C	<1	23	8	32	--	8	8	.16-.21	.38-.40	.54-.61	1656	--
	.6D	1	28			60							
4/3-1000	C	1	21	2	24	25	8	9	.66-.70	.47-.52	1.13-1.22	871	--
	.6D	<1	17			--							

*NOTES:

C - composite of samples at all depths taken across the transect
.6D - composite of samples taken at .6 of the depth taken across the transect
G.F. - nonfilterable residue passing a 63µ sieve but retained on a glass filter pad
.45µ - nonfilterable residue passing a glass filter pad but retained on a .45µ membrane filter
Total % volatile solids calculated assuming same % volatile solids for the <.45µ fraction as for the G.F. fraction

TABLE 6-25

DDTR - SEDIMENT CONCENTRATION ANALYSES
ICM 0.9
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses >63µ	G.F.*	<.45µ*	Total	% Volatile Solids >63µ	G.F.	Weighted Total*	DDTR Analyses (<63µ only) Suspended µg/l	Dissolved µg/l	Total µg/l	Flow cfs Measured	Model
		mg/l											
Storm 5													
1/18-1500	C	.4	54	2	56	71	18	19	1.54	1.52	3.06	--	683
2030	C	.5	44	2	46	71	17	18	1.26	2.60	3.86	--	582
2330	C	1.0	57	3	61	28	18	18	.48	2.62	3.10	--	566
1/19-0200	C	.7	63	5	69	61	20	20	2.20	2.39	4.59	--	555
1600	C	.5	54	4	58	53	18	18	1.70	1.58	3.28	--	480
Storm 6													
1/22-1900	C	<1	28	1	30	64	8	10	1.39-1.41	.7-.75	2.09-2.16	409	716
	.6D	<1	30	<1	32	23	8	8					
2300	C	<1	28	1	30	64	9	11	.99	1.77	2.76	468	769
	.6D	<1	31	2	34	57	7	8					
1/23-0200	C	<1	29	<1	31	54	8	9	.84-.86	1.69	2.53-2.55	569	753
	.6D	<1	23	3	27	88	9	12					
0600	C	2	36	3	41	92	9	13	.85	.9-.95	1.75-1.80	585	706
	.6D	<1	35	2	38	75	10	12					
1200	C	<1	44	3	48	21	10	10	1.06	1.17	2.23	661	623
	.6D	<1	41	4	46	56	9	10					
1/24-1200	C	<1	32	7	40	10	8	8	.51	.65-.7	1.16-1.21	198	467
	.6D	<1	33	5	39	69	9	10					
1700	C	<1	33	5	39	31	6	7	.56-.57	.87-.92	1.43-1.49	211	506
	.6D	<1	32	4	37	53	8	9					
1/25-1100	C	<1	30	5	36	24	7	7	.60-.61	.36-.41	.96-1.02	543	474
	.6D	<1	24	4	29	84	8	11					
1600	C	<1	25	3	29	44	8	9	.46-.47	.3-.35	.76-.82	274	537
	.6D	<1	26	3	30	71	8	10					

TABLE 6-25

DDTR - SEDIMENT CONCENTRATION ANALYSES
ICM 0.9
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses mg/l				% Volatile Solids			DDTR Analyses (<63µ only)			Flow cfs	
		>63µ	G.F.*	<.45µ*	Total	>63µ	G.F.	Weighted Total*	Suspended µg/l	Dissolved µg/l	Total µg/l	Measured	Model
Storm 7													
3/17-1215	C	2	79	6	87	24	14	14	2.29-2.38	1.58	3.87-3.96	935	1033
	.6D	1	75			53							
1800	C	1	100	15	116	28	18	18	3.78-3.87	1.40	5.18-5.27	1280	1225
	.6D	1	95			53							
3/18-0005	C	5	160	22	187	23	23	23	7.32-7.42	2.19	9.51-9.61	1609	1488
	.6D	9	170			23							
0725	C	2	120	35	157	31	18	18	5.26-5.34	1.70	6.96-7.04	1560	1200
	.6D	3	110			65							
1240	C	<1	83	25	109	--	16	16	2.67-2.76	1.34	4.01-4.10	1532	1374
	.6D	1	87			--							
1800	C	1	64	28	93	--	14	14	1.29-1.38	1.15-1.17	2.44-2.55	1250	1175
	.6D	1	71			--							
3/19-0015	C	1	55	22	78	--	12	12	.55-.67	.99	1.54-1.66	908	939
	.6D	1	52			--							
0640	C	1	52	19	72	--	14	14	.56-.61	.99	1.55-1.60	930	892
	.6D	1	51			--							
1300	C	1	44	16	61	--	11	11	1.95-2.07	.92	2.87-2.99	962	742
	.6D	1	47			--							
1800	C	20	40	14	74	--	10	10	--	--	--	--	636
	.6D	83	42			<1							
3/20-0125	C	18	40	11	69	4	10	8	--	--	--	--	677
	.6D	73	39			<1							
0630	C	17	40	6	63	<1	17	13	.38-.43	.66-.71	1.04-1.14	--	700
	.6D	66	37			<1							
1250	C	18	34	9	61	2	10	8	.17-.18	.68-.73	.85-.91	1640	928
	.6D	70	29			<1							

TABLE 5-35

DDTR - SEDIMENT CONCENTRATION ANALYSES
ICM 0.9
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses >63μ	G.F.*	<.45μ*	Total	% Volatile Solids >63μ	G.F.	Weighted Total*	DDTR Analyses (<63μ only) Suspended μg/l	Dissolved μg/l	Total μg/l	Flow cfs Measured	Model
		mg/l											
Storm 7 (continued)													
1710	C	1	28	5	34	68	10	12	.32-.38	.64-.66	.96-1.04	--	--
	.6D	2	29			75							
3/22-1100	C	<1	58	27	86	--	11	11	.24-.71	.21-.26	.45-.97	981	--
	.6D	<1	63			--							
3/23-0950	C	2	58	15	75	11	13	13	.69-.86	.23-.28	.92-1.14	3829	--
	.6D	3	60			36							
3/24-1120	C	<1	57	37	95	--	12	12	.17-.26	.22-.27	.39-.53	3285	--
	.6D	<1	58			--							
3/26-1045	C	<1	38	33	72	--	17	17	.42-.51	.50-.52	.92-1.03	2734	--
	.6D	1	35			<1							
3/28-1000	C	<1	25	5	31	--	16	16	.03-.07			1817	--
	.6D	<1	23			--							
3/31-1035	C	1	33	13	47	18	9	9	.66-.72	.21-.34	.87-1.06	1402	--
	.6D	3	39			71							
4/3-1005	C	6	26	<1	33	16	8	9	1.25-1.32	.36-.41	1.61-1.73	295	--
	.6D	1	21			71							

*NOTES:

C - composite of samples at all depths taken across the transect
.6D - composite of samples taken at .6 of the depth taken across the transect
G.F. - nonfilterable residue passing a 63μ sieve but retained on a glass filter pad
.45μ - nonfilterable residue passing a glass filter pad but retained on a .45μ membrane filter
Total % volatile solids calculated assuming same % volatile solids for the <.45μ fraction as for the G.F. fraction

Table 6-26

Bed Sediment Data

Storm	Time (Date) Sampled	Duration of Sampling hr.	HSB at Patton Rd.		HSBM 2.4		ICM 4.6		ICM 1.7	
			Sample wt. g	DDTR conc. µg/g	Sample wt. g	DDTR conc. µg/g	Sample wt. g	DDTR conc. µg/g	Sample wt. g	DDTR conc. µg/g
1	1015(8/26/79)- 1015(8/29/79)	72	-	-	22.9	69.8	2.71* .90	56.9 56.7	-	-
2	0030(9/2/79)- 1030(9/5/79)	82	12.94*	7.17	14.9	1377	20.8 64.5	257.0 200.0	-	-
3	1700(9/27/79)- 1400(10/5/79)	189	0.29	25.7	12.9	277	7.49	259	10.50*	6.52
4	1900(11/23/79)- 1100(11/30/79)	160	6.35	6.62	6.58	536	138	125	22.0*	25.6

*Sampler had 4" x 4" orifice; all other samples taken with samplers having a 3" x 3" opening the site itself or from the nearby landfills. Table 6-27 summarizes the results of these special grab samples. The spring pool at HSBM 4.9 listed in Table 6-27 is also identified in the listing of the data in the Appendix as a "goldfish pond." The "sulphur spring" listed in the appendix is on the right bank at approximately HSBM 4.85. This spring was inundated at higher flows.

Table 6-27

Special Samples

Date	Location	DDTR(μg/l)
8/28/79	Newly cut ditch that drains new landfill	.20-.44
8/28	Untreated water in new DDT ditch above Activated Carbon Treatment (ACT) plant	12.1
8/28	Treated water from new DDT ditch (below ACT plant)	.83-.95
8/28	Seep near groundwater well RS-024	.13-.49
8/28	Spring pool on right bank near HSBM 4.9	2.55
9/1	Drain east of new DDT ditch (water)	.35-.51
9/1	Drain east of new DDT ditch (water and bottom sediments)	.06-.42
9/1	Right bank at HSBM 5.13 just upstream of beaver dam and trash backup	0-.40
10/4	Seep near ground water well RS-024	0-1.2
10/4	Spring pool on right bank near HSBM 4.9	0-1.8

APPENDIX

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA
SAMPLING AND COMPOSITING VARIABILITY STUDY OF DDT CONCENTRATIONS MEASURED IN RUNOFF

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	DEPTH	LAB ID	SUSPENDED SOLIDS-MG/L	DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	---TOTAL MINIMUM (UG/L)	DDTR--- MAXIMUM (UG/L)
1	26AUG79 1420	26AUG79 1426	LEFT	1	6-037	.	0.30	1.20	4.00	7.95	0.62	1.36	15.43	15.43
1	26AUG79 1427	26AUG79 1432	LEFT	2	6-038	.	0.32	1.99	3.75	5.62	0.68	1.22	13.58	13.58
1	26AUG79 1433	26AUG79 1437	LEFT	3	6-039	.	0.31	0.99	3.78	5.12	0.62	1.22	12.04	12.04
1	26AUG79 1438	26AUG79 1449	LEFT	4	6-040	.	0.30	1.08	4.14	5.96	0.62	1.29	13.39	13.39
1	26AUG79 1450	26AUG79 1453	MIDDLE	1	6-041	.	0.29	1.05	3.82	5.84	0.57	1.24	12.81	12.81
1	26AUG79 1454	26AUG79 1456	MIDDLE	2	6-042	.	0.34	1.17	4.25	6.05	0.65	1.30	13.76	13.76
1	26AUG79 1457	26AUG79 1459	MIDDLE	3	6-043	.	0.33	1.40	3.56	5.18	0.63	1.18	12.28	12.28
1	26AUG79 1500	26AUG79 1502	MIDDLE	4	6-044	.	0.33	1.13	3.56	4.99	0.62	1.11	11.74	11.74
1	26AUG79 1503	26AUG79 1505	RIGHT	1	6-045	.	0.32	0.95	4.06	5.55	0.63	1.26	12.77	12.77
1	26AUG79 1506	26AUG79 1508	RIGHT	2	6-046	.	0.29	0.69	3.56	5.00	0.58	1.00	11.12	11.12
1	26AUG79 1509	26AUG79 1511	RIGHT	3	6-047	.	0.32	0.73	4.52	6.72	0.65	1.82	14.76	14.76
1	26AUG79 1512	26AUG79 1515	RIGHT	4	6-048	.	0.33	1.04	4.72	6.64	0.69	1.51	14.93	14.93
1	26AUG79 1436	26AUG79 1441	RIGHT	2	6-049	.	0.34	0.80	4.32	6.22	0.68	1.48	13.84	13.84
1	26AUG79 1442	26AUG79 1446	RIGHT	2	6-050	.	0.32	0.93	4.25	6.25	0.65	1.51	13.91	13.91
1	26AUG79 1447	26AUG79 1451	RIGHT	2	6-051	.	0.29	0.63	4.10	5.90	0.54	1.39	12.65	12.85
1	26AUG79 1452	26AUG79 1457	RIGHT	2	6-052	.	0.32	1.00	4.26	5.84	0.59	1.40	13.41	13.41
1	26AUG79 1458	26AUG79 1503	RIGHT	2	6-053	.	0.31	1.09	3.89	5.60	0.59	1.28	12.76	12.76
1	26AUG79 1504	26AUG79 1509	RIGHT	2	6-054	.	0.29	0.68	3.62	5.32	0.56	1.21	11.68	11.68
1	26AUG79 1510	26AUG79 1512	RIGHT	2	6-055	.	0.32	0.84	3.47	4.73	0.66	1.02	11.04	11.04
1	26AUG79 1732	26AUG79 1739	COMPOSITE	.	6-059	50.0	0.28	3.15	4.12	6.80	0.65	1.42	16.42	16.42
1	26AUG79 1740	26AUG79 1747	COMPOSITE	.	6-060	50.0	0.28	1.71	3.68	5.83	0.62	1.33	13.45	13.45
1	26AUG79 1748	26AUG79 1754	COMPOSITE	.	6-061	51.0	0.31	2.83	3.62	5.78	0.63	1.20	14.37	14.37
1	26AUG79 1755	26AUG79 1801	COMPOSITE	.	6-062	51.0	0.29	2.64	3.71	6.05	0.64	1.27	14.60	14.60
1	26AUG79 1802	26AUG79 1808	COMPOSITE	.	6-063	50.0	0.32	2.20	3.96	6.44	0.69	1.29	14.90	14.90
1	26AUG79 1809	26AUG79 1612	COMPOSITE	.	6-064	51.0	0.28	2.54	3.70	6.18	0.59	1.19	14.48	14.48
2	2SEP79 2115	2SEP79 .	LEFT	1	6-143	.	0.09	1.11	1.27	2.14	0.19	0.46	5.26	5.26
2	2SEP79 2122	2SEP79 .	LEFT	2	6-144	.	0.12	1.98	1.49	3.07	0.24	0.58	7.48	7.48
2	2SEP79 2130	2SEP79 .	LEFT	3	6-145	.	0.17	1.25	1.67	3.99	0.26	0.62	7.96	7.96
2	2SEP79 2141	2SEP79 .	LEFT	4	6-146	.	0.10	1.66	1.40	2.29	0.22	0.55	6.22	6.22
2	2SEP79 2233	2SEP79 .	MIDDLE	1	6-147	.	0.13	1.37	1.43	2.02	0.23	0.57	5.75	5.75
2	2SEP79 2233	2SEP79 .	MIDDLE	2	6-148	.	0.15	1.84	1.68	2.73	0.26	0.63	7.29	7.29
2	2SEP79 2233	2SEP79 .	MIDDLE	3	6-149	.	0.11	1.44	1.45	3.60	0.23	0.57	7.40	7.40
2	2SEP79 2233	2SEP79 .	MIDDLE	4	6-150	.	0.14	1.54	1.44	2.94	0.21	0.50	6.77	6.77
2	2SEP79 2246	2SEP79 .	RIGHT	1	6-151	.	0.12	2.03	1.46	3.08	0.21	0.52	7.42	7.42
2	2SEP79 2258	2SEP79 .	RIGHT	2	6-152	.	0.10	0.92	1.28	2.18	0.19	0.46	5.13	5.13
2	2SEP79 2258	2SEP79 .	RIGHT	3	6-153	.	0.10	0.79	1.38	3.02	0.20	0.47	5.96	5.96
2	2SEP79 2258	2SEP79 .	RIGHT	4	6-154	.	0.12	1.04	1.54	2.97	0.24	0.57	6.48	6.48
3	1OCT79 1510	1OCT79 1527	LEFT	1	6-238	.	< 0.08	< 0.08	0.59	0.89	0.09	0.20	1.77	1.93
3	1OCT79 1510	1OCT79 1527	MIDDLE	1	6-239	.	< 0.08	0.09	0.55	0.79	0.09	0.18	1.70	1.78
3	1OCT79 1510	1OCT79 1527	RIGHT	1	6-240	.	< 0.08	0.30	0.82	1.66	0.14	0.30	3.22	3.30
3	1OCT79 1510	1OCT79 1527	LEFT	2	6-241	.	< 0.08	0.25	0.60	0.98	0.10	0.20	2.13	2.21
3	1OCT79 1510	1OCT79 1527	MIDDLE	2	6-242	.	< 0.08	0.13	0.61	0.93	0.10	0.21	1.98	2.06
3	1OCT79 1510	1OCT79 1527	RIGHT	2	6-243	.	< 0.08	0.36	0.95	1.70	0.17	0.37	3.55	3.63
3	1OCT79 1510	1OCT79 1527	LEFT	3	6-244	.	< 0.08	0.22	0.59	0.89	0.09	0.19	1.98	2.06
3	1OCT79 1510	1OCT79 1527	MIDDLE	3	6-245	.	< 0.08	0.28	0.65	0.95	0.10	0.20	2.18	2.26
3	1OCT79 1510	1OCT79 1527	RIGHT	3	6-246	.	< 0.08	0.13	0.72	1.05	0.11	0.23	2.24	2.32
3	1OCT79 1510	1OCT79 1527	LEFT	4	6-247	.	< 0.08	< 0.08	0.62	0.91	0.10	0.22	1.85	2.01
3	1OCT79 1510	1OCT79 1527	MIDDLE	4	6-248	.	< 0.08	< 0.08	0.62	0.91	0.09	0.21	1.83	1.99
3	1OCT79 1510	1OCT79 1527	RIGHT	4	6-249	.	< 0.08	< 0.06	0.59	0.84	0.08	0.18	1.69	1.85

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                         ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
                    HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
                                        WHEELER RESERVOIR, ALABAMA

                      TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA
               SAMPLING AND COMPOSITING VARIABILITY STUDY OF DDT CONCENTRATIONS MEASURED IN RUNOFF
                                                                                                            ---TOTAL DDTR---
RAIN   BEGINNING   ENDING      HORIZONTAL DEPTH LABID SUSPENDED   DDT-O,P DDT-P,P DDD-O,P DDD-P,P DDE-O,P DDE-P,P  MINIMUM  MAXIMUM
EVENT  DATE-TIME   DATE-TIME   LOCATION               SOLIDS-MG/L  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)   (UG/L)

    FOOTNOTES:
A. THE ABOVE UATA WERE COLLECTED AT HUNTSVILLE SPRING BRANCH MILE 2.4, DODD ROAD.
B. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
C. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.
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ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	WEIGHT OF SAMPLE-(GM)	CONCENTRATIONS OF DDT MEASURED IN BEDLOADS-UG/G						---TOTAL DDTR---	
						DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
H-VILLE SPRING BRANCH 2.4 - DODD ROAD													
1	26AUG79 1310	29AUG79	.	6-100	22.90	2.40	22.40	9.55	24.40	3.05	8.00	69.80	69.80
2	5SEP79	. . .	.	6-208	14.90	40.30	628.00	149.00	412.00	42.70	105.00	1377.00	1377.00
3	. .	. . .	.	6-300	12.90	6.35	156.00	19.30	61.60	7.73	25.80	276.78	276.78
4	23NOV79	. 23NOV79	.	6-477	6.58	7.75	305.00	35.30	151.00	8.10	28.70	535.85	535.85
H-VILLE SPRING BRANCH 5.6 - PATTON ROAD													
2	5SEP79	. . .	.	6-209	2.90	0.79	2.64	0.88	1.66	0.49	0.71	7.17	7.17
3	. .	. . .	.	6-301	0.29	3.04	2.43	4.46	10.40	1.67	3.72	25.72	25.72
4	23NOV79	. 23NOV79	.	6-474	6.35	0.14	2.32	0.93	1.22	1.03	0.98	6.62	6.62
INDIAN CREEK 0.9 - TRIANA													
3	. .	. . .	.	6-299	10.50	0.18	3.73	0.39	1.41	0.23	0.58	6.52	6.52
4	23NOV79	. 23NOV79	.	6-476	22.08	0.52	3.10	5.00	7.77	2.59	6.66	25.64	25.64
INDIAN CREEK 4.6 - CENTERLINE ROAD													
3	. .	. . .	.	6-302	7.49	8.09	153.00	8.24	72.00	3.82	14.00	259.15	259.15
4	23NOV79	. 23NOV79	.	6-475	13.82	4.84	53.80	11.30	34.80	5.55	14.40	124.69	124.69
INDIAN CREEK 4.6 - CENTERLINE ROAD CENTER OF CHANNEL													
2	5SEP79	. . .	.	6-210	20.80	3.54	26.30	36.00	135.00	18.80	37.60	257.24	257.24
INDIAN CREEK 4.6 - CENTERLINE ROAD RIGHT													
2	5SEP79	. . .	.	6-211	64.50	1.56	104.00	14.50	51.90	5.90	22.40	200.26	200.26
INDIAN CREEK 4.6 - CENTERLINE ROAD SAMPLE #1													
1	26AUG79 1340	29AUG79	.	6-101	2.71	0.71	14.90	8.70	22.80	2.85	6.95	56.91	56.91
INDIAN CREEK 4.6 - CENTERLINE ROAD SAMPLE #2													
1	26AUG79 1350	29AUG79	.	6-102	0.90	0.91	22.60	6.38	17.60	2.42	6.81	56.72	56.72

FOOTNOTES:
A. THE ABOVE DATA WERE COLLECTED USING KELLEY-SMITH BEDLOAD SEDIMENT SAMPLERS.
B. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
C. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA
SAMPLING AND COMPOSITING VARIABILITY STUDY OF DDT CONCENTRATIONS MEASURED IN RUNOFF

													---TOTAL	DDTR---
RAIN EVENT	BEGINNING DATE-TIME		ENDING DATE-TIME		HORIZONTAL LOCATION	DEPTH	LAB ID	SUSPENDED SOLIDS-MG/L	DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	MINIMUM (UG/L)	MAXIMUM (UG/L)
1	26AUG79	1420	26AUG79	1426	LEFT	1	6-037	.	0.30	1.20	4.00	7.95	0.62	1.36	15.43	15.43
1	26AUG79	1427	26AUG79	1432	LEFT	2	6-038	.	0.32	1.99	3.75	5.62	0.68	1.22	13.58	13.58
1	26AUG79	1433	26AUG79	1437	LEFT	3	6-039	.	0.31	0.99	3.78	5.12	0.62	1.22	12.04	12.04
1	26AUG79	1438	26AUG79	1449	LEFT	4	6-040	.	0.30	1.08	4.14	5.96	0.62	1.29	13.39	13.39
1	26AUG79	1450	26AUG79	1453	MIDDLE	1	6-041	.	0.29	1.05	3.82	5.84	0.57	1.24	12.81	12.81
1	26AUG79	1454	26AUG79	1456	MIDDLE	2	6-042	.	0.34	1.17	4.25	6.05	0.65	1.30	13.76	13.76
1	26AUG79	1457	26AUG79	1459	MIDDLE	3	6-043	.	0.33	1.40	3.56	5.18	0.63	1.18	12.28	12.28
1	26AUG79	1500	26AUG79	1502	MIDDLE	4	6-044	.	0.33	1.13	3.56	4.99	0.62	1.11	11.74	11.74
1	26AUG79	1503	26AUG79	1505	RIGHT	1	6-045	.	0.32	0.95	4.06	5.55	0.63	1.26	12.77	12.77
1	26AUG79	1506	26AUG79	1508	RIGHT	2	6-046	.	0.29	0.69	3.56	5.00	0.58	1.00	11.12	11.12
1	26AUG79	1509	26AUG79	1511	RIGHT	3	6-047	.	0.32	0.73	4.52	6.72	0.65	1.82	14.76	14.76
1	26AUG79	1512	26AUG79	1515	RIGHT	4	6-048	.	0.33	1.04	4.72	6.64	0.69	1.51	14.93	14.93
1	26AUG79	1436	26AUG79	1441	RIGHT	2	6-049	.	0.34	0.80	4.32	6.22	0.68	1.48	13.84	13.84
1	26AUG79	1442	26AUG79	1446	RIGHT	2	6-050	.	0.32	0.93	4.25	6.25	0.65	1.51	13.91	13.91
1	26AUG79	1447	26AUG79	1451	RIGHT	2	6-051	.	0.29	0.63	4.10	5.90	0.54	1.39	12.85	12.85
1	26AUG79	1452	26AUG79	1457	RIGHT	2	6-052	.	0.32	1.00	4.26	5.84	0.59	1.40	13.41	13.41
1	26AUG79	1458	26AUG79	1503	RIGHT	2	6-053	.	0.31	1.09	3.89	5.60	0.59	1.28	12.76	12.76
1	26AUG79	1504	26AUG79	1509	RIGHT	2	6-054	.	0.29	0.68	3.62	5.32	0.56	1.21	11.68	11.68
1	26AUG79	1510	26AUG79	1512	RIGHT	2	6-055	.	0.32	0.84	3.47	4.73	0.66	1.02	11.04	11.04
1	26AUG79	1732	26AUG79	1739	COMPOSITE	.	6-059	50.0	0.28	3.15	4.12	6.80	0.65	1.42	16.42	16.42
1	26AUG79	1740	26AUG79	1747	COMPOSITE	.	6-060	50.0	0.28	1.71	3.68	5.83	0.62	1.33	13.45	13.45
1	26AUG79	1748	26AUG79	1754	COMPOSITE	.	6-061	51.0	0.31	2.83	3.62	5.78	0.63	1.20	14.37	14.37
1	26AUG79	1755	26AUG79	1801	COMPOSITE	.	6-062	51.0	0.29	2.64	3.71	6.05	0.64	1.27	14.60	14.60
1	26AUG79	1802	26AUG79	1808	COMPOSITE	.	6-063	50.0	0.32	2.20	3.96	6.44	0.69	1.29	14.90	14.90
1	26AUG79	1809	26AUG79	1812	COMPOSITE	.	6-064	51.0	0.28	2.54	3.70	6.18	0.59	1.19	14.48	14.48
2	2SEP79	2115	2SEP79	.	LEFT	1	6-143	.	0.09	1.11	1.27	2.14	0.19	0.46	5.26	5.26
2	2SEP79	2122	2SEP79	.	LEFT	2	6-144	.	0.12	1.98	1.49	3.07	0.24	0.58	7.48	7.48
2	2SEP79	2130	2SEP79	.	LEFT	3	6-145	.	0.17	1.25	1.67	3.99	0.26	0.62	7.96	7.96
2	2SEP79	2141	2SEP79	.	LEFT	4	6-146	.	0.10	1.66	1.40	2.29	0.22	0.55	6.22	6.22
2	2SEP79	2233	2SEP79	.	MIDDLE	1	6-147	.	0.13	1.37	1.43	2.02	0.23	0.57	5.75	5.75
2	2SEP79	2233	2SEP79	.	MIDDLE	2	6-148	.	0.15	1.84	1.68	2.73	0.26	0.63	7.29	7.29
2	2SEP79	2233	2SEP79	.	MIDDLE	3	6-149	.	0.11	1.44	1.45	3.60	0.23	0.57	7.40	7.40
2	2SEP79	2233	2SEP79	.	MIDDLE	4	6-150	.	0.14	1.54	1.44	2.94	0.21	0.50	6.77	6.77
2	2SEP79	2246	2SEP79	.	RIGHT	1	6-151	.	0.12	2.03	1.46	3.08	0.21	0.52	7.42	7.42
2	2SEP79	2258	2SEP79	.	RIGHT	2	6-152	.	0.10	0.92	1.28	2.18	0.19	0.46	5.13	5.13
2	2SEP79	2258	2SEP79	.	RIGHT	3	6-153	.	0.10	0.79	1.38	3.02	0.20	0.47	5.96	5.96
2	2SEP79	2258	2SEP79	.	RIGHT	4	6-154	.	0.12	1.04	1.54	2.97	0.24	0.57	6.48	6.48
3	1OCT79	1510	1OCT79	1527	LEFT	1	6-238	.	< 0.08	< 0.08	0.59	0.89	0.09	0.20	1.77	1.93
3	1OCT79	1510	1OCT79	1527	MIDDLE	1	6-239	.	< 0.08	0.09	0.55	0.79	0.09	0.18	1.70	1.78
3	1OCT79	1510	1OCT79	1527	RIGHT	1	6-240	.	< 0.08	0.30	0.82	1.66	0.14	0.30	3.22	3.30
3	1OCT79	1510	1OCT79	1527	LEFT	2	6-241	.	< 0.08	0.25	0.60	0.98	0.10	0.20	2.13	2.21
3	1OCT79	1510	1OCT79	1527	MIDDLE	2	6-242	.	< 0.08	0.13	0.61	0.93	0.10	0.21	1.98	2.06
3	1OCT79	1510	1OCT79	1527	RIGHT	2	6-243	.	< 0.08	0.36	0.95	1.70	0.17	0.37	3.55	3.63
3	1OCT79	1510	1OCT79	1527	LEFT	3	6-244	.	< 0.08	0.22	0.59	0.89	0.09	0.19	1.98	2.06
3	1OCT79	1510	1OCT79	1527	MIDDLE	3	6-245	.	< 0.08	0.28	0.65	0.95	0.10	0.20	2.18	2.26
3	1OCT79	1510	1OCT79	1527	RIGHT	3	6-246	.	< 0.08	0.13	0.72	1.05	0.11	0.23	2.24	2.32
3	1OCT79	1510	1OCT79	1527	LEFT	4	6-247	.	< 0.08	< 0.08	0.62	0.91	0.10	0.22	1.85	2.01
3	1OCT79	1510	1OCT79	1527	MIDDLE	4	6-248	.	< 0.08	< 0.08	0.62	0.91	0.09	0.21	1.83	1.99
3	1OCT79	1510	1OCT79	1527	RIGHT	4	6-249	.	< 0.08	< 0.08	0.59	0.84	0.08	0.18	1.64	1.85

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                          ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
                     HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
                                        WHEELER RESERVOIR, ALABAMA

                         TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA
                   SAMPLING AND COMPOSITING VARIABILITY STUDY OF DDT CONCENTRATIONS MEASURED IN RUNOFF
                                                                                                                ---TOTAL DDTR---
RAIN  BEGINNING  ENDING     HORIZONTAL DEPTH LABID SUSPENDED   DDT-O,P DDT-P,P DDD-O,P DDD-P,P DDE-O,P DDE-P,P  MINIMUM  MAXIMUM
EVENT DATE-TIME  DATE-TIME  LOCATION                SOLIDS-MG/L  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)   (UG/L)   (UG/L)

     FOOTNOTES:
A. THE ABOVE DATA WERE COLLECTED AT HUNTSVILLE SPRING BRANCH MILE 2.4, DODD ROAD.
B. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
C. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.
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ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	WEIGHT OF SAMPLE-(GM)	CONCENTRATIONS OF DDT MEASURED IN BEDLOADS-UG/G DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	---TOTAL DDTR--- MINIMUM (UG/G)	MAXIMUM (UG/G)
H-VILLE SPRING BRANCH 2.4 - DODD ROAD													
1	26AUG79 1310	29AUG79	.	6-100	22.90	2.40	22.40	9.55	24.40	3.05	8.00	69.80	69.80
2	5SEP79	. . .	.	6-208	14.90	40.30	628.00	149.00	412.00	42.70	105.00	1377.00	1377.00
3	. .	. . .	.	6-300	12.90	6.35	156.00	19.30	61.60	7.73	25.80	276.78	276.78
4	23NOV79 .	23NOV79	.	6-477	6.58	7.75	305.00	35.30	151.00	8.10	28.70	535.85	535.85
H-VILLE SPRING BRANCH 5.6 - PATTON ROAD													
2	5SEP79	. . .	.	6-209	2.90	0.79	2.64	0.88	1.66	0.49	0.71	7.17	7.17
3	. .	. . .	.	6-301	0.29	3.04	2.43	4.46	10.40	1.67	3.72	25.72	25.72
4	23NOV79 .	23NOV79	.	6-474	6.35	0.14	2.32	0.93	1.72	1.03	0.98	6.62	6.62
INDIAN CREEK 0.9 - TRIANA													
3	. .	. . .	.	6-299	10.50	0.18	3.73	0.39	1.41	0.23	0.58	6.52	6.52
4	23NOV79 .	23NOV79	.	6-476	22.08	0.52	3.10	5.00	7.77	2.59	6.66	25.64	25.64
INDIAN CREEK 4.6 - CENTERLINE ROAD													
3	. .	. . .	.	6-302	7.49	8.09	153.00	8.24	72.00	3.82	14.00	259.15	259.15
4	23NOV79 .	23NOV79	.	6-475	13.82	4.84	53.80	11.30	34.80	5.55	14.40	124.69	124.69
INDIAN CREEK 4.6 - CENTERLINE ROAD CENTER OF CHANNEL													
2	5SEP79	. . .	.	6-210	20.80	3.54	26.30	36.00	135.00	18.80	37.60	257.24	257.24
INDIAN CREEK 4.6 - CENTERLINE ROAD RIGHT													
2	5SEP79	. . .	.	6-211	64.50	1.56	104.00	14.50	51.90	5.90	22.40	200.26	200.26
INDIAN CREEK 4.6 - CENTERLINE ROAD SAMPLE #1													
1	26AUG79 1340	29AUG79	.	6-101	2.71	0.71	14.90	8.70	22.80	2.85	6.95	56.91	56.91
INDIAN CREEK 4.6 - CENTERLINE ROAD SAMPLE #2													
1	26AUG79 1350	29AUG79	.	6-102	0.90	0.91	22.60	6.38	17.60	2.42	6.81	56.72	56.72

FOOTNOTES:
A. THE ABOVE DATA WERE COLLECTED USING KELLEY-SMITH BEDLOAD SEDIMENT SAMPLERS.
B. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
C. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

						CONCENTRATIONS OF DDT MEASURED IN WATER (UG/L)							
						TOTAL						TOTAL DDTR	
RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	SUS-SOL (MG/L)	VOL-SOL (%)	DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	MINIMUM (UG/L)	MAXIMUM (UG/L)

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					CONCENTRATIONS OF DDT MEASURED IN WATER (UG/L)							
					DISSOLVED						TOTAL DDTR	
RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	MINIMUM (UG/L)	MAXIMUM (UG/L)
H-VILLE SPRING BRANCH . -			NEW DITCH DRAINING LAND FILL									
1	28AUG79 1020	28AUG79	.	6-090	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH . -			NR GD WATER WELL RS-024									
1	28AUG79 1050	28AUG79	.	6-096	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH . -			SPRING POOL ON RT BANK-MI 4.9									
1	28AUG79 1100	28AUG79	.	6-098	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH . -			TREATED WATER FROM DDT DITCH									
1	28AUG79 1035	28AUG79	.	6-094	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH . -			UNTREATED WATER IN DDT DITCH									
1	28AUG79 1020	28AUG79	.	6-092	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH 2.4 - DODD ROAD												
1	26AUG79 1643	26AUG79 1112	COMPOSITE	6-033	0.140	0.080	1.910	2.940	0.220	0.360	5.650	5.650
1	26AUG79 1227	26AUG79 1247	COMPOSITE	6-035	0.140	0.090	1.980	2.940	0.230	0.370	5.750	5.750
1	26AUG79 1732	26AUG79 1812	COMPOSITE	6-058	0.110	< 0.080	1.980	3.040	0.200	0.300	5.630	5.710
1	26AUG79 2043	26AUG79 2100	COMPOSITE	6-066	0.150	0.080	2.080	4.940	0.260	0.380	7.890	7.890
1	27AUG79 1153	27AUG79 1216	COMPOSITE	6-068	0.180	0.090	1.960	3.490	0.280	0.440	6.440	6.440
1	27AUG79 1622	27AUG79 1638	COMPOSITE	6-070	0.130	0.080	2.180	5.000	0.240	0.360	7.990	7.990
1	28AUG79 1622	28AUG79 1639	COMPOSITE	6-072	0.130	< 0.080	1.840	4.600	0.240	0.330	7.140	7.220
1	29AUG79 1300	29AUG79 1320	COMPOSITE	6-074	0.140	< 0.080	2.110	3.370	0.250	0.370	6.240	6.320
2	2SEP79 315	2SEP79 357	COMPOSITE	6-139	0.090	0.110	1.420	2.810	0.140	0.270	4.840	4.840
2	2SEP79 1235	2SEP79 2258	COMPOSITE	6-141	< 0.080	0.120	1.020	1.350	0.120	0.240	2.850	2.930
2	3SEP79 100	3SEP79 240	COMPOSITE	6-156	< 0.080	< 0.080	0.790	1.070	0.090	0.180	2.130	2.290
2	3SEP79 930	3SEP79 941	COMPOSITE	6-156	< 0.080	< 0.080	0.890	1.140	0.110	0.220	2.360	2.520
2	3SEP79 1621	3SEP79 1632	COMPOSITE	6-160	< 0.080	< 0.080	0.980	1.240	0.110	0.210	2.540	2.700
2	4SEP79 1610	4SEP79 1428	COMPOSITE	6-162	0.080	< 0.080	1.430	1.850	0.140	0.250	3.750	3.830
2	5SEP79 1325	5SEP79 1340	COMPOSITE	6-164	0.110	0.090	1.640	2.660	0.160	0.310	4.970	4.970
3	27SEP79 1950	27SEP79 2010	COMPOSITE	6-230	0.100	< 0.080	1.210	2.220	0.120	0.210	3.860	3.940
3	28SEP79 458	28SEP79 532	COMPOSITE	6-232	0.090	< 0.080	1.190	1.990	0.120	0.210	3.600	3.680
3	29SEP79 220	29SEP79 240	COMPOSITE	6-234	< 0.080	< 0.060	0.580	0.700	0.100	0.160	1.560	1.720
3	30SEP79 1135	30SEP79 1155	COMPOSITE	6-236	< 0.080	< 0.060	0.630	0.740	0.090	0.150	1.610	1.770
3	2OCT79 947	2OCT79 1000	COMPOSITE	6-285	< 0.080	< 0.080	0.700	0.830	0.120	0.180	1.830	1.990
3	3OCT79 1030	3OCT79 1050	COMPOSITE	6-287	< 0.080	< 0.080	0.920	0.640	0.090	0.160	2.010	2.170
3	4OCT79 1530	4OCT79 1550	COMPOSITE	6-289	< 0.080	< 0.080	0.820	1.000	0.150	0.210	2.180	2.340
3	5OCT79 1350	5OCT79 1472	COMPOSITE	6-291	< 0.080	< 0.080	0.830	0.970	0.150	0.220	2.170	2.330
4	23NOV79 2245	23NOV79 2255	COMPOSITE	6-436	< 0.100	< 0.100	1.060	1.330	0.140	0.180	2.710	2.910
4	24NOV79 1240	24NOV79 1249	COMPOSITE	6-438	< 0.100	< 0.100	0.630	0.750	< 0.100	< 0.100	1.380	1.780
4	24NOV79 1900	24NOV79 1913	COMPOSITE	6-440	< 0.100	< 0.100	0.460	0.700	0.100	0.150	1.410	1.610
4	25NOV79 915	25NOV79 937	COMPOSITE	6-442	< 0.100	< 0.100	0.660	1.110	0.120	0.180	2.070	2.270
4	25NOV79 2245	25NOV79 2300	COMPOSITE	6-444	< 0.100	< 0.100	0.710	1.040	< 0.100	0.150	1.900	2.200
4	26NOV79 1612	26NOV79 1627	COMPOSITE	6-446	< 0.100	< 0.100	0.550	0.810	< 0.100	0.140	1.500	1.800
4	27NOV79 1545	27NOV79 1600	COMPOSITE	6-448	< 0.100	< 0.100	0.510	0.620	< 0.100	< 0.100	1.330	1.730
4	28NOV79 1407	28NOV79 1435	COMPOSITE	6-450	< 0.100	< 0.100	0.520	0.700	< 0.100	0.130	1.350	1.650
4	29NOV79 1000	29NOV79 10[illegible]4	COMPOSITE	6-452	< 0.100	< 0.100	0.630	0.910	< 0.100	0.140	1.680	1.960

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
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WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					CONCENTRATIONS OF DDT MEASURED IN WATER (UG/L)							
					DISSOLVED						TOTAL DDTR	
RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	MINIMUM (UG/L)	MAXIMUM (UG/L)
H-VILLE SPRING BRANCH 2.4 - DIDD ROAD AT 12' & 44' FROM LT. WE												
2	31AUG79 1100	31AUG79 .		6-184	.	.	.	.	.	.	.	.
2	31AUG79 1230	31AUG79 .		6-185	.	.	.	.	.	.	.	.
2	31AUG79 1620	31AUG79 .		6-186	.	.	.	.	.	.	.	.
2	31AUG79 1800	31AUG79 .		6-187	.	.	.	.	.	.	.	.
2	1SEP79 1000	1SEP79 .		6-188	.	.	.	.	.	.	.	.
2	1SEP79 1238	1SEP79 .		6-189	.	.	.	.	.	.	.	.
2	1SEP79 1620	1SEP79 .		6-190	.	.	.	.	.	.	.	.
2	1SEP79 1830	1SEP79 .		6-191	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH 2.4 - GOLDFISH POND												
3	4OCT79 1645	4OCT79 .		6-295	.	.	.	.	.	.	.	.
4	23NOV79 .	23NOV79 .		6-472	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH 2.4 - SULPHUR SPRINGS												
3	4OCT79 1640	4OCT79 .		6-297	.	.	.	.	.	.	.	.
4	23NOV79 .	23NOV79 .		6-473	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH 5.6 - PATTON ROAD												
1	26AUG79 1015	26AUG79 1055	COMPOSITE	6-076	< 0.080	< 0.080	0.090	0.190	< 0.040	< 0.040	0.280	0.520
1	26AUG79 1402	26AUG79 1424	COMPOSITE	6-078	< 0.080	< 0.080	< 0.080	0.080	< 0.040	< 0.040	0.080	0.400
1	26AUG79 1700	26AUG79 1717	COMPOSITE	6-080	< 0.080	< 0.080	< 0.080	0.100	< 0.040	< 0.040	0.100	0.420
1	27AUG79 1010	27AUG79 1033	COMPOSITE	6-082	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
1	27AUG79 1347	27AUG79 1410	COMPOSITE	6-084	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
1	28AUG79 1123	28AUG79 1143	COMPOSITE	6-086	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
1	29AUG79 1125	29AUG79 1140	COMPOSITE	6-088	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
2	2SEP79 30	2SEP79 58	COMPOSITE	6-166	< 0.080	0.390	< 0.080	0.080	< 0.040	< 0.040	0.470	0.710
2	2SEP79 315	2SEP79 337	COMPOSITE	6-168	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
2	2SEP79 900	2SEP79 917	COMPOSITE	6-170	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
2	2SEP79 1605	2SEP79 1619	COMPOSITE	6-172	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
2	2SEP79 2001	2SEP79 2018	COMPOSITE	6-174	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
2	3SEP79 854	3SEP79 904	COMPOSITE	6-176	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
2	3SEP79 1548	3SEP79 1604	COMPOSITE	6-178	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
2	4SEP79 1525	4SEP79 1547	COMPOSITE	6-180	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
2	5SEP79 1200	5SEP79 1220	COMPOSITE	6-182	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
2	31AUG79 1100	31AUG79 .		6-193	.	.	.	.	.	.	.	.
2	31AUG79 1235	31AUG79 .		6-194	.	.	.	.	.	.	.	.
2	31AUG79 1610	31AUG79 .		6-195	.	.	.	.	.	.	.	.
2	31AUG79 1748	31AUG79 .		6-196	.	.	.	.	.	.	.	.
2	1SEP79 900	1SEP79 .		6-197	.	.	.	.	.	.	.	.
2	1SEP79 1200	1SEP79 .		6-198	.	.	.	.	.	.	.	.
2	1SEP79 1500	1SEP79 .		6-199	.	.	.	.	.	.	.	.
3	27SEP79 1710	27SEP79 1736	COMPOSITE	6-251	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
3	28SEP79 100	28SEP79 130	COMPOSITE	6-253	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
3	28SEP79 830	28SEP79 850	COMPOSITE	6-255	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
3	28SEP79 1400	28SEP79 1428	COMPOSITE	6-257	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
3	28SEP79 1125	28SEP79 1137	COMPOSITE	6-259	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
3	29SEP79 1040	29SEP79 1110	COMPOSITE	6-261	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
3	30SEP79 925	30SEP79 942	COMPOSITE	6-263	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
3	1OCT79 1505	1OCT79 1525	COMPOSITE	6-265	< 0.060	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400

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WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					CONCENTRATIONS OF DDT MEASURED IN WATER (UG/L)							
					DISSOLVED						TOTAL DDTR	
RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	MINIMUM (UG/L)	MAXIMUM (UG/L)
3	2OCT79 1349	2OCT79 1402	COMPOSITE	6-293	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
4	23NOV79 1915	23NOV79 1950	COMPOSITE	6-454	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.000	0.400
4	24NOV79 150	24NOV79 201	COMPOSITE	6-456	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.000	0.600
4	24NOV79 640	24NOV79 649	COMPOSITE	6-458	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.000	0.600
4	24NOV79 1430	24NOV79 1441	COMPOSITE	6-460	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.000	0.600
4	25NOV79 210	25NOV79 223	COMPOSITE	6-462	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.000	0.600
4	25NOV79 1230	25NOV79 1441	COMPOSITE	6-464	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.000	0.600
4	26NOV79 1419	26NOV79 1429	COMPOSITE	6-466	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.000	0.600
4	27NOV79 1345	27NOV79 1353	COMPOSITE	6-468	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.000	0.600
4	28NOV79 1014	28NOV79 1028	COMPOSITE	6-470	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.000	0.600
H-VILLE SPRING BRANCH 5.6 - LEFT BANK-NORTH BRANCH-HSB5.13												
2	1SEP79 1105	1SEP79	.	6-202	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH 5.6 - 1SB-DRAIN EAST OF FILTER PLANT												
2	1SEP79 1015	1SEP79	.	6-200	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH 5.6 - 2SB-DRAIN EAST OF FILTER PLANT												
2	1SEP79 1015	1SEP79	.	6-201	.	.	.	.	.	.	.	.
INDIAN CREEK 1.9 - TRIANA												
1	27AUG79 900	27AUG79 926	COMPOSITE	6-001	< 0.080	< 0.060	0.570	0.900	0.110	0.110	1.690	1.850
1	27AUG79 1000	27AUG79 1016	COMPOSITE	6-003	< 0.080	< 0.080	0.610	1.020	0.110	0.130	1.870	2.030
1	27AUG79 1100	27AUG79 1120	COMPOSITE	6-005	< 0.080	< 0.080	0.640	1.030	0.120	0.130	1.920	2.080
1	27AUG79 1415	27AUG79 1500	COMPOSITE	6-007	< 0.080	< 0.080	0.580	1.000	0.110	0.130	1.820	1.980
1	28AUG79 944	28AUG79 959	COMPOSITE	6-009	< 0.080	< 0.080	0.610	0.970	0.100	0.130	1.810	1.970
1	28AUG79 1347	28AUG79 1400	COMPOSITE	6-011	< 0.080	< 0.080	0.510	0.850	0.100	0.100	1.560	1.720
1	29AUG79 935	29AUG79 950	COMPOSITE	6-013	< 0.080	< 0.080	0.540	0.890	0.090	0.110	1.630	1.790
1	29AUG79 1526	29AUG79 1534	COMPOSITE	6-031	< 0.080	< 0.080	0.650	1.180	0.100	0.100	2.030	2.190
3	28SEP79 1000	29SEP79 1030	COMPOSITE	6-212	< 0.080	< 0.080	0.380	0.650	0.070	0.180	1.280	1.440
3	28SEP79 1600	28SEP79 1630	COMPOSITE	6-214	< 0.080	< 0.080	0.420	0.760	0.080	0.140	1.400	1.560
3	29SEP79 1240	29SEP79 1310	COMPOSITE	6-216	0.120	0.150	0.220	0.430	0.050	0.100	1.070	1.070
3	30SEP79 1433	30SEP79 1446	COMPOSITE	6-216	< 0.080	< 0.080	0.360	0.530	0.080	0.110	1.080	1.240
3	1OCT79 1100	1OCT79 1135	COMPOSITE	6-267	< 0.080	< 0.080	0.330	0.570	0.040	0.070	1.010	1.170
3	2OCT79 1307	2OCT79 1321	COMPOSITE	6-269	< 0.060	< 0.080	0.360	0.640	0.040	0.080	1.120	1.280
3	3OCT79 1450	3OCT79 1510	COMPOSITE	6-271	< 0.080	< 0.080	0.170	0.300	< 0.040	< 0.040	0.470	0.710
3	3OCT79 1253	3OCT79 1303	COMPOSITE	6-273	< 0.080	< 0.080	0.290	0.540	< 0.040	0.060	0.890	1.090
3	5OCT79 1430	5OCT79 1441	COMPOSITE	6-275	< 0.080	< 0.080	0.350	0.630	0.040	0.070	1.090	1.250
INDIAN CREEK 1.97 - TRIANA												
2	2SEP79 1158	2SEP79 1216	COMPOSITE	6-103	< 0.080	< 0.080	0.480	0.720	0.070	0.100	1.370	1.530
2	2SEP79 1442	2SEP79 1457	COMPOSITE	6-105	< 0.080	< 0.080	0.580	0.870	0.090	0.110	1.650	1.810
2	2SEP79 1841	2SEP79 1854	COMPOSITE	6-107	< 0.080	< 0.080	0.630	0.930	0.090	0.130	1.780	1.940
2	3SEP79 946	3SEP79 1015	COMPOSITE	6-109	< 0.080	< 0.080	0.590	0.940	0.090	0.150	1.770	1.930
2	3SEP79 1247	3SEP79 1301	COMPOSITE	6-111	< 0.080	< 0.080	0.540	0.900	0.110	0.200	1.750	1.910
2	3SEP79 1627	3SEP79 1643	COMPOSITE	6-113	< 0.080	< 0.080	0.550	0.900	0.100	0.150	1.700	1.860
2	4SEP79 1115	4SEP79 1132	COMPOSITE	6-115	< 0.080	< 0.080	0.570	0.900	0.080	0.120	1.670	1.830
2	4SEP79 1752	4SEP79 1809	COMPOSITE	6-117	< 0.080	< 0.080	0.560	0.830	0.070	0.100	1.560	1.720
2	5SEP79 1039	5SEP79 1050	COMPOSITE	6-119	< 0.080	< 0.080	0.530	0.770	0.070	0.100	1.470	1.630
4	24NOV79 930	24NOV79 1013	COMPOSITE	6-400	< 0.100	< 0.100	0.580	0.880	0.140	0.130	1.730	1.930

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TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					CONCENTRATIONS OF DDT MEASURED IN WATER (UG/L)							
					DISSOLVED						TOTAL DDTR	
RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	MINIMUM (UG/L)	MAXIMUM (UG/L)
4	24NOV79 1450	24NOV79 1529	COMPOSITE	6-402	< 0.100	< 0.100	0.760	1.100	0.210	0.220	2.290	2.490
4	26NOV79 1300	26NOV79 1330	COMPOSITE	6-404	< 0.100	< 0.100	0.920	1.390	0.500	0.370	3.180	3.380
4	27NOV79 856	27NOV79 927	COMPOSITE	6-406	< 0.100	< 0.100	0.650	1.050	0.140	0.170	2.010	2.210
4	28NOV79 812	28NOV79 841	COMPOSITE	6-408	< 0.100	< 0.100	0.610	0.920	< 0.100	0.160	1.690	1.990
4	28NOV79 1508	29NOV79 1549	COMPOSITE	6-410	< 0.100	< 0.100	0.230	0.720	0.140	< 0.100	1.090	1.390
4	29NOV79 830	29NOV79 842	COMPOSITE	6-412	< 0.100	< 0.100	0.560	0.820	0.130	0.150	1.660	1.860
4	29NOV79 1444	29NOV79 1456	COMPOSITE	6-414	< 0.100	< 0.100	0.420	0.820	< 0.100	< 0.100	1.240	1.640
4	30NOV79 1055	30NOV79 1105	COMPOSITE	6-416	< 0.100	< 0.100	0.310	0.620	0.120	< 0.100	1.050	1.350
INDIAN CREEK 4.6 - CENTERLINE ROAD												
1	26AUG79 1132	26AUG79 1207	COMPOSITE	6-015	< 0.080	< 0.080	0.460	0.800	0.090	0.090	1.440	1.600
1	26AUG79 2134	26AUG79 2152	COMPOSITE	6-017	< 0.080	< 0.080	0.910	2.020	0.110	0.160	3.200	3.360
1	27AUG79 1102	27AUG79 1133	COMPOSITE	6-019	< 0.080	< 0.080	0.690	1.540	0.110	0.130	2.470	2.630
1	27AUG79 1535	27AUG79 1552	COMPOSITE	6-021	< 0.080	< 0.080	0.830	1.890	0.120	0.130	2.970	3.130
1	28AUG79 1235	28AUG79 1302	COMPOSITE	6-023	< 0.080	< 0.080	0.760	1.740	0.130	0.130	2.760	2.920
1	28AUG79 1705	28AUG79 1730	COMPOSITE	6-025	< 0.080	< 0.080	0.820	1.820	0.140	0.130	2.910	3.070
1	28AUG79 2053	28AUG79 2114	COMPOSITE	6-027	< 0.080	< 0.080	0.770	1.730	0.130	0.120	2.750	2.910
1	29AUG79 1337	29AUG79 1356	COMPOSITE	6-029	< 0.080	< 0.080	0.630	1.350	0.110	0.100	2.190	2.350
2	2SEP79 925	2SEP79 945	COMPOSITE	6-121	< 0.080	0.160	0.810	1.580	0.130	0.190	2.870	2.950
2	2SEP79 1532	2SEP79 1549	COMPOSITE	6-123	< 0.080	< 0.080	0.900	1.490	0.120	0.180	2.690	2.850
2	2SEP79 2326	2SEP79 2340	COMPOSITE	6-125	< 0.060	< 0.080	0.870	1.510	0.110	0.160	2.670	2.830
2	3SEP79 1005	3SEP79 1018	COMPOSITE	6-127	< 0.080	< 0.080	0.820	1.660	0.120	0.180	2.780	2.940
2	3SEP79 1345	3SEP79 1359	COMPOSITE	6-129	< 0.080	< 0.080	0.790	1.380	0.100	0.160	2.430	2.590
2	3SEP79 1642	3SEP79 1655	COMPOSITE	6-131	< 0.080	< 0.080	0.800	1.450	0.120	0.170	2.540	2.700
2	4SEP79 1420	4SEP79 1446	COMPOSITE	6-133	< 0.080	< 0.080	0.910	1.630	0.100	0.150	2.790	2.950
2	4SEP79 1640	4SEP79 1657	COMPOSITE	6-135	< 0.080	< 0.080	0.860	1.510	0.090	0.130	2.590	2.750
2	5SEP79 1355	5SEP79 1415	COMPOSITE	6-137	< 0.080	< 0.080	0.620	1.020	0.070	0.090	1.800	1.960
2	5SEP79 1500	5SEP79 .		6-206	.	.	.	.	.	.	.	.
3	27SEP79 2150	27SEP79 2212	COMPOSITE	6-222	< 0.080	< 0.080	0.630	2.730	0.080	0.110	3.550	3.710
3	28SEP79 945	28SEP79 1004	COMPOSITE	6-224	< 0.080	< 0.080	0.580	0.830	0.080	0.120	1.610	1.770
3	30SEP79 1320	30SEP79 1340	COMPOSITE	6-226	< 0.080	< 0.080	0.340	0.620	0.050	0.060	1.070	1.230
3	1OCT79 1140	1OCT79 1300	COMPOSITE	6-228	< 0.080	< 0.080	0.400	0.720	0.050	0.060	1.230	1.390
3	2OCT79 1122	2OCT79 1145	COMPOSITE	6-277	< 0.080	< 0.080	0.370	0.690	0.050	0.070	1.180	1.340
3	3OCT79 1325	3OCT79 1350	COMPOSITE	6-279	< 0.080	< 0.080	0.450	0.890	0.060	0.080	1.480	1.640
3	4OCT79 1120	4OCT79 1140	COMPOSITE	6-281	< 0.080	< 0.080	0.360	0.700	0.050	0.060	1.170	1.330
3	5OCT79 1130	5OCT79 1201	COMPOSITE	6-283	< 0.080	< 0.080	0.500	0.960	0.060	0.080	1.600	1.760
4	24NOV79 358	24NOV79 409	COMPOSITE	6-418	< 0.000	< 0.000	0.640	1.100	0.220	0.220	2.180	2.180
4	24NOV79 1103	24NOV79 1112	COMPOSITE	6-420	< 0.100	< 0.100	0.600	0.930	< 0.100	0.150	1.680	1.980
4	26NOV79 1105	26NOV79 1116	COMPOSITE	6-422	< 0.100	< 0.100	0.670	1.030	0.170	0.190	2.060	2.260
4	27NOV79 1134	27NOV79 1148	COMPOSITE	6-424	< 0.100	< 0.100	0.450	0.630	< 0.100	0.110	1.190	1.490
4	28NOV79 912	28NOV79 928	COMPOSITE	6-426	< 0.100	< 0.100	0.500	0.870	< 0.100	0.130	1.500	1.800
4	28NOV79 1550	28NOV79 1612	COMPOSITE	6-428	< 0.100	< 0.100	0.440	0.990	< 0.100	0.100	1.530	1.830
4	29NOV79 800	29NOV79 826	COMPOSITE	6-430	< 0.100	< 0.100	0.560	0.710	< 0.100	0.210	1.480	1.780
4	29NOV79 1330	29NOV79 1345	COMPOSITE	6-432	< 0.100	< 0.100	0.970	1.480	0.160	0.340	2.950	3.150
4	30NOV79 1355	30NOV79 1404	COMPOSITE	6-434	< 0.100	< 0.100	0.470	0.430	< 0.100	< 0.100	0.900	1.300

FOOTNOTES:

A. MISSING DATA FOR DISSOLVED DDT CONCENTRATIONS INDICATE ANALYSES WERE PERFORMED FOR TOTAL DDT CONCENTRATIONS ONLY.
B. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
C. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

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                              ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
                          HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
                                            WHEELER RESERVOIR, ALABAMA

                              TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

                                                                   CONCENTRATIONS OF DDT MEASURED IN WATER (UG/L)
                                                                   ----------------------DISSOLVED----------------------  ---TOTAL DDTR---
RAIN   BEGINNING   ENDING      HORIZONTAL LABID                    DDT-O,P DDT-P,P DDD-O,P DDD-P,P DDE-O,P DDE-P,P MINIMUM  MAXIMUM
EVENT  DATE-TIME   DATE-TIME   LOCATION                            (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)  (UG/L)   (UG/L)
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                              ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
                   HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
                                            WHEELER RESERVOIR, ALABAMA

                          TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

                                                              CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G
                                                              -------------TOTAL FRACTION >0.63U------------   ---TOTAL DDTR---
RAIN   BEGINNING    ENDING        HORIZONTAL LABID SUS-SOL VOL-SOL DDT-O,P DDT-P,P DDD-O,P DDD-P,P DDE-O,P DDE-P,P MINIMUM  MAXIMUM
EVENT  DATE-TIME    DATE-TIME     LOCATION          (MG/L)   (%)   (UG/G)  (UG/G)  (UG/G)  (UG/G)  (UG/G)  (UG/G)  (UG/G)   (UG/G)

H-VILLE SPRING BRANCH . -      NEW DITCH DRAINING LANDFILL
  1    28AUG79 1020 28AUG79     .             6-091     11      .       .       .       .       .       .       .       .        .

H-VILLE SPRING BRANCH . -      NR GD WATER WELL RS-024
  1    28AUG79 1050 28AUG79     .             6-097     53      .       .       .       .       .       .       .       .        .

H-VILLE SPRING BRANCH . -      SPRING POOL ON RT BANK-MI 4.9
  1    28AUG79 1100 23AUG79     .             6-099     11      .       .       .       .       .       .       .       .        .

H-VILLE SPRING BRANCH . -      TREATED WATER FROM DDT DITCH
  1    28AUG79 1035 28AUG79     .             6-095     11      .       .       .       .       .       .       .       .        .

H-VILLE SPRING BRANCH . -      UNTREATED WATER IN DDT DITCH
  1    28AUG79 1020 28AUG79     .             6-093     11      .       .       .       .       .       .       .       .        .

H-VILLE SPRING BRANCH 2.4 - DODD ROAD
  1    26AUG79 1043 26AUG79 1112 COMPOSITE  6-034    180      .     6.240     185   4.220   6.810   2.020   4.380 208.670  208.670
  1    26AUG79 1227 26AUG79 1247 COMPOSITE  6-036      2      .       .       .       .       .       .       .       .        .
  1    26AUG79 1420 26AUG79 1512 COMPOSITE  6-056      3      .       .       .       .       .       .       .       .        .
  1    26AUG79 1420 26AUG79 1512 COMPOSITE  6-057      3      .       .       .       .       .       .       .       .        .
  1    26AUG79 1732 26AUG79 1812 COMPOSITE  6-065      4      .       .       .       .       .       .       .       .        .
  1    26AUG79 2043 26AUG79 2100 COMPOSITE  6-067      2      .       .       .       .       .       .       .       .        .
  1    27AUG79 1153 27AUG79 1216 COMPOSITE  6-069      2      .       .       .       .       .       .       .       .        .
  1    27AUG79 1622 27AUG79 1638 COMPOSITE  6-071    600      .     0.370   8.030   3.190   4.560   1.180   2.090  19.420   19.420
  1    28AUG79 1622 28AUG79 1639 COMPOSITE  6-073     17      .       .       .       .       .       .       .       .        .
  1    29AUG79 1300 29AUG79 1320 COMPOSITE  6-075      6      .       .       .       .       .       .       .       .        .
  2     2SEP79  315  2SEP79  357 COMPOSITE  6-140      2      .       .       .       .       .       .       .       .        .
  2     2SEP79 1235  2SEP79 2258 COMPOSITE  6-142      5      .       .       .       .       .       .       .       .        .
  2     2SEP79 2115  2SEP79 2258 COMPOSITE  6-155 <    1      .       .       .       .       .       .       .       .        .
  2     3SEP79  100  3SEP79  240 COMPOSITE  6-157 <    1      .       .       .       .       .       .       .       .        .
  2     3SEP79  930  3SEP79  941 COMPOSITE  6-159      2      .       .       .       .       .       .       .       .        .
  2     3SEP79 1621  3SEP79 1632 COMPOSITE  6-161      2      .       .       .       .       .       .       .       .        .
  2     4SEP79 1610  4SEP79 1428 COMPOSITE  6-163      2      .       .       .       .       .       .       .       .        .
  2     5SEP79 1325  5SEP79 1340 COMPOSITE  6-165      2      .       .       .       .       .       .       .       .        .
  3    27SEP79 1950 27SEP79 2010 COMPOSITE  6-231     13      .       .       .       .       .       .       .       .        .
  3    28SEP79  458 28SEP79  532 COMPOSITE  6-233     14      .       .       .       .       .       .       .       .        .
  3    29SEP79  220 29SEP79  240 COMPOSITE  6-235     11      .       .       .       .       .       .       .       .        .
  3    30SEP79 1135 30SEP79 1155 COMPOSITE  6-237     11      .       .       .       .       .       .       .       .        .
  3     1OCT79 1510  1OCT79 1527 COMPOSITE  6-250      7      .       .       .       .       .       .       .       .        .
  3     2OCT79  947  2OCT79 1000 COMPOSITE  6-286     20      .       .       .       .       .       .       .       .        .
  3     3OCT79 1030  3OCT79 1050 COMPOSITE  6-288     11      .       .       .       .       .       .       .       .        .
  3     4OCT79 1530  4OCT79 1550 COMPOSITE  6-290      6      .       .       .       .       .       .       .       .        .
  3     5OCT79 1350  5OCT79 1472 COMPOSITE  6-292      6      .       .       .       .       .       .       .       .        .
  4    23NOV79 2245 23NOV79 2255 COMPOSITE  6-437     16    22.8      .       .       .       .       .       .       .        .
  4    24NOV79 1240 24NOV79 1249 COMPOSITE  6-439      6    30.9      .       .       .       .       .       .       .        .
  4    24NOV79 1900 24NOV79 1913 COMPOSITE  6-441      4    24.4      .       .       .       .       .       .       .        .
  4    25NOV79  915 25NOV79  937 COMPOSITE  6-443 <    1    24.9      .       .       .       .       .       .       .        .
  4    25NOV79 2245 25NOV79 2300 COMPOSITE  6-445 <    1    25.8      .       .       .       .       .       .       .        .
  4    26NOV79 1612 26NOV79 1627 COMPOSITE  6-447      2    10.5      .       .       .       .       .       .       .        .
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ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

							CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G							
							TOTAL FRACTION >0.63U						TOTAL DDTR	
RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	SUS-SOL (MG/L)	VOL-SOL (%)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
4	27NOV79 1545	27NOV79 1600	COMPOSITE	6-449	8	5.5	.	.	.	.	.	.	.	.
4	28NOV79 1407	28NOV79 1435	COMPOSITE	6-451	1	9.7	.	.	.	.	.	.	.	.
4	29NOV79 1000	29NOV79 1024	COMPOSITE	6-453	5	8.6	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH 2.4 - DODD ROAD AT 12' & 44' FROM LT. WE														
2	31AUG79 .	1SEP79 .	COMPOSITE	6-192	4	.	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH 2.4 - GOLDFISH POND														
3	4OCT79 1645	4OCT79	.	6-296	67	.	.	.	.	.	.	.	.	.
4	23NOV79 .	23NOV79	.	6-472	3	.	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH 2.4 - SULPHUR SPRINGS														
3	4OCT79 1640	4OCT79	.	6-298	180	.	.	.	.	.	.	.	.	.
4	23NOV79 .	23NOV79	.	6-473	7	.	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH 5.6 - PATTON ROAD														
1	26AUG79 1015	26AUG79 1055	COMPOSITE	6-077	8	.	.	.	.	.	.	.	.	.
1	26AUG79 1402	26AUG79 1424	COMPOSITE	6-079	4	.	.	.	.	.	.	.	.	.
1	26AUG79 1700	26AUG79 1717	COMPOSITE	6-081	2	.	.	.	.	.	.	.	.	.
1	27AUG79 1010	27AUG79 1033	COMPOSITE	6-083	11	.	.	.	.	.	.	.	.	.
1	27AUG79 1347	27AUG79 1410	COMPOSITE	6-085	6	.	.	.	.	.	.	.	.	.
1	28AUG79 1123	28AUG79 1143	COMPOSITE	6-087	14	.	.	.	.	.	.	.	.	.
1	29AUG79 1125	29AUG79 1140	COMPOSITE	6-089	93	.	0.046	0.087	0.075	0.126	< 0.200	0.075	0.409	0.609
2	2SEP79 30	2SEP79 58	COMPOSITE	6-167	32	.	.	.	.	.	.	.	.	.
2	2SEP79 315	2SEP79 337	COMPOSITE	6-169	340	.	0.060	0.090	0.050	0.050	0.070	0.050	0.370	0.370
2	2SEP79 900	2SEP79 917	COMPOSITE	6-171	16	.	.	.	.	.	.	.	.	.
2	2SEP79 1605	2SEP79 1619	COMPOSITE	6-173	66	.	0.100	0.090	0.090	0.090	0.110	0.060	0.540	0.540
2	2SEP79 2001	2SEP79 2016	COMPOSITE	6-175	27	.	.	.	.	.	.	.	.	.
2	3SEP79 854	3SEP79 904	COMPOSITE	6-177	2	.	.	.	.	.	.	.	.	.
2	3SEP79 1548	3SEP79 1604	COMPOSITE	6-179	2	.	.	.	.	.	.	.	.	.
2	4SEP79 1525	4SEP79 1547	COMPOSITE	6-181	2	.	.	.	.	.	.	.	.	.
2	5SEP79 1200	5SEP79 1220	COMPOSITE	6-183	2	.	.	.	.	.	.	.	.	.
3	27SEP79 1710	27SEP79 1736	COMPOSITE	6-252	73	.	0.200	< 0.020	0.700	0.170	< 0.360	0.140	1.210	1.590
3	28SEP79 100	28SEP79 130	COMPOSITE	6-254	42	.	0.100	0.640	0.040	0.210	< 0.280	0.130	1.120	1.400
3	28SEP79 830	28SEP79 850	COMPOSITE	6-256	81	.	0.080	0.970	0.020	0.040	< 0.250	0.100	1.210	1.460
3	28SEP79 1400	28SEP79 1428	COMPOSITE	6-258	35	.	.	.	.	.	.	.	.	.
3	28SEP79 1125	28SEP79 1137	COMPOSITE	6-260	19	.	.	.	.	.	.	.	.	.
3	29SEP79 1040	29SEP79 1110	COMPOSITE	6-262	340	.	0.020	0.100	< 0.020	0.020	0.040	0.020	0.200	0.220
3	30SEP79 925	30SEP79 942	COMPOSITE	6-264	19	.	.	.	.	.	.	.	.	.
3	1OCT79 1505	1OCT79 1525	COMPOSITE	6-266	15	.	.	.	.	.	.	.	.	.
3	2OCT79 1349	2OCT79 1402	COMPOSITE	6-294	62	.	0.040	0.240	0.070	0.280	0.130	0.090	0.850	0.850
4	23NOV79 1915	23NOV79 1950	COMPOSITE	6-455	94	20.7	0.130	6.690	1.150	3.040	1.230	0.720	12.960	12.960
4	24NOV79 150	24NOV79 201	COMPOSITE	6-457	23	26.3	.	.	.	.	.	.	.	.
4	24NOV79 640	24NOV79 649	COMPOSITE	6-459	12	25.2	.	.	.	.	.	.	.	.
4	24NOV79 1430	24NOV79 1441	COMPOSITE	6-461	190	16.0	0.120	0.120	0.045	0.056	< 0.080	0.100	0.441	0.521
4	25NOV79 210	25NOV79 223	COMPOSITE	6-463	9	29.0	.	.	.	.	.	.	.	.
4	25NOV79 1230	25NOV79 1441	COMPOSITE	6-465	4	25.6	.	.	.	.	.	.	.	.
4	26NOV79 1419	26NOV79 1429	COMPOSITE	6-467	850	28.0	0.440	0.091	0.025	0.049	< 0.200	0.170	0.775	0.975
4	27NOV79 1345	27NOV79 1353	COMPOSITE	6-469	94	42.6	.	.	.	.	.	.	.	.
4	28NOV79 1014	28NOV79 1028	COMPOSITE	6-471	370	16.1	0.023	0.026	< 0.020	< 0.070	< 0.070	0.027	0.076	0.236

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WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

							CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G							
							TOTAL FRACTION >0.63U						TOTAL DDTR	
RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	SUS-SOL (MG/L)	VOL-SOL (%)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
H-VILLE SPRING BRANCH 5.6 - PATTON ROAD (COMP OF 6-193 THRU 6-199)														
2	31AUG79 1100	1SEP79 1500	COMPOSITE	6-203	12	.	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH 5.6 - (COMP OF 6-200 THRU 6-202)														
2	1SEP79 1015	1SEP79 1105	COMPOSITE	6-204	62	.	.	.	.	.	.	.	.	.
INDIAN CREEK 1.9 - TRIANA														
1	27AUG79 900	27AUG79 926	COMPOSITE	6-002	86	.	0.940	17.600	9.630	14.400	3.760	7.270	53.600	53.600
1	27AUG79 1000	27AUG79 1016	COMPOSITE	6-004	170	.	3.350	18.000	9.030	14.100	4.260	6.930	55.670	55.670
1	27AUG79 1100	27AUG79 1120	COMPOSITE	6-006	130	.	0.860	18.500	8.140	13.000	3.950	6.950	51.400	51.400
1	27AUG79 1415	27AUG79 1500	COMPOSITE	6-008	250	.	0.960	22.500	9.210	14.500	4.350	7.130	58.650	58.650
1	28AUG79 944	28AUG79 959	COMPOSITE	6-010	50	.	0.980	7.890	13.200	20.100	3.570	7.950	53.690	53.690
1	28AUG79 1347	28AUG79 1400	COMPOSITE	6-012	28	.	.	.	.	.	.	.	.	.
1	29AUG79 935	29AUG79 950	COMPOSITE	6-014	10	.	.	.	.	.	.	.	.	.
1	29AUG79 1526	29AUG79 1534	COMPOSITE	6-032	46	.	1.340	20.300	13.700	22.700	4.020	8.890	70.950	70.950
3	28SEP79 1000	28SEP79 1030	COMPOSITE	6-213	11	.	.	.	.	.	.	.	.	.
3	26SEP79 1600	26SEP79 1630	COMPOSITE	6-215	340	.	0.160	5.040	1.930	3.390	0.950	2.230	13.700	13.700
3	29SEP79 1240	29SEP79 1310	COMPOSITE	6-217	51	.	0.200	9.580	2.930	6.220	1.080	3.030	23.040	23.040
3	30SEP79 1433	30SEP79 1446	COMPOSITE	6-219	35	.	.	.	.	.	.	.	.	.
3	1OCT79 1100	1OCT79 1135	COMPOSITE	6-268	29	.	.	.	.	.	.	.	.	.
3	2OCT79 1307	2OCT79 1321	COMPOSITE	6-270	72	.	0.200	9.030	4.030	9.010	1.660	4.060	27.990	27.990
3	3OCT79 1450	3OCT79 1510	COMPOSITE	6-272	370	.	< 0.080	1.430	2.750	7.490	1.220	2.760	15.650	15.730
3	3OCT79 1253	3OCT79 1303	COMPOSITE	6-274	140	.	0.140	2.700	4.410	12.700	1.780	4.210	25.940	25.940
3	5OCT79 1410	5OCT79 1441	COMPOSITE	6-276	100	.	0.290	37.100	3.470	9.320	1.390	3.100	54.670	54.670
INDIAN CREEK 1.97 - TRIANA														
2	2SEP79 1158	2SEP79 1216	COMPOSITE	6-104	98	.	0.600	11.200	7.200	15.100	2.900	6.700	43.700	43.700
2	2SEP79 1442	2SEP79 1457	COMPOSITE	6-106	20	.	.	.	.	.	.	.	.	.
2	2SEP79 1841	2SEP79 1854	COMPOSITE	6-108	31	.	.	.	.	.	.	.	.	.
2	3SEP79 946	3SEP79 1015	COMPOSITE	6-110	270	.	0.570	12.800	5.200	11.100	2.610	6.300	38.580	38.580
2	3SEP79 1247	3SEP79 1301	COMPOSITE	6-112	310	.	0.490	20.000	6.710	13.600	4.900	7.490	53.190	53.190
2	3SEP79 1627	3SEP79 1643	COMPOSITE	6-114	910	.	0.410	12.500	6.100	12.200	2.280	6.000	39.490	39.490
2	4SEP79 1115	4SEP79 1132	COMPOSITE	6-116	2	.	.	.	.	.	.	.	.	.
2	4SEP79 1752	4SEP79 1808	COMPOSITE	6-118	86	.	0.200	2.620	2.310	5.290	0.720	1.900	13.040	13.040
2	5SEP79 1039	5SEP79 1050	COMPOSITE	6-120	21	.	.	.	.	.	.	.	.	.
4	24NOV79 930	24NOV79 1013	COMPOSITE	6-401	38	.	0.300	10.300	7.890	14.600	2.570	6.350	42.010	42.010
4	24NOV79 1450	24NOV79 1529	COMPOSITE	6-403	690	14.4	0.210	2.910	3.360	5.450	1.430	3.700	17.060	17.060
4	26NOV79 1300	26NOV79 1330	COMPOSITE	6-405	620	14.1	0.330	12.400	4.720	9.600	1.730	5.800	34.580	34.580
4	27NOV79 858	27NOV79 927	COMPOSITE	6-407	2	17.4	.	.	.	.	.	.	.	.
4	28NOV79 812	28NOV79 841	COMPOSITE	6-409	< 1	44.4	.	.	.	.	.	.	.	.
4	28NOV79 1508	28NOV79 1549	COMPOSITE	6-411	< 1	.	.	.	.	.	.	.	.	.
4	29NOV79 830	29NOV79 842	COMPOSITE	6-413	< 1	21.0	.	.	.	.	.	.	.	.
4	29NOV79 1444	29NOV79 1456	COMPOSITE	6-415	< 1	36.7	.	.	.	.	.	.	.	.
4	30NOV79 1055	30NOV79 1105	COMPOSITE	6-417	2	25.7	.	.	.	.	.	.	.	.
INDIAN CREEK 4.6 - CENTERLINE ROAD														
1	26AUG79 1132	26AUG79 1207	COMPOSITE	6-016	71	.	1.730	143	10.300	64.000	6.110	10.400	235.540	235.540
1	26AUG79 2134	26AUG79 2152	COMPOSITE	6-018	4	.	.	.	.	.	.	.	.	.
1	27AUG79 1102	27AUG79 1133	COMPOSITE	6-020	4	.	.	.	.	.	.	.	.	.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

							CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G							
							TOTAL FRACTION >0.63U						TOTAL DDTR	
RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	SUS-SOL (MG/L)	VOL-SOL (%)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
1	27AUG79 1535	27AUG79 1552	COMPOSITE	6-022	8	.	.	.	.	.	.	.	.	.
1	28AUG79 1235	28AUG79 1302	COMPOSITE	6-024	54	.	1.710	126	13.400	57.200	5.410	9.020	212.740	212.740
1	28AUG79 1705	28AUG79 1730	COMPOSITE	6-026	92	.	0.870	57.200	6.640	11.700	1.810	4.170	82.390	82.390
1	28AUG79 2053	28AUG79 2114	COMPOSITE	6-028	95	.	2.020	106	12.000	48.400	5.300	9.100	182.820	182.820
1	29AUG79 1337	29AUG79 1356	COMPOSITE	6-030	37	.	1.670	54.600	15.500	26.700	5.450	9.720	113.640	113.640
2	2SEP79 925	2SEP79 945	COMPOSITE	6-122	670	.	0.650	64.500	4.040	27.600	1.820	11.300	109.910	109.910
2	2SEP79 1532	2SEP79 1549	COMPOSITE	6-124	78	.	2.100	96.600	8.520	45.600	5.720	14.800	173.340	173.340
2	2SEP79 2326	2SEP79 2340	COMPOSITE	6-126	2	.	.	.	.	.	.	.	.	.
2	3SEP79 1005	3SEP79 1018	COMPOSITE	6-128	22	.	.	.	.	.	.	.	.	.
2	3SEP79 1345	3SEP79 1359	COMPOSITE	6-130	2	.	.	.	.	.	.	.	.	.
2	3SEP79 1642	3SEP79 1655	COMPOSITE	6-132	93	.	0.680	35.900	5.160	13.200	1.800	4.560	61.300	61.300
2	4SEP79 1420	4SEP79 1446	COMPOSITE	6-134	2	.	.	.	.	.	.	.	.	.
2	4SEP79 1640	4SEP79 1657	COMPOSITE	6-136	40	.	0.510	10.100	5.600	9.680	1.840	4.000	31.730	31.730
2	5SEP79 1355	5SEP79 1415	COMPOSITE	6-138	33	.	.	.	.	.	.	.	.	.
2	5SEP79 1500	5SEP79 .		6-207	.	.	0.070	0.200	0.550	0.380	0.150	2.230	3.580	3.580
3	27SEP79 2150	27SEP79 2212	COMPOSITE	6-223	49	.	0.930	91.800	6.530	33.100	2.280	5.800	140.440	140.440
3	28SEP79 945	28SEP79 1004	COMPOSITE	6-225	240	.	0.480	40.600	2.870	12.800	1.040	2.640	60.430	60.430
3	30SEP79 1320	30SEP79 1340	COMPOSITE	6-227	48	.	1.240	90.500	10.600	30.300	4.550	9.510	146.700	146.700
3	1OCT79 1140	1OCT79 1300	COMPOSITE	6-229	57	.	0.550	33.100	2.800	11.200	0.980	2.460	51.090	51.090
3	2OCT79 1122	2OCT79 1145	COMPOSITE	6-278	99	.	0.180	3.970	2.720	5.730	1.120	2.520	16.240	16.240
3	3OCT79 1325	3OCT79 1350	COMPOSITE	6-280	160	.	0.940	21.900	4.790	10.800	2.200	4.160	44.790	44.790
3	4OCT79 1130	4OCT79 1140	COMPOSITE	6-282	36	.	0.260	26.300	2.870	9.750	1.300	2.750	43.230	43.230
3	5OCT79 1130	5OCT79 1201	COMPOSITE	6-284	71	.	1.010	60.700	6.040	22.800	2.500	6.040	99.090	99.090
4	24NOV79 358	24NOV79 409	COMPOSITE	6-419	61	.	0.560	22.200	5.080	13.900	2.100	4.570	48.430	48.430
4	24NOV79 1103	24NOV79 1112	COMPOSITE	6-421	8	13.2	.	.	.	.	.	.	.	.
4	26NOV79 1105	26NOV79 1116	COMPOSITE	6-423	130	13.0	0.890	62.500	12.400	32.200	3.550	11.300	122.840	122.840
4	27NOV79 1134	27NOV79 1146	COMPOSITE	6-425	< 1	11.2	.	.	.	.	.	.	.	.
4	28NOV79 912	28NOV79 928	COMPOSITE	6-427	240	10.6	0.760	54.400	9.560	27.900	2.620	10.300	105.540	105.540
4	28NOV79 1550	28NOV79 1612	COMPOSITE	6-429	66	.	1.040	41.600	6.880	17.300	2.540	6.120	75.480	75.480
4	29NOV79 800	29NOV79 826	COMPOSITE	6-431	350	13.7	1.080	33.600	10.400	27.500	3.450	9.130	85.160	85.160
4	29NOV79 1330	29NOV79 1345	COMPOSITE	6-433	3870	9.9	0.580	40.800	4.640	16.300	3.060	6.120	71.500	71.500
4	30NOV79 1355	30NOV79 1404	COMPOSITE	6-435	19	12.2	.	.	.	.	.	.	.	.

FOOTNOTES:
A. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
B. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
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WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					SOLIDS					CONCENTRATIONS OF DDT IN WATER (UG/L)							
					>63U		<63U			SUSPENDED FRACTION							
RAIN	BEGINNING	ENDING			SUS	VOL	SUS	VOL	0.45U	DDT		DDD		DDE		TOTAL DDTR	
EVENT	DATE-TIME	DATE-TIME	HLOC	LABID	(MG/L)	(%)	(MG/L)			O,P	P,P	O,P	P,P	O,P	P,P	MIN	MAX
H-VILLE SPRING BRANCH 2.4 - DODD ROAD																	
5	18JAN80 1122	18JAN80 1202	1-4C	6M-13	6.5	9.6	130.0	26.0	6.0	0.65	3.84	2.09	4.55	0.60	1.58	13.32	13.32
5	18JAN80 1558	18JAN80 1637	1-4C	6M-14	6.4	66.0	91.0	23.0	3.0	0.28	3.53	1.50	3.52	0.42	1.15	10.39	10.39
5	18JAN80 2100	18JAN80 2143	1-4C	6M-03	9.1	87.0	80.0	22.0	4.0	0.17	2.50	0.96	2.49	0.29	0.77	7.18	7.18
5	18JAN80 2325	19JAN80 15	1-4C	6M-15	5.1	35.0	68.0	19.0	4.0	0.22	1.79	0.74	1.78	0.22	0.61	5.37	5.37
5	19JAN80 125	19JAN80 205	1-4C	6M-16	4.9	80.0	68.0	19.0	4.0	0.14	2.44	0.85	1.89	0.26	0.69	6.26	6.26
5	19JAN80 1452	19JAN80 1535	1-4C	6M-17	[illegible]	53.0	50.0	18.0	1.0	0.14	2.42	0.54	1.49	0.19	0.47	5.26	5.26
6	22JAN80 2050	22JAN80 2112	1-4C	6M-56	3.0	25.0	49.0	13.0	3.0	0.19	1.83	0.67	1.09	0.22	0.45	4.45	4.45
6	22JAN80 2050	22JAN80 2112	0.6C	6M-57	2.0	28.0	51.0	11.0	2.0	.	.	.	.	.	.	.	.
6	22JAN80 2345	23JAN80 38	1-4C	6M-58	13	7.5	52.0	12.0	4.0	0.16	3.64	0.63	1.31	0.21	0.51	6.46	6.46
6	22JAN80 2345	23JAN80 38	0.6C	6M-59	3.0	24.0	57.0	11.0	4.0	.	.	.	.	.	.	.	.
6	23JAN80 340	23JAN80 445	1-4C	6M-60	3.0	25.0	54.0	11.0	9.0	0.10	0.91	0.49	0.85	0.17	0.36	2.88	2.88
6	23JAN80 340	23JAN80 445	0.6C	6M-61	3.0	27.0	52.0	11.0	8.0	.	.	.	.	.	.	.	.
6	23JAN80 640	23JAN80 730	1-4C	6M-62	2.0	23.0	49.0	10.0	13.0	0.07	0.90	0.44	1.16	0.15	0.34	3.06	3.06
6	23JAN80 640	23JAN80 730	0.6C	6M-63	2.0	25.0	48.0	10.0	8.0	.	.	.	.	.	.	.	.
6	23JAN80 1030	23JAN80 1130	1-4C	6M-64	3.0	19.0	44.0	11.0	7.0	0.04	0.80	0.28	0.51	0.09	0.20	1.92	1.92
6	23JAN80 1030	23JAN80 1130	0.6C	6M-65	3.0	24.0	40.0	8.0	7.0	.	.	.	.	.	.	.	.
6	24JAN80 955	24JAN80 1025	1-4C	6M-66	<1.0	21.0	23.0	14.0	2.0	0.02	0.41	0.17	0.28	0.05	0.13	1.06	1.06
6	24JAN80 955	24JAN80 1025	0.6C	6M-67	<1.0	65.0	24.0	7.0	4.0	.	.	.	.	.	.	.	.
6	24JAN80 1345	24JAN80 1404	1-4C	6M-68	<1.0	34.0	22.0	8.0	1.0	0.02	0.10	0.14	0.27	0.04	0.10	0.68	0.68
6	24JAN80 1345	24JAN80 1404	0.6C	6M-69	<1.0	69.0	20.0	7.0	2.0	.	.	.	.	.	.	.	.
6	25JAN80 910	25JAN80 931	1-4C	6M-70	2.0	9.8	23.0	7.0	2.0	0.04	0.27	0.23	0.42	0.07	0.18	1.22	1.22
6	25JAN80 910	25JAN80 931	0.6C	6M-71	<1.0	26.0	20.0	5.0	< 1.0	.	.	.	.	.	.	.	.
6	25JAN80 1418	25JAN80 1435	1-4C	6M-72	<1.0	13.0	20.0	7.0	1.0	0.03	0.26	0.21	0.36	0.07	0.16	1.10	1.10
6	25JAN80 1418	25JAN80 1435	0.6C	6M-73	<1.0	38.0	20.0	6.0	2.0	.	.	.	.	.	.	.	.
7	17MAR80 1300	17MAR80 1505	1-4C	67-34	8.0	35.0	79.0	16.0	11.0	< 0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	17MAR80 1300	17MAR80 1505	0.6C	67-35	6.0	30.0	74.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 1545	17MAR80 1608	1-4C	67-36	6.0	54.0	74.0	16.0	13.0	< 0.05	1.93	0.50	1.34	0.16	0.48	4.42	4.47
7	17MAR80 1545	17MAR80 1608	0.6C	67-37	5.0	51.0	76.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 1731	17MAR80 1805	1-4C	67-38	5.0	47.0	84.0	18.0	16.0	< 0.05	1.33	0.41	1.06	0.13	0.37	3.30	3.35
7	17MAR80 1731	17MAR80 1805	0.6C	67-39	3.0	24.0	84.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 2040	17MAR80 2100	1-4C	67-40	6.0	33.0	85.0	16.0	28.0	< 0.05	0.77	0.24	0.71	0.08	0.25	2.06	2.11
7	17MAR80 2040	17MAR80 2100	0.6C	67-41	5.0	69.0	80.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 2340	17MAR80 2400	1-4C	67-42	2.0	24.0	80.0	16.0	24.0	< 0.05	1.02	0.22	0.48	0.10	0.25	2.07	2.12
7	17MAR80 2340	17MAR80 2400	0.6C	67-43	2.0	22.0	86.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 120	18MAR80 210	1-4C	67-44	2.0	26.0	84.0	16.0	17.0	< 0.05	0.50	0.23	0.60	0.07	0.23	1.62	1.68
7	18MAR80 120	18MAR80 210	0.6C	67-45	13	87.0	71.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 400	18MAR80 435	1-4C	67-46	3.0	30.0	82.0	15.0	19.0	< 0.05	1.52	0.24	0.70	0.08	0.27	2.81	2.86
7	18MAR80 400	18MAR80 435	0.6C	67-47	1.0	26.0	80.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 600	18MAR80 632	1-4C	67-48	8.0	81.0	72.0	15.0	20.0	< 0.05	1.34	0.21	0.76	0.07	0.24	2.62	2.67
7	18MAR80 600	18MAR80 632	0.6C	67-49	<1.0	.	67.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 740	18MAR80 810	1-4C	67-50	12	21.0	64.0	15.0	21.0	< 0.05	0.97	0.20	0.57	0.08	0.26	2.09	2.14
7	18MAR80 740	18MAR80 810	0.6C	67-51	22	25.0	64.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 1000	18MAR80 1030	1-4C	67-52	3.0	42.0	63.0	13.0	29.0	< 0.06	0.62	0.20	0.68	0.06	0.21	1.77	1.83
7	18MAR80 1000	18MAR80 1030	0.6C	67-53	3.0	23.0	60.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 1120	18MAR80 1145	1-4C	67-54	7.0	14.0	61.0	16.0	27.0	< 0.05	0.22	0.18	0.31	0.05	0.20	0.97	1.01
7	18MAR80 1120	18MAR80 1145	0.6C	67-55	3.0	56.0	52.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 1245	18MAR80 1320	1-4C	67-56	2.0	66.0	56.0	12.0	18.0	< 0.06	0.42	0.14	0.32	0.05	0.16	1.08	1.14

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WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					SOLIDS					CONCENTRATIONS OF DDT IN WATER (UG/L)							
					>63U		<63U			SUSPENDED FRACTION							
					SUS	VOL	SUS	VOL	0.45U	DDT		DDD		DDE		TOTAL DDTR	
RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HLOC	LABID	(MG/L)	(%)	(MG/L)			O,P	P,P	O,P	P,P	O,P	P,P	MIN	MAX
7	16MAR80 1255	18MAR80 1320	0.6C	67-57	<1.0	.	56.0	.	.	.	.	.	.	.	.	.	.
7	16MAR80 1530	18MAR80 1551	1-4C	67-58	1.0	< 1.0	52.0	12.0	18.0	< 0.05	0.33	0.10	0.19	0.03	0.09	0.74	0.79
7	18MAR80 1530	18MAR80 1551	0.6C	67-59	<1.0	.	49.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 1747	18MAR80 1804	1-4C	67-60	10	26.0	46.0	10.0	16.0	< 0.01	0.20	0.11	0.19	0.03	0.07	0.60	0.61
7	18MAR80 1747	18MAR80 1804	0.6C	67-61	<1.0	.	52.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 1002	19MAR80 1030	1-4C	67-102	<1.0	.	37.0	17.0	7.0	.	.	.	.	.	.	.	.
7	19MAR80 1002	19MAR80 1030	0.6C	67-103	1.0	7.0	39.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 1802	19MAR80 1828	1-4C	67-104	<1.0	.	30.0	16.0	4.0	< 0.07	0.19	0.18	0.33	0.05	0.17	0.91	0.98
7	19MAR80 1802	19MAR80 1828	0.6C	67-105	1.0	30.0	31.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80 1007	20MAR80 1043	1-4C	67-106	2.0	14.0	27.0	16.0	3.0	< 0.07	0.20	0.22	0.53	0.06	0.20	1.21	1.27
7	20MAR80 1007	20MAR80 1043	0.6C	67-107	1.0	13.0	24.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80 1740	20MAR80 1755	1-4C	67-108	<1.0	.	24.0	14.0	4.0	< 0.03	0.09	0.05	0.10	0.01	0.05	0.31	0.34
7	20MAR80 1740	20MAR80 1755	0.6C	67-109	<1.0	.	27.0	.	.	.	.	.	.	.	.	.	.
7	21MAR80 1030	21MAR80 1100	1-4C	67-132	3.0	3.0	92.0	16.0	51.0	< 0.01	0.05	0.02	0.04	0.01	0.02	0.14	0.15
7	21MAR80 1030	21MAR80 1100	0.6C	67-133	1.0	38.0	110.0	.	.	.	.	.	.	.	.	.	.
7	22MAR80 900	22MAR80 919	1-4C	67-134	1.0	25.0	76.0	14.0	67.0	< 0.05	< 0.07	0.04	0.08	< 0.02	0.05	0.18	0.32
7	22MAR80 900	22MAR80 919	0.6C	67-135	<1.0	.	100.0	.	.	.	.	.	.	.	.	.	.
7	23MAR80 1205	23MAR80 1233	1-4C	67-136	4.0	8.0	79.0	16.0	66.0	.	.	.	.	.	.	.	.
7	23MAR80 1205	23MAR80 1233	0.6C	67-137	7.0	9.0	84.0	.	.	.	.	.	.	.	.	.	.
7	24MAR80 1410	24MAR80 1452	1-4C	67-138	<1.0	.	42.0	16.0	27.0	< 0.07	< 0.09	< 0.05	< 0.04	< 0.03	< 0.04	0.00	0.31
7	24MAR80 1410	24MAR80 1452	0.6C	67-139	<1.0	.	44.0	.	.	.	.	.	.	.	.	.	.
7	26MAR80 1324	26MAR80 1403	1-4C	67-154	20	.	24.0	7.0	15.0	< 0.06	0.11	0.04	0.08	< 0.02	0.06	0.29	0.37
7	26MAR80 1324	26MAR80 1403	0.6C	67-155	1.0	20.0	32.0	.	.	.	.	.	.	.	.	.	.
7	26MAR80 1343	28MAR80 1413	1-4C	67-156	<1.0	.	21.0	8.0	6.0	< 0.04	0.09	0.04	0.29	< 0.02	0.05	0.47	0.53
7	26MAR80 1343	28MAR80 1413	0.6C	67-157	<1.0	.	21.0	.	.	.	.	.	.	.	.	.	.
7	31MAR80 1503	31MAR80 1535	1-4C	67-168	<1.0	.	16.0	8.0	13.0	< 0.04	0.18	< 0.03	0.07	< 0.02	0.03	0.28	0.37
7	31MAR80 1503	31MAR80 1535	0.6C	67-169	4.0	18.0	18.0	.	.	.	.	.	.	.	.	.	.
7	3APR80 1135	3APR80 1156	1-4C	67-170	2.0	14.0	17.0	6.0	2.0	< 0.05	0.18	0.16	0.27	0.04	0.14	0.79	0.83
7	3APR80 1135	3APR80 1156	0.6C	67-171	6.0	20.0	15.0	.	.	.	.	.	.	.	.	.	.
H-VILLE SPRING BRANCH 5.6 - PATTON ROAD																	
5	15JAN80 903	18JAN80 956	1-4C	6M-18	22	46.0	120.0	25.0	7.0	< 0.10	< 0.11	< 0.06	< 0.05	< 0.05	< 0.05	0.00	0.41
5	18JAN80 2215	18JAN80 2240	1-4C	6M-04	6.6	3.5	42.0	19.0	< 1.0	< 0.09	< 0.13	< 0.05	< 0.04	< 0.04	< 0.04	0.00	0.38
6	22JAN80 1745	22JAN80 1850	1-4C	6M-74	11	21.0	84.0	15.0	7.0	< 0.05	< 0.06	< 0.04	0.06	< 0.04	0.03	0.09	0.27
6	22JAN80 1745	22JAN80 1850	0.6C	6M-75	15	26.0	78.0	14.0	6.0	.	.	.	.	.	.	.	.
6	23JAN80 145	23JAN80 215	1-4C	6M-76	7.0	23.0	51.0	10.0	7.0	< 0.02	< 0.02	< 0.02	< 0.02	0.02	< 0.01	0.02	0.10
6	23JAN80 145	23JAN80 215	0.6C	6M-77	7.0	26.0	45.0	9.0	7.0	.	.	.	.	.	.	.	.
6	23JAN80 747	23JAN80 815	1-4C	6M-78	4.0	21.0	37.0	9.0	6.0	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.00	0.10
6	23JAN80 747	23JAN80 815	0.6C	6M-79	3.0	29.0	34.0	9.0	7.0	.	.	.	.	.	.	.	.
6	24JAN80 815	24JAN80 835	1-4C	6M-80	4.0	33.0	17.0	7.0	1.0	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.00	0.09
6	24JAN80 815	24JAN80 835	0.6C	6M-81	2.0	37.0	16.0	5.0	2.0	.	.	.	.	.	.	.	.
6	24JAN80 1056	24JAN80 1117	1-4C	6M-82	6.0	21.0	16.0	6.0	< 1.0	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.00	0.09
6	25JAN80 755	25JAN80 817	1-4C	6M-83	3.0	34.0	20.0	6.0	2.0	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.00	0.09
6	25JAN80 755	25JAN80 817	0.6C	6M-84	6.0	36.0	17.0	6.0	2.0	.	.	.	.	.	.	.	.
6	25JAN80 1309	25JAN80 1330	1-4C	6M-85	4.0	26.0	16.0	6.0	1.0	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.00	0.09
6	25JAN80 1309	25JAN80 1330	0.6C	6M-86	<1.0	22.0	16.0	9.0	< 1.0	.	.	.	.	.	.	.	.
7	17MAR80 1130	17MAR80 1250	1-4C	67-62	12	98.0	180.0	22.0	26.0	< 0.13	< 0.16	< 0.09	0.11	0.08	< 0.07	0.20	0.65
7	17MAR80 1130	17MAR80 1250	0.6C	67-63	15	39.0	150.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 1330	17MAR80 1445	1-4C	67-64	102	89.0	120.0	19.0	23.0	< 0.00	< 0.05	< 0.03	0.03	0.02	< 0.03	0.05	0.15

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					SOLIDS					CONCENTRATIONS OF DDT IN WATER (UG/L)							
					>63U		<63U			SUSPENDED FRACTION							
										DDT		DDD		DDE			
RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HLOC	LABID	SUS (MG/L)	VOL (%)	SUS (MG/L)	VOL (MG/L)	0.45U (MG/L)	O,P	P,P	O,P	P,P	O,P	P,P	TOTAL MIN	DDTR MAX
7	17MAR80 1330	17MAR80 1445	0.6C	67-65	10	21.0	110.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 1445	17MAR80 1540	1-4C	67-66	16	41.0	92.0	18.0	14.0	< 0.03	< 0.04	< 0.03	< 0.02	< 0.02	< 0.02	0.00	0.15
7	17MAR80 1445	17MAR80 1540	0.6C	67-67	7.0	32.0	98.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 1715	17MAR80 1905	1-4C	67-68	10	15.0	89.0	15.0	29.0	< 0.06	< 0.08	< 0.04	< 0.03	< 0.03	< 0.03	0.00	0.26
7	17MAR80 1715	17MAR80 1805	0.6C	67-69	13	28.0	72.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 2140	17MAR80 2152	1-4C	67-70	4.0	23.0	73.0	16.0	18.0	< 0.04	< 0.06	< 0.03	< 0.02	< 0.02	< 0.02	0.00	0.19
7	17MAR80 2140	17MAR80 2152	0.6C	67-71	5.0	12.0	70.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 1235	18MAR80 1315	1-4C	67-72	3.0	27.0	50.0	10.0	14.0	< 0.03	< 0.04	< 0.02	< 0.01	< 0.01	< 0.02	0.00	0.13
7	18MAR80 1235	18MAR80 1315	0.6C	67-73	3.0	29.0	47.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 1720	16MAR80 1600	1-4C	67-74	3.0	53.0	48.0	11.0	8.0	< 0.06	< 0.07	< 0.04	< 0.03	< 0.02	< 0.03	0.00	0.25
7	18MAR80 1720	18MAR80 1800	0.6C	67-75	<1.0	.	39.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 918	19MAR80 1012	1-4C	67-76	4.0	26.0	32.0	10.0	2.0	< 0.04	< 0.05	< 0.03	< 0.02	< 0.01	< 0.02	0.00	0.18
7	19MAR80 918	19MAR80 1012	0.6C	67-77	<1.0	.	29.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 1715	19MAR80 1745	1-4C	67-78	1.0	51.0	23.0	10.0	1.0	< 0.03	< 0.03	< 0.02	< 0.01	< 0.01	< 0.02	0.00	0.12
7	19MAR80 1715	19MAR80 1745	0.6C	67-79	2.0	32.0	30.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80 1141	20MAR80 1230	1-4C	67-110	7.0	18.0	220.0	31.0	35.0	.	.	.	.	.	.	.	.
7	20MAR80 1141	20MAR80 1230	0.6C	67-111	5.0	16.0	210.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80 1705	20MAR80 1720	1-4C	67-112	16	73.0	160.0	21.0	42.0	< 0.30	< 0.37	< 0.21	< 0.17	< 0.12	< 0.17	0.00	1.34
7	20MAR80 1705	20MAR80 1720	0.6C	67-113	19	19.0	160.0	.	.	.	.	.	.	.	.	.	.
	21MAR80 945	21MAR80 1015	1-4C	67-114	<1.0	.	110.0	15.0	64.0	< 0.05	< 0.06	< 0.04	< 0.02	< 0.02	< 0.02	0.00	0.22
7	21MAR80 945	21MAR80 1015	0.6C	67-115	1.0	41.0	120.0	.	.	.	.	.	.	.	.	.	.
7	22MAR80 1050	22MAR80 1102	1-4C	67-140	3.0	14.0	41.0	15.0	22.0	.	.	.	.	.	.	.	.
7	22MAR80 1050	22MAR80 1102	0.6C	67-141	2.0	7.0	48.0	.	.	.	.	.	.	.	.	.	.
7	24MAR80 1445	24MAR80 1500	1-4C	67-142	<1.0	.	29.0	15.0	14.0	< 0.03	< 0.03	< 0.02	< 0.01	< 0.01	< 0.01	0.00	0.11
7	24MAR80 1445	24MAR80 1500	0.6C	67-143	<1.0	.	28.0	.	.	.	.	.	.	.	.	.	.
7	26MAR80 1405	26MAR80 1418	1-4C	67-158	14	7.0	26.0	9.0	10.0	< 0.04	< 0.05	< 0.03	< 0.02	< 0.02	< 0.02	0.00	0.18
7	26MAR80 1405	26MAR80 1418	0.6C	67-159	18	13.0	29.0	.	.	.	.	.	.	.	.	.	.
7	28MAR80 1324	28MAR80 1339	1-4C	67-144	4.0	7.0	100.0	21.0	36.0	< 0.33	< 0.40	< 0.22	< 0.17	< 0.13	< 0.18	0.00	1.41
7	28MAR80 1324	28MAR80 1339	0.6C	67-145	3.0	21.0	83.0	.	.	.	.	.	.	.	.	.	.
7	31MAR80 1458	31MAR80 1515	1-4C	67-174	2.0	26.0	20.0	8.0	3.0	< 0.07	< 0.08	< 0.05	< 0.03	< 0.03	< 0.03	0.00	0.29
7	31MAR80 1458	31MAR80 1515	0.6C	67-175	2.0	15.0	18.0	.	.	.	.	.	.	.	.	.	.
7	3APR80 1258	3APR80 1330	1-4C	67-172	5.0	34.0	23.0	8.0	12.0	< 0.06	< 0.07	< 0.05	< 0.03	< 0.03	< 0.03	0.00	0.28
7	3APR80 1258	3APR80 1330	0.6C	67-173	11	22.0	30.0	.	.	.	.	.	.	.	.	.	.
INDIAN CREEK . - MARTIN ROAD																	
5	18JAN80 1004	18JAN80 1022	1-4C	6M-19	13	41.0	100.0	40.0	6.0	< 0.09	< 0.12	< 0.05	< 0.04	< 0.04	< 0.04	0.00	0.37
INDIAN CREEK . - TRIANA																	
5	18JAN80 1500	18JAN80 1540	1-4C	6M-05	0.4	71.0	54.0	18.0	2.0	< 0.09	0.15	0.40	0.50	0.11	0.29	1.45	1.54
5	18JAN80 2010	18JAN80 2060	1-4C	6M-06	0.5	71.0	44.0	17.0	2.0	< 0.09	< 0.11	0.30	0.46	0.09	0.21	1.05	1.25
5	18JAN80 2301	18JAN80 2336	1-4C	6M-01	1.0	28.0	57.0	18.0	3.0	< 0.09	0.20	0.46	0.79	0.13	0.33	1.90	1.99
5	19JAN80 140	19JAN80 205	1-4C	6M-07	0.7	61.0	63.0	20.0	5.0	< 0.09	0.28	0.54	0.77	0.15	0.37	2.11	2.20
5	19JAN80 1600	19JAN80 1625	1-4C	6M-08	0.5	53.0	54.0	18.0	4.0	< 0.09	0.14	0.42	0.63	0.12	0.32	1.62	1.71
6	22JAN80 1857	22JAN80 1945	1-4C	6M-20	<1.0	64.0	28.0	8.0	1.0	< 0.02	0.15	0.34	0.53	0.12	0.26	1.40	1.41
6	22JAN80 1857	22JAN80 1945	0.6C	6M-21	<1.0	23.0	30.0	8.0	< 1.0	.	.	.	.	.	.	.	.
6	22JAN80 2220	20JAN80 2301	1-4C	6M-22	<1.0	64.0	28.0	9.0	1.0	0.02	0.16	0.24	0.33	0.07	0.17	0.99	0.99
6	22JAN80 2220	20JAN80 2301	0.6C	6M-23	<1.0	57.0	31.0	7.0	2.0	.	.	.	.	.	.	.	.
6	23JAN80 140	23JAN80 230	1-4C	6M-24	<1.0	54.0	29.0	8.0	< 1.0	< 0.02	0.10	0.72	0.30	0.07	0.15	0.84	0.86

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
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WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN	BEGINNING		ENDING				SOLIDS					CONCENTRATIONS OF DDT IN WATER (UG/L) SUSPENDED FRACTION						TOTAL	DDTR
							>63U		<63U			DDT		DDD		DDE			
EVENT	DATE-TIME		DATE-TIME		HLOC	LABID	SUS (MG/L)	VOL (%)	SUS (MG/L)	VOL (MG/L)	0.45U (MG/L)	O,P	P,P	O,P	P,P	O,P	P,P	MIN	MAX
6	23JAN80	140	23JAN80	230	0.6C	6M-25	<1.0	88.0	23.0	9.0	3.0	.	.	.	.	.	.	.	.
6	23JAN80	532	23JAN80	642	1-4C	6M-26	2.0	92.0	36.0	9.0	3.0	0.02	0.16	0.20	0.26	0.07	0.14	0.86	0.86
6	23JAN80	532	23JAN80	642	0.6C	6M-27	<1.0	75.0	35.0	10.0	2.0	.	.	.	.	.	.	.	.
6	23JAN80	1115	23JAN80	1200	1-4C	6M-28	<1.0	21.0	44.0	10.0	3.0	0.03	0.13	0.26	0.36	0.09	0.19	1.06	1.06
6	23JAN80	1115	23JAN80	1200	0.6C	6M-29	<1.0	56.0	41.0	9.0	4.0	.	.	.	.	.	.	.	.
6	24JAN80	1210	24JAN80	1235	1-4C	6M-30	<1.0	10.0	32.0	8.0	7.0	0.01	0.04	0.15	0.17	0.05	0.10	0.52	0.52
6	24JAN80	1210	24JAN80	1235	0.6C	6M-31	<1.0	69.0	33.0	9.0	5.0	.	.	.	.	.	.	.	.
6	24JAN80	1620	24JAN80	1644	1-4C	6M-32	<1.0	31.0	33.0	6.0	5.0	< 0.01	0.07	0.16	0.16	0.06	0.11	0.57	0.58
6	24JAN80	1620	24JAN80	1644	0.6C	6M-33	<1.0	53.0	32.0	8.0	4.0	.	.	.	.	.	.	.	.
6	25JAN80	1040	25JAN80	1110	1-4C	6M-34	<1.0	24.0	30.0	7.0	5.0	< 0.02	0.13	0.16	0.16	0.05	0.10	0.60	0.62
6	25JAN80	1040	25JAN80	1110	0.6C	6M-35	<1.0	84.0	24.0	8.0	4.0	.	.	.	.	.	.	.	.
6	25JAN80	1540	25JAN80	1611	1-4C	6M-36	<1.0	44.0	25.0	8.0	3.0	< 0.02	0.03	0.14	0.15	0.05	0.10	0.46	0.48
6	25JAN80	1540	25JAN80	1611	0.6C	6M-37	<1.0	71.0	26.0	8.0	3.0	.	.	.	.	.	.	.	.
7	17MAR80	1215	17MAR80	1315	1-4C	67-01	2.0	24.0	79.0	14.0	6.0	< 0.09	0.67	0.38	0.75	0.12	0.37	2.28	2.38
7	17MAR80	1215	17MAR80	1315	0.6C	67-02	1.0	53.0	75.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80	1800	17MAR80	1615	1-4C	67-03	1.0	28.0	100.0	18.0	15.0	< 0.09	1.36	0.52	1.20	0.17	0.54	3.79	3.89
7	17MAR80	1800	17MAR80	1815	0.6C	67-04	1.0	53.0	95.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80	5	18MAR80	40	1-4C	67-05	5.0	23.0	160.0	23.0	22.0	< 0.10	2.73	0.90	2.40	0.35	0.94	7.31	7.41
7	18MAR80	5	18MAR80	40	0.6C	67-06	9.0	23.0	170.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80	723	18MAR80	750	1-4C	67-07	2.0	31.0	120.0	18.0	35.0	< 0.08	2.35	0.56	1.55	0.21	0.59	5.27	5.35
7	18MAR80	723	18MAR80	750	0.6C	67-08	3.0	65.0	110.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80	1240	16MAR80	1320	1-4C	67-09	<1.0	.	83.0	16.0	25.0	< 0.09	1.24	0.27	0.74	0.09	0.33	2.68	2.77
7	18MAR80	1240	18MAR80	1320	0.6C	67-10	<1.0	.	87.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80	1800	18MAR80	1815	1-4C	67-11	<1.0	.	64.0	14.0	28.0	< 0.09	0.55	0.17	0.31	0.05	0.19	1.27	1.37
7	18MAR80	1800	18MAR80	1615	0.6C	67-12	<1.0	.	71.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80	15	19MAR80	55	1-4C	67-13	<1.0	.	55.0	12.0	22.0	< 0.09	0.12	0.12	0.21	< 0.04	0.12	0.58	0.70
7	19MAR80	15	19MAR80	55	0.6C	67-14	<1.0	.	52.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80	640	19MAR80	658	1-4C	67-15	<1.0	.	52.0	14.0	19.0	< 0.05	0.10	0.12	0.22	0.03	0.10	0.57	0.62
7	19MAR80	640	19MAR80	658	0.6C	67-16	<1.0	.	51.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80	1300	19MAR80	1330	1-4C	67-80	<1.0	.	44.0	11.0	16.0	< 0.12	0.66	0.30	0.59	0.08	0.32	1.94	2.06
7	19MAR80	1300	19MAR80	1330	0.6C	67-81	<1.0	.	47.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80	1800	19MAR80	1820	1-4C	67-82	20	.	40.0	10.0	14.0	.	.	.	.	.	.	.	.
7	19MAR80	1800	19MAR80	1820	0.6C	67-83	83	< 1.0	42.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80	125	20MAR80	145	1-4C	67-84	18	4.0	40.0	10.0	11.0	.	.	.	.	.	.	.	.
7	20MAR80	125	20MAR80	145	0.6C	67-85	73	< 1.0	39.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80	633	20MAR80	641	1-4C	67-86	17	< 1.0	40.0	17.0	6.0	0.13	0.06	0.16	< 0.02	0.03	< 0.02	0.38	0.43
7	20MAR80	633	20MAR80	641	0.6C	67-87	66	< 1.0	37.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80	1250	20MAR80	1315	1-4C	67-116	18	2.0	34.0	10.0	9.0	< 0.01	0.04	0.03	0.05	0.01	0.04	0.16	0.18
7	20MAR80	1250	20MAR80	1315	0.6C	67-117	70	< 1.0	29.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80	1710	20MAR80	1720	1-4C	67-118	1.0	68.0	28.0	10.0	5.0	< 0.04	0.08	0.06	0.12	< 0.02	0.06	0.32	0.38
7	20MAR80	1710	20MAR80	1720	0.6C	67-119	2.0	75.0	29.0	.	.	.	.	.	.	.	.	.	.
7	22MAR80	1101	22MAR80	1154	1-4C	67-120	<1.0	.	58.0	11.0	27.0	< 0.14	< 0.16	< 0.11	0.15	< 0.06	0.09	0.24	0.71
7	22MAR80	1101	22MAR80	1154	0.6C	67-121	<1.0	.	63.0	.	.	.	.	.	.	.	.	.	.
7	23MAR80	948	23MAR80	1021	1-4C	67-122	2.0	11.0	58.0	13.0	15.0	< 0.13	0.21	0.10	0.23	< 0.05	0.15	0.68	0.86
7	23MAR80	948	23MAR80	1021	0.6C	67-123	3.0	36.0	60.0	.	.	.	.	.	.	.	.	.	.
7	24MAR80	1120	24MAR80	1155	1-4C	67-124	<1.0	.	57.0	12.0	37.0	< 0.05	0.09	< 0.03	0.05	< 0.02	0.04	0.17	0.28
7	24MAR80	1120	24MAR80	1155	0.6C	67-125	<1.0	.	58.0	.	.	.	.	.	.	.	.	.	.
7	26MAR80	1045	26MAR80	1122	1-4C	67-146	<1.0	.	38.0	17.0	33.0	< 0.07	0.13	0.06	0.14	< 0.03	0.09	0.42	0.51
7	26MAR80	1045	26MAR80	1122	0.6C	67-147	1.0	< 1.0	35.0	.	.	.	.	.	.	.	.	.	.
7	28MAR80	1000	28MAR80	1034	1-4C	67-148	<1.0	.	25.0	16.0	5.0	< 0.01	< 0.02	< 0.01	0.01	< 0.00	0.01	0.03	0.07

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					SOLIDS					CONCENTRATIONS OF DDT IN WATER (UG/L)							
					>63U		<63U			SUSPENDED FRACTION							
RAIN	BEGINNING	ENDING			SUS	VOL	SUS	VOL	0.45U	DDT		DDD		DDF		TOTAL DDTR	
EVENT	DATE-TIME	DATE-TIME	HLOC	LABID	(MG/L)	(%)	(MG/L)			O,P	P,P	O,P	P,P	O,P	P,P	MIN	MAX
7	28MAR80 1000	28MAR80 1034	0.6C	67-149	<1.0	.	23.0	.	.	.	.	.	.	.	.	.	.
7	31MAR80 1033	31MAR80 1113	1-4C	67-160	1.0	18.0	33.0	9.0	13.0	< 0.10	0.22	0.08	0.16	< 0.04	0.11	0.58	0.72
7	31MAR80 1033	31MAR80 1113	0.6C	67-161	3.0	71.0	39.0	.	.	.	.	.	.	.	.	.	.
7	3APR80 1007	3APR80 1047	1-4C	67-162	6.0	16.0	26.0	8.0	< 1.0	< 0.07	0.18	0.28	0.49	0.08	0.22	1.25	1.32
7	3APR80 1007	3APR80 1047	0.6C	67-163	1.0	71.0	21.0	.	.	.	.	.	.	.	.	.	.
INDIAN CREEK 4.6 - CENTERLINE ROAD																	
5	18JAN80 1428	18JAN80 1520	1-4C	6M-09	3.0	65.0	110.0	24.0	5.0	0.11	1.18	0.91	1.59	0.26	0.72	4.77	4.77
5	18JAN80 2045	18JAN80 2140	1-4C	6M-02	3.7	77.0	84.0	22.0	8.0	0.20	2.74	1.20	2.95	0.32	0.93	8.33	8.33
5	18JAN80 2245	18JAN80 2336	1-4C	6M-10	2.1	85.0	100.0	24.0	4.0	0.13	3.16	1.12	2.64	0.34	0.94	8.34	8.34
5	19JAN80 1322	19JAN80 235	1-4C	6M-11	4.2	35.0	95.0	23.0	9.0	0.15	3.00	1.21	2.83	0.43	1.06	8.68	8.68
5	19JAN80 1555	19JAN80 1642	1-4C	6M-12	0.8	9.4	44.0	16.0	2.0	< 0.09	0.36	0.36	0.63	0.11	0.29	1.76	1.85
6	22JAN80 1910	22JAN80 2015	1-4C	6M-38	<1.0	65.0	25.0	8.0	3.0	< 0.01	0.37	0.27	0.36	0.09	0.19	1.27	1.29
6	22JAN80 1910	22JAN80 2015	0.6C	6M-39	4.0	24.0	29.0	8.0	1.0	.	.	.	.	.	.	.	.
6	22JAN80 2350	23JAN80 30	1-4C	6M-40	<1.0	69.0	35.0	7.0	2.0	0.04	0.65	0.30	0.46	0.10	0.22	1.77	1.77
6	22JAN80 2350	23JAN80 30	0.6C	6M-41	9.0	10.0	42.0	9.0	3.0	.	.	.	.	.	.	.	.
6	23JAN80 400	23JAN80 430	1-4C	6M-42	<1.0	37.0	44.0	10.0	4.0	0.06	0.64	0.43	0.63	0.14	0.32	2.21	2.21
6	23JAN80 400	23JAN80 430	0.6C	6M-43	<1.0	78.0	49.0	8.0	5.0	.	.	.	.	.	.	.	.
6	23JAN80 710	23JAN80 730	1-4C	6M-44	<1.0	44.0	48.0	10.0	4.0	0.06	1.01	0.45	0.66	0.16	0.35	2.68	2.68
6	23JAN80 710	23JAN80 730	0.6C	6M-45	<1.0	92.0	48.0	9.0	4.0	.	.	.	.	.	.	.	.
6	23JAN80 1050	23JAN80 1110	1-4C	6M-46	<1.0	44.0	63.0	8.0	5.0	0.06	0.89	0.44	0.65	0.15	0.32	2.52	2.52
6	23JAN80 1050	23JAN80 1110	0.6C	6M-47	<1.0	67.0	51.0	8.0	6.0	.	.	.	.	.	.	.	.
6	24JAN80 1110	24JAN80 1138	1-4C	6M-48	<1.0	86.0	26.0	6.0	4.0	< 0.01	0.07	0.16	0.19	0.05	0.11	0.59	0.60
6	24JAN80 1110	24JAN80 1138	0.6C	6M-49	<1.0	54.0	32.0	8.0	4.0	.	.	.	.	.	.	.	.
6	24JAN80 1446	24JAN80 1501	1-4C	6M-50	<1.0	46.0	31.0	8.0	2.0	< 0.02	0.09	0.14	0.16	0.05	0.09	0.53	0.54
6	24JAN80 1446	24JAN80 1501	0.6C	6M-51	20	9.1	80.0	9.0	4.0	.	.	.	.	.	.	.	.
6	25JAN80 1034	25JAN80 1048	1-4C	6M-52	<1.0	36.0	51.0	6.0	2.0	< 0.02	0.15	0.12	0.14	0.04	0.08	0.52	0.54
6	25JAN80 1034	25JAN80 1048	0.6C	6M-53	<1.0	51.0	82.0	6.0	3.0	.	.	.	.	.	.	.	.
6	25JAN80 1541	25JAN80 1602	1-4C	6M-54	<1.0	82.0	18.0	5.0	< 1.0	< 0.01	0.16	0.12	0.14	0.04	0.08	0.54	0.55
6	25JAN80 1541	25JAN80 1602	0.6C	6M-55	<1.0	18.0	47.0	7.0	3.0	.	.	.	.	.	.	.	.
7	17MAR80 1400	17MAR80 1504	1-4C	67-20	7.0	20.0	110.0	18.0	11.0	< 0.05	2.25	0.64	1.89	0.25	0.65	5.69	5.74
7	17MAR80 1400	17MAR80 1504	0.6C	67-21	8.0	18.0	110.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 1730	17MAR80 1753	1-4C	67-22	10	22.0	130.0	20.0	17.0	< 0.05	0.66	0.33	0.78	0.11	0.34	2.22	2.27
7	17MAR80 1730	17MAR80 1753	0.6C	67-23	11	20.0	170.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 155	18MAR80 318	1-4C	67-24	5.0	17.0	100.0	17.0	33.0	< 0.05	1.14	0.35	1.11	0.13	0.40	3.14	3.19
7	18MAR80 155	18MAR80 318	0.6C	67-25	3.0	24.0	100.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 715	18MAR80 734	1-4C	67-26	10	19.0	120.0	11.0	26.0	< 0.06	4.38	1.14	3.13	0.45	1.36	10.46	10.52
7	18MAR80 715	18MAR80 734	0.6C	67-27	3.0	30.0	87.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 1108	18MAR80 1132	1-4C	67-28	<1.0	.	68.0	15.0	22.0	< 0.05	1.04	0.21	0.49	0.06	0.21	2.01	2.07
7	18MAR80 1108	18MAR80 1132	0.6C	67-29	<1.0	.	56.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 1723	18MAR80 1740	1-4C	67-30	<1.0	.	53.0	14.0	24.0	< 0.06	0.32	0.14	0.30	0.03	0.12	0.91	0.97
7	18MAR80 1723	18MAR80 1740	0.6C	67-31	<1.0	.	50.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 55	19MAR80 121	1-4C	67-32	<1.0	.	49.0	12.0	15.0	0.07	0.36	0.13	0.27	0.04	0.15	1.02	1.02
7	19MAR80 55	19MAR80 121	0.6C	67-33	<1.0	.	46.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 645	19MAR80 722	1-4C	67-88	22	< 1.0	40.0	18.0	15.0	< 0.06	0.15	0.14	0.23	0.03	0.15	0.70	0.76
7	19MAR80 645	19MAR80 722	0.6C	67-89	84	< 1.0	39.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 1305	19MAR80 1335	1-4C	67-90	21	1.0	41.0	16.0	11.0	< 0.04	0.11	0.10	0.17	0.03	0.09	0.51	0.55
7	19MAR80 1305	19MAR80 1335	0.6C	67-91	88	8.0	40.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 1833	19MAR80 1900	1-4C	67-92	21	1.0	37.0	17.0	10.0	.	.	.	.	.	.	.	.

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WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					SOLIDS					CONCENTRATIONS OF DDT IN WATER (UG/L)							
					>63U		<63U			SUSPENDED FRACTION							
RAIN	BEGINNING	ENDING			SUS	VOL	SUS	VOL	0.45U	DDT		DDD		DDE		TOTAL DDTR	
EVENT	DATE-TIME	DATE-TIME	HLOC	LABID	(MG/L)	(%)	(MG/L)			O,P	P,P	O,P	P,P	O,P	P,P	MIN	MAX
7	19MAR80 1833	19MAR80 1900	0.6C	67-93	86	< 1.0	38.0	.	.	.	.	.	.	.	.	.	.
7	20MAR60 140	20MAR80 209	1-4C	67-94	19	3.0	30.0	15.0	.	.	.	.	.	.	.	.	.
7	20MAR60 140	20MAR80 209	0.6C	67-95	120	3.0	32.0	.	.	.	.	.	.	.	.	.	.
7	20MAR60 630	20MAR80 659	1-4C	67-96	23	1.0	31.0	16.0	10.0	< 0.04	< 0.05	0.04	0.06	< 0.02	0.03	0.14	0.25
7	20MAR80 630	20MAR80 659	0.6C	67-97	120	.	27.0	.	.	.	.	.	.	.	.	.	.
7	20MAR60 1400	20MAR80 1433	1-4C	67-98	5.0	8.0	24.0	16.0	< 1.0	< 0.04	0.32	0.06	0.10	< 0.02	0.07	0.55	0.61
7	20MAR80 1400	20MAR80 1433	0.6C	67-99	86	1.0	24.0	.	.	.	.	.	.	.	.	.	.
7	20MAR60 1840	20MAR80 1859	1-4C	67-100	<1.0	.	22.0	15.0	2.0	< 0.05	0.12	0.05	0.11	< 0.02	0.04	0.32	0.39
7	20MAR80 1840	20MAR80 1859	0.6C	67-101	1.0	87.0	29.0	.	.	.	.	.	.	.	.	.	.
7	23MAR60 953	23MAR80 1014	1-4C	67-128	3.0	3.0	78.0	15.0	55.0	.	.	.	.	.	.	.	.
7	23MAR80 953	23MAR80 1014	0.6C	67-129	<1.0	.	85.0	.	.	.	.	.	.	.	.	.	.
7	24MAR80 1110	24MAR80 1143	1-4C	67-130	1.0	9.0	63.0	11.0	.	< 0.05	< 0.07	< 0.04	< 0.03	< 0.02	< 0.03	0.00	0.24
7	24MAR60 1110	24MAR80 1143	0.6C	67-131	5.0	40.0	58.0	.	.	.	.	.	.	.	.	.	.
7	26MAR30 1100	26MAR80 1130	1-4C	67-150	1.0	12.0	26.0	14.0	15.0	< 0.03	< 0.04	< 0.02	0.02	< 0.01	< 0.02	0.02	0.13
7	26MAR60 1100	26MAR80 1130	0.6C	67-151	<1.0	.	24.0	.	.	.	.	.	.	.	.	.	.
7	28MAR60 1030	28MAR80 1112	1-4C	67-152	2.0	3.0	23.0	7.0	10.0	< 0.04	< 0.05	< 0.03	0.03	< 0.02	0.03	0.06	0.20
7	26MAR80 1030	28MAR80 1112	0.6C	67-153	1.0	29.0	19.0	.	.	.	.	.	.	.	.	.	.
7	31MAR80 1230	31MAR80 1309	1-4C	67-164	<1.0	.	23.0	8.0	8.0	< 0.04	0.05	0.03	0.05	< 0.02	0.03	0.16	0.21
7	31MAR60 1230	31MAR80 1309	0.6C	67-165	1.0	60.0	28.0	.	.	.	.	.	.	.	.	.	.
7	3APR80 1000	3APR80 1025	1-4C	67-166	1.0	25.0	21.0	8.0	2.0	< 0.04	0.12	0.14	0.25	0.04	0.11	0.65	0.69
7	3APR80 1000	3APR80 1025	0.6C	67-167	<1.0	.	17.0	.	.	.	.	.	.	.	.	.	.

FOOTNOTES:

A. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
B. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.
C. SUSPENDED SOLIDS, <63U - NONFILTERABLE RESIDUE WHICH PASSED THROUGH A 63UM SIEVE BUT WAS RETAINED ON A GLASS FIBER FILTER PAD.
D. VOLITILE SOLIDS, <63U - VOLATILE SUSPENDED SOLIDS RETAINED ON A GLASS FIBER FILTER PAD.
E. 0.45U, <63U - NONFILTERABLE RESIDUE WHICH PASSED THROUGH A GLASS FIBER FILTER PAD BUT WAS RETAINED ON A 0.45UM MEMBRANE FILTER.
F. HLOC - HORIZONTAL LOCATION:
1-4C - REFERS TO A COMPOSITE SAMPLE OF DEPTHS 1 THRU 4 AND HORIZONTAL LOCATIONS LEFT, MIDDLE, AND RIGHT;
0.6C - REFERS TO A COMPOSITE SAMPLE OF HORIZONTAL LOCATIONS LEFT, MIDDLE AND RIGHT AT 0.6 OF THE DEPTH.

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TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					SOLIDS					CONCENTRATIONS OF DDT IN WATER (UG/L)								
					>63U		<63U			DISSOLVED FRACTION								
										DDT		DDD		DDE				
RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HLOC	LABID	SUS (MG/L)	VOL (%)	SUS (MG/L)	VOL (MG/L)	0.45U (MG/L)	O,P	P,P	O,P	P,P	O,P	P,P	TOTAL DDTR MIN	TOTAL DDTR MAX	
H-VILLE SPRING BRANCH 2.4 - DODD ROAD																		
5	18JAN80 1122	18JAN80 1202	1-4C	6M-13	8.5	9.6	130.0	26.0	6.0	0.08	0.31	1.08	1.41	0.15	0.21	3.24	3.24	
5	18JAN80 1558	18JAN80 1637	1-4C	6M-14	6.4	66.0	91.0	23.0	3.0	0.10	0.12	1.11	1.50	0.15	0.24	3.22	3.22	
5	18JAN80 2100	18JAN80 2143	1-4C	6M-03	9.1	67.0	80.0	22.0	4.0	0.14	0.08	1.03	1.84	0.16	0.24	3.49	3.49	
5	18JAN80 2325	19JAN80 15	1-4C	6M-15	5.1	35.0	68.0	19.0	4.0	0.06	0.08	0.94	1.41	0.13	0.21	2.83	2.83	
5	19JAN80 125	19JAN80 205	1-4C	6M-16	4.9	80.0	66.0	19.0	4.0	0.08	0.16	1.02	1.40	0.15	0.25	3.06	3.06	
5	19JAN80 1452	19JAN80 1535	1-4C	6M-17	2.4	53.0	50.0	18.0	1.0	0.07	0.07	0.91	1.45	0.13	0.19	2.82	2.82	
6	22JAN80 2050	22JAN80 2112	1-4C	6M-56	3.0	25.0	49.0	13.0	3.0	0.03	0.07	0.29	0.43	0.04	0.07	0.93	0.93	
6	22JAN80 2050	22JAN80 2112	0.6C	6M-57	2.0	28.0	51.0	11.0	2.0	.	.	.	.	.	.	.	.	
6	22JAN80 2345	23JAN80 38	1-4C	6M-58	13	7.5	52.0	12.0	4.0	0.02	0.05	0.25	0.47	0.05	0.06	0.90	0.90	
6	22JAN80 2345	23JAN80 38	0.6C	6M-59	3.0	24.0	57.0	11.0	4.0	.	.	.	.	.	.	.	.	
6	23JAN80 340	23JAN80 445	1-4C	6M-60	3.0	25.0	54.0	11.0	9.0	0.02	0.04	0.34	0.51	0.05	0.09	1.05	1.05	
6	23JAN80 340	23JAN80 445	0.6C	6M-61	3.0	27.0	52.0	11.0	8.0	.	.	.	.	.	.	.	.	
6	23JAN80 640	23JAN80 730	1-4C	6M-62	2.0	23.0	49.0	10.0	13.0	0.03	0.04	0.38	0.65	0.06	0.10	1.26	1.26	
6	23JAN80 640	23JAN80 730	0.6C	6M-63	2.0	25.0	48.0	10.0	8.0	.	.	.	.	.	.	.	.	
6	23JAN80 1030	23JAN80 1130	1-4C	6M-64	3.0	19.0	44.0	11.0	7.0	< 0.02	0.03	0.21	0.30	0.04	0.06	0.64	0.66	
6	23JAN80 1030	23JAN80 1130	0.6C	6M-65	3.0	24.0	40.0	8.0	7.0	.	.	.	.	.	.	.	.	
6	24JAN80 955	24JAN80 1025	1-4C	6M-66	<1.0	21.0	23.0	14.0	2.0	< 0.02	< 0.03	0.11	0.17	0.02	0.02	0.32	0.37	
6	24JAN80 955	24JAN80 1025	0.6C	6M-67	<1.0	65.0	24.0	7.0	4.0	.	.	.	.	.	.	.	.	
6	24JAN80 1345	24JAN80 1404	1-4C	6M-68	<1.0	34.0	22.0	8.0	1.0	< 0.02	< 0.03	0.14	0.19	0.02	0.03	0.38	0.43	
6	24JAN80 1345	24JAN80 1404	0.6C	6M-69	<1.0	69.0	20.0	7.0	2.0	.	.	.	.	.	.	.	.	
6	25JAN80 910	25JAN80 931	1-4C	6M-70	2.0	9.8	23.0	7.0	2.0	0.03	0.06	0.49	0.70	0.07	0.11	1.46	1.46	
6	25JAN80 910	25JAN80 931	0.6C	6M-71	<1.0	26.0	20.0	5.0	< 1.0	.	.	.	.	.	.	.	.	
6	25JAN80 1418	25JAN80 1435	1-4C	6M-72	<1.0	13.0	20.0	7.0	1.0	< 0.02	0.05	0.22	0.38	0.04	0.05	0.74	0.76	
6	25JAN80 1418	25JAN80 1435	0.6C	6M-73	<1.0	38.0	20.0	6.0	2.0	.	.	.	.	.	.	.	.	
7	17MAR80 1300	17MAR80 1505	1-4C	67-34	8.0	35.0	79.0	16.0	11.0	0.03	.	0.56	0.87	0.09	0.12	1.67	1.67	NA
7	17MAR80 1300	17MAR80 1505	0.6C	67-35	6.0	30.0	74.0	.	.	.	.	.	.	.	.	.	.	
7	17MAR80 1545	17MAR80 1608	1-4C	67-36	6.0	54.0	74.0	16.0	13.0	0.03	0.09	0.46	0.82	0.08	0.11	1.59	1.59	
7	17MAR80 1545	17MAR80 1608	0.6C	67-37	5.0	51.0	76.0	.	.	.	.	.	.	.	.	.	.	
7	17MAR80 1731	17MAR80 1805	1-4C	67-38	5.0	47.0	84.0	18.0	16.0	0.03	0.09	0.38	0.69	0.07	0.11	1.37	1.37	
7	17MAR80 1731	17MAR80 1805	0.6C	67-39	3.0	24.0	84.0	.	.	.	.	.	.	.	.	.	.	
7	17MAR80 2040	17MAR80 2100	1-4C	67-40	6.0	33.0	85.0	16.0	28.0	0.02	0.06	0.28	0.48	0.05	0.08	0.97	0.97	
7	17MAR80 2040	17MAR80 2100	0.6C	67-41	5.0	69.0	80.0	.	.	.	.	.	.	.	.	.	.	
7	17MAR80 2340	17MAR80 2400	1-4C	67-42	2.0	24.0	80.0	16.0	24.0	0.02	0.05	0.29	0.50	0.06	0.09	1.01	1.01	
7	17MAR80 2340	17MAR80 2400	0.6C	67-43	2.0	22.0	86.0	.	.	.	.	.	.	.	.	.	.	
7	18MAR80 120	18MAR80 210	1-4C	67-44	2.0	26.0	84.0	16.0	17.0	0.02	0.07	0.26	0.46	0.05	0.09	0.95	0.95	
7	18MAR80 120	18MAR80 210	0.6C	67-45	13	87.0	71.0	.	.	.	.	.	.	.	.	.	.	
7	18MAR80 400	18MAR80 435	1-4C	67-46	3.0	30.0	82.0	15.0	19.0	0.02	0.08	0.23	0.40	0.05	0.08	0.86	0.86	
7	18MAR80 400	18MAR80 435	0.6C	67-47	1.0	26.0	80.0	.	.	.	.	.	.	.	.	.	.	
7	18MAR80 600	18MAR80 632	1-4C	67-48	8.0	81.0	72.0	15.0	20.0	0.02	0.06	0.28	0.49	0.06	0.10	1.01	1.01	
7	18MAR80 600	18MAR80 632	0.6C	67-49	<1.0	.	67.0	.	.	.	.	.	.	.	.	.	.	
7	18MAR80 740	18MAR80 810	1-4C	67-50	12	21.0	64.0	15.0	21.0	0.01	0.10	0.23	0.45	0.05	0.08	0.92	0.92	
7	18MAR80 740	18MAR80 810	0.6C	67-51	22	25.0	64.0	.	.	.	.	.	.	.	.	.	.	
7	18MAR80 1000	18MAR80 1030	1-4C	67-52	3.0	42.0	63.0	13.0	29.0	< 0.02	0.05	0.30	0.51	0.06	0.11	1.03	1.05	
7	18MAR80 1000	18MAR80 1030	0.6C	67-53	3.0	23.0	60.0	.	.	.	.	.	.	.	.	.	.	
7	18MAR80 1120	18MAR80 1145	1-4C	67-54	7.0	14.0	61.0	16.0	27.0	< 0.02	0.03	0.22	0.35	0.05	0.07	0.72	0.74	
7	18MAR80 1120	18MAR80 1145	0.6C	67-55	3.0	56.0	52.0	.	.	.	.	.	.	.	.	.	.	
7	18MAR80 1255	18MAR80 1320	1-4C	67-56	2.0	66.0	56.0	12.0	18.0	< 0.02	< 0.03	0.22	0.34	0.05	0.07	0.68	0.73	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					SOLIDS					CONCENTRATIONS OF DDT IN WATER (UG/L)								
					>63U		<63U			DISSOLVED FRACTION								
RAIN	BEGINNING	ENDING			SUS	VOL	SUS	VOL	0.45U	DDT		DDD		DDE		TOTAL	DDTR	
EVENT	DATE-TIME	DATE-TIME	HLOC	LABID	(MG/L)	(%)	(MG/L)			O,P	P,P	O,P	P,P	O,P	P,P	MIN	MAX	
7	18MAR80 1255	18MAR80 1320	0.6C	67-57	<1.0	.	56.0	.	.	.	.	.	.	.	.	.	.	
7	18MAR80 1530	18MAR80 1551	1-4C	67-58	1.0	< 1.0	52.0	12.0	18.0	< 0.02	< 0.03	0.15	0.25	0.04	0.05	0.49	0.54	
7	18MAR80 1530	18MAR80 1551	0.6C	67-59	<1.0	.	49.0	.	.	.	.	.	.	.	.	.	.	
7	18MAR80 1747	18MAR80 1804	1-4C	67-60	10	26.0	46.0	10.0	16.0	< 0.02	0.03	0.14	0.21	0.03	0.04	0.45	0.47	
7	18MAR80 1747	18MAR80 1804	0.6C	67-61	<1.0	.	52.0	.	.	.	.	.	.	.	.	.	.	
7	19MAR80 1002	19MAR80 1030	1-4C	67-102	<1.0	.	37.0	17.0	7.0	.	.	.	.	.	.	.	.	
7	19MAR80 1002	19MAR80 1030	0.6C	67-103	1.0	7.0	39.0	.	.	.	.	.	.	.	.	.	.	
7	19MAR80 1802	19MAR80 1828	1-4C	67-104	<1.0	.	30.0	16.0	4.0	< 0.02	0.03	0.15	0.24	0.04	0.05	0.51	0.53	
7	19MAR80 1802	19MAR80 1828	0.6C	67-105	1.0	30.0	31.0	.	.	.	.	.	.	.	.	.	.	
7	20MAR80 1007	20MAR80 1043	1-4C	67-106	2.0	14.0	27.0	16.0	3.0	< 0.02	< 0.03	0.15	0.24	0.04	0.05	0.48	0.53	
7	20MAR80 1007	20MAR80 1043	0.6C	67-107	1.0	13.0	24.0	.	.	.	.	.	.	.	.	.	.	
7	20MAR80 1740	20MAR80 1755	1-4C	67-108	<1.0	.	24.0	14.0	4.0	< 0.02	0.04	0.11	0.19	0.03	0.03	0.40	0.42	
7	20MAR80 1740	20MAR80 1755	0.6C	67-109	<1.0	.	27.0	.	.	.	.	.	.	.	.	.	.	
7	21MAR80 1030	21MAR80 1100	1-4C	67-132	3.0	3.0	92.0	16.0	51.0	0.02	.	0.05	0.11	0.03	0.03	0.24	0.24	NA
7	21MAR80 1030	21MAR80 1100	0.6C	67-133	1.0	38.0	110.0	.	.	.	.	.	.	.	.	.	.	
7	22MAR80 900	22MAR80 919	1-4C	67-134	1.0	25.0	76.0	14.0	67.0	< 0.02	< 0.03	0.07	0.12	0.03	0.03	0.25	0.30	
7	22MAR80 900	22MAR80 919	0.6C	67-135	<1.0	.	100.0	.	.	.	.	.	.	.	.	.	.	
7	23MAR80 1205	23MAR80 1233	1-4C	67-136	4.0	8.0	79.0	16.0	66.0	.	.	.	.	.	.	.	.	
7	23MAR80 1205	23MAR80 1233	0.6C	67-137	7.0	9.0	84.0	.	.	.	.	.	.	.	.	.	.	
7	24MAR80 1410	24MAR80 1452	1-4C	67-138	<1.0	.	42.0	16.0	27.0	< 0.02	.	0.05	0.09	0.03	0.03	0.20	0.22	NA
7	24MAR80 1410	24MAR80 1452	0.6C	67-139	<1.0	.	44.0	.	.	.	.	.	.	.	.	.	.	
7	26MAR80 1324	26MAR80 1403	1-4C	67-154	20	.	24.0	7.0	15.0	< 0.02	< 0.03	0.10	0.17	0.02	0.04	0.33	0.38	
7	26MAR80 1324	26MAR80 1403	0.6C	67-155	1.0	20.0	32.0	.	.	.	.	.	.	.	.	.	.	
7	28MAR80 1343	28MAR80 1413	1-4C	67-156	<1.0	.	21.0	8.0	6.0	< 0.02	< 0.03	0.11	0.17	0.03	0.04	0.35	0.40	
7	28MAR80 1343	28MAR80 1413	0.6C	67-157	<1.0	.	21.0	.	.	.	.	.	.	.	.	.	.	
7	31MAR80 1503	31MAR80 1535	1-4C	67-168	<1.0	.	18.0	8.0	13.0	< 0.02	< 0.03	0.09	0.15	0.02	0.02	0.28	0.33	
7	31MAR80 1503	31MAR80 1535	0.6C	67-169	4.0	18.0	18.0	.	.	.	.	.	.	.	.	.	.	
7	3APR80 1135	3APR80 1156	1-4C	67-170	2.0	14.0	17.0	6.0	2.0	< 0.02	< 0.03	0.17	0.25	0.04	0.04	0.50	0.55	
7	3APR80 1135	3APR80 1156	0.6C	67-171	6.0	20.0	15.0	.	.	.	.	.	.	.	.	.	.	
H-VILLE SPRING BRANCH 5.6 - PATTON ROAD																		
5	18JAN80 903	18JAN80 956	1-4C	6M-18	22	46.0	120.0	25.0	7.0	0.03	< 0.03	0.03	0.11	< 0.01	0.01	0.18	0.22	
5	18JAN80 2215	18JAN80 2240	1-4C	6M-04	6.6	3.5	42.0	19.0	< 1.0	< 0.06	< 0.06	0.06	0.18	< 0.02	< 0.02	0.24	0.40	
6	22JAN80 1745	22JAN80 1850	1-4C	6M-74	11	21.0	84.0	15.0	7.0	< 0.02	< 0.03	0.03	0.09	< 0.01	< 0.01	0.12	0.19	
6	22JAN80 1745	22JAN80 1850	0.6C	6M-75	15	26.0	78.0	14.0	6.0	.	.	.	.	.	.	.	.	
6	23JAN80 145	23JAN80 215	1-4C	6M-76	7.0	23.0	51.0	10.0	7.0	< 0.02	< 0.03	0.03	0.12	< 0.01	< 0.01	0.15	0.22	
6	23JAN80 145	23JAN80 215	0.6C	6M-77	7.0	26.0	45.0	9.0	7.0	.	.	.	.	.	.	.	.	
6	23JAN80 747	23JAN80 815	1-4C	6M-78	4.0	21.0	37.0	9.0	6.0	< 0.02	< 0.03	< 0.01	0.03	< 0.01	< 0.01	0.03	0.11	
6	23JAN80 747	23JAN80 815	0.6C	6M-79	3.0	29.0	34.0	9.0	7.0	.	.	.	.	.	.	.	.	
6	24JAN80 815	24JAN80 835	1-4C	6M-80	4.0	33.0	17.0	7.0	1.0	< 0.02	< 0.03	< 0.01	0.05	< 0.01	< 0.01	0.05	0.13	
6	24JAN80 815	24JAN80 835	0.6C	6M-81	2.0	37.0	16.0	5.0	2.0	.	.	.	.	.	.	.	.	
6	24JAN80 1056	24JAN80 1117	1-4C	6M-82	6.0	21.0	16.0	6.0	< 1.0	< 0.02	< 0.03	< 0.01	0.04	< 0.01	< 0.01	0.04	0.12	
6	25JAN80 755	25JAN80 817	1-4C	6M-83	3.0	34.0	20.0	6.0	2.0	< 0.02	< 0.03	< 0.01	0.05	< 0.01	< 0.01	0.05	0.13	
6	25JAN80 755	25JAN80 817	0.6C	6M-84	6.0	36.0	17.0	6.0	2.0	.	.	.	.	.	.	.	.	
6	25JAN80 1309	25JAN80 1330	1-4C	6M-85	4.0	26.0	16.0	6.0	1.0	< 0.02	< 0.03	< 0.01	0.03	< 0.01	< 0.01	0.03	0.11	
6	25JAN80 1309	25JAN80 1330	0.6C	6M-86	<1.0	22.0	16.0	9.0	< 1.0	.	.	.	.	.	.	.	.	
7	17MAR80 1130	17MAR80 1250	1-4C	67-62	12	98.0	180.0	22.0	26.0	< 0.02	< 0.03	0.01	0.03	< 0.01	< 0.01	0.04	0.11	
7	17MAR80 1130	17MAR80 1250	0.6C	67-63	15	39.0	150.0	.	.	.	.	.	.	.	.	.	.	
7	17MAR80 1330	17MAR80 1445	1-4C	67-64	102	89.0	120.0	19.0	23.0	< 0.02	< 0.03	< 0.01	0.01	< 0.01	< 0.01	0.01	0.09	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					---SOLIDS---					—CONCENTRATIONS OF DDT IN WATER (UG/L)—							
					--->63U---		---<63U---			---DISSOLVED FRACTION---							
RAIN	BEGINNING	ENDING			SUS	VOL	SUS	VOL	0.45U	---DDT---		---DDD---		---DDE---		TOTAL	DDTR
EVENT	DATE-TIME	DATE-TIME	HLOC	LABID	(MG/L)	(%)	---(MG/L)---			O,P	P,P	O,P	P,P	O,P	P,P	MIN	MAX
7	17MAR80 1330	17MAR80 1445	0.6C	67-65	10	21.0	110.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 1445	17MAR80 1540	1-4C	67-66	16	41.0	92.0	18.0	14.0	< 0.02	< 0.03	< 0.01	0.02	< 0.01	< 0.01	0.02	0.10
7	17MAR80 1445	17MAR80 1540	0.6C	67-67	7.0	32.0	98.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 1715	17MAR80 1805	1-4C	67-68	10	15.0	89.0	15.0	29.0	< 0.02	< 0.03	< 0.01	0.01	< 0.01	< 0.01	0.01	C.09
7	17MAR80 1715	17MAR80 1805	0.6C	67-69	13	28.0	72.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 2140	17MAR80 2152	1-4C	67-70	4.0	23.0	73.0	16.0	18.0	< 0.02	< 0.03	< 0.01	0.01	< 0.01	< 0.01	0.01	0.09
7	17MAR80 2140	17MAR80 2152	0.6C	67-71	5.0	12.0	70.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 1235	18MAR80 1315	1-4C	67-72	3.0	27.0	50.0	10.0	14.0	< 0.02	< 0.03	< 0.01	0.01	< 0.01	< 0.01	0.01	0.09
7	18MAR80 1235	18MAR80 1315	0.6C	67-73	3.0	29.0	47.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 1720	18MAR80 1800	1-4C	67-74	3.0	53.0	48.0	11.0	8.0	< 0.02	< 0.03	< 0.01	0.02	< 0.01	< 0.01	0.02	0.10
7	18MAR80 1720	18MAR80 1800	0.6C	67-75	<1.0	.	39.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 918	19MAR80 1012	1-4C	67-76	4.0	26.0	32.0	10.0	2.0	< 0.02	< 0.03	< 0.01	0.01	0.01	< 0.01	0.02	0.09
7	19MAR80 918	19MAR80 1012	0.6C	67-77	<1.0	.	29.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 1715	19MAR80 1745	1-4C	67-78	1.0	51.0	23.0	10.0	1.0	< 0.02	< 0.03	< 0.01	0.02	< 0.01	< 0.01	0.02	0.10
7	19MAR80 1715	19MAR80 1745	0.6C	67-79	2.0	32.0	30.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80 1141	20MAR80 1230	1-4C	67-110	7.0	18.0	220.0	31.0	35.0	.	.	.	.	.	.	.	.
7	20MAR80 1141	20MAR80 1230	0.6C	67-111	5.0	16.0	210.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80 1705	20MAR80 1720	1-4C	67-112	16	73.0	160.0	21.0	42.0	< 0.02	< 0.03	< 0.01	0.02	< 0.01	< 0.01	0.02	0.10
7	20MAR80 1705	20MAR80 1720	0.6C	67-113	19	19.0	160.0	.	.	.	.	.	.	.	.	.	.
7	21MAR80 945	21MAR80 1015	1-4C	67-114	<1.0	.	110.0	15.0	64.0	< 0.02	< 0.03	< 0.01	0.01	< 0.01	< 0.01	0.01	0.09
7	21MAR80 945	21MAR80 1015	0.6C	67-115	1.0	41.0	120.0	.	.	.	.	.	.	.	.	.	.
7	22MAR80 1050	22MAR80 1102	1-4C	67-140	3.0	14.0	41.0	15.0	22.0	.	.	.	.	.	.	.	.
7	22MAR80 1050	22MAR80 1102	0.6C	67-141	2.0	7.0	48.0	.	.	.	.	.	.	.	.	.	.
7	24MAR80 1445	24MAR80 1500	1-4C	67-142	<1.0	.	29.0	15.0	14.0	< 0.02	< 0.03	< 0.01	0.02	< 0.01	< 0.01	0.02	0.10
7	24MAR80 1445	24MAR80 1500	0.6C	67-143	<1.0	.	28.0	.	.	.	.	.	.	.	.	.	.
7	26MAR80 1405	26MAR80 1418	1-4C	67-158	14	7.0	26.0	9.0	10.0	< 0.02	< 0.03	< 0.01	0.03	< 0.01	< 0.01	0.03	0.11
7	26MAR80 1405	26MAR80 1418	0.6C	67-159	18	13.0	29.0	.	.	.	.	.	.	.	.	.	.
7	28MAR80 1324	28MAR80 1339	1-4C	67-144	4.0	7.0	100.0	21.0	36.0	< 0.02	< 0.03	0.01	0.02	< 0.01	< 0.01	0.03	0.10
7	28MAR80 1324	28MAR80 1339	0.6C	67-145	3.0	21.0	83.0	.	.	.	.	.	.	.	.	.	.
7	31MAR80 1458	31MAR80 1515	1-4C	67-174	2.0	26.0	20.0	8.0	3.0	< 0.02	< 0.03	< 0.01	0.02	< 0.01	< 0.01	0.02	0.10
7	31MAR80 1458	31MAR80 1515	0.6C	67-175	2.0	15.0	18.0	.	.	.	.	.	.	.	.	.	.
7	3APR80 1258	3APR80 1330	1-4C	67-172	5.0	34.0	23.0	8.0	12.0	< 0.02	< 0.03	0.02	0.04	< 0.01	0.02	0.08	0.14
7	3APR80 1258	3APR80 1330	0.6C	67-173	11	22.0	30.0	.	.	.	.	.	.	.	.	.	.
INDIAN CREEK . - MARTIN ROAD																	
5	18JAN80 1004	18JAN80 1022	1-4C	6M-19	13	41.0	100.0	40.0	6.0	< 0.03	< 0.03	< 0.02	0.03	< 0.01	< 0.01	0.03	0.13
5	18JAN80 1500	18JAN80 1540	1-4C	6M-05	0.4	71.0	54.0	18.0	2.0	0.03	0.03	0.41	0.84	0.10	0.11	1.52	1.52
5	18JAN80 2010	18JAN80 2060	1-4C	6M-06	0.5	71.0	44.0	17.0	2.0	0.05	0.04	0.85	1.31	0.15	0.20	2.60	2.60
5	18JAN80 2301	18JAN80 2336	1-4C	6M-01	1.0	28.0	57.0	18.0	3.0	0.15	0.07	0.73	1.37	0.17	0.13	2.62	2.62
5	19JAN80 140	19JAN80 205	1-4C	6M-07	0.7	61.0	63.0	20.0	5.0	0.06	0.07	0.36	1.49	0.17	0.24	2.39	2.39
5	19JAN80 1600	19JAN80 1625	1-4C	6M-08	0.5	53.0	54.0	18.0	4.0	0.04	0.05	0.41	0.68	0.15	0.25	1.58	1.58
6	22JAN80 1857	22JAN80 1945	1-4C	6M-20	<1.0	64.0	28.0	8.0	1.0	< 0.02	< 0.03	0.22	0.40	0.04	0.04	0.70	0.75
6	22JAN80 1857	22JAN80 1945	0.6C	6M-21	<1.0	23.0	30.0	8.0	< 1.0	.	.	.	.	.	.	.	.
6	22JAN80 2220	20JAN80 2301	1-4C	6M-22	<1.0	64.0	28.0	9.0	1.0	0.04	0.09	0.57	0.85	0.09	0.13	1.77	1.77
6	22JAN80 2220	20JAN80 2301	0.6C	6M-23	<1.0	57.0	31.0	7.0	2.0	.	.	.	.	.	.	.	.
6	23JAN80 140	23JAN80 230	1-4C	6M-24	<1.0	54.0	29.0	8.0	< 1.0	0.03	0.03	0.50	0.92	0.09	0.12	1.69	1.69
6	23JAN80 140	23JAN80 230	0.6C	6M-25	<1.0	88.0	23.0	9.0	3.0	.	.	.	.	.	.	.	.
6	23JAN80 532	23JAN80 642	1-4C	6M-26	2.0	92.0	36.0	9.0	3.0	< 0.02	< 0.03	0.30	0.50	0.04	0.06	0.90	0.95
6	23JAN80 532	23JAN80 642	0.6C	6M-27	<1.0	75.0	35.0	10.0	2.0	.	.	.	.	.	.	.	.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					SOLIDS					CONCENTRATIONS OF DDT IN WATER (UG/L)								
					>63U		<63U			DISSOLVED FRACTION								
RAIN	BEGINNING	ENDING			SUS	VOL	SUS	VOL	0.45U	DDT		DDD		DDE		TOTAL	DDTR	
EVENT	DATE-TIME	DATE-TIME	HLOC	LABID	(MG/L)	(%)	(MG/L)			O,P	P,P	O,P	P,P	O,P	P,P	MIN	MAX	
6	23JAN80 1115	23JAN80 1200	1-4C	6M-28	<1.0	21.0	44.0	10.0	3.0	0.03	0.04	0.34	0.62	0.06	0.08	1.17	1.17	
6	23JAN80 1115	23JAN80 1200	0.6C	6M-29	<1.0	56.0	41.0	9.0	4.0	.	.	.	.	.	.	.	.	
6	24JAN80 1210	24JAN80 1235	1-4C	6M-30	<1.0	10.0	32.0	8.0	7.0	< 0.02	< 0.03	0.21	0.36	0.03	0.05	0.65	0.70	
6	24JAN80 1210	24JAN80 1235	0.6C	6M-31	<1.0	69.0	33.0	9.0	5.0	.	.	.	.	.	.	.	.	
6	24JAN80 1620	24JAN80 1644	1-4C	6M-32	<1.0	31.0	33.0	6.0	5.0	< 0.02	< 0.03	0.27	0.48	0.05	0.07	0.87	0.92	
6	24JAN80 1620	24JAN80 1644	0.6C	6M-33	<1.0	53.0	32.0	8.0	4.0	.	.	.	.	.	.	.	.	
6	25JAN80 1040	25JAN80 1110	1-4C	6M-34	<1.0	24.0	30.0	7.0	5.0	< 0.02	< 0.03	0.09	0.22	0.02	0.03	0.36	0.41	
6	25JAN80 1040	25JAN80 1110	0.6C	6M-35	<1.0	84.0	24.0	8.0	4.0	.	.	.	.	.	.	.	.	
6	25JAN80 1540	25JAN80 1611	1-4C	6M-36	<1.0	44.0	25.0	8.0	3.0	< 0.02	< 0.03	0.10	0.15	0.02	0.03	0.30	0.35	
6	25JAN80 1540	25JAN80 1611	0.6C	6M-37	<1.0	71.0	26.0	8.0	3.0	.	.	.	.	.	.	.	.	
7	17MAR80 1215	17MAR80 1315	1-4C	67-01	2.0	24.0	79.0	14.0	6.0	0.02	.	0.44	0.89	0.10	0.13	1.58	1.58	NA
7	17MAR80 1215	17MAR80 1315	0.6C	67-02	1.0	53.0	75.0	.	.	.	.	.	.	.	.	.	.	
7	17MAR80 1800	17MAR60 1815	1-4C	67-03	1.0	28.0	100.0	18.0	15.0	0.03	0.07	0.39	0.70	0.08	0.13	1.40	1.40	
7	17MAR80 1800	17MAR80 1815	0.6C	67-04	1.0	53.0	95.0	.	.	.	.	.	.	.	.	.	.	
7	18MAR80 5	18MAR90 40	1-4C	67-05	5.0	23.0	160.0	23.0	22.0	0.03	0.08	0.56	1.17	0.12	0.23	2.19	2.19	
7	19MAR80 5	18MAR80 40	0.6C	67-06	9.0	23.0	170.0	.	.	.	.	.	.	.	.	.	.	
7	16MAR80 723	18MAR80 750	1-4C	67-07	2.0	31.0	120.0	18.0	35.0	0.03	0.05	0.45	0.89	0.10	0.18	1.70	1.70	
7	16MAR80 723	18MAR80 750	0.6C	67-08	3.0	65.0	110.0	.	.	.	.	.	.	.	.	.	.	
7	18MAR80 1240	18MAR80 1320	1-4C	67-09	<1.0	.	83.0	16.0	25.0	0.02	0.03	0.35	0.73	0.08	0.13	1.34	1.34	
7	18MAR80 1240	18MAR90 1320	0.6C	67-10	<1.0	.	87.0	.	.	.	.	.	.	.	.	.	.	
7	18MAR80 1800	18MAR80 1815	1-4C	67-11	<1.0	.	64.0	14.0	28.0	< 0.02	0.03	0.31	0.61	0.08	0.12	1.15	1.17	
7	18MAR80 1900	18MAR80 1815	0.6C	67-12	<1.0	.	71.0	.	.	.	.	.	.	.	.	.	.	
7	19MAR80 15	19MAR60 55	1-4C	67-13	<1.0	.	55.0	12.0	22.0	0.02	.	0.30	0.52	0.07	0.08	0.99	0.99	NA
7	19MAR80 15	19MAR80 55	0.6C	67-14	<1.0	.	52.0	.	.	.	.	.	.	.	.	.	.	
7	19MAR80 640	19MAR80 658	1-4C	67-15	<1.0	.	52.0	14.0	19.0	0.02	0.03	0.27	0.51	0.06	0.10	0.99	0.99	
7	19MAR80 640	19MAR80 658	0.6C	67-16	<1.0	.	51.0	.	.	.	.	.	.	.	.	.	.	
7	19MAR80 1300	19MAR80 1330	1-4C	67-80	<1.0	.	44.0	11.0	16.0	0.02	0.05	0.24	0.48	0.05	0.08	0.92	0.92	
7	19MAR80 1300	19MAR80 1330	0.6C	67-81	<1.0	.	47.0	.	.	.	.	.	.	.	.	.	.	
7	19MAR80 1900	19MAR60 1820	1-4C	67-82	20	.	40.0	10.0	14.0	.	.	.	.	.	.	.	.	
7	19MAR80 1500	19MAR80 1820	0.6C	67-83	83	< 1.0	42.0	.	.	.	.	.	.	.	.	.	.	
7	20MAR80 125	20MAR80 145	1-4C	67-84	18	4.0	40.0	10.0	11.0	.	.	.	.	.	.	.	.	
7	20MAR80 125	20MAR80 145	0.6C	67-85	73	< 1.0	39.0	.	.	.	.	.	.	.	.	.	.	
7	20MAR80 633	20MAR80 641	1-4C	67-86	17	< 1.0	40.0	17.0	6.0	< 0.02	< 0.03	0.19	0.37	0.04	0.06	0.66	0.71	
7	20MAR80 633	20MAR60 641	0.6C	67-87	66	< 1.0	37.0	.	.	.	.	.	.	.	.	.	.	
7	20MAR80 1250	20MAR80 1315	1-4C	67-116	18	2.0	34.0	10.0	9.0	< 0.02	< 0.03	0.19	0.37	0.05	0.07	0.68	0.73	
7	20MAR80 1250	20MAR60 1315	0.6C	67-117	70	< 1.0	29.0	.	.	.	.	.	.	.	.	.	.	
7	20MAR80 1710	20MAR60 1720	1-4C	67-118	1.0	68.0	28.0	10.0	5.0	< 0.02	.	0.16	0.40	0.03	0.05	0.64	0.66	NA
7	20MAR80 1710	20MAR80 1720	0.6C	67-119	2.0	75.0	29.0	.	.	.	.	.	.	.	.	.	.	
7	22MAR80 1101	22MAR80 1154	1-4C	67-120	<1.0	.	58.0	11.0	27.0	< 0.02	< 0.03	0.06	0.11	0.01	0.03	0.21	0.26	
7	22MAR80 1101	22MAR80 1154	0.6C	67-121	<1.0	.	63.0	.	.	.	.	.	.	.	.	.	.	
7	23MAR80 948	23MAR80 1021	1-4C	67-122	2.0	11.0	58.0	13.0	15.0	< 0.02	< 0.03	0.06	0.13	0.02	0.02	0.23	0.28	
7	23MAR80 948	23MAR80 1021	0.6C	67-123	3.0	36.0	60.0	.	.	.	.	.	.	.	.	.	.	
7	24MAR80 1120	24MAR80 1155	1-4C	67-124	<1.0	.	57.0	12.0	37.0	< 0.02	< 0.03	0.06	0.12	0.02	0.02	0.22	0.27	
7	24MAR80 1120	24MAR80 1155	0.6C	67-125	<1.0	.	58.0	.	.	.	.	.	.	.	.	.	.	
7	26MAR80 1045	26MAR80 1122	1-4C	67-146	<1.0	.	38.0	17.0	33.0	< 0.02	0.03	0.12	0.26	0.04	0.05	0.50	0.52	
7	26MAR80 1045	26MAR80 1122	0.6C	67-147	1.0	< 1.0	35.0	.	.	.	.	.	.	.	.	.	.	
7	28MAR80 1000	28MAR80 1034	1-4C	67-148	<1.0	.	25.0	16.0	5.0	< 0.01	< 0.01	0.09	0.14	0.02	0.04	0.29	0.31	
7	28MAR80 1000	28MAR80 1034	0.6C	67-149	<1.0	.	23.0	.	.	.	.	.	.	.	.	.	.	
7	31MAR80 1033	31MAR80 1113	1-4C	67-160	1.0	18.0	33.0	9.0	13.0	< 0.02	< 0.03	0.08	0.16	0.02	0.03	0.29	0.34	
7	31MAR80 1033	31MAR90 1113	0.6C	67-161	3.0	71.0	39.0	.	.	.	.	.	.	.	.	.	.	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
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WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	MLOC	LABID	SOLIDS >63U SUS (MG/L)	SOLIDS >63U VOL (%)	SOLIDS <63U SUS	SOLIDS <63U VOL	SOLIDS 0.45U	CONCENTRATIONS OF DDT IN WATER (UG/L) DISSOLVED FRACTION DDT O,P	DDT P,P	DDD O,P	DDD P,P	DDE O,P	DDE P,P	TOTAL DDTR MIN	TOTAL DDTR MAX
							(MG/L)	(MG/L)	(MG/L)								
7	3APR80 1007	3APR80 1047	1-4C	67-162	6.0	16.0	26.0	8.0	< 1.0	< 0.02	< 0.03	0.11	0.19	0.02	0.04	0.36	0.41
7	3APR80 1007	3APR80 1047	0.6C	67-163	1.0	71.0	21.0	.	.	.	.	.	.	.	.	.	.
INDIAN CREEK 4.5 - CENTERLINE ROAD																	
5	16JAN80 1423	18JAN80 1520	1-4C	6M-09	3.0	65.0	110.0	24.0	5.0	0.06	0.09	0.94	1.54	0.15	0.23	3.01	3.01
5	18JAN80 2045	18JAN80 2146	1-4C	6M-02	3.7	77.0	84.0	22.0	6.0	0.14	0.08	1.27	2.41	0.17	0.24	4.31	4.31
5	18JAN80 2245	18JAN80 2338	1-4C	6M-10	2.1	85.0	100.0	24.0	4.0	0.07	0.10	1.29	1.97	0.20	0.36	3.99	3.99
5	19JAN80 1322	19JAN80 235	1-4C	6M-11	4.2	35.0	95.0	23.0	9.0	0.04	0.06	0.87	1.42	0.13	0.21	2.73	2.73
5	19JAN80 1555	19JAN80 1642	1-4C	6M-12	0.8	9.4	44.0	16.0	2.0	0.06	0.07	1.12	1.71	0.17	0.29	3.42	3.42
6	22JAN80 1910	22JAN80 2015	1-4C	6M-38	<1.0	65.0	25.0	8.0	3.0	0.02	< 0.03	0.48	0.74	0.07	0.11	1.42	1.45
6	22JAN80 1910	22JAN80 2015	0.6C	6M-39	4.0	24.0	29.0	8.0	1.0	.	.	.	.	.	.	.	.
6	22JAN80 2350	23JAN80 30	1-4C	6M-40	<1.0	69.0	35.0	7.0	2.0	< 0.02	< 0.03	0.15	0.28	0.02	0.03	0.48	0.53
6	22JAN80 2350	23JAN80 30	0.6C	6M-41	9.0	10.0	42.0	9.0	3.0	.	.	.	.	.	.	.	.
6	23JAN80 400	23JAN80 430	1-4C	6M-42	<1.0	37.0	44.0	10.0	4.0	0.03	0.05	0.51	0.77	0.08	0.13	1.57	1.57
6	23JAN80 400	23JAN80 430	0.6C	6M-43	<1.0	78.0	49.0	8.0	5.0	.	.	.	.	.	.	.	.
6	23JAN80 710	23JAN80 730	1-4C	6M-44	<1.0	44.0	48.0	10.0	4.0	0.03	0.04	0.34	0.63	0.07	0.10	1.21	1.21
6	23JAN80 710	23JAN80 730	0.6C	6M-45	<1.0	92.0	48.0	9.0	4.0	.	.	.	.	.	.	.	.
6	23JAN80 1050	23JAN80 1110	1-4C	6M-46	<1.0	44.0	63.0	8.0	5.0	0.03	0.04	0.49	0.76	0.08	0.16	1.56	1.56
6	23JAN80 1050	23JAN80 1110	0.6C	6M-47	<1.0	67.0	51.0	8.0	6.0	.	.	.	.	.	.	.	.
6	24JAN80 1110	24JAN80 1138	1-4C	6M-48	<1.0	86.0	26.0	6.0	4.0	0.02	0.08	0.37	0.58	0.06	0.10	1.16	1.16
6	24JAN80 1110	24JAN80 1138	0.6C	6M-49	<1.0	54.0	32.0	8.0	4.0	.	.	.	.	.	.	.	.
6	24JAN80 1446	24JAN80 1501	1-4C	6M-50	<1.0	46.0	31.0	8.0	2.0	< 0.02	< 0.03	0.06	0.13	0.02	0.02	0.23	0.28
6	24JAN80 1446	24JAN80 1501	0.6C	6M-51	20	9.1	80.0	9.0	4.0	.	.	.	.	.	.	.	.
6	25JAN80 1034	25JAN80 1048	1-4C	6M-52	<1.0	36.0	51.0	6.0	2.0	0.02	0.03	0.35	0.56	0.06	0.10	1.12	1.12
6	25JAN80 1034	25JAN80 1048	0.6C	6M-53	<1.0	51.0	82.0	6.0	3.0	.	.	.	.	.	.	.	.
6	25JAN80 1541	25JAN80 1602	1-4C	6M-54	<1.0	82.0	18.0	5.0	< 1.0	< 0.02	0.03	0.25	0.46	0.05	0.07	0.86	0.88
6	25JAN80 1541	25JAN80 1602	0.6C	6M-55	<1.0	18.0	47.0	7.0	3.0	.	.	.	.	.	.	.	.
7	17MAR80 1400	17MAR80 1504	1-4C	67-20	7.0	20.0	110.0	18.0	11.0	0.03	.	0.53	1.08	0.10	0.18	1.92	1.92
7	17MAR80 1400	17MAR80 1504	0.6C	67-21	8.0	18.0	110.0	.	.	.	.	.	.	.	.	.	.
7	17MAR80 1730	17MAR80 1753	1-4C	67-22	10	22.0	130.0	20.0	17.0	0.06	2.38	0.87	2.40	0.21	0.49	6.41	6.41
7	17MAR80 1730	17MAR80 1753	0.6C	67-23	11	20.0	120.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 155	18MAR80 318	1-4C	67-24	5.0	17.0	100.0	17.0	33.0	0.03	0.07	0.41	0.92	0.09	0.17	1.69	1.69
7	18MAR80 155	18MAR80 318	0.6C	67-25	3.0	24.0	100.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 715	18MAR80 734	1-4C	67-26	10	19.0	120.0	11.0	26.0	0.12	0.44	0.47	1.09	0.11	0.22	2.45	2.45
7	18MAR80 715	18MAR80 734	0.6C	67-27	3.0	30.0	87.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80 1108	18MAR80 1132	1-4C	67-28	<1.0	.	68.0	15.0	22.0	< 0.02	0.04	0.29	0.48	0.06	0.12	0.99	1.01
7	19MAR80 1108	18MAR80 1132	0.6C	67-29	<1.0	.	56.0	.	.	.	.	.	.	.	.	.	.
7	16MAR80 1723	18MAR80 1740	1-4C	67-30	<1.0	.	53.0	14.0	24.0	< 0.02	0.34	0.23	0.39	0.05	0.08	1.09	1.11
7	18MAR80 1723	18MAR80 1740	0.6C	67-31	<1.0	.	50.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 55	19MAR80 121	1-4C	67-32	<1.0	.	49.0	12.0	15.0	0.29	0.52	0.21	0.39	0.06	0.11	1.58	1.58
7	19MAR80 55	19MAR80 121	0.6C	67-33	<1.0	.	46.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 645	19MAR80 722	1-4C	67-88	22	< 1.0	40.0	18.0	15.0	0.03	0.05	0.17	0.33	0.04	0.05	0.67	0.67
7	19MAR80 645	19MAR80 722	0.6C	67-89	84	< 1.0	39.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 1305	19MAR80 1335	1-4C	67-90	21	1.0	41.0	16.0	11.0	< 0.02	0.03	0.22	0.42	0.05	0.11	0.83	0.85
7	19MAR80 1305	19MAR80 1335	0.6C	67-91	88	8.0	40.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80 1833	19MAR80 1900	1-4C	67-92	21	1.0	37.0	17.0	10.0	.	.	.	.	.	.	.	.
7	19MAR80 1833	19MAR80 1900	0.6C	67-93	86	< 1.0	38.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80 140	20MAR80 209	1-4C	67-94	19	3.0	30.0	15.0	.	.	.	.	.	.	.	.	.
7	20MAR80 140	20MAR80 209	0.6C	67-95	120	3.0	32.0	.	.	.	.	.	.	.	.	.	.

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TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					SOLIDS					CONCENTRATIONS OF DDT IN WATER (UG/L)								
					>63U		<63U			DISSOLVED FRACTION								
RAIN	BEGINNING	ENDING			SUS	VOL	SUS	VOL	0.45U	DDT		DDD		DDE		TOTAL DDTR		
EVENT	DATE-TIME	DATE-TIME	HLOC	LABID	(MG/L)	(%)	(MG/L)			O,P	P,P	O,P	P,P	O,P	P,P	MIN	MAX	
7	20MAR80 630	20MAR80 659	1-4C	67-96	23	1.0	31.0	16.0	10.0	0.02	0.03	0.14	0.24	0.03	0.04	0.50	0.50	
7	20MAR80 630	20MAR80 659	0.6C	67-97	120	.	27.0	.	.	.	.	.	.	.	.	.	.	
7	20MAR80 1400	20MAR80 1433	1-4C	67-98	5.0	8.0	24.0	16.0	< 1.0	< 0.02	< 0.03	0.14	0.27	0.03	0.05	0.49	0.54	
7	20MAR80 1400	20MAR80 1433	0.6C	67-99	86	1.0	24.0	.	.	.	.	.	.	.	.	.	.	
7	20MAR80 1840	20MAR80 1859	1-4C	67-100	<1.0	.	22.0	15.0	2.0	< 0.02	.	0.12	0.22	0.03	0.03	0.40	0.42	NA
7	20MAR80 1840	20MAR80 1859	0.6C	67-101	1.0	87.0	29.0	.	.	.	.	.	.	.	.	.	.	
7	23MAR80 953	23MAR80 1014	1-4C	67-128	3.0	3.0	78.0	15.0	55.0	.	.	.	.	.	.	.	.	
7	23MAR80 953	23MAR80 1014	0.6C	67-129	<1.0	.	85.0	.	.	.	.	.	.	.	.	.	.	
7	24MAR80 1110	24MAR80 1143	1-4C	67-130	1.0	9.0	63.0	11.0	.	< 0.02	< 0.03	0.04	< 0.01	0.02	0.02	0.08	0.14	
7	24MAR80 1110	24MAR80 1143	0.6C	67-131	5.0	40.0	58.0	.	.	.	.	.	.	.	.	.	.	
7	26MAR80 1100	26MAR80 1130	1-4C	67-150	1.0	12.0	26.0	14.0	15.0	< 0.02	< 0.03	0.06	0.13	0.02	0.02	0.23	0.28	
7	26MAR80 1100	26MAR80 1130	0.6C	67-151	<1.0	.	24.0	.	.	.	.	.	.	.	.	.	.	
7	26MAR80 1030	28MAR80 1112	1-4C	67-152	2.0	3.0	23.0	7.0	10.0	< 0.02	< 0.03	0.07	0.14	0.02	0.03	0.26	0.31	
7	28MAR80 1030	28MAR80 1112	0.6C	67-153	1.0	29.0	19.0	.	.	.	.	.	.	.	.	.	.	
7	31MAR80 1230	31MAR80 1305	1-4C	67-164	<1.0	.	23.0	8.0	8.0	< 0.02	0.03	0.10	0.19	0.03	0.03	0.38	0.40	
7	31MAR80 1230	31MAR80 1309	0.6C	67-165	1.0	60.0	28.0	.	.	.	.	.	.	.	.	.	.	
7	3APR80 1000	3APR80 1025	1-4C	67-166	1.0	25.0	21.0	8.0	2.0	< 0.02	< 0.03	0.14	0.25	0.03	0.05	0.47	0.52	
7	3APR80 1000	3APR80 1025	0.6C	67-167	<1.0	.	17.0	.	.	.	.	.	.	.	.	.	.	

FOOTNOTES:

A. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

B. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

C. SUSPENDED SOLIDS, <63U - NONFILTERABLE RESIDUE WHICH PASSED THROUGH A 63UM SIEVE BUT WAS RETAINED ON A GLASS FIBER FILTER PAD.

D. VOLITILE SOLIDS, <63U - VOLATILE SUSPENDED SOLIDS RETAINED ON A GLASS FIBER FILTER PAD.

E. 0.45U, <63U - NONFILTERABLE RESIDUE WHICH PASSED THROUGH A GLASS FIBER FILTER PAD BUT WAS RETAINED ON A 0.45UM MEMBRANE FILTER.

F. HLOC - HORIZONTAL LOCATION:
1-4C - REFERS TO A COMPOSITE SAMPLE OF DEPTHS 1 THRU 4 AND HORIZONTAL LOCATIONS LEFT, MIDDLE, AND RIGHT;
C.6D - REFERS TO A COMPOSITE SAMPLE OF HORIZONTAL LOCATIONS LEFT, MIDDLF AND RIGHT AT 0.6 OF THE DEPTH.

G. NA DENOTES P,P DDT NOT ANALYZED. TOTAL DDTR VALUES ARE CALCULATED ASSUMING P,P DDT=0

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					SOLIDS					CONCENTRATIONS OF DDT IN WATER (UG/L)							
					>63U		<63U			TOTAL FRACTION							
RAIN	BEGINNING	ENDING			SUS	VOL	SUS	VOL	0.45U	DDT		DDD		DDE		TOTAL DDTR	
EVENT	DATE-TIME	DATE-TIME	HLOC	LABID	(MG/L)	(%)	(MG/L)			O,P	P,P	O,P	P,P	O,P	P,P	MIN	MAX
H-VILLE SPRING BRANCH 2.4 - DODD ROAD																	
5	18JAN80 2100	18JAN80 2143	1-4C	6M-03	9.1	87.0	80.0	22.0	4.0	0.36	4.10	1.96	3.80	0.43	0.98	11.65	11.65
H-VILLE SPRING BRANCH 5.6 - PATTON ROAD																	
5	18JAN80 2215	18JAN80 2240	1-4C	6M-04	6.6	3.5	42.0	19.0	< 1.0	< 0.06	< 0.06	0.10	0.18	0.03	0.02	0.45	0.45
INDIAN CREEK . - TRIANA																	
5	18JAN80 1500	18JAN80 1540	1-4C	6M-05	0.4	71.0	54.0	18.0	2.0	0.05	0.10	0.90	1.43	0.19	0.37	3.04	3.04
5	18JAN80 2010	18JAN80 2060	1-4C	6M-06	0.5	71.0	44.0	17.0	2.0	0.06	0.12	0.97	1.68	0.19	0.34	3.36	3.36
5	18JAN80 2301	18JAN80 2336	1-4C	6M-01	1.0	28.0	57.0	18.0	3.0	0.20	0.26	1.30	2.11	0.27	0.54	4.68	4.68
5	19JAN80 140	19JAN80 205	1-4C	6M-07	0.7	61.0	63.0	20.0	5.0	0.07	0.09	0.93	1.85	0.28	0.36	3.58	3.58
5	19JAN80 1600	19JAN80 1625	1-4C	6M-08	0.5	53.0	54.0	18.0	4.0	0.04	0.09	0.53	1.03	0.22	0.24	2.15	2.15
INDIAN CREEK 4.6 - CENTERLINE ROAD																	
5	18JAN80 1428	18JAN80 1520	1-4C	6M-09	3.0	65.0	110.0	24.0	5.0	0.20	1.72	1.70	2.65	0.35	0.84	7.46	7.46
5	18JAN80 2045	18JAN80 2148	1-4C	6M-02	3.7	77.0	84.0	22.0	8.0	0.20	2.99	2.26	4.28	0.45	1.01	11.19	11.19
5	18JAN80 2245	18JAN80 2336	1-4C	6M-10	2.1	85.0	100.0	24.0	4.0	0.13	2.59	1.52	3.16	0.30	0.74	8.44	8.44

FOOTNOTES:

A. THE ABOVE DATA WERE ANALYZED TO COMPARE WITH TOTAL VALUES CALCULATED BY ADDITION OF THE DISSOLVED AND SUSPENDED DDTR VALUES.
B. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
C. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.
D. SUSPENDED SOLIDS, <63U - NONFILTERABLE RESIDUE WHICH PASSED THROUGH A 63UM SIEVE BUT WAS RETAINED ON A GLASS FIBER FILTER PAD.
E. VOLITILE SOLIDS, <63U - VOLATILE SUSPENDED SOLIDS RETAINED ON A GLASS FIBER FILTER PAD.
F. 0.45U, <63U - NONFILTERABLE RESIDUE WHICH PASSED THROUGH A GLASS FIBER FILTER PAD BUT WAS RETAINED ON A 0.45UM MEMBRANE FILTER.
G. HLOC - HORIZONTAL LOCATION:
    1-4C - REFERS TO A COMPOSITE AMPLE OF DEPTHS 1 THRU 4 AND HORIZONTAL LOCATIONS LEFT, MIDDLE, AND RIGHT;
    0.6D - REFERS TO A COMPOSITE SAMPLE OF HORIZONTAL LOCATIONS LEFT, MIDDLE AND RIGHT AT 0.6 OF THE DEPTH.

ENGINEERING AND ENVIRONMENTAL STUDY
OF DDT CONTAMINATION OF HUNTSVILLE
SPRING BRANCH, INDIAN CREEK, AND
ADJACENT LANDS AND WATERS,
WHEELER RESERVOIR, ALABAMA

TASK 7

ASSESSMENT OF DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS (SPATIAL EXTENT OF CONTAMINATION)

Tennessee Valley Authority
Office of Natural Resources

August 1980

PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

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WORKTASK DESCRIPTION

TASK 7

ASSESSMENT OF DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS
(SPATIAL EXTENT OF CONTAMINATION)

1.0 Purpose

The purpose of this task is to define DDTR* concentrations in select mammalian, avian, and reptilian species common to mainstream reservoirs of the Tennessee River. In addition, this task documents DDTR levels in these vertebrate specimens at various geographical distances from a major contamination focal point (Huntsville Spring Branch).

2.0 Scope

This task encompasses shorelines and floodplains of Wheeler, Guntersville, and Wilson Reservoirs, including adjunct streams and wetlands.

3.0 Sample Collection and Handling

3.1 Types of Samples

3.1.1 Green herons were the primary avian targets. A minimum of five to an optimum of ten specimens were collected at each location with seven specimens being the preferred sample size. Samples consisted of all age/sex classes of summer (August through September, 1979) populations.

3.1.2 The short-tailed shrew and the muskrat were the primary mammalian targets. A minimum of five to an optimum of ten specimens were collected at each location with seven specimens being the preferred sample size.

---

*DDTR = DDT isomers and metabolites

Short-tailed shrew - Samples consisted of all age/sex classes of summer (August through September, 1979) populations. Shrew populations were scarce within floodplain sample locations; therefore, desired sample sizes were not obtained at all sites.

Muskrat - Samples consisted of all age/sex classes of summer (August through September, 1979) populations.

3.1.3 The snapping turtle and water snakes (Natrix sp.) were primary target specimens. A minimum of five to an optimum of ten specimens were collected at each location with seven specimens being the preferred sample size.

Snapping turtle - Samples consisted of all age/sex classes collected between August and September 1979.

Water snake (Natrix sp.) - Samples consisted of all age/sex classes of summer (August through September, 1979) populations. Because water snakes were not abundant, desired sample sizes were not obtained at all sites.

3.2 Sample Locations (see Appendix A)

Specimens were collected within a 1.5 mile radius as indicated in Appendix A or as proximal as possible. Emphasis was placed on specimens located at or near the reservoir-shoreline interphases within each sample location. Specimens located landward from water-land interphases were not considered desirable, with the exception of shrew populations.

3.2.1 Vertebrate Species (Six sample locations TRM 271-402)

Site I - Approximate TRM 271

Site II - Approximate TRM 299

Site IV - Approximate TRM 311

Site VII - Approximate TRM 324, upstream 4 miles from confluence
of Indian Creek and the Tennessee River (Huntsville
Spring Branch).

Site VIII-Approximate TRM 330

Site IX -Approximate TRM 402

3.3 Field Collection

3.3.1 Five to ten specimens each of the six species were collected (trapped/shot) at designated sites. Heron samples were not obtained beyond September 15 to decrease the probability of sampling migrants. Mammal and reptile specimens were procured before October 1, 1979.

3.4 Sample Handling

3.4.1 Each specimen collected was wrapped in paper and placed on ice in the field and then transferred to a chest freezer in the laboratory. Total length (mm) and weight (g) was recorded and individual specimens labeled and placed in the laboratory freezer. Caution was exercised to prevent contact with any plastic materials.

3.4.2 Each sample consisted of a portion of flesh (approximately 50 g) collected from breast musculature. Derivations in sample weights were necessary due to lack of breast musculature and/or size of individuals. To approach 50 g sample weights for muskrats, breast musculature and muscle tissue from all four legs were utilized. To obtain 70 g samples from snapping turtles, muscle tissues from the breast and ventral portions of the two front legs were removed. The following body parts were not used with shrew samples: head, tail, skin, feet, and internal viscera. Muscle samples from snakes were limited to tissues between the head and posterior anal opening. Internal viscera were not used for DDT, DDE, or DDT residue estimates of any vertebrate specimen. Each of the individual species samples from one collection site were weighed and wrapped separately in aluminum foil and properly labeled. A separate polyethylene ziplock bag was used for all species samples from a given collection site (5-10 samples, 1 bag). The remaining body from each specimen that had portions of flesh removed was weighed, labeled, wrapped in aluminum foil, and retained in a freezer to provide capabilities for determining total DDT residue (head, flesh, viscera).

4.0 Sample Analysis

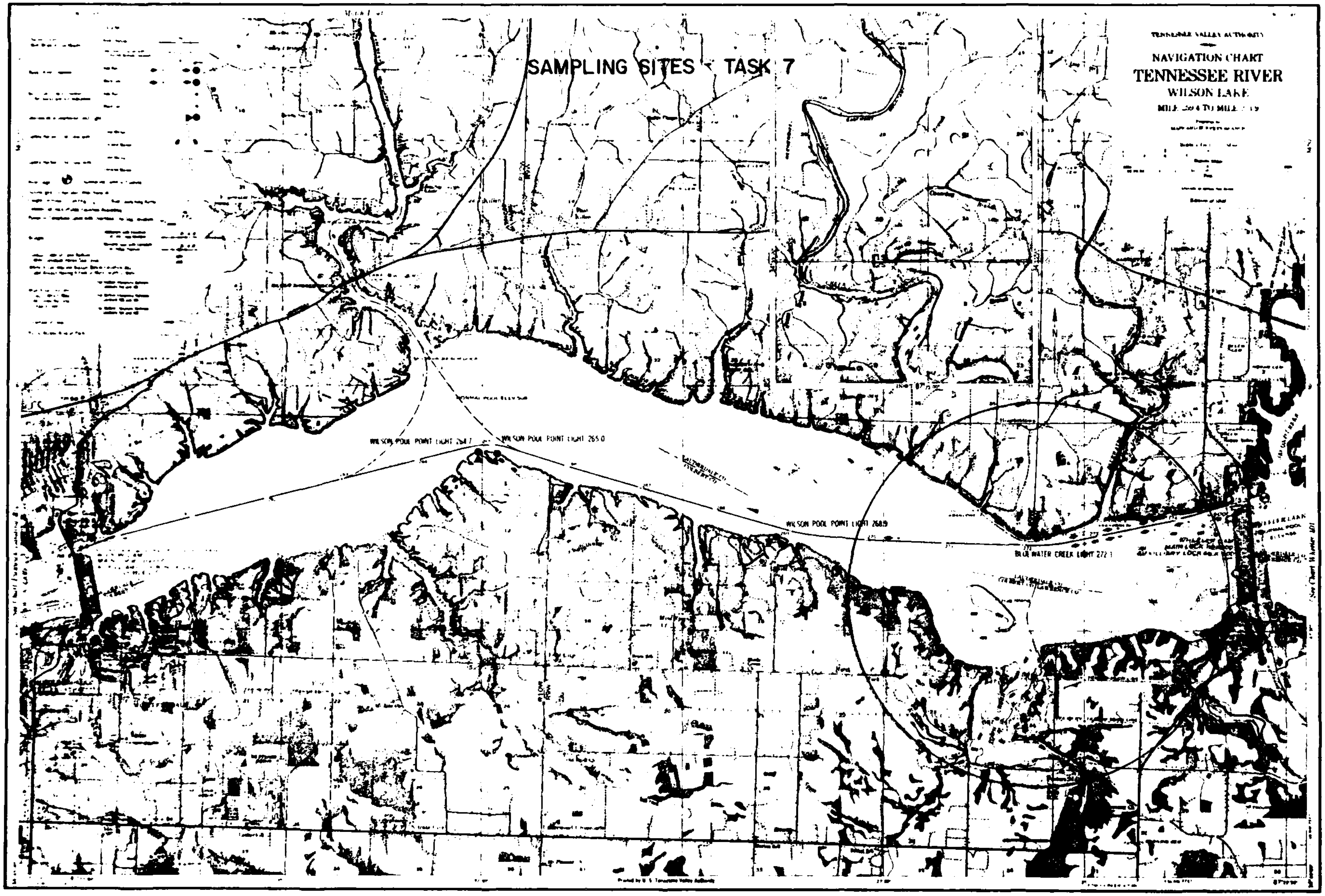
4.1 A 10-gram aliquot was removed from each approximate 50 g sample of each individual animal from each of the designated stations. The remaining muscle portion of individual animals was retained for future analysis except for shrews where most of the entire animal was utilized. Each individual sample was analyzed for DDT residues consisting of two isomers of each metabolite (DDT, DDE, DDD) for a total of six forms of DDT (see Appendix B for a listing of the data).

4.2 As necessary, the whole body, minus feathers and other select parts (feet, etc.), and less the portions from section 3.4.2, were blended and analyzed for DDTR. The retained 40 g fillet from section 3.5.1 was also analyzed for DDTR.

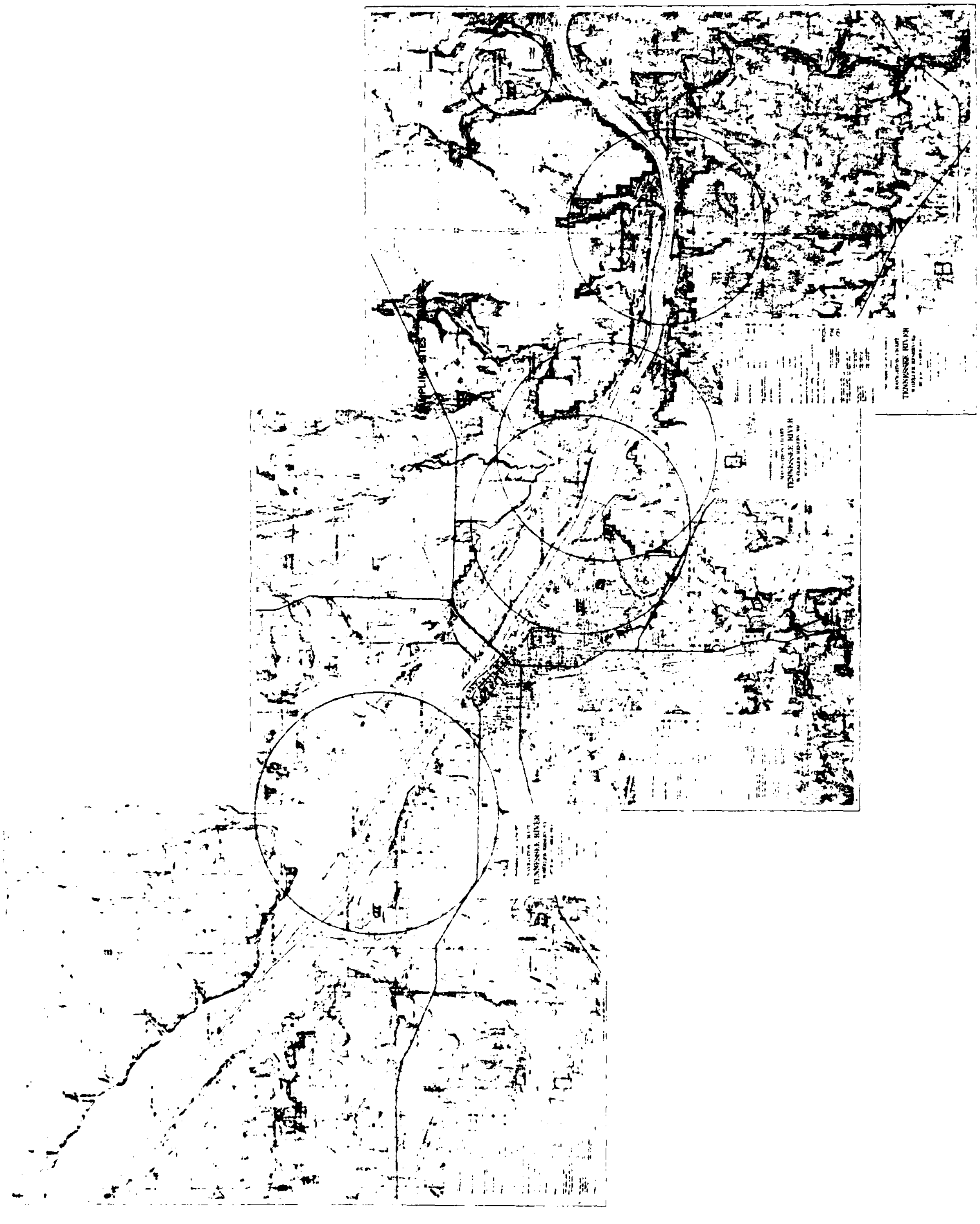
4.3 The DDT analysis was performed by the procedure specified in the Quality Assurance document. Approximately 10 percent of all analyses were replicated. Additionally, approximately 10 percent of all samples analyzed were split and analyzed by a second laboratory.

APPENDIX A

SAMPLE LOCATION MAPS



SAMPLING SITES - TASK 7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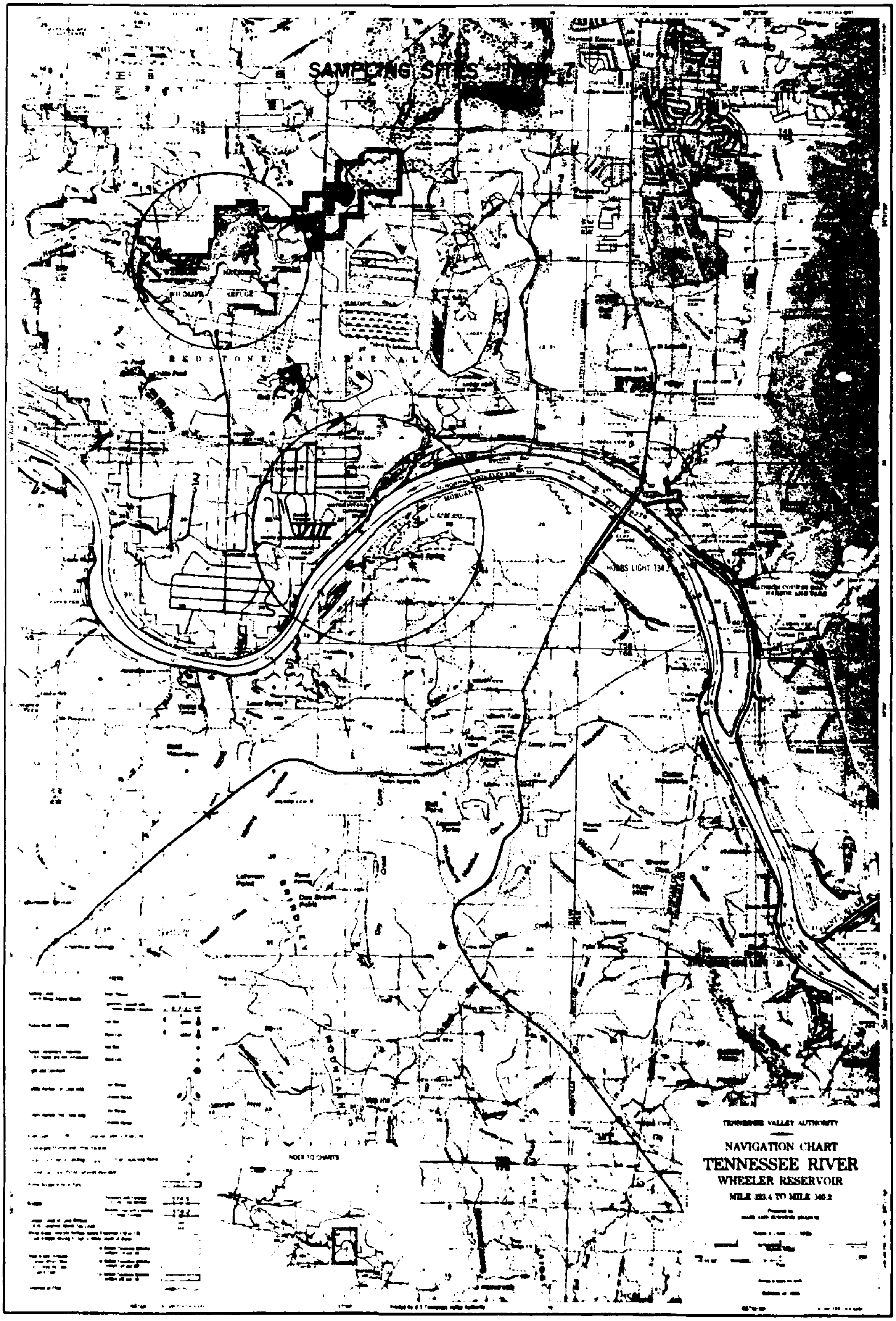
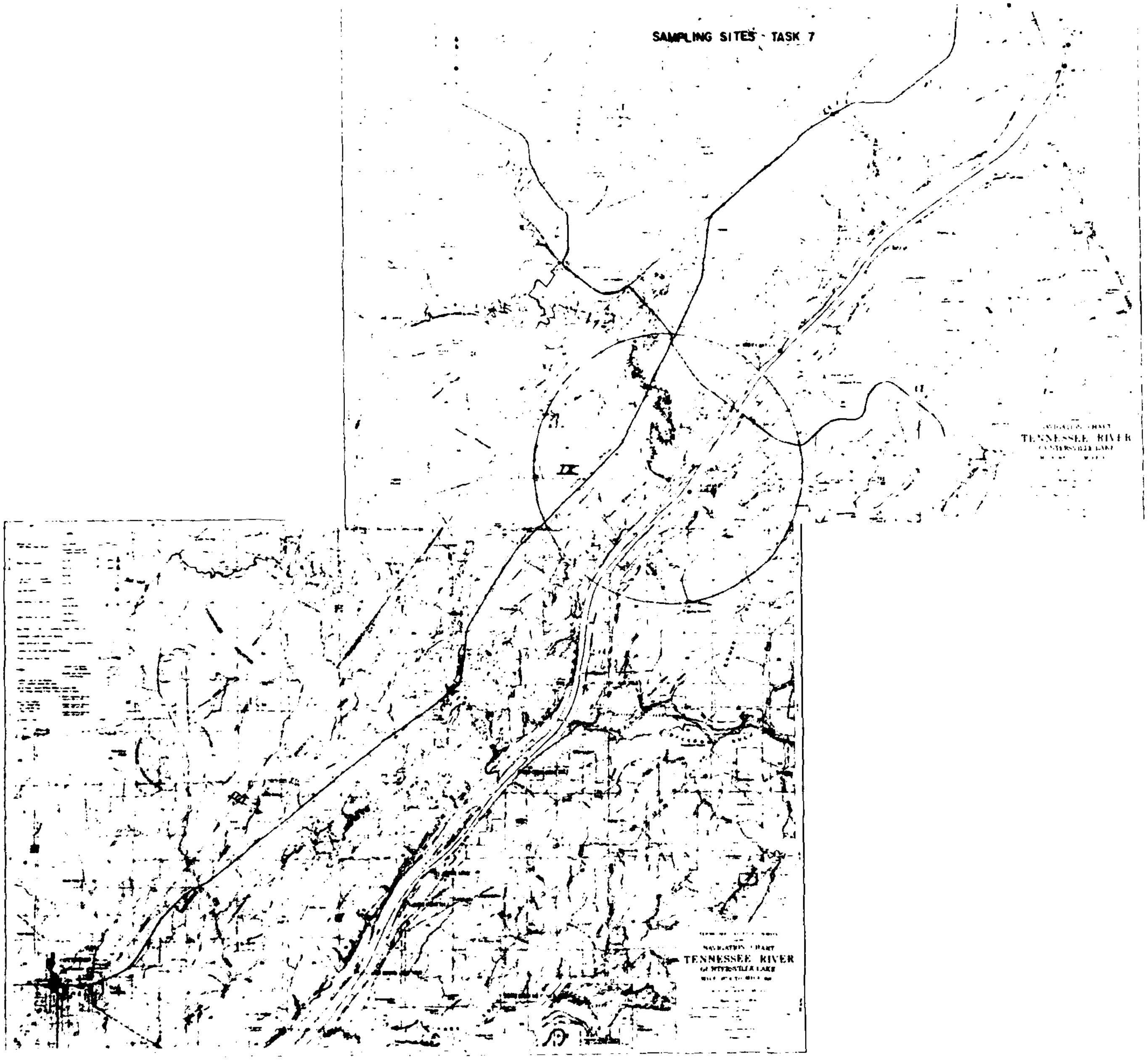
TENNESSEE RIVER
TENNESSEE RIVER
TENNESSEE RIVER


SAMPLING SITES - TIER 7
WILDLIFE REFUGE
REDSTONE ARSENAL
MORGAN
HOBBS LIGHT 334.5
BRINDLEY
INDEX TO CHARTS
TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR
MILE 333.4 TO MILE 340.2



SAMPLING SITES - TASK 7

APPENDIX B

RAW DATA TABULATIONS

ENGINEERING AND ENVIRONMENTAL S[illegible]Y OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 7 - DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS

SITE	DATE	LABID	ORGANISM	AGE	LENGTH (MM)	WEIGHT (G)	% LIPIDS	SAMPLE WEIGHT (G)	CONCENTRATIONS OF DDT MEASURED IN VERTEBRATES						---TOTAL DDTR---	
									DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
1	1AUG79	7-011	GR. HERON	A	456.0	220.0	0.27	27.2	0.120	0.120	<0.020	<0.020	0.022	0.270	0.532	0.572
1	2AUG79	7-013	GR. HERON	I	453.0	240.0	0.17	26.5	<0.020	<0.020	<0.020	<0.020	<0.010	0.020	0.020	0.110
1	3AUG79	7-009	GR. HERON	A	450.0	210.0	0.32	28.7	0.058	0.048	<0.020	0.019	<0.010	0.320	0.445	0.475
1	3AUG79	7-015	GR. HERON	I	435.0	210.0	0.90	14.7	0.320	0.150	<0.030	0.310	0.080	3.170	4.030	4.060*
1	3AUG79	7-033	SNAKE		615.0	50.0	0.12	14.2	<0.030	<0.030	<0.030	<0.020	<0.020	0.140	0.140	0.270
1	3AUG79	7-034	SNAKE		630.0	95.0	0.16	21.1	<0.030	<0.030	<0.030	<0.020	0.035	0.300	0.335	0.445
1	3AUG79	7-035	SNAKE		575.0	60.0	0.10	17.3	<0.030	<0.030	0.062	<0.020	<0.020	0.065	0.127	0.227
1	3AUG79	7-036	SNAKE		850.0	395.0	0.11	49.2	<0.030	<0.030	<0.030	<0.020	<0.020	0.090	0.090	0.220*
1	3AUG79	7-037	SNAKE		705.0	130.0	0.14	37.0	<0.020	<0.020	<0.020	<0.020	<0.010	0.042	0.042	0.132
1	3AUG79	7-038	SNAKE		635.0	70.0	0.06	18.2	0.320	<0.030	<0.030	<0.020	<0.020	0.110	0.430	0.530
1	3AUG79	7-039	SNAKE		470.0	35.0	0.19	11.1	<0.030	<0.030	<0.030	0.240	<0.020	<0.020	0.240	0.370
1	6AUG79	7-157	SHREW		94.0	10.0	1.04	2.6	<0.100	0.680	<0.070	0.450	0.260	5.480	6.870	7.040
1	9AUG79	7-010	GR. HERON	I	465.0	260.0	0.48	33.4	<0.030	<0.030	<0.030	<0.020	<0.020	0.049	0.049	0.179
1	9AUG79	7-012	GR. HERON	I	461.0	240.0	0.21	26.9	<0.020	<0.020	<0.020	<0.020	<0.010	0.072	0.072	0.162
1	9AUG79	7-014	GR. HERON	I	415.0	180.0	0.31	20.3	<0.020	<0.020	<0.020	0.029	<0.010	0.200	0.229	0.299
1	9AUG79	7-107	MUSKRAT	A	600.0	1260.0	0.16	50.1	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	9AUG79	7-113	MUSKRAT	A	610.0	1510.0	0.16	71.4	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	9AUG79	7-112	MUSKRAT	I	575.0	620.0	0.11	40.6	<0.030	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.110*
1	12AUG79	7-108	MUSKRAT	I	497.0	830.0	0.21	51.0	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	14AUG79	7-155	SHREW		72.0	3.9	2.96	1.4	<0.600	0.570	<0.400	<0.300	<0.400	16.4	16.970	18.670
1	17AUG79	7-156	SHREW		90.0	9.4	1.11	3.6	<0.070	0.097	<0.050	<0.040	0.051	0.900	1.048	1.208
1	17AUG79	7-031	SNAKE		565.0	50.0	0.17	9.8	<0.030	<0.030	<0.030	<0.020	<0.020	0.240	0.240	0.370
1	17AUG79	7-032	SNAKE		670.0	130.0	0.08	30.5	0.074	0.068	0.047	0.078	0.026	0.094	0.387	0.387
1	19AUG79	7-076	SN. TURTL		530.0	2041.0	0.08	50.4	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	19AUG79	7-077	SN. TURTL		470.0	1984.0	0.05	56.8	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	19AUG79	7-078	SN. TURTL		600.0	4989.0	0.04	77.0	<0.020	<0.020	<0.020	<0.020	<0.010	0.013	0.013	0.103
1	19AUG79	7-079	SN. TURTL		540.0	2834.0	0.10	74.0	<0.020	<0.020	<0.020	<0.020	<0.010	0.048	0.048	0.138
1	19AUG79	7-080	SN. TURTL		612.0	4876.0	0.02	82.6	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	20AUG79	7-158	SHREW		91.0	7.2	2.14	2.2	<0.100	1.160	<0.090	0.680	0.280	12.6	14.720	14.910
1	29AUG79	7-109	MUSKRAT	A	598.0	1470.0	0.32	79.4	0.100	<0.020	<0.020	<0.020	<0.010	<0.010	0.100	0.180
1	29AUG79	7-111	MUSKRAT	A	570.0	1380.0	0.29	52.0	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	29AUG79	7-110	MUSKRAT	I	538.0	820.0	0.52	57.5	<0.020	<0.020	<0.020	<0.020	0.015	0.021	0.036	0.116
1	30AUG79	7-154	SHREW		72.0	3.4	5.77	1.0	1.040	<0.500	<0.400	<0.300	<0.300	<0.300	1.040	2.840
1	9OCT79	7-153	SHREW		97.0	10.8	0.79	3.1	<0.200	0.650	<0.100	0.120	<0.100	2.620	3.390	3.790
2	9AUG79	7-047	SN. TURTL		662.0	6577.0	0.06	75.6	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	9AUG79	7-048	SN. TURTL		668.0	4082.0	0.15	79.6	<0.020	0.048	<0.020	<0.020	<0.010	<0.010	0.048	0.128
2	9AUG79	7-051	SN. TURTL		820.0	10659.0	0.06	79.0	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	9AUG79	7-052	SN. TURTL		540.0	3175.0	<0.05	76.4	<0.020	<0.020	<0.020	<0.020	<0.010	0.025	0.025	0.115
2	9AUG79	7-053	SN. TURTL		782.0	8845.0	<0.05	79.4	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	11AUG79	7-054	SN. TURTL		790.0	8958.0	0.14	80.8	<0.020	<0.020	<0.020	<0.020	<0.010	0.028	0.028	0.118
2	14AUG79	7-163	SHREW		95.0	8.9	2.46	3.0	<0.200	1.370	<0.100	<0.100	<0.100	1.160	2.530	3.030
2	15AUG79	7-001	GR. HERON		54.0	220.0	.	30.0	0.012	0.009	<0.001	0.008	0.010	0.200	0.239	0.240
2	15AUG79	7-002	GR. HERON		50.5	260.0	.	36.5	0.022	0.017	<0.002	0.005	0.007	0.063	0.114	0.116*
2	15AUG79	7-003	GR. HERON		51.0	260.0	.	37.0	0.017	0.011	<0.001	0.005	0.005	0.054	0.092	0.093
2	15AUG79	7-004	GR. HERON		50.0	230.0	.	26.0	0.035	0.023	<0.001	0.004	0.010	0.250	0.322	0.323
2	15AUG79	7-005	GR. HERON		55.0	250.0	.	28.0	0.004	0.006	<0.001	0.003	0.004	0.190	0.207	0.208
2	15AUG79	7-006	GR. HERON		51.0	220.0	.	25.5	0.005	0.005	<0.001	0.004	0.002	0.044	0.060	0.061
2	15AUG79	7-007	GR. HERON		50.5	220.0	.	24.3	0.031	0.025	<0.001	0.026	0.021	0.270	0.373	0.374
2	15AUG79	7-008	GR. HERON		52.0	210.0	.	26.6	0.012	0.012	<0.001	0.012	0.009	0.130	0.175	0.176
2	15AUG79	7-199	SHREW		96.0	10.0	1.51	4.4	0.480	1.210	<0.040	0.130	0.110	2.700	4.630	4.670

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 7 - DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS

SITE	DATE	LABID	ORGANISM	AGE	LENGTH (MM)	WEIGHT (G)	% LIPIDS	SAMPLE WEIGHT (G)	CONCENTRATIONS OF DDT MEASURED IN VERTEBRATES DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	---TOTAL DDTR--- MINIMUM (UG/G)	MAXIMUM (UG/G)
2	15AUG79	7-161	SHREW		93.0	10.0	4.59	3.6	0.830	1.990	<0.050	0.180	0.180	5.820	9.000	9.050
2	15AUG79	7-168	SHREW		90.0	6.8	2.74	2.5	1.230	1.890	<0.080	0.150	0.310	12.4	15.980	16.060
2	15AUG79	7-093	SNAKE		673.0	90.0	0.15	26.1	0.019	<0.020	<0.020	<0.020	<0.010	0.058	0.077	0.147
2	15AUG79	7-094	SNAKE		880.0	110.0	0.17	29.4	0.013	<0.020	<0.020	<0.020	<0.010	0.034	0.047	0.117
2	16AUG79	7-160	SHREW		92.0	6.4	0.63	2.4	0.280	0.330	<0.080	<0.060	0.290	2.940	3.840	3.980
2	16AUG79	7-162	SHREW		95.0	9.6	0.72	3.8	<0.100	<0.100	<0.100	<0.080	<0.090	0.130	0.130	0.600
2	17AUG79	7-165	SHREW		87.0	7.6	1.59	2.6	0.340	0.660	<0.100	<0.100	0.230	2.620	3.850	4.050
2	17AUG79	7-055	SN. TURTL		755.0	7654.0	0.05	77.0	<0.020	<0.020	<0.020	<0.020	<0.010	0.022	0.022	0.112
2	18AUG79	7-166	SHREW		90.0	11.0	0.16	3.6	0.110	<0.070	<0.050	<0.040	<0.050	0.300	0.410	0.620
2	18AUG79	7-167	SHREW		82.0	7.8	1.10	2.6	0.530	0.600	<0.070	<0.060	<0.010	4.350	5.480	5.620
2	20AUG79	7-131	MUSKRAT	A	551.0	1030.0	0.18	49.4	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	20AUG79	7-132	MUSKRAT	A	590.0	1290.0	0.36	54.8	0.030	<0.030	<0.030	<0.020	<0.020	0.010	0.040	0.140*
2	20AUG79	7-130	MUSKRAT	I	499.0	800.0	0.50	41.8	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	20AUG79	7-134	MUSKRAT	I	535.0	690.0	0.12	51.4	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	20AUG79	7-092	SNAKE		834.0	210.0	0.07	38.6	<0.020	<0.020	<0.020	<0.020	<0.010	0.270	0.270	0.360
2	20AUG79	7-095	SNAKE		752.0	160.0	0.05	41.3	<0.020	<0.020	<0.020	<0.020	<0.010	0.180	0.180	0.270
2	22AUG79	7-164	SHREW		85.0	7.4	0.19	2.6	<0.100	<0.100	<0.070	<0.060	<0.060	0.120	0.120	0.510
2	23AUG79	7-049	SN. TURTL		693.0	5896.0	<0.05	78.0	<0.020	<0.020	<0.020	<0.020	<0.010	0.017	0.017	0.107
2	23AUG79	7-050	SN. TURTL		568.0	3175.0	<0.05	75.6	<0.030	<0.030	<0.030	0.030	<0.020	0.050	0.080	0.190*
2	27AUG79	7-133	MUSKRAT	A	558.0	1140.0	<0.05	50.2	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	27AUG79	7-135	MUSKRAT	I	489.0	830.0	0.18	37.2	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	27AUG79	7-090	SNAKE		1074.0	340.0	0.04	51.2	0.063	0.053	<0.020	<0.020	0.013	1.000	1.129	1.169
2	6SEP79	7-129	MUSKRAT	A	550.0	998.0	0.28	54.0	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	6SEP79	7-091	SNAKE		405.0	25.0	0.07	6.0	<0.040	<0.040	<0.030	<0.020	<0.030	0.031	0.031	0.191
2	6SEP79	7-096	SNAKE		480.0	25.0	0.12	8.0	<0.050	<0.050	<0.040	<0.030	<0.030	0.130	0.130	0.330
2	6SEP79	7-097	SNAKE		470.0	30.0	0.13	9.4	<0.040	<0.030	<0.030	<0.020	<0.020	0.085	0.085	0.225
2	6SEP79	7-098	SNAKE		690.0	120.0	0.09	35.2	<0.020	<0.020	0.053	<0.020	<0.010	0.130	0.183	0.253
2	6SEP79	7-099	SNAKE		980.0	745.0	0.12	72.8	<0.020	<0.020	<0.020	<0.020	<0.010	0.110	0.110	0.200
4	6AUG79	7-019	GR. HERON	A	442.0	245.0	0.15	25.2	<0.020	0.047	<0.020	0.150	0.027	0.960	1.184	1.224
4	6AUG79	7-020	GR. HERON	A	450.0	195.0	0.61	19.3	<0.020	<0.020	<0.020	0.049	<0.010	0.330	0.379	0.449
4	7AUG79	7-018	GR. HERON	I	430.0	180.0	1.23	19.2	0.084	<0.030	<0.030	0.073	0.044	0.500	0.701	0.761
4	7AUG79	7-120	MUSKRAT	A	604.0	1420.0	1.06	67.0	<0.020	<0.020	<0.020	<0.020	<0.010	0.016	0.016	0.106
4	7AUG79	7-040	SN. TURTL		560.0	3855.0	0.06	76.8	<0.020	<0.020	<0.020	0.093	0.022	0.400	0.515	0.575
4	9AUG79	7-016	GR. HERON	A	470.0	225.0	0.57	28.4	<0.020	<0.020	<0.020	0.021	0.044	0.510	0.575	0.635
4	9AUG79	7-017	GR. HERON	I	464.0	265.0	2.97	28.1	<0.020	<0.020	<0.020	0.033	0.027	0.470	0.530	0.590
4	9AUG79	7-122	MUSKRAT	A	612.0	1580.0	0.71	50.6	0.023	<0.020	<0.020	<0.020	<0.010	0.051	0.074	0.144
4	13AUG79	7-123	MUSKRAT	A	560.0	1320.0	0.66	103.4	0.035	<0.020	<0.020	<0.020	<0.010	0.030	0.065	0.135
4	13AUG79	7-125	MUSKRAT	A	620.0	1640.0	0.31	58.4	<0.020	<0.020	<0.020	<0.020	<0.010	0.024	0.024	0.114
4	13AUG79	7-127	MUSKRAT	A	547.0	1140.0	0.14	52.1	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
4	13AUG79	7-121	MUSKRAT	I	462.0	555.0	0.44	32.1	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
4	13AUG79	7-124	MUSKRAT	I	550.0	900.0	0.73	45.6	0.072	0.024	<0.020	<0.020	<0.010	0.150	0.246	0.296
4	13AUG79	7-126	MUSKRAT	I	440.0	545.0	0.28	32.0	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
4	13AUG79	7-128	MUSKRAT	I	475.0	765.0	0.21	50.2	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
4	20AUG79	7-183	SHREW		95.0	12.0	1.54	3.0	<0.090	<0.080	<0.060	<0.050	<0.050	0.980	0.980	1.310
4	24AUG79	7-041	SN. TURTL		900.0	10149.0	0.14	74.4	<0.020	0.097	<0.020	<0.020	<0.010	<0.010	0.097	0.177
4	24AUG79	7-042	SN. TURTL		520.0	1984.0	<0.05	57.0	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
4	24AUG79	7-043	SN. TURTL		510.0	1927.0	0.05	56.4	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
4	24AUG79	7-044	SN. TURTL		962.0	9411.0	0.06	76.0	0.140	0.160	<0.020	<0.020	<0.010	<0.010	0.300	0.360
4	24AUG79	7-045	SN. TURTL		500.0	2494.0	<0.05	66.2	<0.020	<0.020	<0.020	<0.020	0.030	<0.010	0.030	0.120
4	24AUG79	7-046	SN. TURTL		613.0	5443.0	<0.05	73.8	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100

ENGINEERING AND ENVIRONMENTA[illegible]TUDY OF DDT CONTAMINATION
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TASK 7 - DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS

								SAMPLE	CONCENTRATIONS OF DDT MEASURED IN VERTEBRATES						---TOTAL DDTR---	
SITE	DATE	LABID	ORGANISM	AGE	LENGTH (MM)	WEIGHT (G)	% LIPIDS	WEIGHT (G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
4	29AUG79	7-181	SHREW		97.0	11.4	1.40	4.4	0.080	0.430	<0.040	0.094	0.120	2.230	2.954	2.994
7	.UNK79	7-022	GR. HERON	I	458.0	265.0	0.22	27.0	<0.020	0.068	0.170	1.100	0.170	1.120	2.628	2.648
7	.UNK79	7-029	GR. HERON	I	455.0	215.0	0.67	24.0	<0.020	<0.020	<0.020	0.075	<0.010	0.052	0.127	0.197
7	.UNK79	7-058	SN. TURTL		800.0	7937.0	0.06	76.6	<0.020	<0.020	<0.020	0.035	<0.010	0.240	0.275	0.345
7	.UNK79	7-100	SNAKE		1030.0	340.0	0.09	44.2	<0.020	0.054	0.051	0.350	0.058	1.490	2.003	2.023
7	.UNK79	7-102	SNAKE		870.0	340.0	0.17	52.0	0.040	0.050	0.080	0.590	0.050	3.230	4.040	4.040*
7	.UNK79	7-103	SNAKE		350.0	15.0	0.14	2.9	<0.100	<0.100	<0.100	0.460	0.093	2.480	3.033	3.333
7	.UNK79	7-104	SNAKE		643.0	100.0	0.18	25.7	<0.020	0.020	<0.020	0.073	0.021	0.480	0.594	0.634
7	.UNK79	7-105	SNAKE		630.0	90.0	0.18	23.6	<0.020	<0.020	<0.020	<0.020	<0.010	0.039	0.039	0.129
7	3JUL79	7-030	GR. HERON	I	444.0	210.0	1.02	20.7	0.250	<0.020	2.510	10.9	1.710	7.350	22.720	22.740
7	1AUG79	7-028	GR. HERON	A	.	.	0.12	21.0	<0.020	0.052	0.060	0.280	0.044	0.480	0.916	0.936
7	1AUG79	7-024	GR. HERON	I	438.0	280.0	0.53	29.1	<0.030	0.050	0.240	1.950	0.320	2.020	4.580	4.610*
7	1AUG79	7-025	GR. HERON	I	450.0	210.0	0.92	21.6	<0.020	0.060	0.080	0.860	0.140	1.250	2.390	2.410
7	1AUG79	7-026	GR. HERON	I	438.0	180.0	0.56	21.1	<0.020	<0.020	0.037	0.220	0.052	0.810	1.119	1.159
7	1AUG79	7-027	GR. HERON	I	452.0	235.0	0.19	23.0	<0.020	0.150	0.049	0.370	0.086	0.350	1.005	1.025
7	2AUG79	7-183	SHREW		95.0	11.4	0.64	4.2	<0.200	10.8	<0.100	3.230	<0.100	44.2	58.230	58.630
7	3AUG79	7-021	GR. HERON	A	457.0	245.0	0.26	21.5	<0.020	0.160	<0.020	2.010	0.400	3.590	6.160	6.200
7	3AUG79	7-059	SN. TURTL		962.0	10886.0	0.07	77.2	<0.020	<0.020	<0.020	<0.020	<0.010	0.430	0.430	0.520
7	3AUG79	7-061	SN. TURTL		630.0	5102.0	<0.05	75.7	<0.020	<0.020	<0.020	0.040	<0.010	0.520	0.560	0.630
7	7AUG79	7-056	SN. TURTL		913.0	9411.0	<0.05	73.0	<0.020	<0.020	<0.020	0.039	<0.010	0.130	0.169	0.239
7	7AUG79	7-060	SN. TURTL		750.0	7597.0	<0.05	79.0	<0.020	<0.020	0.033	0.093	<0.010	0.780	0.906	0.956
7	8AUG79	7-023	GR. HERON	I	438.0	250.0	0.22	22.4	<0.020	<0.020	0.250	0.490	0.120	0.540	1.400	1.440
7	8AUG79	7-057	SN. TURTL		735.0	8164.0	0.12	76.8	<0.020	<0.020	<0.020	<0.020	<0.010	0.130	0.130	0.220
7	22AUG79	7-106	SNAKE		1075.0	745.0	0.11	63.8	<0.020	<0.020	<0.020	0.130	<0.010	0.300	0.430	0.500
7	25AUG79	7-146	MUSKRAT	A	578.0	1240.0	0.10	85.6	<0.020	0.460	0.047	0.140	0.011	0.060	0.718	0.738
7	25AUG79	7-148	MUSKRAT	A	530.0	930.0	0.22	72.0	<0.020	0.061	<0.020	0.036	<0.010	0.074	0.171	0.221
7	25AUG79	7-142	MUSKRAT	I	460.0	650.0	0.13	27.6	<0.020	0.025	<0.020	<0.020	<0.010	0.015	0.040	0.110
7	25AUG79	7-143	MUSKRAT	I	350.0	280.0	0.13	10.4	<0.040	0.250	<0.030	0.110	<0.020	0.054	0.414	0.504
7	25AUG79	7-144	MUSKRAT	I	505.0	780.0	0.25	31.7	<0.020	0.110	<0.020	0.059	<0.010	0.059	0.228	0.278
7	25AUG79	7-145	MUSKRAT	I	542.0	900.0	0.14	40.2	<0.020	0.046	<0.020	0.030	<0.010	0.054	0.130	0.180
7	25AUG79	7-147	MUSKRAT	I	506.0	830.0	0.17	57.6	<0.020	0.036	<0.020	0.027	<0.010	0.023	0.086	0.136
7	25AUG79	7-149	MUSKRAT	I	380.0	300.0	0.09	8.0	<0.050	<0.040	<0.040	<0.020	<0.030	<0.020	0.000	0.200
7	27AUG79	7-184	SHREW		96.0	14.6	1.22	5.0	0.540	25.5	<0.100	3.000	<0.090	55.8	84.840	85.030
7	25SEP79	7-101	SNAKE		1260.0	940.0	0.17	65.2	<0.020	0.084	0.130	0.520	0.055	1.710	2.499	2.519
7	11OCT79	7-182	SHREW		104.0	14.4	0.89	4.6	<0.200	2.330	<0.100	0.390	<0.100	8.700	11.420	11.820
8	.UNK79	7-038	GR. HERON	I	408.0	210.0	0.85	18.9	<0.030	0.070	0.380	1.420	0.430	2.750	5.050	5.080*
8	.UNK79	7-169	SHREW		92.0	13.2	2.70	4.6	0.310	0.280	<0.040	<0.030	0.120	0.770	1.480	1.550
8	.UNK79	7-072	SN. TURTL		480.0	1927.0	0.12	55.2	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
8	.UNK79	7-073	SN. TURTL		832.0	7654.0	0.08	81.0	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
8	.UNK79	7-074	SN. TURTL		603.0	3231.0	<0.05	79.2	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
8	8AUG79	7-176	SHREW		100.0	9.4	0.04	3.1	<0.090	<0.080	<0.060	<0.050	<0.050	<0.050	0.000	0.380
8	9AUG79	7-037	GR. HERON	I	482.0	305.0	0.29	26.6	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
8	15AUG79	7-036	GR. HERON	A	448.0	245.0	0.44	24.7	<0.020	<0.020	<0.020	<0.020	<0.010	0.022	0.022	0.112
8	15AUG79	7-114	MUSKRAT	A	500.0	1180.0	0.75	51.8	0.080	<0.030	<0.020	<0.020	<0.020	<0.010	0.080	0.180*
8	15AUG79	7-115	MUSKRAT	I	435.0	502.0	0.20	25.2	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
8	15AUG79	7-116	MUSKRAT	I	450.0	550.0	0.14	31.4	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
8	15AUG79	7-117	MUSKRAT	I	444.0	420.0	0.14	23.2	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
8	15AUG79	7-118	MUSKRAT	I	398.0	316.0	0.41	16.5	0.032	<0.030	<0.020	<0.020	<0.020	<0.010	0.032	0.132
8	15AUG79	7-119	MUSKRAT	I	488.0	665.0	0.28	30.6	0.047	<0.020	<0.020	<0.020	<0.010	<0.010	0.047	0.127
8	15AUG79	7-081	SNAKE		790.0	80.0	0.06	20.6	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 7 - DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS

SITE	DATE	LABID	ORGANISM	AGE	LENGTH (MM)	WEIGHT (G)	% LIPIDS	SAMPLE WEIGHT (G)	CONCENTRATIONS OF DDT MEASURED IN VERTEBRATES DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	---TOTAL DDTR--- MINIMUM (UG/G)	MAXIMUM (UG/G)
6	17AUG79	7-035	GR. HERON	A	442.0	205.0	0.69	20.9	0.200	0.450	<0.020	<0.020	0.099	0.200	0.949	0.989
8	17AUG79	7-034	GR. HERON	1	422.0	170.0	0.56	14.5	<0.020	<0.020	<0.030	<0.020	<0.020	0.099	0.099	0.209
6	17AUG79	7-173	SHREW		77.0	3.0	1.55	1.2	<0.200	<0.200	<0.200	<0.100	<0.100	0.380	0.380	1.180
8	17AUG79	7-175	SHREW		75.0	3.0	0.24	1.0	<0.300	<0.300	<0.200	<0.200	<0.200	<0.200	0.000	1.400
8	19AUG79	7-178	SHREW		85.0	4.3	0.32	1.1	<0.200	<0.200	<0.200	<0.100	<0.200	<0.100	0.000	1.000
8	21AUG79	7-033	GR. HERON	A	412.0	255.0	0.17	28.4	<0.030	<0.030	<0.030	<0.020	<0.020	0.170	0.170	0.300
8	22AUG79	7-031	GR. HERON	I	422.0	215.0	0.54	.	0.240	0.240	1.210	5.120	0.900	4.470	12.180	12.180
8	22AUG79	7-082	SNAKE		785.0	260.0	0.40	52.8	<0.020	<0.020	<0.020	<0.020	<0.010	0.010	0.010	0.100
8	23AUG79	7-032	GR. HERON	1	452.0	270.0	0.42	26.2	<0.020	<0.020	0.091	0.370	0.074	0.470	1.005	1.045
6	23AUG79	7-177	SHREW		101.0	11.4	0.07	4.1	<0.060	<0.060	<0.050	<0.040	<0.040	<0.040	0.000	0.290
8	24AUG79	7-170	SHREW		93.0	11.4	0.13	4.0	0.120	<0.060	<0.050	<0.040	<0.040	0.062	0.182	0.372
8	27AUG79	7-179	SHREW		76.0	3.2	1.95	1.4	<0.400	<0.400	<0.300	<0.200	<0.200	0.450	0.450	1.950
8	28AUG79	7-075	SN. TURTL		705.0	6803.0	0.09	75.0	<0.020	<0.020	<0.020	<0.020	<0.010	0.031	0.031	0.121
6	2SEP79	7-171	SHREW		75.0	2.8	3.92	1.0	0.020	0.020	<0.020	<0.020	<0.010	0.220	0.260	0.310
8	2SEP79	7-070	SN. TURTL		895.0	11566.0	<0.05	76.0	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
8	2SEP79	7-071	SN. TURTL		680.0	5216.0	<0.05	74.2	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
8	5SEP79	7-172	SHREW		80.0	4.0	0.64	1.4	<0.200	<0.200	<0.100	<0.100	<0.100	0.240	0.240	0.960
8	12SEP79	7-174	SHREW		75.0	4.2	1.98	1.6	<0.500	<0.500	<0.400	<0.300	<0.300	<0.300	0.000	2.300
9	.UNK79	7-041	GR. HERON	A	454.0	260.0	0.32	27.8	<0.020	<0.020	<0.020	<0.020	<0.010	0.058	0.058	0.148
9	.UNK79	7-045	GR. HERON	I	444.0	210.0	0.73	19.1	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-136	MUSKRAT	A	520.0	925.0	0.19	52.4	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-137	MUSKRAT	A	580.0	1420.0	0.26	101.2	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-138	MUSKRAT	A	518.0	855.0	0.11	56.9	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-139	MUSKRAT	A	570.0	1260.0	0.41	52.2	0.037	<0.020	<0.020	<0.020	<0.100	<0.100	0.037	0.297
9	.UNK79	7-140	MUSKRAT	A	520.0	1020.0	0.14	50.4	<0.020	<0.020	<0.020	<0.020	<0.100	<0.100	0.000	0.280
9	.UNK79	7-141	MUSKRAT	A	604.0	950.0	0.07	68.2	<0.020	<0.020	<0.020	<0.020	<0.100	<0.100	0.000	0.280
9	.UNK79	7-150	SHREW		100.0	14.0	1.97	4.2	0.170	0.130	<0.040	<0.040	0.220	0.630	1.150	1.230
9	.UNK79	7-151	SHREW		82.0	8.2	1.82	2.2	<0.300	<0.200	<0.200	<0.100	<0.200	<0.100	0.000	1.100
9	.UNK79	7-152	SHREW		106.0	13.2	0.81	5.4	<0.100	0.100	<0.070	<0.060	<0.060	0.210	0.310	0.600
9	.UNK79	7-063	SN. TURTL		842.0	9185.0	0.10	72.2	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.150*
9	.UNK79	7-065	SN. TURTL		640.0	5102.0	0.09	81.6	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-066	SN. TURTL		822.0	7654.0	0.14	75.0	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-067	SN. TURTL		655.0	4989.0	0.16	71.6	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-068	SN. TURTL		805.0	7937.0	<0.05	78.2	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-069	SN. TURTL		852.0	8901.0	0.07	74.6	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-083	SNAKE		994.0	400.0	0.18	56.8	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-084	SNAKE		1060.0	420.0	0.07	53.4	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-085	SNAKE		550.0	80.0	0.10	17.9	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-086	SNAKE		1050.0	250.0	0.11	63.5	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-087	SNAKE		850.0	110.0	0.11	28.2	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-088	SNAKE		525.0	50.0	0.16	13.6	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	.UNK79	7-089	SNAKE		567.0	70.0	0.12	18.2	<0.040	<0.030	<0.040	<0.020	<0.030	<0.020	0.000	0.180*
9	23AUG79	7-042	GR. HERON	A	450.0	225.0	0.65	28.0	<0.020	<0.020	<0.020	<0.020	<0.010	0.100	0.100	0.190
9	23AUG79	7-044	GR. HERON	A	475.0	280.0	0.88	29.5	<0.030	<0.030	<0.030	<0.020	<0.020	0.080	0.080	0.210
9	23AUG79	7-062	SN. TURTL		815.0	8788.0	0.08	74.8	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	24AUG79	7-039	GR. HERON	A	472.0	225.0	0.04	24.6	<0.020	<0.020	<0.020	<0.020	<0.010	0.034	0.034	0.124
9	24AUG79	7-043	GR. HERON	I	410.0	220.0	0.97	22.7	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	24AUG79	7-064	SN. TURTL		592.0	4309.0	<0.05	73.0	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	25AUG79	7-040	GR. HERON	A	420.0	225.0	0.11	24.4	<0.020	<0.020	<0.020	<0.020	<0.010	0.052	0.052	0.142
9	25AUG79	7-046	GR. HERON	A	460.0	230.0	0.48	24.8	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 7 - DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS

SITE	DATE	LABID	ORGANISM	AGE	LENGTH (MM)	WEIGHT (G)	% LIPIDS	SAMPLE WEIGHT (G)	CONCENTRATIONS OF DDT MEASURED IN VERTEBRATES						---TOTAL DDTR---	
									DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)

FOOTNOTES:
A. SITE: 1=APPROX. TENN. RIVER MILE 271, HOG ISLAND
2=APPROX. TENN. RIVER MILE 299, ROUND ISLAND
3=APPROX. TENN. RIVER MILE 309
4=APPROX. TENN. RIVER MILE 311, LIMESTONE
5=APPROX. TENN. RIVER MILE 317
6=APPROX. TENN. RIVER MILE 321
7=APPROX. TENN. RIVER MILE 321, SPRING BRANCH
8=APPROX. TENN. RIVER MILE 330, ROCK SPRING
9=APPROX. TENN. RIVER MILE 402, CROW CREEK
B. AGE: I=INTERMEDIATE
A=ADULT
C. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
D. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.
E. SAMPLES LABLED ".UNK79" WERE COLLECTED IN AUGUST OR SEPTEMBER, 1979 BUT EXACT DATE UNKNOWN.
F. --ALL SAMPLES ANALYZED BY STEWART LABORATORIES, INC.

* -- INDICATES SAMPLE IS A MERGED VALUE (VALUE REPORTED IS THE AVERAGE OF TWO ANALYSES).

NOTE: These data showed poor interlaboratory agreement and are believed to be biased low (see Quality Assurance Section of this report).

APPENDIX VI

WORKTASK DESCRIPTIONS AND RESULTS FOR 3 WAR WORKTASKS AND QUALITY ASSURANCE DOCUMENT

APPENDIX VI: WORKTASK DESCRIPTIONS AND RESULTS FOR 3 WAR WORKTASKS AND QUALITY ASSURANCE DOCUMENT

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APPENDIX VI: WORKTASK DESCRIPTIONS AND RESULTS FOR 3 WAR WORKTASKS AND QUALITY ASSURANCE DOCUMENT

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TASK 1
ENVIRONMENTAL ASSESSMENT OF UNNAMED CREEK SYSTEM A PRINCIPAL CANDIDATE FOR RECEIVING DIVERSION FLOW

1.0 PURPOSE

To carry out an environmental inventory of Unnamed Creek entering Wheeler Reservoir at approximately TRM 332. This creek is a principal candidate for receiving the diversion flows from Huntsville Spring Branch. This creek system would have to be altered by increasing channel depth and width to handle stormwater runoff.

2.0 SCOPE

Unnamed Creek (UNC) was sampled in reaches near UNCM 0.5, UNCM 1.5, and UNCM 2.8 for benthic macroinvertebrates. Stream habitat was described for the entire reach to be disturbed by dredging. Adjacent upland vegetation was listed at the macroinvertebrate sampling stations.

3.0 PROCEDURES

3.1 TYPES OF SAMPLES

The stream communities sampled were limited to macroinvertebrates. No samples for fish or aquatic vascular plants were taken. The creek has been channelized in the past and presently represents poor stream habitat.

3.2 STATION LOCATION

Stations for organisms inhabiting the stream environment were UNCM 0.5, UNCM 1.5, and UNCM 2.8. The entire length of the potentially affected reach was examined to document stream habitat.

3.3 FIELD COLLECTION

3.3.1 Organism Collection

Benthic macroinvertebrates were collected in a transect across the stream channel at right bank, left bank, and midchannel. Three replicates each were taken by Petite Ponar grab samplers and composited at right bank, left bank, and midchannel. The number of samples at a transect were a three-replicate composite each for the right bank, left bank, and midchannel sections. Separations were done in the field using a U.S. Standard #30 mesh bucket sieve. Formalin was used to preserve the samples prior to final processing in the laboratory. Rose bengal dye was used as an organism stain to facilitate processing.

3.3.2 Habitat Description

1) Stream habitat was documented by surveying the stream reach to be altered by dredging, and terrestrial and aquatic vegetation was noted.

Substrate conditions were also noted.

2) Adjacent upland and floodplain habitats were surveyed, and appropriate herbarium specimens collected where necessary.

3.3.3 Data Handling and Reporting

All data were summarized into a tabular form. The data is discussed in Appendix II, Section 2.0.

4.0 SCHEDULE

The survey was completed in autumn during leaf drop. Field collections in the stream were conducted during non-flooding conditions.

Table VI-1 . Benthic Macroinvertebrates Collected in Unnamed Creek October 22-26, 1979.

Taxonomic Classification	Organisms per square meter at mile 0.5	1.5	2.8
Annelida-Hirudinea			
Hirudinea	--	38	19
Annelida-Oligochaeta			
Aulophorus furcatus	--	19	--
Dero obtusa	--	38	48
Nais behningi	96	--	--
Nais variabilis	5	--	--
Tubificidae			
Branchiura sowerbyi	172	1954	1207
Ilyodrilus templetoni	--	1130	120
Limnodrilis hoffmeisteri	4521	6265	4943
Peloscolex multisetosus	--	--	57
Tubificidae	555	--	--
Miscellaneous Oligochaeta			
Lumbriculidae	--	10	--
Mollusca			
Gastropoda			
Corbicula manilensis	383	278	--
Physa sp.	--	19	--
Unidentified gastropoda	24	--	--
Bivalvia			
Sphaerium sp.	--	666	694
Arthropoda-Crustacea			
Asellus sp.	--	--	19

Table VI-1 . Benthic Macroinvertebrates Collected in Unnamed Creek October 22-26, 1979. (Continued, Page 2)

	Organisms per square meter at mile		
Taxonomic Classification	0.5	1.5	2.8
Arthropoda-Insecta			
Chironomidae			
Chironomus sp.	6686	6207	115
Cladotanytarsus sp.	19	--	--
Cladopelma sp.	--	19	--
Clinotanypus sp.	--	--	211
Cricotopus sp.	77	19	--
Cryptochironomus fulvus	57	--	--
Cryptochironomus near blarina	48	19	--
Dicrotendipes neomodestus	43	57	86
Goeldichironomus holoprasinus	--	19	--
Micropsectra sp.	77	134	115
Polypedilum near illinoense	158	287	10
Procladius sp.	--	19	--
Pseudochironomus sp.	19	--	--
Tanypus carinatus	--	--	134
Tanypus neopunctipennis	--	--	67
Tanytarsus sp.	--	--	201
Thienemanniella sp.	57	--	--
Ephemeroptera			
Caenis sp.	--	--	57
Miscellaneous Insecta			
Ceratopogonidae (no larval key)	5	--	115
Chaoborus sp.	--	--	19
Corixidae	--	--	5
Epicordulia sp.	--	14	--
Perithemis sp.	--	--	5
Miscellaneous Invertebrates			
Dubiraphia sp.	62	19	--
Nematoda	--	38	326
TOTAL NUMBER OF ORGANISMS	13,064	17,271	8,573
NUMBER OF TAXA	19	21	21
SHANNON-WEAVER SPECIES DIVERSITY (BASE 2)	1.89	2.28	2.36

TASK 2
VEGETATIVE MAPPING OF AREAS POTENTIALLY AFFECTED BY DREDGING OR DIVERSION ALTERNATIVES

1.0 PURPOSE

To prepare vegetative maps to delineate existing habitats potentially affected by the application of dredging or diversion alternatives.

2.0 SCOPE

Selected areas along Huntsville Spring Branch and Indian Creek were surveyed and existing plant communities were delineated. For this portion of the task the area where mapping was conducted has an upper boundary at Martin Road and extends along Huntsville Spring Branch and Indian Creek including their floodplains and the proposed diversion routes to Wheeler Reservoir. It is in this general area that the various dredging and diversion plans are being considered. Existing plant communities were inventoried so as to provide additional environmental input to potential alterations that will occur should implementation take place in this area.

The out-of-basin diversion plans direct flow from Huntsville Spring Branch at approximately HSBM 8 southeast along a corridor to Unnamed Creek, which enters Wheeler Reservoir at TRM 332. Vegetative mapping was also conducted in this area.

3.0 PROCEDURE

A detailed land use and vegetation map of the potentially affected areas was prepared. All major land uses and habitats were delineated. The mapping procedure was carried out in successive stages. Initial assessment was conducted through the use of appropriate aerial photography scaled 1 inch to 1000 feet.

Ground truthing was carried out by conducting transects on the habitats potentially affected. Transects were completed by using the "Wisconsin method" Curtis and McIntosh (1951) to estimate standing crop and to determine the dominant species. This method is computed as follows:

1. Relative density of species A in stand X =

$$\frac{\text{Stand density of species A in stand X}}{\text{Total stand density of all species in stand X}} \times 100$$

2. Relative dominance of species A in stand X =

$$\frac{\text{Basal area of species A in stand X}}{\text{Total basal area of all species in stand X}} \times 100$$

3. Relative frequency of species A in stand X

$$\text{Relative frequency of species A in stand X} = \frac{\text{Frequency of species A in stand X}}{\text{Sum of frequencies for all species in stand X}} \times 100$$

$$\text{Frequency (used above)} = \frac{\text{Total number of plots or points in stand X in which species A occurs}}{\text{Total number of plots or points sampled}} \times 100$$

The maximum value for an importance index is 300 (100 + 100 + 100). Deviations from this value are due to "rounding" of various calculations.

3.1 LOCATION OF AREAS SURVEYED

The survey included floodplain and appropriate corridors potentially designated for dredging and diversion routes. This included part or all of the following:

T5S R1W Sections 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 24, 29, 30.

T5S R2W Sections 1, 2, 11, 12, 13, 14, 22, 23, 24.

The corridor from Huntsville Spring Branch southeast to Unnamed Creek included the following areas:

T4S R1W Sections 34, 35.

T5S R1W Sections 1, 2, 3.

T5S R1W Sections 2, 4, 12, 13.

3.2 FIELD COLLECTION

During the ground survey appropriate collections were made of plants for herbarium specimens. No plant species classified as rare, threatened or endangered were found.

3.3 DATA HANDLING AND REPORTING

All data were summarized in tabular form. A vegetation map for all potentially affected areas was constructed. The data is discussed in Appendix II, Section 2.0.

4.0 SCHEDULE

The survey was carried out during autumn, during leaf drop.

Table VI-2 Importance Values of Tree Species Occurring in Huntsville Spring Branch and Indian Creek Floodplain Forests

Common Name	Scientific Name	Importance Value
	Transect 1 *N = 53	
Red Maple	*Acer rubrum*	135.6
Green Ash	*Fraxinus pennsylvanica*	53.7
American Elm	*Ulmus americana*	35.1
Blue Beech	*Carpinus caroliniana*	31.0
Water Tupelo	*Nyssa aquatica*	25.6
Black Willow	*Salix nigra*	19.2
	Transect 4 N = 285	
Green Ash	*Fraxinus pennsylvanica*	66.5
Blue Beech	*Carpinus caroliniana*	41.6
American Elm	*Ulmus americana*	39.6
Cherrybark Oak	*Quercus falcata* var. *pagodaefolia*	27.6
Sweetgum	*Liquidambar styraciflua*	21.9
Water Oak	*Quercus nigra*	21.8
Hackberry	*Celtis occidentalis*	20.8
Overcup Oak	*Quercus lyrata*	13.4
Willow Oak	*Quercus phellos*	11.8
Black Willow	*Salix nigra*	11.7
Honeylocust	*Gleditsia triacanthos*	8.6
Swamp Chestnut Oak	*Quercus micheauxii*	8.4
Redbud	*Cercis canadensis*	3.6
	Transect 7 N = 111	
Green Ash	*Fraxinus pennsylvanica*	55.4
Hackberry	*Celtis occidentalis*	34.3
Willow Oak	*Quercus phellos*	33.6
Red Maple	*Acer rubrum*	31.7
American Elm	*Ulmus americana*	29.0
Blue Beech	*Carpinus caroliniana*	19.6
Black Willow	*Salix nigra*	18.1
Sweetgum	*Liquidambar styraciflua*	13.8
Water Oak	*Quercus nigra*	12.6
Overcup Oak	*Quercus lyrata*	12.6
Cherrybark Oak	*Quercus falcata* var. *pagodaefolia*	10.1
Sycamore	*Platanus occidentalis*	9.6
Winged Elm	*Ulmus alata*	6.0
American Basswood	*Tilia americana*	5.6
Hawthorn	*Crataegus* sp.	4.2
Pignut Hickory	*Carya glabra*	4.0

*N = Number of individuals counted.

Table VI-3 Importance Values of Tree Species Occurring in a Bottomland Hardwood Swamp Forest Association on the Redstone Arsenal

Common Name	Scientific Name	Importance Value
	Transect 8 N = 87	
Water Tupelo	Nyssa aquatica	170.6
Red Ash	Fraxinus pennsylvanicus	57.9
Red Maple	Acer rubrum	48.7
American Elm	Ulmus americana	22.9

Table VI-4 Importance Values of Tree Species Occurring in the Deciduous Hardwood Forest Association on the Redstone Arsenal

Common Name	Scientific Name	Importance Value
	Transect 9 N = 176	
Blue Beech	*Carpinus caroliniana*	79.7
Cherrybark Oak	*Quercus falcata* var. *pagodaefolia*	53.1
Sweetgum	*Liquidambar styraciflua*	46.3
Red Maple	*Acer rubrum*	39.7
Willow Oak	*Quercus phellos*	22.9
American Elm	*Ulmus americana*	17.0
Blackgum	*Nyssa sylvatica*	10.5
Water Oak	*Quercus nigra*	10.2
Red Mulberry	*Morus rubra*	8.6
Red Oak	*Quercus coccinea*	6.6
Swamp Chestnut Oak	*Quercus micheauxii*	6.4
Flowering Dogwood	*Cornus florida*	5.8
Persimmon	*Diospyros virginiana*	5.6

Table VI- 5 Importance Values of Tree Species Occurring in the Mixed Pine and Deciduous Hardwood Forest Association on the Redstone Arsenal

Common Name	Scientific Name	Importance Value
	Transects 2 and 3 N = 72	
Loblolly Pine	*Pinus taeda*	85.5
American Elm	*Ulmus americana*	54.3
Red Maple	*Acer rubrum*	38.9
Sweetgum	*Liquidambar styraciflua*	27.3
Hackberry	*Celtis occidentalis*	21.1
Cherrybark Oak	*Quercus falcata* var. *pagodaefolia*	16.9
Blue Beech	*Carpinus caroliniana*	16.2
Redbud	*Cercis canadensis*	13.9
Honeylocust	*Gleditsia triacanthos*	9.5
Red Mulberry	*Morus rubra*	8.2
Pignut Hickory	*Carya glabra*	8.1

Table VI- 6 Vegetation at Unnamed Creek Mile 3.3

Aquatic Vegetation

Lemna minor	Duckweed
Myriophyllum brasiliense	Parrotfeather
Myriophyllum spicatum	Eurasian Watermilfoil
Polygonum hydropiperoides	Smartweed
Ludwigia arcuata	Ludwigia
Zizaniopsis miliaceae	Giant Cutgrass

Swale Spoil Bank Vegetation

Setaria geniculata	Foxtail Grass
Poa sp.	Grass
Eragrostis sp.	Lovegrass
Erigeron sp.	Fleabane Daisy
Solidago sp.	Goldenrod
Eupatorium sp.	Thoroughwort
Phytolacca americana	Pokeberry
Rhus toxicodendron	Poison Ivy
Rubus sp.	Blackberry
Smilax bona-nox	Greenbrier
Gelsemium sempervirens	Yellow Jessamine

Surrounding Forest Trees

Liquidambar styraciflua	Sweetgum
Quercus phellos	Willow Oak
Quercus micheauxii	Basket Oak
Quercus lyrata	Overcup Oak
Fraxinus pennsylvanicus	Green Ash
Maclura pomifera	Osage-Orange
Celtis occidentalis	Hackberry

AD-A128 024 ENGINEERING AND ENVIRONMENTAL STUDY OF DDT 8/8
CONTAMINATION OF HUNTSVILLE SP..(U) WATER AND AIR
RESEARCH INC GAINESVILLE FL J H SULLIVAN ET AL. NOV 80
UNCLASSIFIED DACW01-79-C-0224 F/G 13/3 NL

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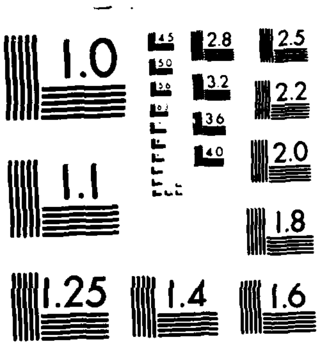

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Table VI- 7 Importance Values of the Tree Species Occurring in the Unnamed Creek Deciduous Forest Association on the Redstone Arsenal

Common Name	Scientific Name	Importance Value
	Transect 10 N = 132	
Willow Oak	Quercus phellos	74.5
Green Ash	Fraxinus pennsylvanica	50.3
Hackberry	Celtis occidentalis	47.6
Overcup Oak	Quercus lyrata	44.1
Shagbark Hickory	Carya ovata	32.4
American Elm	Ulmus americana	26.6
Sweetgum	Liquidambar styraciflua	14.9
Persimmon	Diospyros virginiana	5.6

Table VI- 8 Vegetation at Unnamed Creek Miles 0.5 and 1.5

Aquatic Vegetation

None

Ditch Spoil Bank Vegetation

Uniola latifolia	Grass
Poa sp.	Grass
Erigeron sp.	Lovegrass
Solidago sp.	Goldenrod
Lespedeza sp.	Lespedeza
Cercis canadensis	Redbud
Smilax bona-nox	Greenbrier
Rhus toxicodendron	Poison Ivy
Rhus glabra	Smooth Sumac
Viola sp.	Violet
Rubus sp.	Blackberry
Lonicera japonica	Honeysuckle
Ipomea sp.	Morning Glory
Campsis radicans	Trumpet-vine
Berchemia scandens	Rattan-vine
Vitis rotundifolia	Muscadine
Ulmus americana	American Elm
Acer rubrum	Red Maple
Fraxinus pennsylvanicus	Green Ash
Prunus nigra	Black Cherry
Juniperus virginiana	Red Cedar
Quercus phellos	Willow Oak
Quercus lyrata	Overcup Oak
Salix nigra	Black Willow

TASK 3
WORKPLAN FOR DETERMINING DDT LEVELS IN THREE FISH SPECIES IN WHEELER RESERVOIR

1.0 PURPOSE

To define the level of DDTR* in three species in Wheeler Reservoir.

2.0 SCOPE

Fish samples were collected from Wheeler Reservoir including three tributaries.

3.0 PROCEDURES

3.1 SAMPLE LOCATIONS

See Appendix V, Task 1.

3.2 TYPES OF SAMPLES

Fish species to be sampled - 6 specimens of each species.

Commercial fish - channel catfish and smallmouth buffalo

Game fish - largemouth bass

3.3 FIELD COLLECTION

Six specimens of the following species: channel catfish, smallmouth buffalo, and largemouth bass were collected from the stations designated in Table VI-9. Gill nets and electrofishing gear were used to make the collections.

3.4 SAMPLE HANDLING

3.4.1 Each specimen collected was tagged, wrapped in aluminum foil, and placed on ice in the field. Samples were kept iced (1-3 days) until processed by the laboratory.

3.4.2 In the laboratory the fish were weighed and total length was determined. The fish were skinned and both fillets were removed and weighed. The fillets were cut into approximately 1/4 inch cubes, spread on foil, and frozen. The individually frozen cubes were stored frozen in glass containers with foil-lined lids. The remaining fish carcass was wrapped in foil and frozen.

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*DDTR = DDT isomers and metabolites

3.4.3 Equal quantities of the diced fillets (usually 10 grams) from 6 fish at a sample location were blended in a Waring blender with dry ice to obtain the composite samples. The blended samples were stored in 1 oz. glass containers with teflon-lined caps.

3.4.4 Prior to analyses, samples were blinded by replacing existing labels with randomly distributed laboratory numbers. The identity of the individual samples was unknown to all Water and Air Research personnel until after analyses had been completed and results submitted.

3.4.5 Blind split samples were included in all groups of analyses.

3.5 ANALYTICAL METHODOLOGY

3.5.1 Applicable Documents

Pesticide Analytical Manual, Volume 1, Methods Which Detect Multiple Residues, Section 211.13f, U.S. Department of Health, Education, and Welfare, Food and Drug Administration, September 1972.

"Interim Methods for the Sampling and Analysis of Priority Pollutants in Sediments and Fish Tissues," (1978), U.S. Environmental Protection Agency, EMSL, Cincinnati, OH 45263.

3.5.2 Summary of Method

Approximately 8 grams of ground fish tissue is mixed with anhydrous Na_2SO_4 in a 1:4 ratio. This mixture is allowed to stand for 30 minutes before extraction. The sample is extracted serially 3 times with 100 ml portions of petroleum ether in a high-speed blender.

The combined organic phase is then filtered through additional anhydrous Na_2SO_4 with a Millipore filter funnel apparatus and collected in a Kuderna-Danish concentrator. The extract is concentrated to approximately 5 ml, transferred to a Florisil column, eluted with 6 percent ethyl ether in petroleum ether and concentrated again to approximately 5 ml. The final extract is adjusted to volume with iso-octane (usually 10 ml).

The extract is subsequently analyzed for DDT isomers and metabolites using a Perkin-Elmer Sigma 1 gas chromatograph and data system. A 1.84 m x 2.0 mm glass column packed with 1.5% OV-17 + 1.95% OV-210 on 100/120 Chromosorb W-HP is utilized.

Table VI-9. Summary of Fish Sample Collections

Location Stream	Mile	Channel Catfish	Largemouth Bass	Smallmouth Buffalo
TRM	275	X		
TRM	280	X		X
TRM	285	X	X	
TRM	290	X		X
TRM	295	X		
TRM	300	X		X
TRM	305	X		
TRM	310	X		X
TRM	315	X		
TRM	320	X		X
TRM	325	X		
TRM	330	X		X*
TRM	340	X		X*
TRM	345		X	
Spring Creek	1	X		
Limestone Creek	3	X		
Flint Creek	5	X		

*For SMB 2 fish from TRM 330 were combined with 4 fish from TRM 340 to make a single composite. These fish were also analyzed individually.

Table VI-10. Results of DDT Analyses on Composite and Individual Fish Samples Collected Summer 1980

LOC		ID#	SP	DAY		LT	WT	FWT	DDT		DDD		DDE		DDTR		
									o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Avg.	Max.
FCM	5	301	CC	6	25	42.5	732	168	0.23	0.21	0.23	4.9	0.45	4.4	10.	10.	10.
FCM	5	302	CC	6	25	44.0	795	199	0.25	0.29	0.67	7.2	1.1	6.4	16.	16.	16.
FCM	5	303	CC	6	25	41.5	547	175	0.25	0.54	1.3	12.	1.3	7.7	23.	23.	23.
FCM	5	304	CC	6	25	39.0	465	143	0.17	0.46	1.3	12.	1.4	5.8	21.	21.	21.
FCM	5	305	CC	6	25	50.5	1252	325	0.37	0.80	1.9	31.	2.2	14.	50.	50.	50.
FCM	5	306	CC	6	25	52.0	1255	411	0.97	1.5	10.	99.	4.8	34.	150.	150.	150.
FCM	5		CC	Composite					1.3	1.4	4.0	22.	4.8	16.	50.	50.	50.
LCM	3	121	CC	6	27	40.5	741	168	0.44	0.91	1.8	14.	1.6	9.0	28.	28.	28.
LCM	3	122	CC	6	27	48.0	1151	370	0.16	0.52	0.82	2.7	0.64	2.8	7.7	7.7	7.7
LCM	3	123	CC	6	27	48.0	1186	352	0.26	0.29	<0.03	0.36	0.28	0.82	2.0	2.0	2.0
LCM	3	124	CC	6	27	43.5	754	202	0.47	0.29	0.35	8.5	1.1	7.8	19.	19.	19.
LCM	3	125	CC	6	27	40.5	679	165	0.76	1.7	0.55	5.5	2.4	4.9	16.	16.	16.
LCM	3	126	CC	6	27	47.5	985	325	0.10	0.54	0.12	1.6	0.60	2.4	5.4	5.4	5.4
LCM	3		CC	Composite					1.3	1.9	0.42	4.2	1.3	4.4	14.	14.	14.
SCM	1	115	CC	6	26	44.5	1133	269	0.13	0.35	0.05	0.90	0.22	0.96	2.6	2.6	2.6
SCM	1	116	CC	6	26	46.0	1139	388	0.17	0.42	0.07	1.0	0.23	1.2	3.1	3.1	3.1
SCM	1	117	CC	6	26	48.0	1186	391	0.32	0.48	0.08	1.0	0.38	1.2	3.5	3.5	3.5
SCM	1	118	CC	6	26	45.0	984	330	0.36	0.41	0.16	3.8	0.80	3.6	9.1	9.1	9.1
SCM	1	119	CC	6	26	43.0	965	307	0.62	1.2	0.14	2.1	0.77	3.0	7.8	7.8	7.8
SCM	1	120	CC	6	26	45.0	1084	308	0.27	0.45	0.11	0.14	0.37	1.5	4.1	4.1	4.1
SCM	1		CC	Composite					0.99	0.89	0.30	1.2	0.52	1.9	5.8	5.8	5.8
TRM	275	307	CC	6	26	48.0	986	313	0.61	0.29	0.19	3.8	0.85	2.7	8.4	8.4	8.4
TRM	275	308	CC	6	26	45.0	1023	241	1.3	0.54	0.35	5.8	1.5	5.4	15.	15.	15.
TRM	275	309	CC	6	26	49.0	1266	413	0.50	0.59	2.6	13.	1.7	7.1	25.	25.	25.
TRM	275	310	CC	6	26	50.0	1086	308	0.26	0.17	0.06	2.2	0.27	2.6	5.6	5.6	5.6
TRM	275	311	CC	6	26	46.0	1044	320	0.07	<0.03	0.43	2.2	0.54	1.3	4.5	4.6	4.6
TRM	275	312	CC	6	26	52.0	1770	565	0.70	0.32	0.19	3.1	0.86	3.0	8.2	8.2	8.2
TRM	275		CC	Composite					1.8	1.6	0.38	2.0	0.90	2.6	9.3	9.3	9.3
TRM	280	325	CC	6	26	48.0	1048	271	0.34	0.50	<0.03	2.4	0.41	2.4	6.0	6.1	6.1
TRM	280	326	CC	6	26	51.0	1641	500	0.40	0.41	1.3	6.1	1.1	3.7	13.	13.	13.
TRM	280	327	CC	6	26	48.5	1331	449	0.22	0.11	0.68	2.4	0.74	1.8	6.0	6.0	6.0
TRM	280	328	CC	6	26	51.0	1728	515	0.30	0.62	0.56	2.9	0.60	1.6	6.6	6.6	6.6
TRM	280	329	CC	6	26	44.0	917	218	0.04	<0.03	0.32	2.8	0.52	1.8	5.5	5.5	5.5
TRM	280	330	CC	6	26	51.0	1398	425	0.38	0.52	0.42	4.7	0.63	4.4	11.	11.	11.
TRM	280			Composite					0.95	0.90	0.58	2.7	0.83	2.5	8.5	8.5	8.5
TRM	280	319	SMB	6	26	49.0	1763	402	0.25	0.36	0.07	1.5	0.54	1.8	4.5	4.5	4.5

Table VI-1Q Results of DDT Analyses on Composite and Individual Fish Samples Collected Summer 1980 (Continued, Page 2)

LOC	ID#	SP	DAY		LT	WT	FWT	DDT		DDD		DDE		DDTR		
								o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Avg.	Max.
TRM 280	320	SMB	6	26	46.0	1459	375	0.17	0.31	0.45	1.4	0.50	1.4	4.2	4.2	4.2
TRM 280	321	SMB	6	26	52.0	2303	482	0.24	0.16	0.07	0.62	0.26	1.7	3.0	3.0	3.0
TRM 280	322	SMB	6	26	46.0	1614	313	0.11	0.09	0.18	0.66	0.20	1.1	2.3	2.3	2.3
TRM 280	323	SMB	6	26	46.0	1444	306	0.16	0.20	0.31	0.88	0.21	0.78	2.5	2.5	2.5
TRM 280	324	SMB	6	26	48.0	2006	469	<0.23	0.52	0.64	2.2	0.78	2.5	6.6	6.8	6.9
TRM 280		SMB	Composite					0.80	1.2	0.48	1.2	0.70	2.0	6.4	6.4	6.4
TRM 285	103	CC	6	26	44.0	936	323	0.46	0.24	2.7	8.8	1.6	5.1	19.	19.	19.
TRM 285	104	CC	6	26	42.0	1058	313	0.43	0.44	0.64	2.7	0.60	2.4	7.2	7.2	7.2
TRM 285	105	CC	6	26	42.5	800	241	0.33	0.18	0.50	2.3	0.74	1.9	6.0	6.0	6.0
TRM 285	106	CC	6	26	45.5	1087	396	0.28	<0.03	0.86	4.8	0.99	3.2	10.	10.	10.
TRM 285	107	CC	6	26	48.0	1329	400	0.65	0.49	1.3	4.8	1.3	3.8	12.	12.	12.
TRM 285	108	CC	6	26	44.0	897	219	1.6	0.19	<0.03	<0.03	0.14	0.87	2.8	2.8	2.8
TRM 285		CC	Composite					2.2	2.2	1.1	3.9	1.6	4.1	15.	15.	15.
TRM 285	507	LMB	7	27	28.5	778	239	0.02	<0.02	0.02	0.23	0.04	0.16	0.47	0.48	0.49
TRM 285	508	LMB	7	27	26.0	532	164	<0.02	<0.02	<0.02	0.06	0.01	0.08	0.15	0.18	0.21
TRM 285	509	LMB	7	25	25.5	441	728	<0.02	<0.02	<0.02	0.07	0.11	0.13	0.31	0.34	0.37
TRM 285	510	LMB	7	25	25.0	544	150	<0.04	<0.04	<0.03	<0.03	<0.02	0.03	0.03	0.11	0.19
TRM 285	511	LMB	7	27	23.0	393	108	<0.03	<0.03	<0.03	<0.03	0.16	<0.01	0.16	0.22	0.29
TRM 285	512	LMB	7	25	28.0	733	221	0.03	0.04	<0.02	0.35	0.09	0.28	0.79	0.80	0.81
TRM 285		LMB	Composite					<0.05	<0.10	<0.03	0.09	0.07	0.13	0.29	0.38	0.47
TRM 290	85	CC	6	26	41.0	961	319	0.37	0.27	0.72	2.8	2.5	2.0	8.7	8.7	8.7
TRM 290	86	CC	6	26	44.0	886	246	0.93	0.94	1.7	9.1	1.9	7.0	22.	22.	22.
TRM 290	87	CC	6	26	42.0	678	203	1.3	0.49	<0.23	5.1	1.4	4.1	12.	13.	13.
TRM 290	88	CC	6	26	42.0	1011	294	0.18	0.05	0.42	1.4	0.45	1.0	3.5	3.5	3.5
TRM 290	89	CC	6	26	42.5	947	277	0.58	0.52	1.1	3.6	0.92	2.6	9.3	9.3	9.3
TRM 290	90	CC	6	26	44.0	989	267	1.3	1.5	0.98	8.3	2.1	6.9	21.	21.	21.
TRM 290		CC	Composite					2.2	1.4	1.2	4.2	2.0	4.2	15.	15.	15.
TRM 290	91	SMB	6	26	43.5	1291	333	0.04	<0.03	0.25	1.4	0.48	1.2	3.4	3.4	3.4
TRM 290	92	SMB	6	26	46.5	1186	389	0.58	0.82	0.99	3.9	1.2	5.1	13.	13.	13.
TRM 290	93	SMB	6	26	43.0	1293	317	0.07	<0.04	0.47	2.2	0.64	2.2	5.6	5.6	5.6
TRM 290	94	SMB	6	26	47.0	1709	412	0.74	1.1	0.38	3.2	1.3	5.1	12.	12.	12.
TRM 290	95	SMB	6	26	46.0	1425	330	1.2	2.4	0.96	5.8	1.8	8.5	21.	21.	21.
TRM 290	96	SMB	6	26	41.0	1176	293	0.23	<0.28	0.76	3.2	0.96	2.7	7.8	8.0	8.1
TRM 290		SMB	Composite					1.1	1.6	0.83	2.5	1.6	4.3	12.	12.	12.
TRM 295	43	CC	6	22	36.0	980	231	0.51	0.40	0.44	5.5	1.0	4.5	12.	12.	12.
TRM 295	68	CC	6	25	47.5	1176	392	0.32	0.24	0.44	2.5	0.76	1.7	6.0	6.0	6.0

Table VI-10. Results of DDT Analyses on Composite and Individual Fish Samples Collected Summer 1980 (Continued, Page 3)

LOC	ID#	SP	DAY		LT	WT	FWT	DDT		DDD		DDE		DDTR		
								o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Avg.	Max.
TRM 295	69	CC	6	25	41.5	989	322	0.41	0.18	0.46	1.6	0.94	1.1	4.7	4.7	4.7
TRM 295	71	CC	6	25	49.5	1084	252	0.67	1.1	2.0	13.	5.9	8.1	31.	31.	31.
TRM 295	72	CC	6	25	46.0	1115	405	0.26	0.24	0.11	2.2	0.8	1.6	5.2	5.2	5.2
TRM 295	73	CC	6	25	46.5	724	234	0.97	0.54	0.99	14.	1.6	9.0	27.	27.	27.
TRM 295		CC			Composite			1.7	1.3	1.3	5.0	1.6	4.3	15.	15.	15.
TRM 300	44	CC	6	22	36.0	847	211	0.30	<0.26	0.92	9.9	1.6	4.9	18.	18.	18.
TRM 300	46	CC	6	22	37.0	876	297	0.65	0.32	<0.23	2.8	0.78	2.8	7.4	7.5	7.6
TRM 300	47	CC	6	22	35.0	844	240	0.56	0.58	<0.03	0.52	0.46	0.91	3.0	3.0	3.1
TRM 300	48	CC	6	22	36.0	908	227	0.83	0.58	0.55	5.6	1.1	4.5	13.	13.	13.
TRM 300	56	CC	6	25	48.0	1358	443	0.44	0.20	0.68	2.8	0.83	2.3	7.3	7.3	7.3
TRM 300	60	CC	6	25	49.0	1019	318	0.59	0.96	0.97	5.2	1.5	5.9	15.	15.	15.
TRM 300		CC			Composite			1.4	0.84	0.53	2.6	1.0	2.7	9.1	9.1	9.1
TRM 300	37	SMB	6	21	35.5	1300	269	0.23	0.18	<0.02	0.24	0.16	0.52	1.3	1.3	1.4
TRM 300	62	SMB	6	25	46.0	1365	365	0.23	0.65	0.23	1.1	0.77	1.8	4.8	4.8	4.8
TRM 300	63	SMB	6	25	45.0	1437	348	0.33	0.25	0.18	1.4	0.45	2.5	5.1	5.1	5.1
TRM 300	64	SMB	6	25	44.5	1460	362	0.15	0.14	0.16	2.0	0.49	2.2	5.1	5.1	5.1
TRM 300	65	SMB	6	25	49.0	1671	315	0.16	0.29	0.15	1.3	0.47	1.6	4.0	4.0	4.0
TRM 300	67	SMB	6	25	47.5	1717	421	0.17	0.58	<0.03	3.1	1.1	5.2	10.	10.	10.
TRM 300		SMB			Composite			0.81	1.1	0.32	1.1	0.63	2.3	6.3	6.3	6.3
TRM 305	17	CC	6	20	35.0	613	177	0.47	<0.23	<0.23	6.6	1.0	4.1	12.	12.	13.
TRM 305	55	CC	6	25	51.0	353	353	0.65	0.86	1.6	10.	1.6	6.9	22.	22.	22.
TRM 305	80	CC	6	25	42.5	909	281	0.24	<0.23	0.94	4.7	0.79	3.5	10.	10.	10.
TRM 305	81	CC	6	25	38.0	886	238	0.44	0.25	0.25	4.5	1.0	4.2	11.	11.	11.
TRM 305	82	CC	6	25	41.0	890	251	0.48	0.72	1.2	7.2	1.3	5.8	17.	17.	17.
TRM 305	83	CC	6	25	47.0	1031	292	0.17	0.34	0.43	4.5	0.64	3.6	9.7	9.7	9.7
TRM 305		CC			Composite			0.93	0.80	0.58	3.6	1.0	3.4	10.	10.	10.
TRM 310	127	CC	6	27	45.0	1083	356	0.41	0.44	1.3	4.6	1.2	3.9	12.	12.	12.
TRM 310	128	CC	6	27	45.5	864	219	<0.03	<0.03	0.05	2.4	0.39	1.8	4.6	4.7	4.7
TRM 310	129	CC	6	27	45.0	886	311	0.41	<0.23	0.61	2.3	0.62	1.9	5.8	6.0	6.1
TRM 310	130	CC	6	27	45.0	965	354	0.26	0.30	0.22	1.0	0.54	1.4	3.8	3.8	3.8
TRM 310	131	CC	6	27	39.0	537	168	0.44	0.67	1.9	6.6	1.8	5.6	17.	17.	17.
TRM 310	132	CC	6	27	40.5	630	232	0.28	0.43	1.3	4.8	1.1	4.1	12.	12.	12.
TRM 310		CC			Composite			0.96	<0.38	1.0	2.8	1.2	3.1	9.1	9.2	9.4
TRM 310	133	SMB	6	27	46.0	1486	271	0.08	0.06	0.03	0.32	0.11	0.76	1.4	1.4	1.4

Table VI-10. Results of DDT Analyses on Composite and Individual Fish Samples Collected Summer 1980 (Continued, Page 4)

							DDT		DDD		DDE		DDTR		
LOC	ID#	SP	DAY	LT	WT	FWT	o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Avg.	Max.
TRM 310	134	SMB	6 27	47.0	1743	338	0.31	0.62	0.32	1.7	0.59	2.6	6.1	6.1	6.1
TRM 310	135	SMB	6 27	48.5	2061	422	0.17	0.17	0.17	0.92	0.32	1.0	2.8	2.8	2.8
TRM 310	136	SMB	6 27	48.0	1707	375	0.40	0.25	<0.23	1.1	0.49	2.5	4.7	4.8	5.0
TRM 310	137	SMB	6 27	38.0	862	205	0.12	0.22	0.43	2.0	0.60	2.3	5.7	5.7	5.7
TRM 310	138	SMB	6 27	38.5	911	198	0.13	0.25	0.31	0.85	0.25	1.5	3.3	3.3	3.3
TRM 310		SMB	Composite				0.41	0.61	0.64	0.65	0.43	1.5	4.2	4.2	4.2
TRM 315	18	CC	6 20	29.5	476	170	0.09	<0.03	0.15	1.8	0.26	1.0	3.3	3.3	3.3
TRM 315	359	CC	6 28	42.0	743	253	0.24	0.05	0.13	1.6	0.48	1.2	3.7	3.7	3.7
TRM 315	360	CC	6 28	47.5	1128	343	0.30	0.34	0.80	4.2	0.82	3.4	9.9	9.9	9.9
TRM 315	361	CC	6 28	43.5	848	255	0.53	0.58	0.22	2.7	0.77	2.0	6.8	6.8	6.8
TRM 315	363	CC	6 28	47.5	1091	320	0.44	0.36	0.50	6.5	0.80	4.1	13.	13.	13.
TRM 315	364	CC	6 28	43.5	715	214	0.33	0.39	0.50	4.4	0.72	2.5	8.8	8.8	8.8
TRM 315		CC	Composite				0.69	0.45	0.29	1.8	0.52	1.6	5.4	5.4	5.4
TRM 320	337	CC	6 28	47.5	983	317	0.88	0.65	7.7	27.	4.6	16.	57.	57.	57.
TRM 320	338	CC	6 28	51.5	1251	436	1.5	1.9	8.3	45.	7.3	32.	96.	96.	96.
TRM 320	339	CC	6 28	49.5	1255	392	3.4	6.0	15.	230.	19.	84.	360.	360.	360.
TRM 320	340	CC	6 28	47.0	1152	378	1.7	1.7	17.	81.	7.0	22.	130.	130.	130.
TRM 320	341	CC	6 28	47.5	1085	305	0.42	0.32	0.98	5.4	1.2	4.3	13.	13.	13.
TRM 320	342	CC	6 28	47.0	1118	376	0.84	1.0	8.4	33.	3.8	14.	61.	61.	61.
TRM 320		CC	Composite				4.4	6.4	12.	51.	12.	32.	118.	118.	118.
TRM 320	13	SMB	6 19	36.0	1285	350	0.30	0.32	0.88	4.0	1.1	5.0	12.	12.	12.
TRM 320	14	SMB	6 19	34.5	1178	282	0.57	0.86	3.7	14.	3.0	11.	33.	33.	33.
TRM 320	331	SMB	6 28	44.5	1492	360	1.3	0.83	3.9	16.	5.1	21.	48.	48.	48.
TRM 320	332	SMB	6 28	46.0	1524	368	0.26	0.29	0.50	3.0	0.93	5.4	10.	10.	10.
TRM 320	333	SMB	6 28	46.0	1473	304	0.54	0.24	5.1	19.	4.0	15.	44.	44.	44.
TRM 320	336	SMB	6 28	32.5	520	108	0.04	0.03	<0.02	0.13	0.07	0.15	0.42	0.43	0.44
TRM 320		SMB	Composite				1.4	1.5	2.4	6.8	2.7	9.7	24.	24.	24.
TRM 325	343	CC	6 28	46.0	863	197	8.5	10.	120.	720.	49.	200.	1100.	1100.	1100.
TRM 325	344	CC	6 28	40.0	549	156	0.38	0.41	0.31	3.7	0.73	4.1	9.4	9.4	9.4
TRM 325	345	CC	6 28	43.5	810	269	0.12	0.50	<0.22	0.60	0.68	1.0	4.0	4.1	4.2
TRM 325	346	CC	6 28	46.5	908	250	0.70	0.32	<0.02	0.36	0.84	0.58	2.8	2.8	2.8
TRM 325	347	CC	6 28	43.0	804	255	0.19	0.07	<0.03	<0.03	0.35	0.10	0.71	0.74	0.77
TRM 325	348	CC	6 28	47.5	1179	363	0.56	0.55	1.3	5.7	1.3	4.3	14.	14.	14.
TRM 325		CC	Composite				3.2	<3.8	14.	42.	12.	27.	98.	100.	102.
TRM 330	10	CC	6 18	32.0	556	113	0.40	<0.26	1.4	13.	1.1	5.9	22.	22.	22.
TRM 330	140	CC	6 28	40.5	659	171	1.9	0.99	<0.22	1.8	1.7	2.6	9.0	9.1	9.2
TRM 330	141	CC	6 28	51.5	1229	311	1.6	0.67	16.	84.	8.9	33.	140.	140.	140.
TRM 330	143	CC	6 28	48.0	1050	316	0.70	0.31	0.18	0.90	0.46	1.6	4.2	4.2	4.2

Table VI-10. Results of DDT Analyses on Composite and Individual Fish Samples Collected Summer 1980 (Continued, Page 5)

LOC	ID#	SP	DAY		LT	WT	FWT	DDT		DDD		DDE		DDTR		
								o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Avg.	Max.
TRM 330	144	CC	6	28	47.	952	304	0.85	0.49	0.22	4.2	2.5	4.0	12.	12.	12.
TRM 330	145	CC	6	28	41.	826	240	0.86	0.28	<0.02	0.23	0.23	0.38	2.0	2.0	2.0
TRM 330		CC	Composite					2.6	1.8	4.3	13.	3.7	9.1	34.	34.	34.
TRM 330	139	SMB	6	28	33.5	599	140	<0.03	<0.03	<0.03	0.06	0.08	0.12	0.26	0.30	0.35
TRM 330	146	SMB	6	28	47.	1704	366	0.35	0.19	<0.02	0.08	0.22	0.34	1.2	1.2	1.2
TRM 340	147	SMB	6	28	32.5	525	1409	<0.02	0.14	0.05	0.27	0.08	0.44	0.98	0.99	1.0
TRM 340	148	SMB	6	28	38.	806	180	<0.02	<0.02	0.05	0.18	0.04	0.16	0.43	0.45	0.47
TRM 340	149	SMB	6	28	38.5	694	182	0.06	0.11	0.24	0.82	0.33	0.91	2.5	2.5	2.5
TRM 340	150	SMB	6	28	36.	643	147	<0.03	<0.03	<0.03	<0.03	0.15	0.04	0.19	0.25	0.31
*		SMB	Composite					0.21	0.16	0.09	0.22	0.16	0.05	0.89	0.89	0.89
TRM 340	151	CC	6	28	50.	1207	347	1.0	0.42	0.10	2.8	0.89	2.0	7.1	7.1	7.1
TRM 340	152	CC	6	28	45.	911	261	2.4	3.5	13.	120.	7.5	36.	180.	180.	180.
TRM 340	153	CC	6	28	49.	1498	509	0.49	0.15	<0.02	0.23	0.31	0.33	1.5	1.5	1.5
TRM 340	154	CC	6	28	49.5	1496	479	0.42	0.20	0.07	0.46	0.50	0.72	2.4	2.4	2.4
TRM 340	155	CC	6	28	50.	1142	352	1.0	0.40	<0.23	1.1	0.50	1.2	4.2	4.3	4.4
TRM 340	156	CC	6	28	45.	879	250	1.2	0.60	<0.03	0.41	0.94	0.76	3.9	3.9	3.9
TRM 340		CC	Composite					2.6	1.9	2.4	9.4	2.5	5.6	24.	24.	24.
TRM 345	500	LMB	7	21	26.5	514	127	<0.03	<0.03	<0.03	0.25	0.03	0.25	0.53	0.58	0.62
TRM 345	501	LMB	7	21	23.5	358	123	<0.03	<0.03	0.28	0.88	0.32	0.45	1.9	2.0	2.0
TRM 345	502	LMB	7	21	30.	856	300	<0.03	<0.03	0.11	1.2	0.22	0.66	2.2	2.2	2.2
TRM 345	503	LMB	7	21	29.	793	262	0.11	0.08	0.72	3.8	0.46	2.2	7.4	7.4	7.4
TRM 345	505	LMB	7	21	17.5	173	61	<0.03	<0.03	<0.02	<0.02	0.27	0.03	0.30	0.35	0.40
TRM 345	506	LMB	7	21	36.	1433	486	<0.03	0.04	0.95	0.87	0.12	0.71	1.9	1.9	1.9
TRM 345		LMB	Composite					0.13	0.12	0.22	0.77	0.18	0.71	2.1	2.1	2.1

NOTES: DDT Concentrations in ™g/gm

LOC = Stream and mile point: FCM=Flint Creek Mile, LCM=Limestone Creek Mile, SCM=Spring Creek Mile, TRM=Tennessee River Mile; ID# = Water and Air Research Identification Number; SP = Species; CC = Channel Catfish; SMB = Small Mouth Buffalo; LMB = Large Mouth Bass; DAY = Month and Date of collection; LT = Total Length, cm; WT = Weight, grams; FWT = Fillet Weight.

* = Composite of SMB at TRM 330 and 340

QUALITY ASSURANCE FOR
WATER AND AIR RESEARCH, INC. SUMMER 1980 FISH SAMPLING

1.0 OBJECTIVE

The objective of this quality assurance program was to utilize procedures which would insure that final analytical data were truly valid and representative of the concentration profile for the media analyzed. Data from this program were used to assess and measure the precision and accuracy of analytical results obtained and to identify any segment of the total effort which may have been invalid.

2.0 SCOPE

This program covered the analysis of fish samples taken in June and July 1980 and analyzed by Water and Air Research, Inc. (WAR). Samples were analyzed for DDT isomers and metabolites. Other laboratories participating in the quality control effort included Stewart Laboratories, Inc. (SLI), Environmental Protection Agency (EPA) and Tennessee Valley Authority (TVA).

3.0 PROCEDURES AND METHODS

3.1 SAMPLING AND SAMPLE HANDLING

Sample collection and initial sample preparation was carried out by WAR. Multiple replicate ground fish tissue samples were placed in identical containers with appropriate sample identification.

3.2 SELECTION OF SAMPLES FOR QUALITY CONTROL

Selection of which samples (by location and species) to duplicate and split was made by U.S. Army Corps of Engineers (COE) in Mobile in consulation with WAR. Efforts were made to insure that the quality control program included the range of species and DDTR concentrations expected.

3.3 PROCEDURE FOR BLINDING SAMPLES

After the selection of samples for quality control had been made, personnel outside the WAR organization "blinded" all samples. All existing labels were removed from the sample bottles and they were relabeled using randomly assigned identification numbers. For the WAR samples, duplicates plus all remaining samples were so "blinded". For the laboratories receiving only selected split samples, they were randomly numbered also. The "key" to sample identification remained unknown to all laboratories until after final results had been submitted.

3.4 STATISTICAL EVALUATION

All quality control information was statistically analyzed to determine the within-laboratory variability and between-laboratory variability. Analysis of variance techniques were utilized. Additionally, less rigorous relative error comparisons were made.

4.0 RESULTS

4.1 COMPOSITE FISH ANALYSES

Initially, analyses were performed on composite samples consisting of six individual fish. Twenty-four composite samples were analyzed. Of this total, 6 samples were submitted in duplicate to WAR and 4 samples were submitted in duplicate to SLI, EPA, and TVA.

4.1.1 WAR Blind Splits

The results of the six blind splits analyzed by WAR are shown in Table VI-11. Average relative error was 17.2 percent which is equivalent to an average ratio of the two analyses being 1.19.

4.1.2 Between-Laboratory Splits

The results of the between-laboratory splits are shown in Table VI-12. Analysis of variance showed that no systematic differences existed between laboratories, i.e. no laboratory got consistently higher or lower values. The log transform was used on all data as a normalizing technique.

4.2 INDIVIDUAL FISH ANALYSIS

After the composite analyses were completed, a decision was made to analyze all 144 fish individually. Of this total, 16 samples were submitted in duplicate to WAR and 8 samples were submitted in duplicate to EPA.

4.2.1 WAR Blind Splits

The results of the 16 blind split analyses are shown in Table VI-13. Average relative error was 15.1 percent which is equivalent to an average ratio of the two analyses being 1.16.

4.2.2 Between-Laboratory Splits

The results of the between-laboratory splits are shown in Table VI-14. Analysis of variance techniques showed that no systematic differences existed between the two laboratories. The log transform was used on all data as a normalizing technique. Using mean values for the eight samples duplicated within labs and split between labs, the relative error ranged from -29.1 to +24.3 percent and averaged -7.2 percent (WAR values higher than EPA). WAR values were higher for 5 pairs and EPA values higher for 3 pairs. The average relative error was not statistically significantly different from zero.

5.0 CONCLUSIONS

The results of the fish analyses conducted by WAR are valid. These results can be utilized, subject to appropriate recognition of the analytical variability as determined from the blind split analyses.

Table VI-11. Tabulation of WAR Quality Control Blind Split Data for Composite Fish Samples.

Replicate	DDT (μg/g) o,p'	DDT (μg/g) p,p'	DDD (μg/g) o,p'	DDD (μg/g) p,p'	DDE (μg/g) o,p'	DDE (μg/g) p,p'	Total DDTR (μg/g)
1a	0.76	0.75	0.32	3.1	0.96	3.1	9.0
1b	1.1	0.86	0.83	4.2	1.1	3.8	12.0
2a	5.1	4.4	10	43	11	27	100
2b	3.8	8.5	14	59	13	36	130
3a	2.2	1.3	2.3	8.8	2.2	5.1	22
3b	2.9	2.5	2.5	10	2.8	6.1	27
4a	0.32	0.64	0.97	0.61	0.44	1.5	4.5
4b	0.50	0.58	0.31	0.69	0.42	1.5	4.0
5a	1.3	1.2	0.45	2.2	0.92	2.4	8.4
5b	1.4	0.49	0.61	2.9	1.1	3.0	9.5
6a	1.5	1.5	2.5	6.6	2.6	9.6	24
6b	1.4	1.5	2.3	7.0	2.8	9.8	25

Table VI-12. Tabulation of Between-Lab Quality Control Data for Composite Fish Samples

Lab	Replicate	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR* (μg/g)		
		o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Ave.	Max.
WAR	1a	2.2	1.3	2.3	8.8	2.2	5.1		22	
WAR	1b	2.9	2.5	2.5	10	2.8	6.1		27	
EPA	1a	1.7	1.1	2.9	16	2.5	8.1		32	
EPA	1b	1.4	0.88	2.4	14	2.3	6.7		28	
SLI	1a	1.72	1.59	1.98	12.7	1.16	6.72		25.9	
SLI	1b	1.56	1.48	1.73	13.6	1.00	6.89		26.3	
TVA	1a	2.1	3.3	3.2	14.4	3.6	9.0		35.6	
TVA	1b	1.6	2.6	2.3	11.2	2.5	6.9		27.1	
WAR	2a	0.32	0.64	0.97	0.61	0.44	1.5		4.5	
WAR	2b	0.50	0.58	0.31	0.69	0.42	1.5		4.0	
EPA	2a	0.23	0.24	0.32	1.00	0.44	1.9		4.1	
EPA	2b	0.24	0.24	0.37	1.2	0.48	2.3		4.8	
SLI	2a	0.32	0.38	0.32	0.82	0.29	0.98		3.11	
SLI	2b	0.30	0.36	0.29	0.86	0.27	1.17		3.25	
TVA	2a	0.25	0.53	0.30	0.75	0.54	1.9		4.3	
TVA	2b	0.25	0.47	0.25	0.68	0.50	1.7		3.9	
WAR	3a	0.76	0.75	0.32	3.1	0.96	3.1		9.0	
WAR	3b	1.1	0.86	0.83	4.2	1.1	3.8		12	
EPA	3a	0.33	0.22	0.47	3.1	0.71	2.6		7.4	
EPA	3b	0.38	0.25	0.57	3.6	0.83	2.9		8.5	
SLI	3a	0.76	0.89	0.73	5.84	0.64	4.71		13.6	
SLI	3b	0.78	0.88	0.68	6.18	0.63	4.68		13.8	
TVA	3a	0.48	1.0	0.65	3.6	1.1	3.6		10.4	
TVA	3b	0.54	1.2	0.79	4.2	1.3	4.4		12.4	

Table VI-12. Tabulation of Between-Lab Quality Control Data for Composite Fish Samples (Continued, Page 2)

		DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR* (µg/g)		
Lab	Replicate	o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Ave.	Max.
WAR	4a	5.1	4.4	10	43	11	27		100	
WAR	4b	3.8	8.5	14	59	13	36		130	
EPA	4a	4.2	4.0	21	100	20	59		210	
EPA	4b	1.8	1.7	9.0	40	7.2	22		82	
SLI	4a	4.59	5.21	12.9	40.4	6.69	23.2		93.0	
SLI	4b	3.96	4.77	12.0	37.2	6.28	21.3		85.5	
TVA	4a	2.1	<2.1	10.9	52.2	10.6	36.8	113	114	115
TVA	4b	1.4	<1.4	11.5	54.5	11.1	39.3	118	119	119

Abbreviations:
WAR - Water and Air Research, Inc., Gainesville, FL
EPA - Environmental Protection Agency, Athens, GA
SLI - Stewart Laboratories, Inc., Knoxville, TN
TVA - Tennessee Valley Authority, Chattanooga, TN

*Total DDTR values are calculated as the direct sum of the six isomers and metabolites. Min. total DDTR calculated by setting all "less than" values equal to zero. Average total DDTR calculated by setting all "less than" values equal to 1/2 of the detection limit. Max. total DDTR calculated by setting all "less than" values equal to the detection limit. Where no min. or max. figures are shown they are equal to the average value.

Table VI-13. Tabulation of WAR Quality Control Blind Split Data for Individual Fish.

Replicate	DDT (μg/g) o,p'	DDT (μg/g) p,p'	DDD (μg/g) o,p'	DDD (μg/g) p,p'	DDE (μg/g) o,p'	DDE (μg/g) p,p'	Total DDTR*(μg/g) Min.	Total DDTR*(μg/g) Ave.	Total DDTR*(μg/g) Max.
1a	0.21	0.59	0.78	2.5	0.58	2.7		7.4	
1b	0.12	0.45	0.86	2.9	0.69	3.0		8.0	
2a	0.70	0.38	0.20	3.0	0.95	2.8		8.0	
2b	0.70	0.26	0.18	3.2	0.78	3.2		8.3	
3a	0.30	0.14	0.69	2.8	0.54	1.5		6.0	
3b	0.30	1.1	0.44	3.0	0.67	1.7		7.2	
4a	0.30	0.28	0.46	1.7	3.9	1.5		8.1	
4b	0.44	0.26	0.98	3.9	1.1	2.6		9.3	
5a	0.43	<0.23	0.70	2.6	0.69	2.2	6.6	6.7	6.8
5b	0.45	0.39	0.66	2.9	0.97	2.4		7.8	
6a	0.67	1.6	1.1	4.1	1.3	6.6		15	
6b	0.51	0.31	0.84	6.2	1.7	5.2		15	
7a	0.62	0.27	0.19	0.20	0.49	1.6		3.4	
7b	0.78	0.35	0.17	1.6	0.43	1.5		4.8	
8a	0.28	0.45	0.26	1.1	0.74	1.6		4.4	
8b	0.25	0.15	0.17	1.0	0.35	1.2		3.1	
9a	0.32	< 0.23	0.84	4.3	0.70	3.6	9.8	9.9	10
9b	0.29	0.69	0.75	4.1	0.94	3.3		10	
10a	1.6	2.4	8.6	46	7.6	32		98	
10b	1.4	1.4	8.0	44	7.0	31		93	
11a	0.03	<0.03	0.02	0.20	0.04	0.13	0.42	0.44	0.45
11b	0.02	<0.02	0.03	0.26	0.05	0.19	0.55	0.56	0.57
12a	<0.03	0.05	0.10	1.1	0.08	0.78	2.1	2.1	2.1
12b	< 0.03	<0.03	0.09	0.84	0.15	0.64	1.7	1.8	1.8
13a	0.69	0.64	0.36	2.9	1.2	4.7		10	
13b	0.78	1.6	0.39	3.4	1.4	5.5		12	

Table VI-13. Tabulation of WAR Quality Control Blind Split Data for Individual Fish (Continued, Page 2)

	DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total DDTR*(μg/g)		
Replicate	o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Ave.	Max.
14a	0.20	0.13	0.15	0.85	0.35	1.0		2.7	
14b	0.14	0.21	0.19	0.99	0.30	1.1		2.9	
15a	0.27	0.22	0.80	3.4	0.92	4.4		10	
15b	0.33	0.42	0.96	4.6	1.3	5.5		13	
16a	0.36	0.24	<0.02	0.09	0.23	0.40	1.3	1.3	1.3
16b	0.34	0.14	<0.03	0.07	0.20	0.29	1.0	1.1	1.1

* Total DDTR values are calculated as the direct sum of the six isomers and metabolites. Minimum total DDTR calculated by setting all "less than" values equal to zero. Average total DDTR calculated by setting all "less than" values equal to 1/2 of the detection limit. Max. total DDTR calculated by setting all "less than" values equal to the detection limit. Where no min. or max. figures are shown they are equal to the average value.

Table VI-14. Tabulation of Between-Lab Quality Control Data for Individual Fish.

		DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total	DDTR*(µg/g)	
Lab	Replicate	o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Ave.	Max.
WAR	1a	0.70	0.38	0.20	3.0	0.95	2.8		8.0	
WAR	1b	0.70	0.26	0.18	3.2	0.78	3.2		8.3	
EPA	1a	1.8	<0.7	0.61	3.0	1.3	4.3	11.0	11.4	11.7
EPA	1b	1.2	<0.7	0.58	2.9	1.1	3.3	9.1	9.4	9.8
WAR	2a	0.30	0.28	0.46	1.7	3.9	1.5		8.1	
WAR	2b	0.44	0.26	0.98	3.9	1.1	2.6		9.3	
EPA	2a	0.77	< 0.7	1.2	3.3	1.1	2.6	9.0	9.3	9.7
EPA	2b	0.68	<0.6	1.1	2.4	1.0	2.2	7.4	7.7	8.0
WAR	3a	0.62	0.27	0.19	0.20	0.49	1.6		3.4	
WAR	3b	0.78	0.35	0.17	1.6	0.43	1.5		4.8	
EPA	3a	0.69	<0.6	0.37	1.2	0.36	0.98	3.6	3.9	4.2
EPA	3b	0.68	<0.5	0.38	1.5	0.43	1.6	4.6	4.8	5.1
WAR	4a	0.32	<0.23	0.84	4.3	0.7	3.6	9.8	9.9	10
WAR	4b	0.29	0.69	0.75	4.1	0.94	3.3		10	
EPA	4a	0.48	0.58	0.69	2.6	0.75	2.5		7.6	
EPA	4b	0.42	0.47	0.75	2.9	0.78	3.0		8.3	
WAR	5a	1.6	2.4	8.6	46	7.6	32		98	
WAR	5b	1.4	1.4	8.0	44	7.0	31		93	
EPA	5a	2.8	<3	8.1	29	9.0	28	77	78	80
EPA	5b	2.1	<3	7.5	29	8.1	27	74	75	77
WAR	6a	<0.03	0.05	0.10	1.1	0.08	0.78	2.1	2.1	2.1
WAR	6b	<0.03	<0.03	0.09	0.84	0.15	0.64	1.7	1.8	1.8
EPA	6a	0.039	<0.1	0.094	0.59	0.095	0.52	1.3	1.4	1.4
EPA	6b	0.041	0.096	0.099	0.60	0.097	0.58		1.52	
WAR	7a	0.27	0.22	0.80	3.4	0.92	4.4		10	
WAR	7b	0.33	0.42	0.96	4.6	1.3	5.5		13	
EPA	7a	0.44	< 0.4	1.0	3.2	1.3	4.9	10.8	11.0	11.2
EPA	7b	0.56	< 0.4	1.1	4.1	1.4	4.9	12.1	12.3	12.5

Table VI- 14. Tabulation of Between-Lab Quality Control Data for Individual Fish. (Continued, Page 2)

		DDT (μg/g)		DDD (μg/g)		DDE (μg/g)		Total	DDTR*(μg/g)	
Lab	Replicate	o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Ave.	Max.
WAR	8a	0.36	0.24	<0.02	0.09	0.23	0.40	1.3	1.3	1.3
WAR	8b	0.34	0.14	<0.03	0.07	0.20	0.29	1.0	1.1	1.1
EPA	8a	0.32	<0.4	<0.08	0.068	0.12	0.37	0.9	1.1	1.4
EPA	8b	0.29	<0.3	<0.07	0.062	0.10	0.34	0.8	1.0	1.2

Abbreviations:
WAR - Water and Air Research, Inc., Gainesville, FL.
EPA - Environmental Protection Agency, Athens, GA.

* Total DDTR values are calculated as the direct sum of the six isomers and metabolites. Min. total DDTR calculated by setting all "less than" values equal to zero. Average total DDTR calculated by setting all "less than" values equal to 1/2 of the detection limit. Maximum total DDTR calculated by setting all "less than" values equal to the detection limit. Where no min. or max. figures are shown they are equal to the average value.

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